

Financial Stability Report

December 2011 | Issue No. 30



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 June 2011 published a White Paper⁽¹⁾ outlining further steps towards the legislative enactment of the Government's proposed regulatory framework. The proposed reforms include the establishment of a Financial Policy Committee (FPC) charged with 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.

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 will also carry 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 stability

Hector Sants, Deputy Governor Designate responsible for prudential regulation and CEO Designate of the Prudential Regulation Authority

Adair Turner, Chairman of the Financial Services Authority

Alastair Clark

Michael Cohrs

Paul Fisher

Andrew Haldane

Robert Jenkins

Donald Kohn

Jonathan Taylor attended the FPC meeting on 23 November as the Treasury member.

Martin Wheatley, Managing Director of the Financial Services Authority's Consumer and Markets Business Unit and CEO Designate of the Financial Conduct Authority, attended the FPC meeting on 23 November as an observer.

This document was delivered to the printers on 30 November 2011 and, unless otherwise stated, uses data available as at 22 November 2011.

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

(1) *A new approach to financial regulation: the blueprint for reform*, available at www.hm-treasury.gov.uk/d/consult_finreg__new_approach_blueprint.pdf.

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Executive summary

The interim Financial Policy Committee (FPC) agreed the following policy recommendations at its meeting on 23 November:

- Following its recommendation from September, and given the current exceptionally threatening environment, the Committee recommends 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.
- The Committee reiterates 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.
- The Committee recommends that the FSA encourages 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.

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

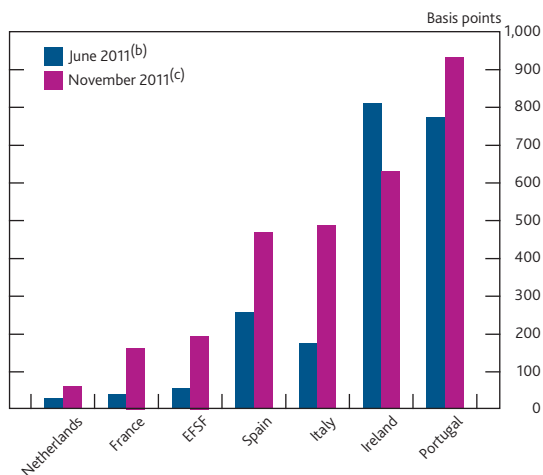
Risks

Sovereign and banking risks emanating from the euro area remain the most significant and immediate threat to UK financial stability. These risks have intensified materially since the June 2011 *Report*. Against a backdrop of slowing global growth prospects, market concerns about the sustainability of government debt positions of smaller economies have broadened to larger euro-area economies (**Chart 1**). Capital market functioning has deteriorated and risky asset prices have fallen sharply. Risk capital has been reallocated, as investors have sought to reduce exposures to vulnerable euro-area countries and to riskier assets more broadly.

European authorities announced a package of measures in October 2011 to stem the crisis. Market reaction, however, suggests that concerns remain over their implementation and effectiveness.

UK banks have significant refinancing needs. And while their direct exposures to the sovereign debt of the most vulnerable economies are limited, they have larger exposures to the private sectors of some weaker euro-area economies. They also have significant exposures to major European banking

Chart 1 Spreads of selected euro-area government bonds over German bunds^(a)



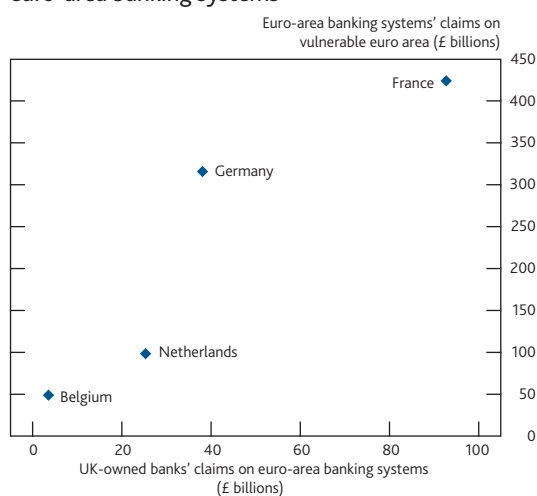
Sources: Thomson Reuters Datastream and Bank calculations.

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

(b) Spreads as at 15 June 2011 except for EFSF spread, which is as at 17 June 2011.

(c) Spreads as at 22 November 2011.

Chart 2 Claims on vulnerable euro-area countries via euro-area banking systems^{(a)(b)}

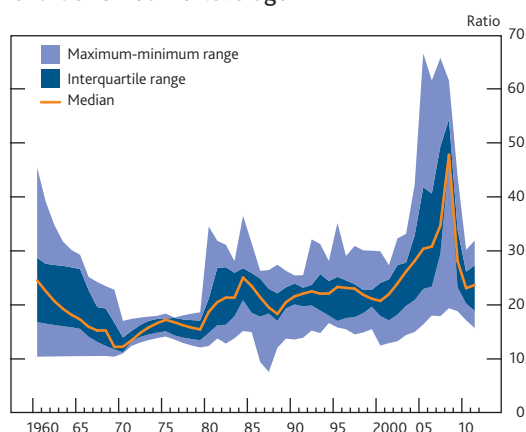


Sources: BIS consolidated banking statistics and Bank calculations.

(a) All data are as at end-June 2011. Converted from US dollars into sterling using end-June exchange rate.

(b) X-axis shows consolidated ultimate risk basis foreign claims by UK-owned banks on the banking systems of selected euro-area countries. Y-axis shows consolidated ultimate risk basis foreign claims on all sectors of Greece, Ireland, Italy, Portugal and Spain by selected euro-area banking systems.

Chart 3 UK banks' leverage



Sources and footnotes: see Chart 2.4.

Table A Deleveraging plans of selected European banks

€ billions	Bridgewater estimates	Deutsche Bank estimates	Morgan Stanley estimates
Barclays	–	20	–
Lloyds Banking Group	–	175	72
Royal Bank of Scotland	–	121	93
HSBC	–	–	83
BNP Paribas	67	81	>50
Société Générale	70	85	75–95
Crédit Agricole	–	17	50
Commerzbank	31	188	100
Deutsche	30	–	90
Dexia	–	113	191
Santander	52	–	17
NAMA Ireland	–	28	74
Bank of Ireland	–	30	19
Credit Suisse	90	103	90
Other Europe	139	319	1,016
Total Europe	480	1,281	2,020

Sources and footnotes: see Table 2.B.

systems, which in turn are highly exposed to weaker euro-area countries (Chart 2).

Resilience

UK banks have made significant progress in improving their capital and funding resilience since the height of the crisis (Chart 3). But progress has been set back recently and they have been affected by strains internationally in bank funding markets. While UK banks' credit default swap premia generally remain below those of many euro-area banks, they are mainly higher today than at their peak in 2008. This indicates ongoing concerns about UK banks' solvency and the weakening outlook for banks' profitability.

The Committee is concerned that current strains are being amplified by ongoing structural vulnerabilities in the financial system, particularly a high degree of intra-financial system exposures. Opaque and overly complex regulatory risk-weight calculations and inconsistent and incomplete disclosure have increased uncertainty about bank resilience. The growing use of central counterparties (CCPs) is reducing interconnectedness, but increasing the financial stability risks in the unlikely event that a CCP were to face severe distress or fail. That highlights the importance of robust risk management practices and the establishment of effective crisis management arrangements.

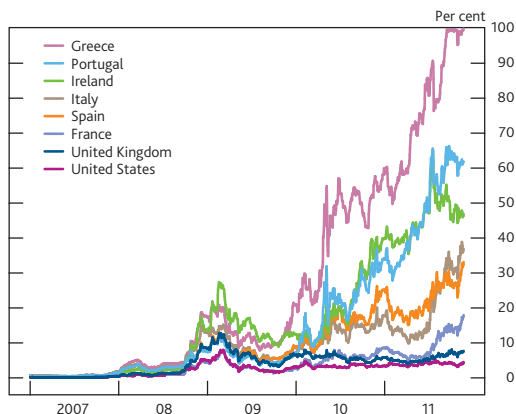
Credit conditions

Credit conditions could tighten in the United Kingdom if term funding conditions remain strained or banks' profits are reduced by higher credit losses on exposures to the euro area. There are early indications from market contacts that some banks may be starting to pass on higher funding costs to household and corporate customers through higher prices. And there are signs already of a credit contraction in the euro area, with considerable uncertainty around banks' plans to reduce balance sheets (Table A). Tightening credit conditions internationally could exacerbate the adverse feedback loop of weak macroeconomic activity and deteriorating bank asset quality, which could ultimately harm the resilience of the financial system.

1 Macrofinancial environment

The global macrofinancial environment became much more challenging in the second half of 2011. Rising concerns about the adverse feedback between sovereign risk, the path of global economic growth and the resilience of some banking systems led to a significant increase in financial stress internationally and a retreat from risky assets. Bank equity prices fell sharply and wholesale funding conditions for banks became severely impaired. Pressure on already tight credit conditions increased, exacerbating concerns about global growth and sovereign risk. Against this backdrop, European authorities announced initial details on a series of measures designed to tackle sovereign and bank solvency concerns.

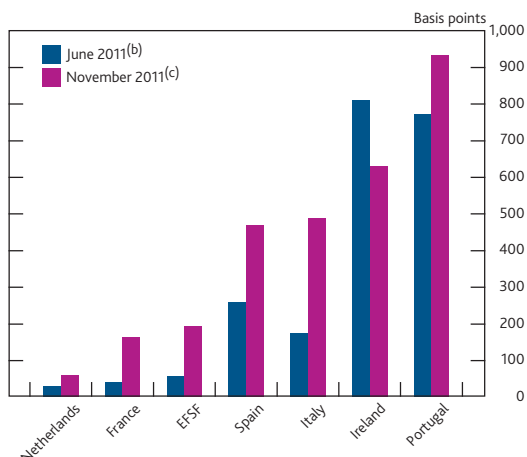
Chart 1.1 Market-implied default probabilities over the next five years for selected sovereign debt^(a)



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.

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



Sources: Thomson Reuters Datastream and Bank calculations.

(a) Ten-year government and EFSF bond spreads over German bunds.
 (b) Spreads as at 15 June 2011 except for EFSF spread, which is as at 17 June 2011.
 (c) Spreads as at 22 November 2011.

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

An escalation of sovereign risk concerns...

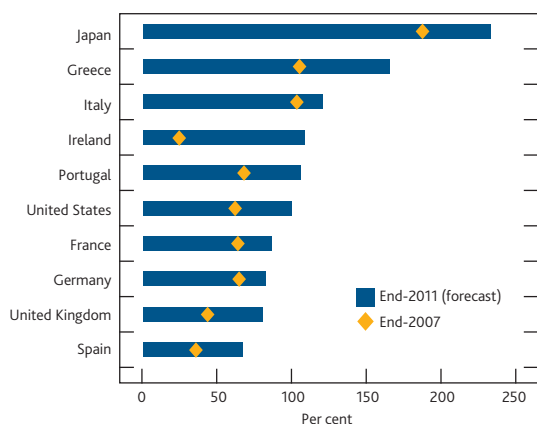
Sovereign risk concerns in the euro area escalated significantly in the period since the June *Report* (Chart 1.1). Premia on credit default swaps (CDS) for a range of euro-area countries rose to record levels during 2011 H2. Spreads of sovereign bonds over German bunds for many euro-area countries also increased markedly (Chart 1.2), reaching levels last experienced prior to the launch of the euro in 1999.

On 27 October 2011, European authorities announced a package of measures designed to reduce short-term financial instability and tackle solvency concerns in the euro area. The package included an increase in the lending capacity of the European Financial Stability Facility (EFSF) to around €1 trillion through leverage, a nominal discount of 50% on notional Greek debt held by private investors and an increase in the capital ratio of banks to 9% of core Tier 1 capital, after accounting for market valuation of sovereign debt, by end-June 2012. With some details of the package still to be fleshed out, however, measures of euro-area sovereign risk remained elevated.

...across the euro area...

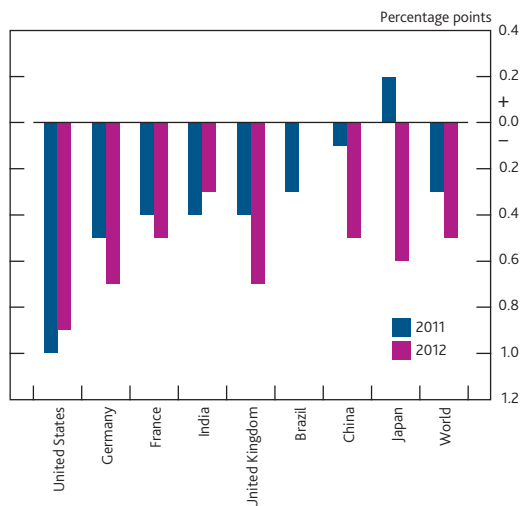
The escalation of euro-area concerns spread beyond vulnerable euro-area countries in the second half of 2011. At the time of the June *Report*, market focus was mainly on the sustainability

Chart 1.3 Ratio of gross sovereign debt to GDP in selected advanced economies



Source: IMF Fiscal Monitor (September 2011).

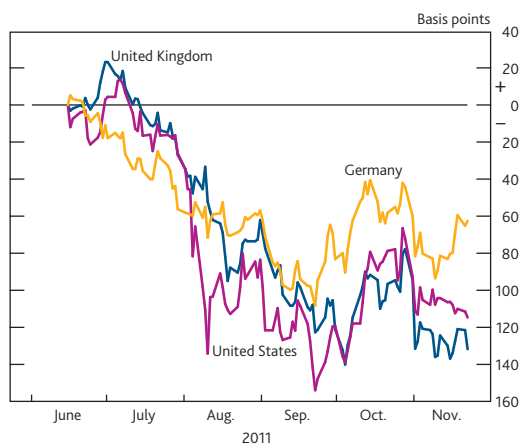
Chart 1.4 Revisions to 2011 and 2012 economic growth forecasts for selected countries^(a)



Sources: IMF World Economic Outlook (June 2011 Update and September 2011) and Bank calculations.

(a) Between June 2011 World Economic Outlook Update and September 2011 World Economic Outlook reports.

Chart 1.5 Change in five-year yields, five years forward^{(a)(b)}



Sources: Bloomberg and Bank calculations.

(a) The real cost of borrowing in five years' time for a period of five years, as implied by nominal yields and inflation swaps. For Germany, euro-area inflation swaps are used.

(b) Change in basis points since the June 2011 Report.

of fiscal positions in countries such as Greece, Ireland and Portugal. While sentiment towards Ireland improved from mid-July, market participants became increasingly worried that domestic fiscal consolidation measures, structural reform plans and international financial support packages would not be sufficient to restore Greece and Portugal's sovereign debt to a stable path. In part, these concerns reflected the scale of the underlying loss of competitiveness experienced by these and other countries over the past decade, which had contributed to the accumulation of large net external debt positions (Section 3). In July 2011, market concerns increasingly extended to larger euro-area countries with vulnerable sovereign debt positions, particularly Italy and Spain. As the spreads of both countries' government bonds over bunds rose towards 400 basis points, the European Central Bank (ECB) extended its Securities Markets Programme to Spanish and Italian sovereign debt.

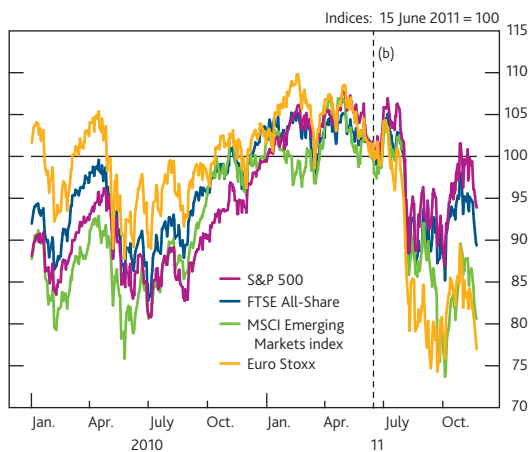
Most recently, market concerns affected countries previously considered part of the core euro area. Sovereign bond spreads over bunds for countries such as Austria, Finland, France and the Netherlands widened markedly during the period. Market participants focused on the possibility that the debt burden in vulnerable countries could fall on the core and put pressure on their sovereign debt positions — either through the need to support banks with large exposures to vulnerable sovereign and banking sectors, or through exposures under the EFSF. The spread of ten-year EFSF bonds over bunds also widened during the period, trading close to levels for French sovereign bonds, reflecting the role of guarantees from AAA-rated euro-area sovereigns such as France in maintaining the AAA credit rating of the EFSF.

...and to a more limited extent elsewhere...

Falling confidence in governments' capacity to deal with high and rising debt was not confined to the euro area. In the United States, the extended process around raising the debt ceiling temporarily added to investor uncertainty. And, in August, Standard & Poor's cited medium-term fiscal challenges and political risk around agreement of deficit reduction plans as reasons for downgrading the US long-term sovereign credit rating, from AAA to AA+. Japan's sovereign rating was downgraded one notch to Aa3 by Moody's because of similar concerns over long-term fiscal sustainability. In 2011, the IMF expects gross debt to GDP ratios in advanced economies, which have risen sharply since 2007 (Chart 1.3), to breach 100% on average for the first time since the aftermath of World War II.

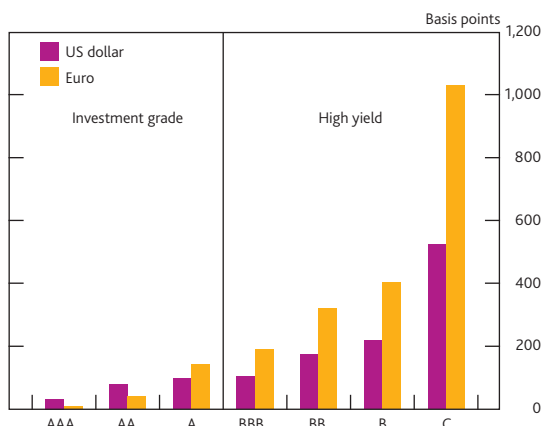
...along with negative news on global economic growth...

Sovereign risk pressures were aggravated by signs of a slowing in global economic growth and increased uncertainty about prospects for the world economy. The IMF's September 2011 World Economic Outlook attributed the weakening in global activity in 2011 to a number of developments: temporary effects from the earthquake and tsunami in Japan; a significant rise in commodity prices; the slow pace of domestic and

Chart 1.6 International equity indices^(a)

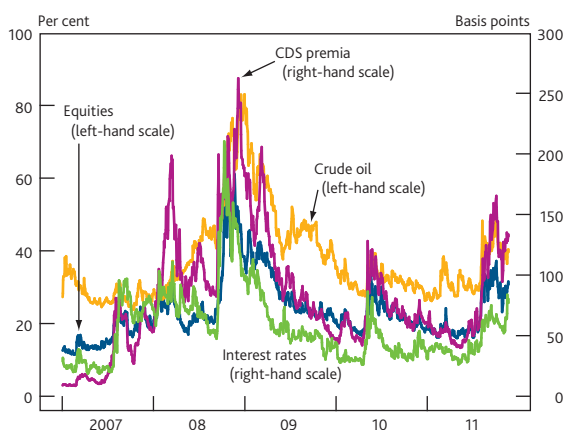
Sources: Bloomberg, Thomson Reuters Datastream and Bank calculations.

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

Chart 1.7 Change in corporate bond spreads by rating for US dollar and euro-denominated debt^(a)

Sources: Bank of America Merrill Lynch Global Research and Bank calculations.

- (a) Change in option-adjusted spreads since June 2011 Report.

Chart 1.8 Implied volatilities^{(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.

international rebalancing; and the heightening of euro-area sovereign risk stress. Projected world output growth was revised down to 4% for both 2011 and 2012 (from 4.3% and 4.5%, respectively) in the September *Outlook*.

Downward revisions to growth were particularly large for advanced economies, including the United States, though growth forecasts for emerging economies such as China were also lowered (Chart 1.4). As discussed in the November 2011 *Inflation Report*, the near-term outlook for UK growth deteriorated during the second half of 2011. Falls in US, German and UK five-year yields, five years forward⁽¹⁾ suggest market participants might have revised downwards medium-term growth expectations during the summer, although rising risk aversion is also likely to have contributed to falls in yields (Chart 1.5).

... led to sharp falls in risky asset prices and high volatility.

Sovereign risk and growth concerns had a depressing effect on international financial markets as investors retreated from risk. Global equity prices fell sharply during the summer (Chart 1.6), particularly in the euro-area and emerging economies, where indices fell to levels last seen in 2009. Equity prices partially recovered in the run-up to, and immediately following, the announcement of the euro-area package in October. But markets weakened again as political uncertainties in Greece and Italy re-emerged. In debt markets, spreads on corporate bonds rose significantly across all debt classes in the period since the June 2011 Report, particularly for high-yield euro-denominated debt (Chart 1.7).

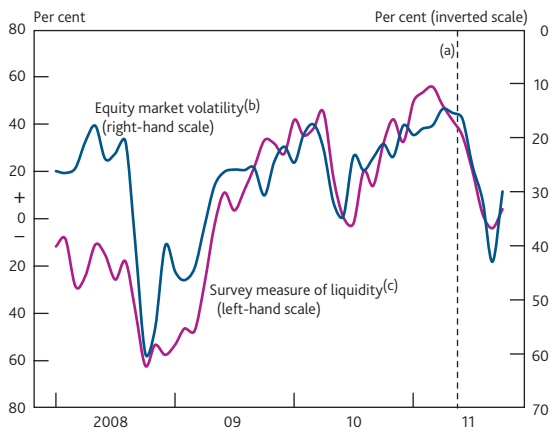
Financial market uncertainty also increased, with implied volatilities for equities, commodities and credit default swaps rising sharply but remaining below their 2008 peaks (Chart 1.8). High volatility coincided with a widening in bid-ask spreads for a range of instruments, particularly in the case of some euro-area government bonds, and an abrupt deterioration in perceptions of market liquidity (Chart 1.9). Market intelligence suggested that some dealers became reluctant to make markets in higher-risk sovereign debt, preferring to act as agency-brokers by matching buyers and sellers without taking sovereign risk onto their own balance sheet.

Capital market functioning deteriorated...

High volatility in secondary markets spilt over to primary capital markets, affecting the price and availability of new corporate debt. New issuance in a range of primary debt markets weakened in the second half of 2011, particularly for higher-risk companies (Chart 1.10). Global issuance of leveraged loans fell by 45%, to US\$194 billion in 2011 Q3 (compared with 2011 Q2). Global issuance of high-yield corporate debt, another key source of funding for new borrowers, fell by over 70% during the same period. Issuance of investment-grade corporate bonds in

(1) The implied real cost of borrowing in five years' time for a period of five years.

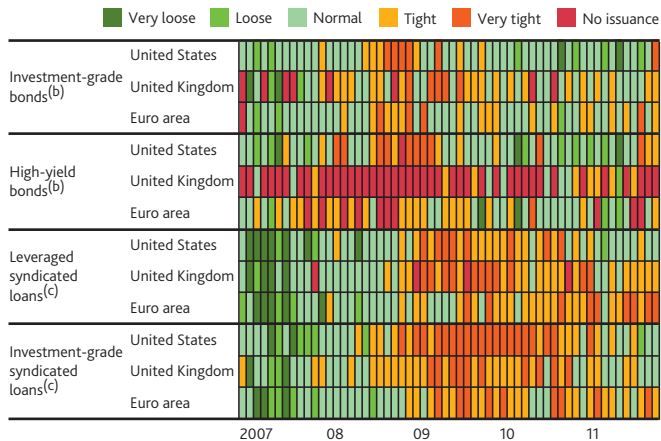
Chart 1.9 Market liquidity and volatility



Sources: Bank of America Merrill Lynch (BoAML), Bloomberg and Bank calculations.

- (a) June 2011 Report.
 (b) Option-implied volatility, as measured by the VIX index on the last day of each month.
 (c) Balance of respondents to BoAML survey reporting market conditions as liquid.

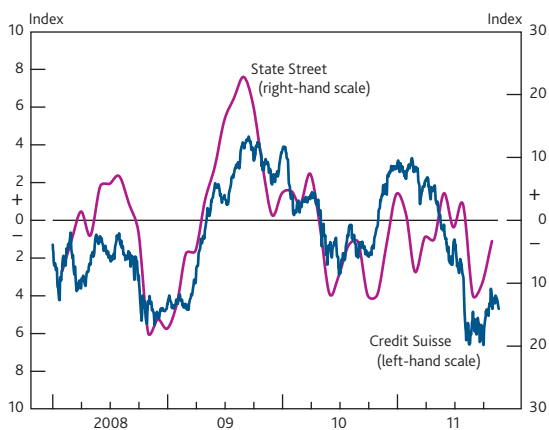
Chart 1.10 Primary corporate debt market conditions^(a)



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-October 2011 (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.

Chart 1.11 Indicators of risk appetite^{(a)(b)}



Sources: Bloomberg, Credit Suisse and Bank calculations.

- (a) Indices are adjusted so that positive values indicate increased risk-taking, negative values indicate reduced risk-taking and zero is risk-neutral.
 (b) The Credit Suisse indicator is based on risk-adjusted returns across a wide spectrum of global assets. The State Street indicator uses finance theory to model the underlying behaviour of global investors.

2011 Q3 was in line with recent quarters, though the cost of new debt rose.

...as an increase in aversion to risk...

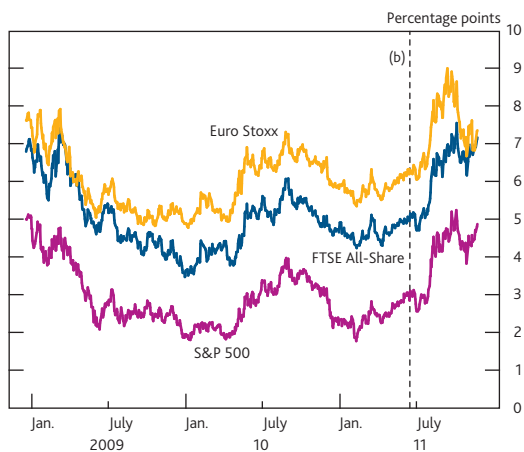
Consistent with increased investor risk aversion, aggregate indicators of market risk appetite fell during July and August, to below 2008/09 levels in some cases (Chart 1.11). As experienced in other periods of volatility, prices of 'safe-haven' assets, such as gold, rose sharply. In foreign exchange markets, the Japanese yen and the Swiss franc appreciated strongly, prompting intervention by the relevant national authorities. The US dollar appreciated markedly against many emerging-economy currencies. Meanwhile, model-based estimates of the risk premium required by investors to hold US and European equities reached peaks last seen in early 2009, rising around 200 basis points (Chart 1.12).

Highly correlated price moves were another indication of a common factor, such as risk appetite, driving prices. Prices of risky assets, such as equities and corporate bonds, moved closely together in the second half of 2011, reducing diversification benefits (Chart 1.13). And movements in equity and government bond prices were strongly negatively correlated, suggesting market participants were switching between investing in risky and safe assets during the period.

...resulted in a reallocation of global risk capital...

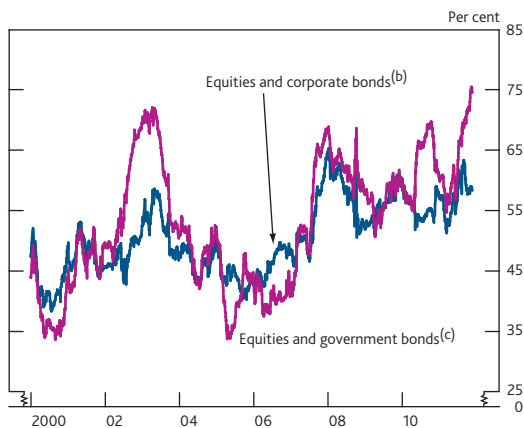
Macrofinancial concerns were also reflected in a redistribution of risk capital, both across regions and within them. During 2011 Q3, there were strong outflows from emerging-economy equity funds (Chart 1.14), which contacts suggest reflected both investor concern about the impact of slower global growth on emerging economies and an increase in generalised risk aversion. Within US asset funds, there was a redistribution of investment flows from equity to government bond funds. And, in Europe, there were strong outflows from funds investing broadly in Western European equities and similar-sized inflows to funds specialising only in German equities, suggesting investors were looking to reduce direct exposure to vulnerable euro-area countries. Data from eVestment Alliance and HFN suggested that hedge funds globally experienced the first net quarterly outflow of investor money in 2011 Q3 since 2009 Q1, though the amount (US\$19 billion) represented less than 1% of total assets under management. Hedge fund leverage during 2011 remained well below levels prior to the crisis.

The increase in risk aversion may also have caused a retrenchment of global cross-border bank lending, as previously occurred in 2008/09. According to provisional data from the Bank for International Settlements, cross-border lending to all advanced-economy regions declined in 2011 Q2, with claims on advanced European economies falling by 0.6%. US banks repatriated US\$171 billion of assets from abroad during the quarter (Chart 1.15), including reducing exposures

Chart 1.12 Equity risk premia^(a)

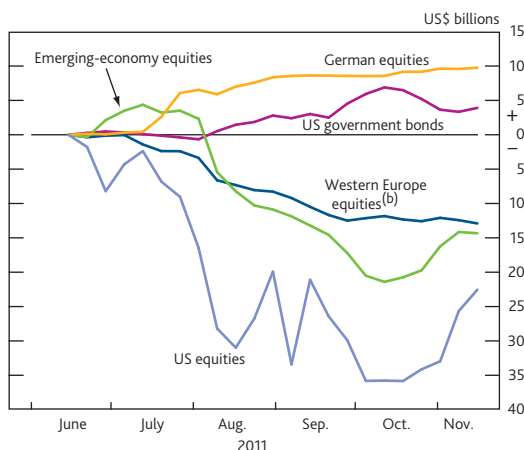
Sources: Bloomberg, Thomson Reuters Datastream and Bank calculations.

(a) As implied by a multi-stage dividend discount model.
(b) June 2011 Report.

Chart 1.13 Comovement of equity and bond returns^(a)

Sources: Bank of America Merrill Lynch, Thomson Reuters Datastream and Bank calculations.

(a) Percentage of variability across daily asset returns explained by the first principal component over a six-month rolling window.
(b) Equity indices are FTSE All-Share, S&P 500 and Euro Stoxx 50; bond indices are of US corporate BBB and euro corporate BBB.
(c) Equity indices are FTSE All-Share, S&P 500 and Euro Stoxx 50; government bond indices are for US Treasuries, UK gilts and German bunds.

Chart 1.14 Cumulative investment flows into selected equity and bond funds^(a)

Sources: Emerging Portfolio Research and Bank calculations.

(a) Cumulative flows into selected equity and bond funds by investors globally since June 2011 Report. 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.

to European residents. More recently, the October 2011 *Survey of Senior Loan Officers* found that a significant proportion of US banks had tightened standards on loans to European banks during the autumn.

...affecting the financial system's role in the management of risk...

The financial system's role in the management and transfer of risk was also affected by the market turmoil. Although markets for basic derivatives generally functioned well, particularly those using central counterparties, liquidity for some more complex products deteriorated. Trading also thinned in CDS contracts for some sovereigns as doubts were raised as to their effectiveness as a hedge for sovereign exposures, given the possibility that a euro-area sovereign debt restructuring could occur without triggering them. UK insurance markets continued to function effectively despite the reinsurance sector reporting record losses for 2011 H1, which were absorbed by high capital buffers.

...though payment and settlement services remained robust.

UK financial infrastructure remained robust despite the market stress, helping to ensure companies and households' access to payment services was not impaired. The timing of payment submissions by CHAPS members was unchanged over the period. This contrasts with Autumn 2008, when there was evidence that payment throughput slowed because of counterparty concerns. Traffic across the main payment systems over the past six months was broadly unchanged on the previous year and operational problems were minimal (Table 1.A).

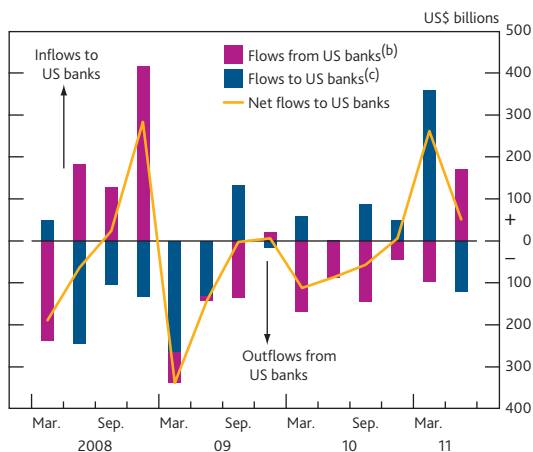
In line with its policy announced in October 2010, LCH.Clearnet Limited increased margin requirements for euro-denominated bond positions on its RepoClear service on a number of occasions. Higher margins allowed LCH to protect itself against heightened market risks arising from sovereign stress. But this also increased funding costs for participants, potentially amplifying stress (Box 1).

In late October, LCH and other UK central counterparties (CCPs) invoked default procedures after MF Global UK Limited was placed under the Special Administration Regime by the FSA. The CCPs' market risk exposures were subsequently closed without recourse to their default funds. Euroclear UK & Ireland, which operates the CREST system, also invoked its default procedures. MF Global UK Limited had overdraft facilities with two settlement banks in relation to CREST settlement activity; these were collateralised by assets held within CREST.

Concerns spilt over to banking systems...

Fears about the consequences for banks of sovereign risk and macroeconomic developments increased materially during the period. Bank equity prices suffered further significant falls, underperforming equity markets in general.

Chart 1.15 Cross-border flows into and out of US-resident banks^(a)



Sources: Bank for International Settlements and Bank calculations.

- (a) Foreign currency and break-adjusted quarterly cross-border inflows of liabilities to, and outflows of claims from, US-resident banks.
 (b) Cross-border lending by US-resident banks — a positive number shows US-resident banks withdrawing lending from abroad, a negative number shows US-resident banks increasing lending abroad.
 (c) Cross-border deposits and other liabilities received by US-resident banks — a positive number shows non-US residents increasing (cross-border) deposits and other liabilities with US-resident banks, a negative number shows non-US residents reducing (cross-border) deposits and other liabilities with US-resident banks.

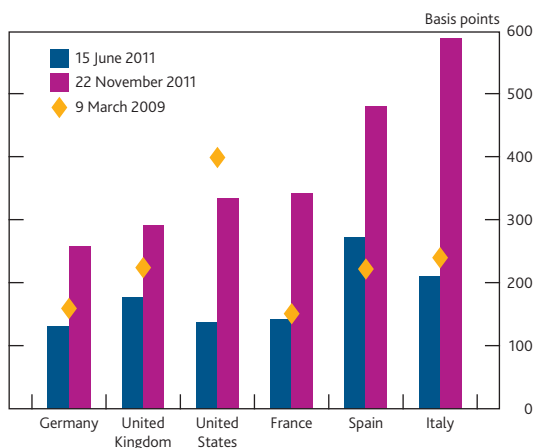
Table 1.A Selected payment systems^(a)

		CHAPS	Bacs	FPS	CREST	CLS
Average daily values (£ billions)	June 2011-Oct. 2011	249	17.1	0.90	517	3,110
	June 2010-May 2011	247	16.7	0.74	468	2,767
Operational availability of core infrastructure (per cent)	June 2011-Oct. 2011	100	100	100 ^(b)	99.85	99.94
	June 2010-May 2011	100	100	100	99.89	99.96

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 mechanism.
 (b) FPS operational availability to 30 September 2011.

Chart 1.16 CDS premia for selected banking systems^(a)



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

- (a) Aggregated data from individual banks' and LCFIs' asset-weighted five-year CDS premia.

Euro-area banks' equity prices fell furthest, by 45% since the June 2011 *Report*, while UK and US bank equities fell by over 25%.

There were also sharp rises in the cost of default protection on many banks' unsecured bonds. In the case of some European banking sectors, CDS premia rose to levels above those reached in late 2008/early 2009 (**Chart 1.16**). CDS premia for several euro-area banking sectors moved closely with the premia of their respective sovereigns, reflecting in part the importance of banks' domestic sovereign risk exposures. Large rises in CDS premia for some US financial institutions reflected concerns about domestic economic weaknesses as well as links to euro-area banks and sovereigns. MF Global, for example, had substantial exposures to vulnerable euro-area sovereigns when it failed. Market contacts also cited institution-specific factors, such as concerns over the sustainability of investment banking revenues and legacy exposures to the US housing market, including litigation risk associated with alleged mis-selling of mortgage-backed securities.

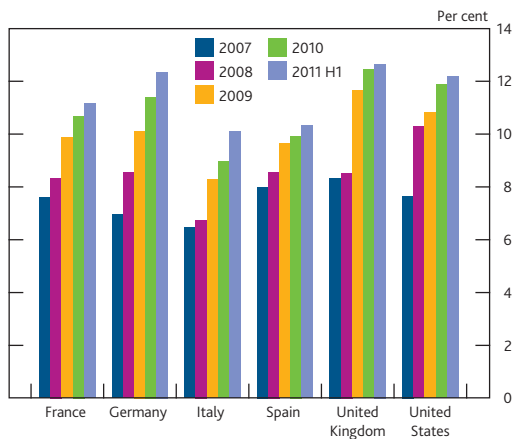
Perceived links to the euro area also affected perceptions of UK bank risk, though CDS premia generally remained below those of many euro-area banks. UK banks' direct exposures to vulnerable sovereigns were reported to be relatively limited in the European Banking Authority stress tests in June 2011. But indirect exposures were more substantial, through UK banks' connections to other major banking systems that have exposures to vulnerable sovereigns and through exposures to businesses and households in these countries (Section 2). Downward revisions to UK and global growth expectations may have also led to perceptions of increased UK bank risk.

...despite stronger regulatory capital positions...

Concerns about banks' resilience internationally escalated despite rises in published regulatory capital ratios. Regulatory capital ratios, which have risen significantly since the start of the crisis, increased a little for the major US and European banking systems in 2011 H1 (**Chart 1.17**) and were broadly flat (based on partial data) in 2011 Q3. Market-based measures of resilience showed a weaker and more varied picture of capital adequacy (Section 2).

Headline profitability among the major US and European banks remained weak. Aggregate pre-tax profits of US large complex financial institutions (LCFIs) and major UK banks fell particularly sharply in 2011 H1 (down 42% and 48% respectively, on 2010 H1). That mainly reflected one-off factors — such as debt valuation adjustments and charges related to payment protection insurance mis-selling, in the case of UK banks, and charges related to mortgage lawsuits, in the case of US LCFIs. Underlying UK-bank profitability was broadly flat.

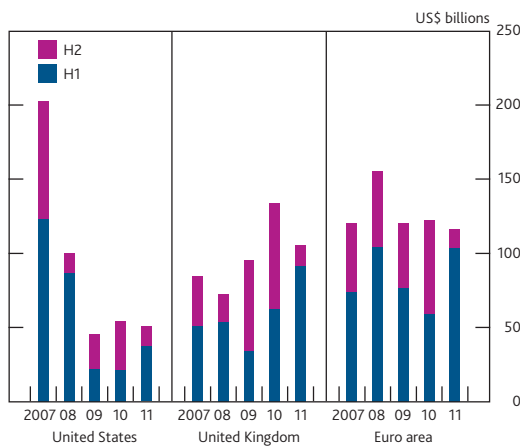
Chart 1.17 Tier 1 capital ratios for selected international banking systems^{(a)(b)(c)(d)}



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 from individual banks' (risk-weighted) capital ratios, weighted by total assets. All figures are under local accounting conventions.
 (c) UK data exclude Northern Rock.
 (d) Tier 1 ratios are used because of difficulties comparing core Tier 1 ratios across countries.

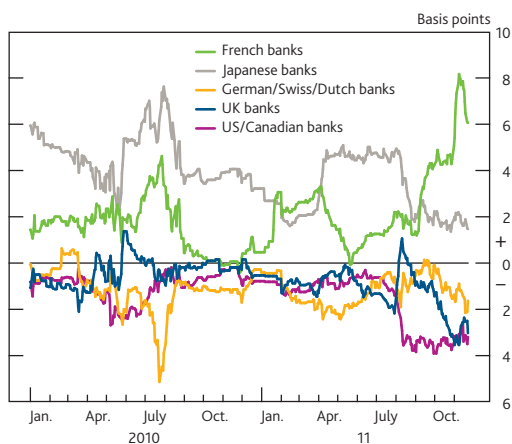
Chart 1.18 Issuance of term senior unsecured debt in public markets^{(a)(b)}



Sources: Dealogic and Bank calculations.

- (a) Unguaranteed securities with an original contractual maturity or earliest call date of at least 18 months. 2011 H2 data are up to and including 22 November 2011.
 (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.

Chart 1.19 Dispersion of daily fixing rates for three-month US dollar Libor^(a)



Sources: Bloomberg and Bank calculations.

- (a) Difference between average fixing rates by nationality of bank in Libor panel and three-month US dollar Libor.

...and led to stresses in bank funding markets.

Recent stresses were reflected in signs of growing strain in bank funding markets, particularly for European banks. The range of available funding instruments dwindled and the price of funding rose. There was relatively little public issuance of senior unsecured term debt by European banks in the second half of 2011, partly reflecting stronger issuance in 2011 H1 (**Chart 1.18**). Although a few higher-rated European banks issued senior unsecured debt in October and November 2011, they paid higher spreads than for similar trades in 2010. And while public issuance of term secured funding and private placements of debt by European banks were stronger during the period, conditions in long-term debt markets remained difficult for banks overall.

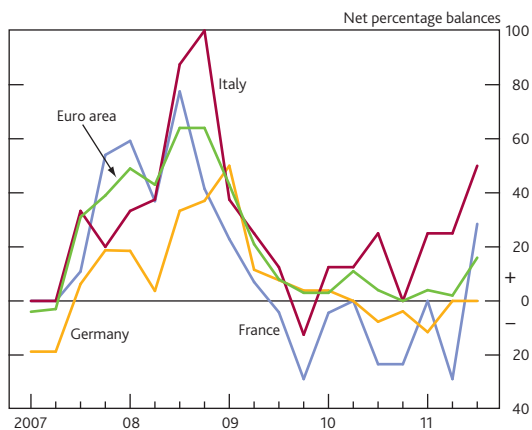
There were further signs of impairment of shorter-term interbank funding markets. Libor spreads over official rates widened, particularly for euro-area markets, though spreads remained below 2008 highs. The amount of euro commercial paper outstanding for French, Italian and Spanish banks halved between June and November 2011 and average tenors shortened. And the amount deposited by European banks overnight at the ECB, rather than lent to other banks, increased to nearly €300 billion in November. In October, the ECB introduced twelve and thirteen-month refinancing operations to ease banks' access to term funding.

For some European banks, funding pressures were particularly acute in US dollars. US money market funds cut exposures to European banks and reduced the average maturity of any remaining funding. At the same time, the euro-dollar basis swap spread widened sharply to over 80 basis points, suggesting an increased premium for euro-area banks acquiring US dollars. Greater dispersion in fixing rates by panel banks for three-month US dollar Libor also indicated differences in the ability of banks to source US dollars (**Chart 1.19**). Concerns about non-US banks' access to US dollar funding prompted several central banks, including the Bank of England, to announce additional US dollar liquidity provision operations in September 2011. Banks accessed the ECB three-month tenders in October and November 2011 for a total of US\$1.75 billion and the Bank of Japan's November three-month tender for a further US\$0.1 billion.

Funding constraints led banks to reduce leverage...

Constraints on funding prompted some banks to deleverage by reducing their asset portfolios. Market intelligence suggested that some European banks reduced exposures in the autumn by shedding US dollar-denominated assets in emerging-economy markets, causing falls in some asset prices. Some European banks were also reported to have reduced participation in US dollar syndicated financing and stopped rolling over US dollar trade financing lines to some multinational companies because of funding pressures. From September 2011, a number of major European banks announced plans to introduce, or accelerate, disposal of

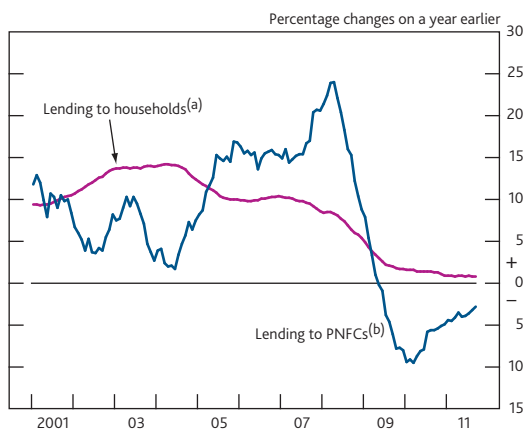
Chart 1.20 Euro-area credit standards applied to new loans to businesses^(a)



Sources: Banca d'Italia, Banque de France, Deutsche Bundesbank and ECB.

(a) Balance of respondents reporting a tightening (positive number) or loosening (negative number) of credit standards.

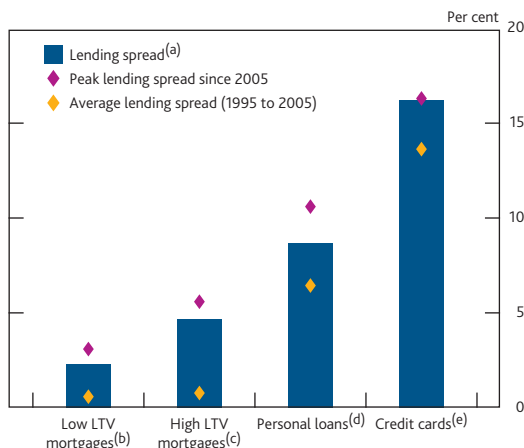
Chart 1.21 Lending to UK households and private non-financial corporations



Source: Bank of England.

(a) Sterling loans by UK-resident monetary and financial institutions (MFIs) to the household sector (non-profit institutions serving households, individuals and unincorporated businesses).
 (b) All currency loans by UK-resident MFIs to private non-financial corporations (PNFCs).

Chart 1.22 Spreads on lending to UK households



Sources: Bank of England and Bank calculations.

(a) As at 30 September 2011.
 (b) Spread between average quoted rates on two-year fixed-rate mortgages with a 75% loan to value (LTV) ratio and two-year UK government bond yields.
 (c) Spread between average quoted rates on two-year fixed-rate mortgages with a 90%–95% LTV ratio and two-year UK government bond yields.
 (d) Spread between average quoted rates on £10,000 personal loans and Bank Rate.
 (e) Spread between average quoted rates on credit cards and Bank Rate.

non-core assets and to cut back on low profitability activities (Section 2). A major European bank, UniCredit, announced plans to reduce leverage by raising more capital.

...affecting credit availability in the euro area...

With stresses in financial markets having already affected companies' access to debt finance, deleveraging by banks began to have an effect on the supply of direct bank credit to companies in some countries. Credit conditions surveys for the euro area suggested lending standards for new businesses tightened in 2011 Q3, particularly in France and Italy where bank funding strains were more marked (Chart 1.20).

There was less evidence of credit tightening in the United States. The *Survey of Senior Loan Officers* showed lending standards to businesses continuing to ease in October 2011, albeit by a smaller margin of respondents than in the previous survey. And lending growth to US commercial and industrial firms was strong during the autumn.

In the United Kingdom, bank lending to companies remained weak in 2011 Q3 (Chart 1.21). In the case of larger companies, this contraction seemed to reflect weak demand for credit rather than credit constraints. Reports from the Bank's Agents and evidence from the 2011 Q3 *Credit Conditions Survey*, however, suggested that the cost and availability of bank credit were tight for smaller businesses. Most recently, discussions with market contacts indicate that some banks may be starting to pass on higher funding costs to businesses through higher prices.

...and to some UK households...

Both secured and unsecured credit growth for UK households remained sluggish in 2011, reflecting low demand and tighter credit supply. Secured lending to households rose by less than 1% in the year to September 2011. Evidence from the Bank's *Credit Conditions Survey* suggested that credit conditions for secured lending to households continued to be restrictive. Spreads on household lending over official rates remained significantly elevated compared with the pre-crisis period and were only just below recent peaks for both high and low loan to value (LTV) mortgages (Chart 1.22). While credit availability was reported to have increased slightly in 2011 Q3, particularly for high LTV mortgages, subsequent market intelligence suggests that, as with corporate lending, some banks may be starting to pass on higher funding costs to mortgage customers through higher prices.

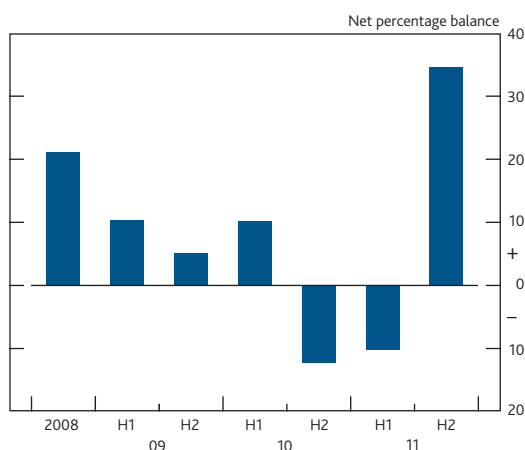
...raising concerns about future economic growth.

With credit conditions already tight, concerns increased that continued strains in bank funding markets could result in a further tightening in lending. That could limit the ability of companies to invest and hire, and the capacity of households to smooth spending (see the November 2011 *Inflation Report*), adding to market stress. The financial stability risks associated with this adverse feedback loop are discussed in Section 2.

2 Short-term risks to financial stability

Against the backdrop of heightened sovereign debt and banking concerns, and a weaker outlook for global growth, the short-term risks to financial stability have risen sharply over the past six months. If they persist, stressed funding conditions could make it difficult for banks with weaker balance sheets to meet their refinancing needs. They could also result in defensive bank actions that prove counterproductive for the wider financial system, including further tightening in credit supply in the euro area and the United Kingdom. That could depress economic activity and aggravate credit risks that to date may have been contained by forbearance.

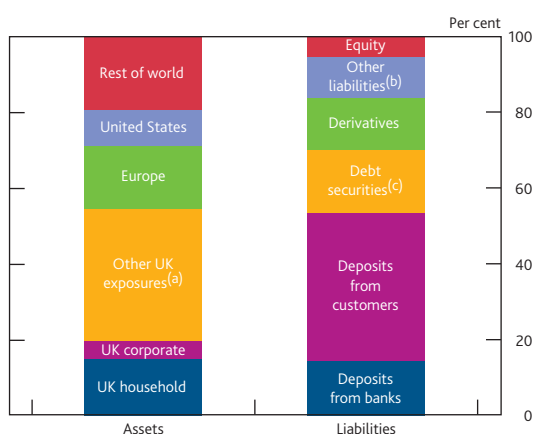
Chart 2.1 Probability of a high-impact financial event in the short term^(a)



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

(a) Respondents were asked for the probability of a high-impact event in the UK financial system in the short term. From the 2009 H2 survey onwards, short term was defined as 0–12 months. The net percentage balance is calculated by weighting the five possible answers: very high (1), high (0.5), medium (0), low (-0.5) and very low (-1).

Chart 2.2 Balance sheet of UK banks as at 2011 H1



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

(a) Includes (among other items) loans to UK-resident banks and other financial corporations and holdings of UK government debt.

(b) Includes insurance and investment contract liabilities, settlement balances, accruals, and short positions.

(c) Includes subordinated liabilities.

Heightened sovereign debt and bank concerns, and the weaker outlook for growth, pose significant risks to financial stability. Consistent with that, respondents to the Bank's 2011 H2 *Systemic Risk Survey* reported that the perceived probability in the near term of a high-impact financial event had increased sharply, to its highest level since the survey began in July 2008 (Chart 2.1). Sovereign risk and an economic downturn were the two main risks highlighted by respondents. This section discusses the short-term risks to bank resilience and lending in the face of these concerns and the risks to financial stability from banks' responses to financial market stresses.

2.1 Banks' resilience to market strains

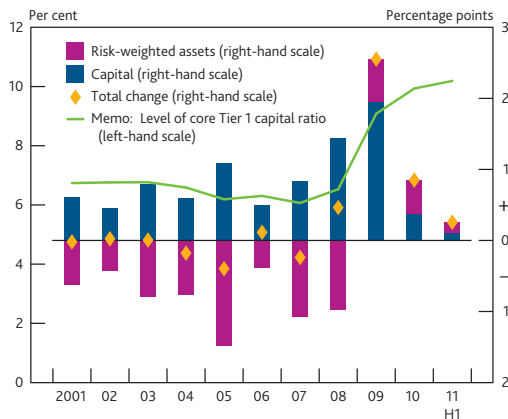
European sovereign debt stress, downside risks to global growth and heightened global risk aversion pose a number of near-term risks to the ability of the UK banking system to provide a durable flow of financial services. A large proportion of the assets of the major UK banks are situated overseas (Chart 2.2), exposing them to risks originating outside the United Kingdom. And around a third of UK banks' funding is raised in wholesale markets, which have been affected by the general increase in investors' risk aversion.

UK banks have improved their capital positions...

As discussed in Section 1, published regulatory capital ratios of banks in the advanced economies have risen over the past three years, to well above pre-crisis levels. For the major UK banks, around a third of the increase reflects a reduction in risk-weighted assets (Chart 2.3).

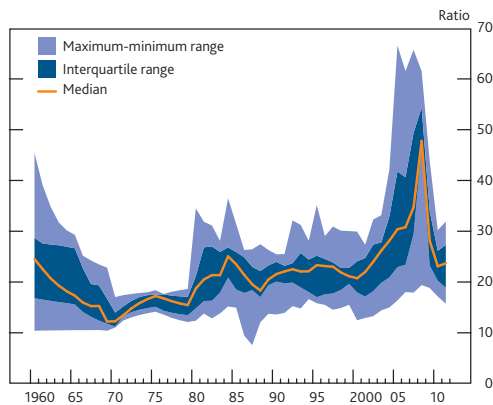
But regulatory measures based on risk-weighted capital ratios may be an imperfect guide to bank solvency (Section 3). One reason is that the risk weighting of a given asset can differ widely between banks due to differences in internal models. Alternative measures of bank resilience provide a useful cross-check on capital adequacy.

Chart 2.3 Contributions to the change in major UK banks' core Tier 1 capital ratios



Sources: Published accounts and Bank calculations.

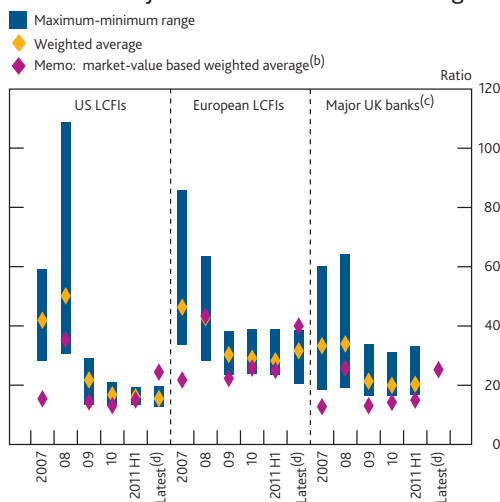
Chart 2.4 UK banks' leverage^{(a)(b)}



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.

Chart 2.5 Major UK banks' and LCFIs' leverage ratios^(a)



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

- (a) The 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) The market-value based measure is assets divided by market capitalisation at the end of the period.
 (c) Pro-forma data are used for Royal Bank of Scotland from 2007 to 2009.
 (d) Leverage ratios use 2011 Q3 balance sheet data for US and European LCFIs (except BNP Paribas and Société Générale). Market-value based measures combine the latest balance sheet data with market prices as at 22 November 2011.

Leverage ratios, which compare a bank's unweighted assets to the book value of its available capital, have approximately halved since their historical highs of close to 50 in 2008 (Chart 2.4). That is consistent with the improvement in regulatory capital ratios. But a measure based on market, rather than book, values of capital suggests that leverage has recently increased across banking systems (Chart 2.5), as equity investors have revised down their expectations of the future profits that banks' assets can generate.

The importance of looking at a range of solvency indicators was highlighted by the failure of Dexia in October 2011. At end-2010, Dexia reported a core Tier 1 capital ratio of 12.1%, with a projected fall to 10.4% under the June 2011 European Banking Authority (EBA) adverse stress-test scenario. But it also had a leverage ratio of more than 60 times equity. Shortly after the tests it required capital support from the French and Belgian governments.

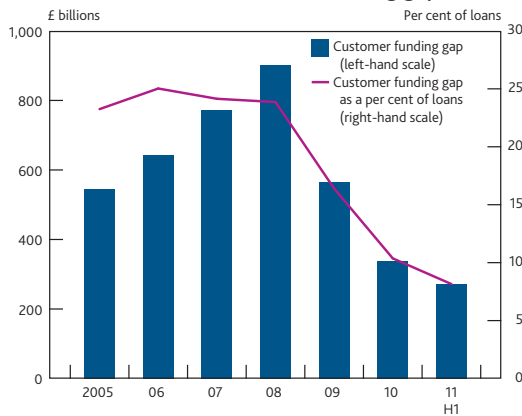
...and their funding structures.

UK banks have also increased the resilience of their funding positions by reducing their reliance on wholesale markets. One simple metric is the customer funding gap — the gap between customer loans and deposits. This has fallen by over £600 billion since the onset of the crisis (Chart 2.6). The majority of the fall can be attributed to a decline in overseas lending and in lending to non-bank financial companies. The major UK banks' holdings of highly liquid assets have also almost tripled over this period, accounting for 14% of their total assets in November 2011. A broad measure of sterling liquid assets, for which data are available over a longer period, reached a 30-year high as a share of total assets at the end of September 2011 (Chart 2.7).

The major UK banks are already very close to meeting their wholesale term funding targets for 2011. And UK banks have reduced their reliance on official sector liquidity support. Over 90% of the Treasury bills advanced under the Bank's Special Liquidity Scheme (SLS) and around half of government-guaranteed debt issued under the Credit Guarantee Scheme (CGS) have been repaid. Banks only planned to replace half the term funding maturing in 2011, making up the difference by raising more retail deposits and running down, or disposing of, non-core assets.

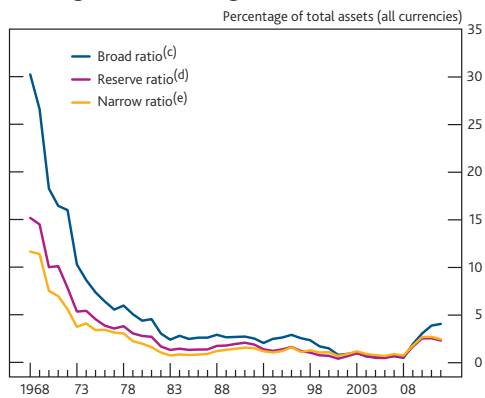
But they have significant refinancing needs...

The strains in international bank funding markets, discussed in Section 1, have affected the major UK banks. On average, they issued around 50% less wholesale term debt per month between June and October 2011 than between January and May 2011, though in part that reflected the front loading of issuance earlier in the year. An increasing, and greater-than-planned, proportion of that had to be raised on a secured basis (Chart 2.8). Including funding supported by the SLS and CGS, they have £140 billion of term funding due to

Chart 2.6 UK banks' customer funding gap^(a)

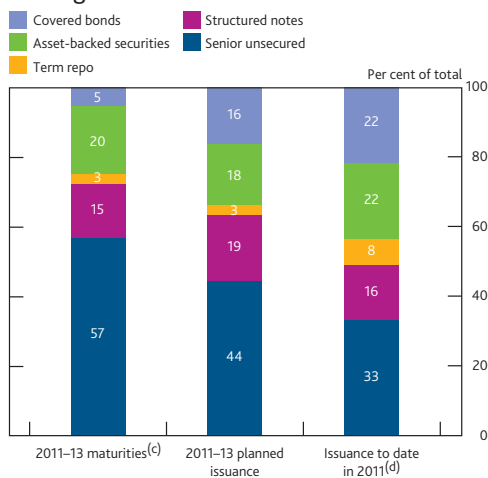
Sources: Published accounts and Bank calculations.

(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.

Chart 2.7 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 2011 where end-September data are used.
 (c) Cash plus Bank of England balances plus money at call plus eligible bills plus UK gilts.
 (d) Proxied by: Bank of England balances plus money at call plus eligible bills.
 (e) Cash plus Bank of England balances plus eligible bills.

Chart 2.8 The profile of the major UK banks' term debt funding^{(a)(b)}

Sources: FSA, Group Treasurers and Bank calculations.

(a) The major UK banks here refer to Barclays, HSBC UK, LBG, Nationwide, RBS and Santander UK.
 (b) Maturing funding, planned issuance and issuance to date in 2011 include term debt issued in both public and private markets.
 (c) 2011-13 maturities exclude the banks' voluntary repayment of the Special Liquidity Scheme but include debt issued under HM Treasury's Credit Guarantee Scheme.
 (d) Issuance to date in 2011 is at end-October 2011. Funding shares may not sum to 100% because of rounding.

mature in 2012, with maturities concentrated in the first half of the year. Section 2.2 discusses ways in which banks can respond.

Shorter-term money market funding conditions have also been fragile over the past few months, with banks finding it harder to roll all of their maturing funding and tenors shortening. For example, since end-April, an estimate of the amount of money market funding provided to UK banks by US money market funds (MMFs) has fallen by around 20% and the weighted average maturity of these funds has fallen by more than half (Chart 2.9). Should funding market strains persist, that may pose short-term rollover risks.

UK banks rely on other banks, domestic and overseas, for a significant proportion of their funding. For example, other banks have accounted for almost a third of the initial investor base for major UK bank covered bond issuance in 2011 (Chart 2.10). Overseas banks also face significant near-term refinancing needs. Euro-area banks need to refinance over €600 billion of term debt in 2012, with the majority maturing in the first half of 2012. That represents around 35% more debt than was refinanced by euro-area banks in 2011. Around three quarters of euro-area banks' maturing funding in 2012 is unsecured. That will be expensive to replace if current funding strains persist. The volume of prospective bank refinancing, at the same time as significant sovereign debt refinancing, means bank funding markets are vulnerable to future shocks.

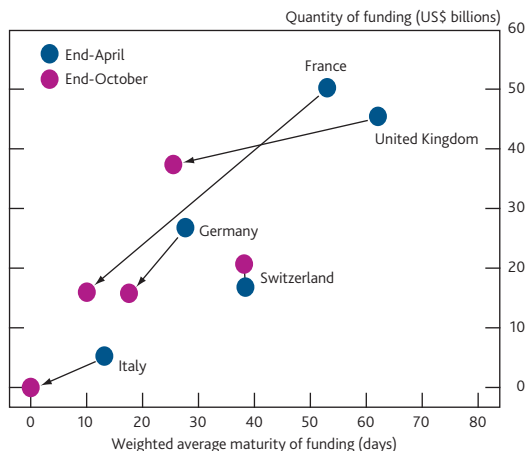
...and are vulnerable to exposures in the euro area...

An immediate risk to UK banks' funding could arise from concerns about their own exposures, or those of counterparties, to vulnerable euro-area countries. Those concerns persist given that considerable uncertainty remains about how the package of measures announced on 27 October will be implemented, in particular how the EFSF will be structured to support sovereign debt issuance by vulnerable economies.

...in particular arising from banking sector linkages.

Major UK-owned banks had around £15 billion of exposure to sovereign debt in the more vulnerable euro-area economies at end-2011 Q3, equivalent to less than 10% of core Tier 1 capital (Table 2.A). But UK banks do have significant total exposures to the private sectors in Ireland, Italy and Spain, of around £160 billion, or 80% of core Tier 1 capital. UK banks are also indirectly exposed through their lending to core euro-area banking systems. For example, UK-owned banks have very significant exposures to French and German banking systems, which in turn have large exposures to weaker euro-area economies (Chart 2.11). Exposures to banks and the non-bank private sector in France and Germany amount to around 100% of core Tier 1 capital.

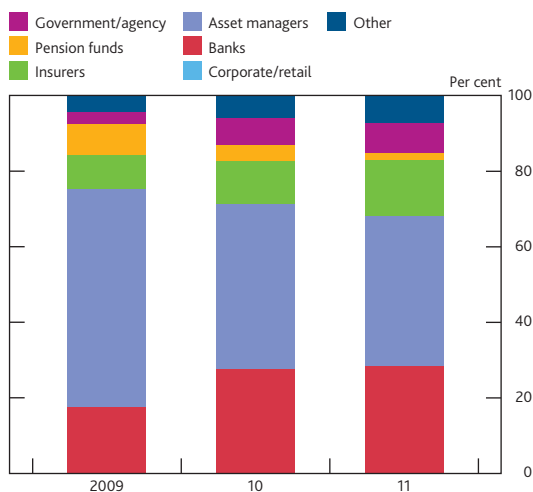
Chart 2.9 Funding provided to selected European banking systems from a sample of US prime MMFs^{(a)(b)(c)(d)}



Sources: Monthly fund holding reports and Bank calculations.

- (a) Data are based on a sample of five large US prime MMFs that accounted for US\$435 billion (30%) of total prime MMF assets at end-October.
- (b) Includes banks with more than US\$100 billion of assets at end-2010. Banks are grouped according to the domicile of their parent, apart from Santander UK which is in the UK group.
- (c) Data capture all MMFs' outstanding investments in banks, including investments in banks' repo, ABCP conduits and securitisations.
- (d) Maturity is based on 'effective maturity', which takes into account call options on securities.

Chart 2.10 Major UK bank covered bonds — investor distribution by type^{(a)(b)}



Sources: Bookrunners and Bank calculations.

- (a) Between 1 January and 25 October 2011.
- (b) Sample size of £29 billion from Barclays, HSBC, LBG, Nationwide, RBS and Santander UK.

Institutions reliant on wholesale funding are more exposed...

Institutions reliant on short-term wholesale funding are particularly vulnerable to further stresses in financial markets. These risks have already become apparent with the rescue of Dexia and the demise of the broker MF Global. They are also evident, for example, in the sharp increases in the cost of default protection on US broker-dealers, some of whom rely on short-term wholesale funding for around 60% of their liabilities. Since the end of June, the main US broker-dealers' CDS premia have risen by around twice as much as the average for the major UK banks.

...including to asset price falls that could impair collateral values...

Falls in asset prices reduce the value of collateral which banks use as security to obtain funds. This adds to procyclical funding pressures. Government bonds are an important source of collateral and further sovereign credit rating downgrades would reduce their value to banks as security for funding. For example, the central counterparty ICE Clear Europe no longer accepts Greek and Irish debt as collateral (Box 1). By reducing the perceived degree of support that sovereigns can provide to banks, sovereign downgrades can also precipitate bank downgrades. Some weaker financial institutions have already increased their use of collateral swaps — where they swap their lower-quality collateral for higher-quality collateral from other financial institutions — to obtain funding (Section 3).

Short-term bank ratings have a strong influence on counterparty behaviour and can trigger contractual outflows of funding. In October, Moody's downgraded the long-term rating of twelve UK banks, but left the short-term ratings of most UK banks unchanged. In November, Fitch downgraded the short-term ratings of two UK banks. S&P has also been reviewing its bank rating framework, including the way in which public support is incorporated. As discussed in Section 3, a reduction in the perceived degree of public support for UK banks could lead to higher bank funding costs.

...and lead to trading book losses.

Large unhedged movements in asset prices could also generate losses on banks' trading books. Market participants appear to have increased the weight that they attach to extreme movements in equity prices over the next six months (Chart 2.12). That may in part reflect deteriorating perceptions of market liquidity (Section 1). Less liquid markets may hamper the efficient incorporation of news into prices and so make markets prone to extreme price movements. Recently announced deleveraging plans by European banks include cutbacks in trading activity, which could further reduce market liquidity.

A flight to safety could cause sharp asset price movements...

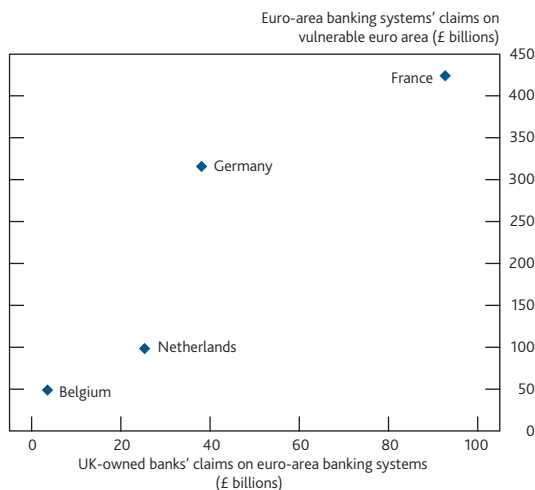
Shifts in capital flows as investors seek 'safe havens' could cause large and disruptive movements in many asset prices.

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

£ billions	Sovereigns	Banks	Non-bank private sector	Total	Provisions ^(d)	Total less provisions (per cent of core Tier 1 capital)
Greece	1.2	0.9	3.9	6.0	0.3	2.7
Portugal	1.2	1.4	10.6	13.1	0.4	6.1
Italy	6.1	7.9	23.7	37.6	0.6	17.8
Spain	3.5	13.4	40.7	57.5	2.5	26.5
Ireland	2.9	9.2	65.5	77.6	15.7	29.8
Total vulnerable Europe	14.8	32.7	144.3	191.8	19.5	83.0
France	34.7	88.1	60.2	182.9	–	87.6
Germany	38.2	34.8	40.5	113.5	–	54.4
Netherlands	11.7	22.3	45.4	79.4	–	38.0
Belgium	3.4	3.2	4.2	10.9	–	5.2
Total	102.8	181.1	294.6	578.5	–	268.2

Sources: Bank of England, EBA, 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-September 2011, except for HSBC where non-bank private sector data are from the EBA as at end-December 2010. Data for Belgium, France, Germany and the Netherlands are from Bank of England at end-June 2011.
 (c) 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) Not available for HSBC, or for any bank for Belgium, France, Germany or the Netherlands.

Chart 2.11 Claims on vulnerable euro-area countries via euro-area banking systems^{(a)(b)}

Sources: BIS consolidated banking statistics and Bank calculations.

- (a) All data are as at end-June 2011. Converted from US dollars into sterling using end-June exchange rate.
 (b) X-axis shows consolidated ultimate risk basis foreign claims by UK-owned banks on the banking systems of selected euro-area countries. Y-axis shows consolidated ultimate risk basis foreign claims on all sectors of Greece, Ireland, Italy, Portugal and Spain by selected euro-area banking systems.

Chart 2.13 indicates that previous episodes of global risk shocks — when market uncertainty has been high — have prompted sharp currency moves. Currency movements could be amplified by the investment behaviour of large holders of foreign exchange reserves. A growing gap emerged in 2011 H1 between China's reserve accumulation and its purchases of US Treasury bonds. This supports market intelligence that China had been diversifying its foreign currency reserves portfolio.

...propagated by complex and opaque financial instruments...

Price correlations across asset classes have recently been historically high (**Chart 1.13**). These correlations could be amplified by the structure of financial instruments, adding to stress across markets. For example, market contacts have raised concerns that leveraged exchange-traded funds (ETFs) may have been increasing intraday volatility as they rebalance their portfolios in the same direction as changes in underlying asset prices.

Escalating sovereign risks could also disrupt credit derivatives markets. Market contacts have questioned whether the CDS market is sufficiently mature or liquid to absorb a sovereign credit event. A credit event that triggered sovereign CDS could place strains on any institution that had sold credit protection without correctly pricing the risk. Outstanding contracts on countries with the highest market-implied probabilities of default indicate these risks might be contained. For example, contracts on Greece account for only 3% of the approximately US\$2½ trillion of gross outstanding sovereign CDS contracts (**Chart 2.14**). But if the amount of insurance sold is concentrated in a few institutions, any payouts could affect their creditworthiness. And a broader set of euro-area countries, which have experienced marked increases in default probabilities, account for around a quarter of the sovereign CDS market.

A debt restructuring that did not trigger a payout on CDS contracts might also pose risks. It could undermine market faith in the usefulness of the protection that these contracts purportedly provide. Market contacts have suggested that this might trigger large-scale selling of euro-area sovereign bonds if market participants sought to reduce their exposures in the absence of effective hedging instruments, reducing sovereign debt prices and exacerbating the rise in sovereign borrowing costs.

...potentially threatening CCPs and payment systems.

Key intermediaries in the financial system could be vulnerable in the event of highly correlated shocks, especially in sovereign debt and banking markets. Payment systems may suffer short-term cliff-edge effects if members are forced to exit when they fall below the lowest credit rating accepted by the system. While it may be appropriate for systems to have

Box 1 Mitigating risks to central counterparties

This box discusses the importance of central counterparties (CCPs) to the financial system and illustrates the potential consequences were a CCP to fail in a severe stress scenario. It then looks at CCPs' own risk management policies and the possible impact these policies could have on the financial system. It concludes by considering the tools that the authorities may use to mitigate the effects of CCP distress.

The role and importance of CCPs

The role of a CCP is to interpose itself in a trade, becoming the buyer to every seller and the seller to every buyer. The introduction of a CCP replaces a network of bilateral exposures between participants of variable credit quality with a structure in which each participant has a single exposure to the CCP. This can enhance system resilience by centralising risk control and default management in a single entity (which is itself subject to intensive oversight) and by improving market confidence in times of stress. By facilitating multilateral netting a CCP may also reduce overall exposures in a market.

A CCP does not, however, remove all credit risk. The CCP is exposed to each of its clearing members and all of these clearing members are exposed to the CCP. Consequently, the distress or failure of a CCP could have significant adverse consequences for the financial system and broader economy.

Doubts about the continued viability of a CCP could deter participants from entering into new contracts, potentially reducing market liquidity and further increasing price volatility.⁽¹⁾ If a CCP were to fail, residual losses would fall on its participants in a way that might not be transparent and which could take a considerable period of time to establish, or pressure could be put on the government to bail out the CCP. Due to the lack of substitutability in most clearing services, the failure of a CCP might also result in closure of the markets that it clears. And there could be second-round effects, including contagion to other markets through the losses experienced by clearing participants and through heightened counterparty risk concerns.

The likely impact of a CCP failure is greater now than in the past. This reflects the expansion of central clearing to new products and markets — a trend that is likely to continue as central clearing of certain products is mandated — thus further increasing the systemic importance of these infrastructures.

Potential sources of CCP distress

All CCPs face various risks which have the potential in severe scenarios to result in distress or failure, including: the default of a clearing participant; the default of an investment

counterparty; business risk; the default of a payment bank; and the risk of extended operational disruption. The recent period of sovereign distress has highlighted and also heightened many CCPs' exposures to several of these risks.

A key source of risk that a CCP faces is the default of a clearing participant. In the normal course of business a CCP has a matched position, as it becomes the buyer and seller on identical contracts, and so it is not exposed to market risk on the trades that it clears. In the event of a clearing participant default, however, the CCP must continue to meet its obligations to the other side of the trade. These unmatched positions mean that it faces exposure to market movements until the defaulter's positions can be hedged or allocated to other members.

Sovereign distress could increase a CCP's risk from participant default in two ways:

- The price volatility of cleared products may be related to sovereign creditworthiness, such as repo transactions secured against government bonds. A recent survey of euro money market participants indicated that just under 50% of repo transactions were cleared through a CCP.⁽²⁾ In the United Kingdom this service is provided by LCH.Clearnet Ltd (the UK-incorporated CCP of the LCH.Clearnet Group)⁽³⁾ through its RepoClear service.
- The creditworthiness of clearing participants may be dependent upon, or positively correlated with, the creditworthiness of a sovereign.

These factors also mean that a CCP may be exposed to 'wrong-way risk'. This risk arises, for example, if a CCP clears bonds of a particular sovereign for a clearing participant whose credit risk is positively correlated to that sovereign. In this case, sovereign distress could result in a large change in potential market exposure at the same time as the risk of potential default of the clearing participant increases.

CCP risk management

CCPs hold various financial resources to protect against losses that may arise from a clearing participant default. These resources usually comprise margin,⁽⁴⁾ clearing participant contributions to a default fund and the CCP's own funds.

The investment of these resources may, however, bring its own risks to the CCP. CCPs commonly reinvest cash margin and default fund contributions. The recent period of sovereign distress has drawn attention to this risk, as some CCPs reinvest cash in government debt securities or other instruments that may be related to sovereign creditworthiness. This is a direct

exposure to the market for a CCP, as it is obliged to return the full value of cash posted by its participants.

Many CCPs allow clearing participants to meet at least some of their margin and default fund contribution obligations in non-cash collateral, typically government debt securities. This exposes the CCP to the risk that the value of this collateral may fall, thereby providing insufficient cover in the event that a participant defaults. To manage this risk, CCPs restrict the types of non-cash collateral they are prepared to accept from members and apply haircuts to this collateral.

Risk management policies can be adapted to meet changing market circumstances. This is evident in several CCPs' responses to the recent period of sovereign distress. Over the past year, ICE Clear Europe Ltd has indicated publicly that it has increased haircuts on collateral related to certain sovereigns and no longer accepts Greek and Irish debt as collateral.

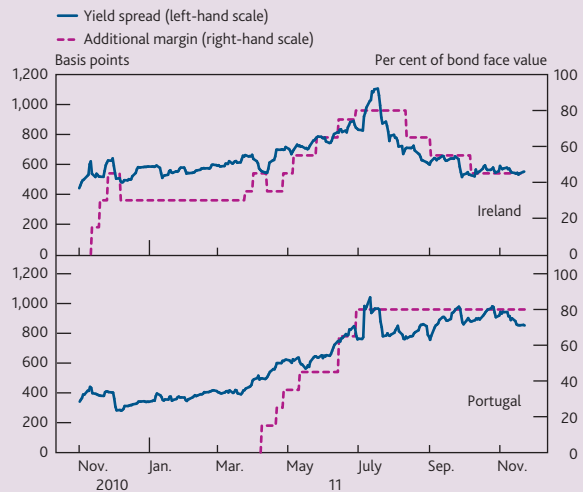
LCH.Clearnet Ltd has implemented a formal sovereign risk management policy in respect of its repo clearing service.⁽⁵⁾ The policy identifies three routes through which LCH.Clearnet Ltd anticipates that sovereign distress may create additional losses in the event of a clearing participant default: jump-to-default credit risk or price dislocation; reduced market liquidity; and wrong-way risk. The policy establishes that LCH.Clearnet Ltd may call for additional margin to protect against these potential losses.

One indicator of additional risk identified by LCH.Clearnet Ltd is the yield spread between a sovereign's ten-year bonds and a benchmark ten-year basket of AAA government bonds. LCH.Clearnet Ltd has indicated that it would generally consider a spread of 450 basis points over the benchmark to be indicative of additional sovereign risk and may increase the margin required for positions in that issuer. LCH.Clearnet Ltd applied this framework to positions in Irish government bonds in November 2010, calling for additional margin at a headline rate of 15% of the face value of the bond.⁽⁶⁾ Further additional margin was called as the spread widened, ultimately peaking at 80% for long positions in June 2011. This has now been reduced. LCH.Clearnet Ltd has also called additional margin against positions in Portuguese government bonds based on this threshold — the level of additional cover is currently 80% for long positions.

More recently, LCH.Clearnet SA (the Paris-based CCP of the LCH.Clearnet Group) has increased initial margin rates on Italian sovereign debt securities that it clears, reflecting heightened volatility and reduced liquidity in these products.

Holding additional margin reduces a CCP's potential losses in the event of a clearing participant default. It is possible,

Chart A Yield spreads and additional margin under LCH.Clearnet Ltd sovereign risk framework^(a)



Sources: Bloomberg, LCH.Clearnet Ltd and Bank calculations.

(a) Spreads of ten-year government bonds over benchmark basket of AAA-rated sovereign bonds. From 12 October 2011, spreads for Ireland use the Irish nine-year bond.

however, that such an approach may have a procyclical effect and propagate stress through the financial system. Additional margin or higher haircuts on collateral increase funding costs for participants and may cause them to exit positions. This can then create further downward pressure on prices, potentially leading to further margin calls or haircuts. To meet margin calls, constrained participants may also be forced to liquidate positions in other products, causing contagion to other markets. The effect is likely to be most acute if calls for additional cover are large or unexpected.⁽⁷⁾ This calls for a transparent and graduated framework for margining.

Loss allocation and resolution regimes for CCPs

Internationally, regulators are working to implement stringent risk management standards for central counterparties.⁽⁸⁾ Notwithstanding this, the potential distress or failure of a CCP cannot be discounted.

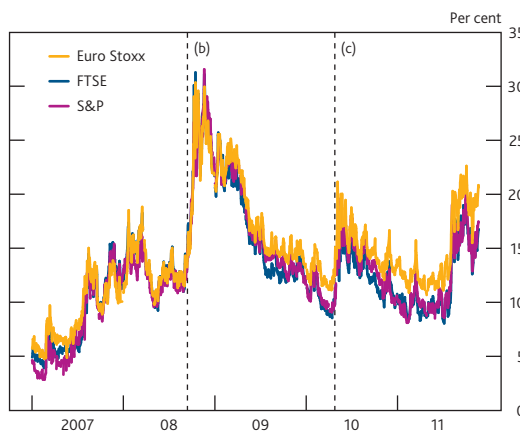
A key tool to limit the impact of any CCP failure is the establishment of a credible resolution regime. This can provide authorities with the powers to address the distress of a CCP, while minimising as far as possible the disruption to the financial system. In the United Kingdom there is currently no resolution regime for CCPs.⁽⁹⁾ As discussed in Section 5, however, there is considerable international work underway to develop appropriate frameworks that attempt to tackle these issues — for example by CPSS-IOSCO, at FSB and in the European Commission.

Two issues are particularly important in any resolution regime. One is the need to ensure the continued operation of systemically important CCP services, given the potential disruption to financial markets that the failure of a CCP may cause.

Second, the allocation of losses arising from the failure of a CCP must be addressed, as a necessary condition for the continued provision of clearing services. Unlike banks, CCPs do not typically have a capital structure that includes instruments such as debt or contingent capital that can be used to cover losses. That implies that unfunded losses would need to be allocated among the CCP's participants in some way, since it is the CCP's participants that would otherwise primarily bear losses in the event of the disorderly failure of the CCP.⁽¹⁰⁾ That being so, there is clearly a systemic benefit in having this loss-allocation rule agreed and understood in advance of distress. The proposed CPSS-IOSCO Principles for financial market infrastructures require that a CCP has 'clear and transparent rules and procedures' that address how potentially uncovered credit losses would be allocated.⁽¹¹⁾

- (1) For example, uncertainty about the continued viability of Chicago Mercantile Exchange following the October 1987 stock market crash has been identified as exacerbating market volatility.
- (2) ECB *Money Market Survey 2011*. A study of the European repo market by the International Capital Market Association ('European repo market survey', No. 21, September 2011) suggests that at June 2011 just over 30% of outstanding repo business was centrally cleared. Note that the scope and methodology of the two studies are quite different.
- (3) The LCH.Clearnet Group operates through two separate subsidiaries: the UK-incorporated LCH.Clearnet Ltd; and the French-incorporated LCH.Clearnet SA.
- (4) CCPs typically collect variation and initial margin. Variation (or mark-to-market) margin reflects actual changes in market prices, preventing the accumulation of large exposures over the life of the contract. CCPs typically pass variation margin collected from those participants who have experienced adverse price movements to those who have experienced gains. Initial margin is collected (and held) to protect the CCP against potential future changes in the value of a defaulting participant's positions, from the time of the last mark-to-market until the time the contract can be closed out.
- (5) See LCH.Clearnet Ltd Circular: www.lchclearnet.com/member_notices/circulars/2010-10-05.asp.
- (6) LCH.Clearnet Ltd reduces the amount of additional margin it calls as the bond price falls, reflecting the fact that there is less scope for prices to fall further in the event of a sovereign default. For example, at a headline rate of 15%, the effective additional margin called on bonds trading at 70% of par would be approximately 9%.
- (7) See CGFS Report, 'The role of margin requirements and haircuts in procyclicality', March 2010.
- (8) See CPSS-IOSCO, 'Principles for financial market infrastructures — consultative report', March 2011.
- (9) Some countries do already have in place resolution regimes that could cover CCPs. In France and Germany this is by virtue of these infrastructures being licensed as banks. In the United States, the Dodd-Frank Act allows for CCPs that have been designated as systemically important to be resolved under its arrangements for the orderly liquidation of financial companies.
- (10) See Tucker, P (2011) 'Central counterparties: the agenda', available at www.bankofengland.co.uk/publications/speeches/2011/speech524.pdf.
- (11) See Principle 4, CPSS-IOSCO, 'Principles for financial market infrastructures — consultative report', March 2011.

Chart 2.12 Option-implied probability of a 20% decline in equity prices^(a)



Sources: Bloomberg, Chicago Mercantile Exchange, NYSE Liffe and Bank calculations.

- (a) Refers to decline over the next six months.
 (b) Lehman Brothers collapse, 15 September 2008.
 (c) First wave of Greek crisis, 26 April 2010.

risk-related participation requirements, rigid rules introduce the risk of disorderly exit. This can disrupt the system and customers of the exiting member. The Bacs scheme in the United Kingdom has recently changed its membership criteria to mitigate this risk. A CCP failure could also have significant consequences for the financial system and the wider economy, as discussed in Box 1.

2.2 Banks' responses to funding market strains

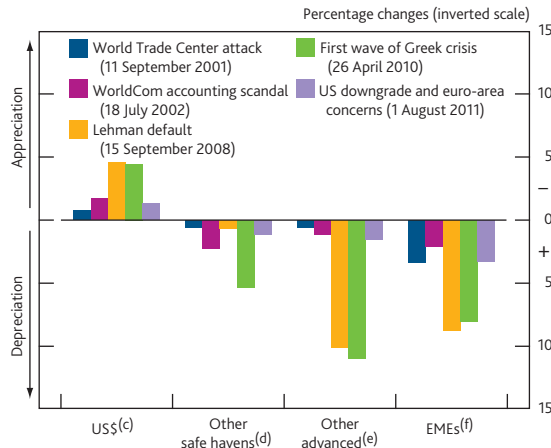
Sovereign debt and banking concerns could have a more widespread impact on financial stability if banks respond to persistent funding strains by contracting their balance sheets abruptly and in counterproductive ways for the financial system as a whole.

Banks could respond by paying more for term funding...

One possible response by banks is to pay more for term funding. For UK banks, the cost of term funding has increased significantly since the intensification of the euro-area crisis. An indication of the increase in cost can be inferred from five-year CDS premia, which have risen by around a percentage point since June (Chart 2.15).

Banks may not be able to absorb fully that increase in funding cost, while maintaining profit margins on lending. In setting the price for new lending, lenders must factor in the cost of

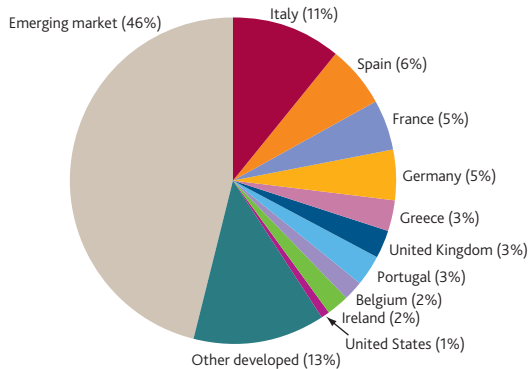
Chart 2.13 Currency movements one month following global risk shocks^{(a)(b)}



Sources: Bloomberg, Thomson Reuters Datastream and Bank calculations.

- (a) Global risk shock defined as a period when the VIX exceeded two standard deviations from its mean (sample taken between January 2000 and October 2011).
 (b) Average changes in US dollar exchange rates for each currency group, 22 business days following a global risk shock.
 (c) Trade-weighted.
 (d) Currencies included: euro, Japanese yen, Pound sterling, Swiss franc.
 (e) Currencies included: Australian dollar, Canadian dollar, Norwegian krone, Swedish krona.
 (f) Currencies included: Brazilian real, Indonesian rupiah, Korean won, Malaysian ringgit, Mexican peso, Polish zloty, Russian rouble, Singapore dollar, South African rand, Turkish lira.

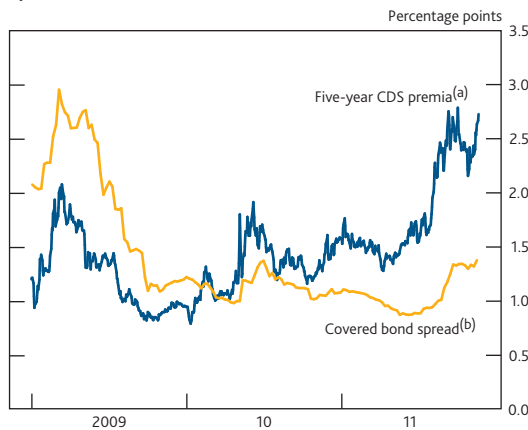
Chart 2.14 Sovereign credit default swaps (gross outstanding)^(a)



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

- (a) The total for the 57 countries with the largest gross outstanding amount on 18 November 2011 was US\$2.7 trillion.

Chart 2.15 UK banks' indicative long-term funding spreads



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

- (a) The data show a simple average of the five-year CDS premia of Barclays, HSBC, LBG, Nationwide, RBS and Santander UK.
 (b) The data show a simple average of the spread between covered bonds with a maturity of between three and five years issued by UK banks and equivalent-maturity swap rates.

raising an additional unit of funding. Lenders report that the marginal funding source is typically long-term, wholesale debt. Furthermore, long-term wholesale funding will more closely match the expected tenor of the loan.

Illustrative estimates suggest that lending rates have not so far increased in line with higher wholesale funding and other costs. The gap between estimates of costs and lending rates — the 'residual' in **Chart 2.16** — suggests a decline in the profitability of new mortgage lending since 2009. The risk of persistent headwinds to profitability is discussed in Section 3.

...passing on the higher funding costs to lending rates...

To maintain profit margins on lending, banks may try to pass on the increase in borrowing costs in their lending rates. Market intelligence suggests higher funding costs have already affected some banks' internal pricing systems for their business units and some lending rates, although pass-through has been far from complete. In the current uncertain environment, market contacts indicated that banks were waiting to see whether the deterioration in funding conditions persisted before making any significant changes to loan pricing. And little new debt has been issued at the higher prices.

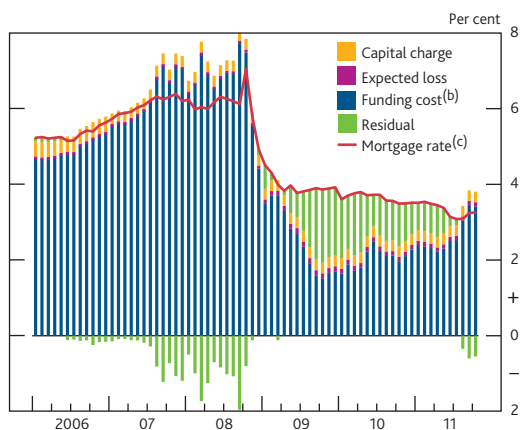
Lenders with a higher stock of retail deposits may be more insulated from the marginal cost of wholesale funding. These lenders may price on the basis of the average costs of retail and wholesale funding. But market intelligence suggests retail funding costs are being bid up too, as banks attempt to attract more retail deposits and reduce their reliance on wholesale funding. This suggests pass-through will eventually occur. At the beginning of the financial crisis, when funding costs rose sharply, banks were relatively slow in updating the price of new mortgages and the residual remained negative for around a year (**Chart 2.16**). This suggests it may be during 2012 that any significant increase in banks' lending rates occurs.

...shifting the composition of funding...

Banks could try to mitigate the increase in term funding costs by making greater use of cheaper short-term funding. But that would decrease the resilience of UK banks and, if less than three months' maturity, would require them to hold more liquid assets to mitigate the risk of those funds not being rolled over.

Banks could also increase their reliance on collateralised term funding such as covered bonds, already an important source of funding in 2011 (**Chart 2.8**). Everything else equal, collateralised lending is less risky for the providers of funds and, in turn, a cheaper source of borrowing for the issuing banks. That would, however, require more collateral. There are already market concerns about the degree to which banks' assets are 'encumbered' — not available to unsecured creditors in the event of a default. Higher levels of, or greater

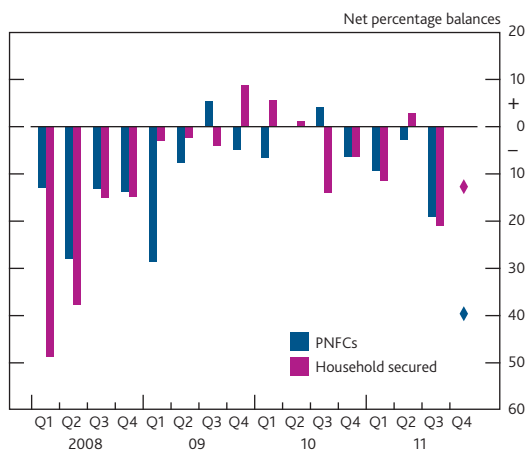
Chart 2.16 Decomposition of the interest rate on new mortgages^(a)



Sources: Bank of England, Bloomberg, British Bankers' Association (BBA), Council of Mortgage Lenders, Markit Group Limited and Bank calculations.

- (a) For detailed information on methodology see Button, R, Pezzini, S and Rossiter, N (2010), 'Understanding the price of new lending to households', *Bank of England Quarterly Bulletin*, Vol. 50, No. 3, pages 172–82.
 (b) This is the estimated marginal funding cost for extending variable-rate sterling-denominated loans. It is the sum of three-month Libor plus an average of the five-year CDS premia of the major UK lenders.
 (c) 75% LTV Bank Rate tracker mortgage average quoted rate.

Chart 2.17 *Credit Conditions Survey*: influence of wholesale funding conditions on the availability of bank credit^{(a)(b)(c)}



Source: Bank of England *Credit Conditions Survey*.

- (a) Net percentage balances, calculated by weighting together the responses of lenders.
 (b) A negative balance indicates that changes in wholesale funding conditions have served to decrease credit availability.
 (c) Diamonds show respondents' expectations over the next three months when they were surveyed in Q3.

uncertainty about, encumbrance increase the probability of a creditor run, making the institution more vulnerable to liquidity risk. That may have contributed to the increase in unsecured funding costs. It can lead to the emergence of adverse funding feedback loops, whereby funding-constrained banks seek to tap secured markets only to see their access to unsecured funding markets reduced further. Moreover, even secured funding costs have increased in recent months (Chart 2.15).

...disposing of non-core and intra-financial system assets...

Banks could reduce their funding requirements by disposing of assets. The restructuring plans of Lloyds Banking Group (LBG) and Royal Bank of Scotland (RBS) already involve reducing non-core assets through disposals and running off maturing assets. They reduced non-core assets by £75 billion in the first three quarters of 2011, exceeding targets. More generally, significant disposals by banks, in the face of weak demand, could lead to falls in asset prices, forcing banks to mark down asset values and recognise greater losses. By acting in their own individual interests, banks' actions could lead to a collective outcome that increases losses in the system.

Another option could be to reduce lending within the financial sector, which rose sharply in the run-up to the crisis. But if not done carefully this could aggravate problems in funding markets and also prove counterproductive for the system as a whole. A box on pages 26–27 examines the composition of banks' balance sheets and the role of intra-financial sector assets.

...or reducing lending to the real economy.

A clear risk is that the pressure on funding markets could result in a contraction in lending to the real economy. Capital requirements per unit of exposure are higher for real-economy exposures than for intra-financial system exposures (Box 2). So to raise or sustain capital ratios, banks may have incentives to reduce real-economy lending rather than intra-financial sector exposures.

Credit availability is already tight for some borrowers, as noted in Section 1. In the Bank's 2011 Q3 *Credit Conditions Survey* an increasing balance of lenders cited funding conditions as a factor constraining lending to corporates and households. That constraint was expected to increase further in Q4 for corporate lending, exceeding levels seen in 2008 (Chart 2.17). More recent discussions with some of the major lenders confirmed that a period of sustained tight funding conditions could lead them to reduce lending to the real economy.

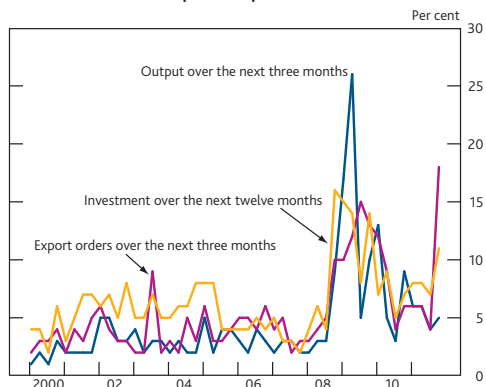
A tightening in credit conditions is even more apparent in the euro area. The October 2011 ECB *Credit Conditions Survey* indicated that, following a sharp tightening in lending standards in Q3, banks expected to tighten lending conditions further in Q4. And a number of European banks have recently

Table 2.B Deleveraging plans of selected European banks^(a)

€ billions	Bridgewater ^(b)	Deutsche Bank ^(c)	Morgan Stanley ^(d)
Barclays	–	20	–
Lloyds Banking Group	–	175	72
Royal Bank of Scotland	–	121	93
HSBC	–	–	83
BNP Paribas	67	81	>50
Société Générale	70	85	75–95
Crédit Agricole	–	17	50
Commerzbank	31	188	100
Deutsche	30	–	90
Dexia	–	113	191
Santander	52	–	17
NAMA Ireland	–	28	74
Bank of Ireland	–	30	19
Credit Suisse	90	103	90
Other Europe	139	319	1,016
Total Europe	480	1,281	2,020

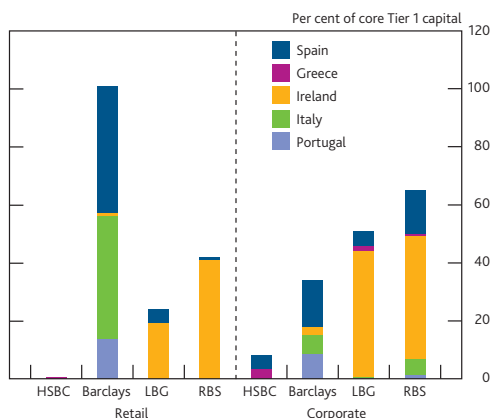
Sources: Bridgewater, Deutsche Bank, Morgan Stanley and Bank calculations.

- (a) Estimates are based on either funded or risk-weighted assets depending on individual bank disclosure and are therefore not directly comparable.
 (b) Based on a sample of risk-weighted asset reduction plans announced by ten banks during the third-quarter earnings season.
 (c) Based on company data and Deutsche Research for a sample of 17 banks.
 (d) Based on company data and Morgan Stanley Research for a sample of 26 banks plus additional estimates for NAMA and Spanish, Italian and peripheral European banking systems.

Chart 2.18 UK manufacturers reporting credit as a constraint on output, export orders and investment^(a)

Source: CBI.

- (a) Per cent of companies reporting that credit/finance is likely to limit output, export orders or investment.

Chart 2.19 Major UK banks' exposures to corporate and retail sectors of vulnerable euro-area economies^(a)

Sources: EBA, published accounts and Bank calculations.

- (a) All data are as at end-September 2011 except HSBC which is at end-December 2010. Gross of provisions.

announced plans to reduce the size of their balance sheets, in response to funding pressures and the need to raise their capital ratios.

There is considerable uncertainty about the scale of the prospective reduction in assets. Estimates range widely, with some as high as €2 trillion (Table 2.B). Market intelligence suggests the vast majority of the deleveraging plans of European banks relate to corporate sector assets. Areas affected include international leasing, trade and commodity finance, and international corporate syndicated lending. For example, there are reports of large French banks pulling out of lending syndicates.

Trade finance is reported to have been particularly affected by US dollar funding shortages for euro-area banks. Market estimates suggest that French banks account for around a quarter of global trade finance. The euro area is the United Kingdom's largest export market and so a reduction in the availability of trade finance could constrain UK exporters. Consistent with that, the October 2011 *CBI Quarterly Industrial Trends Survey* reported a sharp rise in the proportion of UK firms citing lack of credit/finance as a factor likely to constrain their export orders over the next three months (Chart 2.18). This was cited by more respondents than during the peak of the financial crisis in 2009.

Tighter credit conditions and weaker economic activity could expose credit risks...

Tighter credit conditions, interacting with weakening economic activity, pose credit risks to banks. Barclays, LBG and RBS have exposures to companies in more vulnerable countries like Ireland, Italy and Spain (Chart 2.19). UK banks have already provisioned for extensive losses on these loans (Table 2.A). But forward-looking indicators of credit risk in these economies have deteriorated: corporate ratings downgrades have exceeded upgrades by a significant margin, equity values have fallen and the cost of default protection has increased on average by around 200 basis points since June (Chart 2.20), exceeding levels seen in 2008/09. The cost of default protection has also increased in other European countries by more than in the United Kingdom or the United States.

The outlook for UK corporate profitability has weakened since the June 2011 *Report*. For example, a third of respondents to the 2011 Q3 *Deloitte CFO Survey* thought it more likely than not that UK corporate profits will decline over the next twelve months — twice as many respondents as a quarter earlier. Data from companies' accounts indicate that a fall in revenues of only 2% would be sufficient to take the percentage of companies unable to service their debt out of profits above the levels seen in the early 1990s (Chart 2.21). An increase in the risk of default is apparent in the corporate bond market, where higher expected default losses and greater uncertainty about default have contributed to higher spreads (Chart 2.22).

Box 2

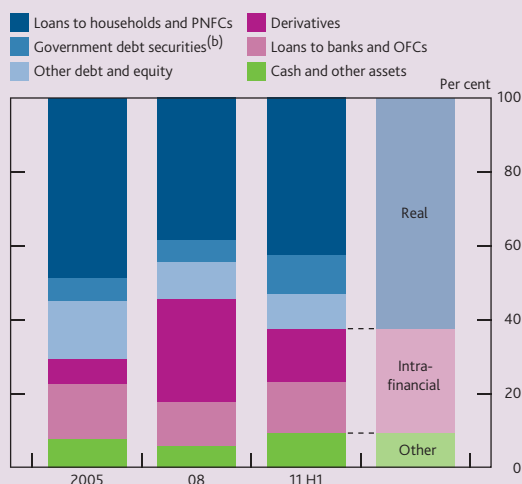
UK banks' assets and the allocation of regulatory capital

In September, the FPC advised banks to manage their balance sheets in a way that would not exacerbate market or economic fragility. This box examines UK banks' allocation of assets and the drivers of that allocation, focusing on profitability and capital requirements.

The composition of UK banks' assets

In 2011, lending to households accounted for one quarter, and lending to PNFCs one fifth, of major UK banks' assets. Together with holdings of debt and equity securities, which primarily finance governments and PNFCs, credit to the real economy is around 60% of UK banks' total assets (Chart A).

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



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

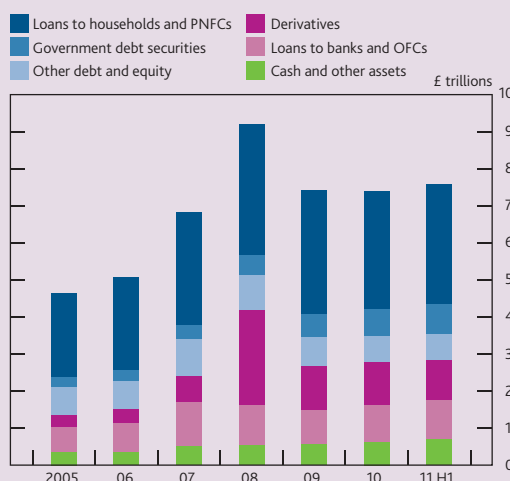
(a) Chart takes September data as end-year for National Australia Bank.

(b) Includes loans to governments. Where government debt securities are not disclosed all debt securities are allocated to 'Other debt and equity'.

Intra-financial and other assets account for the remaining 40% of major UK banks' assets. Loans to financial firms and derivatives account for three quarters of this. After removing derivatives with real-economy counterparties, gross intra-financial sector assets are approximately 27% of total assets.

The composition of UK banks' balance sheets has changed dramatically in recent years. Between 2005 and 2008, UK banks' assets doubled. Real-economy credit rose by around 50%, while intra-financial sector assets increased 260% (Chart B). The share of intra-financial sector assets roughly doubled. Since 2008, UK banks have reduced their total assets by nearly one fifth, comprising reductions in intra-financial sector assets (41%) and in real-economy lending (6%). During this time, major UK banks' equity base increased by 31%.

Chart B Major UK banks' total assets^(a)



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

(a) See footnotes (a) and (b) in Chart A.

Intra-financial sector assets perform numerous functions:

- **Liquidity and funding.** Intra-financial sector activity can support banks' liquidity. Funding longer-term assets with shorter-term liabilities exposes banks to cash demands. Banks hold a buffer of liquid assets to ensure these can be met. Within this, interbank activity allows individual banks to provide excess liquidity to banks that require liquidity.

Intra-financial sector activity also provides funding. For example, insurance and pension funds hold a substantial share of long-term savings. In turn, they provide around 35%–40% of UK banks' long-term funding.

- **Risk management.** Banks' lending activities can cause concentrated risks to develop against specific firms, sectors or countries. Banks can reduce this risk, for example by insuring assets using credit default swaps or securitising assets to distribute their risk. Similarly, interest swaps reduce the risks created when banks fund fixed-rate loans using liabilities with variable rates.
- **Access to financial markets.** Banks' services to the real economy extend beyond lending. Corporates often use banks to hedge risks. In turn, banks hedge these risks in the market, creating intra-financial sector exposures. Similarly, market-making requires intra-financial sector activity and in turn supports users' access to a range of financial markets.

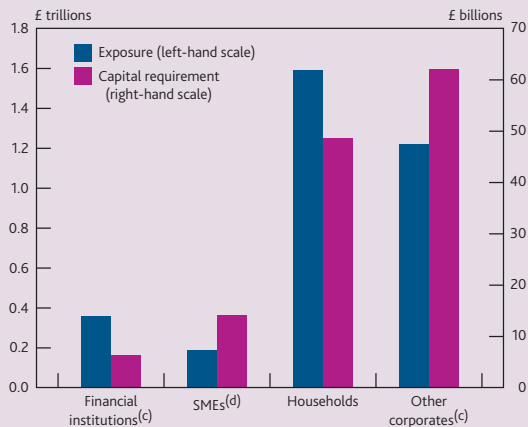
These functions demonstrate how intra-financial system activity can usefully support the real economy. But it can also pose risks to the overall system. For example, increasing the connections between banks means isolated shocks are more easily transmitted.

The composition of UK banks' capital requirements

Regulatory data can be used to decompose banks' capital requirements and exposures. Unlike the accounting data shown in **Charts A and B**, the regulatory data used in **Chart C** show net exposures. This takes account of collateral and offsetting positions, which can be significant for some assets. Regulatory data also understate the scale of intra-financial activity by classifying some financial firms as corporates.

Large UK banks' total credit exposure to households, small and medium-sized enterprises (SMEs) and corporates is £3 trillion (**Chart C**). Against this, banks are required to hold £125 billion of capital for regulatory purposes (75% of total Pillar 1 requirements). Within the required capital, 95% arises from credit exposures and just 5% from counterparty exposures, such as derivatives.

Chart C Large UK banks' total credit exposures and capital requirements^{(a)(b)}



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

- (a) Based on June 2011 data for Barclays, HSBC, LBG, Nationwide, RBS and Santander UK.
 (b) Total credit exposures comprise credit and counterparty credit exposures.
 (c) Financial firms other than regulated banks and investment firms are included within 'Other corporates'.
 (d) Only includes data on SME credit exposures from internal ratings based portfolios.

By contrast, total credit exposures to financial institutions are only £360 billion, against which banks must hold £6 billion of capital (4% of Pillar 1 requirements). Around a third is held against counterparty exposures. In addition, intra-financial sector activity accounts for a significant share of banks' market risk. In total, capital requirements for market risk account for 8% of UK banks' Pillar 1 capital requirements.

On average, UK banks are required to hold capital equivalent to 4.2% of real-economy exposures, compared with 1.8% for intra-financial sector exposures. This reflects higher average risk weights for real-economy activity. Both intra-financial and sovereign exposures tend to attract low risk weights due to their perceived safety. For example, many intra-financial sector exposures are short term and include measures to mitigate losses, such as collateral and netting agreements. Similarly, exposures to households also attract low risk

weights, given the extent of secured lending. By contrast, corporate lending, which is often longer term and uncollateralised, attracts relatively high risk weights.

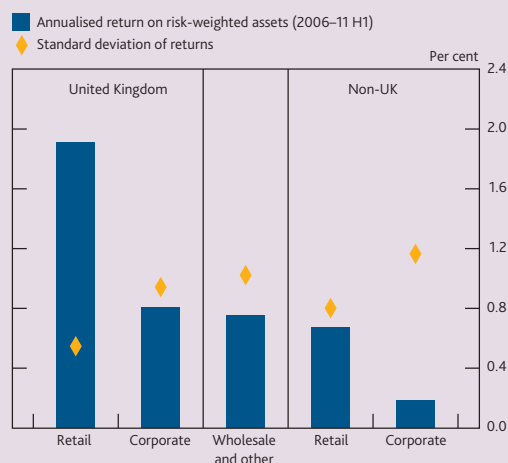
These requirements are changing to reflect more recent loss experiences. Between 2007 and 2009, major international banks' total losses in wholesale banking were around 160% of the capital allocated to these businesses.⁽¹⁾ Basel 2.5 and 3 increase the required capital for counterparty credit and market risk by around 150% and 70% respectively.⁽²⁾ This may lead to around a 20% rise in Pillar 1 capital requirements for the major UK banks. The Basel trading book review also seeks to ensure that the risks from trading activity are properly captured. These changes will better align capital charges with firm-level loss experience, although systemic risk may continue to be undercapitalised.

The composition of UK banks' profitability

Despite lower capital requirements, wholesale banking has yielded relatively low and volatile returns since 2006 (**Chart D**). In the recent crisis, the opacity of some wholesale activities meant losses quickly undermined entire asset classes. This was seen across numerous markets, including those that support real-economy activity, such as some asset-backed securities markets.

Banks' services to the UK real economy have remained among UK banks' most profitable and stable business lines. Average returns on risk-weighted assets for UK corporate banking are estimated to have been 0.8% since 2006 (**Chart D**). At 1.9%, returns on UK retail banking have been even higher.

Chart D Estimated returns by business line^{(a)(b)}

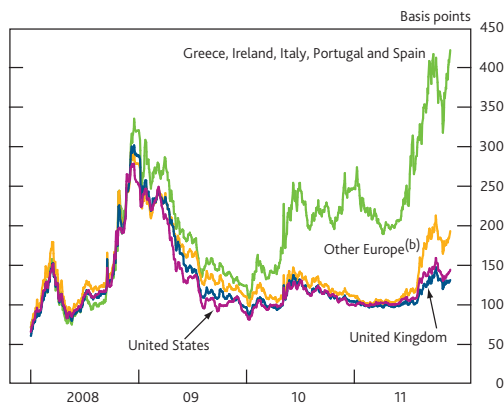


Sources: Published accounts and Bank calculations.

- (a) Data cover Barclays, LBG and RBS and exclude non-core businesses where disclosed. Profits and risk-weighted assets are allocated on a best-efforts basis.
 (b) Returns are post-tax profits by business line as a percentage of risk-weighted assets. Post-tax profits are calculated by applying a 28% tax rate to all positive profits.

(1) Based on a sample of banks as reported in FSA (2010), 'The prudential regime for trading book activities', *DP 10/4*.
 (2) Based on preliminary estimates from firms.

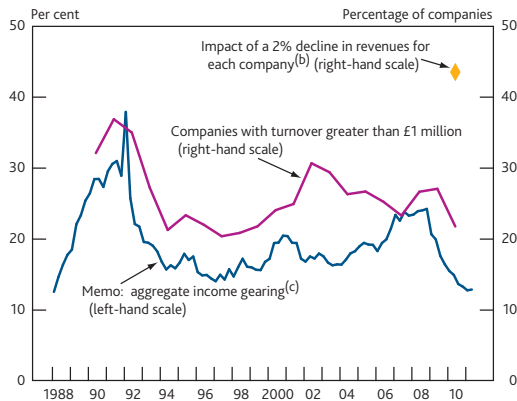
Chart 2.20 Cost of default protection for non-financial corporates^(a)



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.

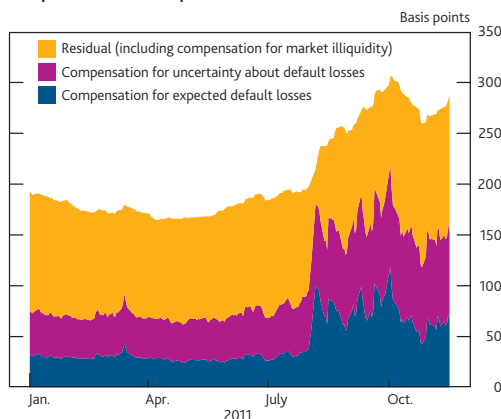
Chart 2.21 Percentage of companies with interest payments greater than profits^(a)



Sources: Bureau van Dijk database, ONS and Bank calculations.

- (a) Percentage of companies with interest payments greater than their profits before interest. Data include firms reporting turnover, profit and interest paid. These may not be representative of the population. Changes in the composition of the data set reduce comparability over time. Subsidiaries are excluded. Accounts are assigned to calendar years according to the statement date and data for each calendar year are plotted at end-June.
 (b) Holding all costs fixed.
 (c) Calculated using ONS data as interest paid divided by the gross operating surplus for PNFCs. Includes an adjustment for FISIM.

Chart 2.22 Decomposition of UK investment-grade corporate bond spreads^{(a)(b)(c)}



Sources: Bank of America Merrill Lynch, Bloomberg, Dealogic, Thomson Reuters Datastream and Bank calculations.

- (a) For more information see Webber, L and Churm, R (2007), 'Decomposing corporate bond spreads', *Bank of England Quarterly Bulletin*, Vol. 47, No. 4, pages 533–41. Spreads over government bonds are adjusted for options embedded in corporate bonds.
 (b) Corporate bond spread decomposition weighted according to the 2011 currency split of investment-grade corporate bond primary issuance of UK corporates.
 (c) Data to close of business on 18 November 2011.

The major UK banks have already made significant provisions against their UK corporate exposures. **Chart 2.23** shows the current level of write-offs against UK banks' existing provisions and net interest income. For lending to companies, current provisions appear sufficient to accommodate current write-off rates without absorbing net interest income. But the deterioration in the outlook for corporate profitability and collateral values has increased the risk that provisions may need to rise.

...that have to date been contained by forbearance...

UK banks' corporate loan books are heavily concentrated in commercial real estate (CRE), accounting for around half of the total (**Chart 2.24**). Deleveraging in the sector has progressed more slowly than elsewhere, partly reflecting large-scale forbearance on CRE loans. Banks have been willing to extend maturing loans in breach of LTV covenants where there has been a sufficient buffer of rental income to cover interest payments.

Such types of loan forbearance allow borrowers greater flexibility in meeting their obligations during temporary periods of distress. As such, if provisioned for properly, it can be positive for financial stability and for economic growth. By reducing loan foreclosures, it can protect the resilience of both banks and their customers, and prevent fire sales of assets that could depress prices further. But inadequate, or opaque, provisioning of loans subject to forbearance may mask underlying credit risks and heighten uncertainty among bank creditors about profit and capital positions.

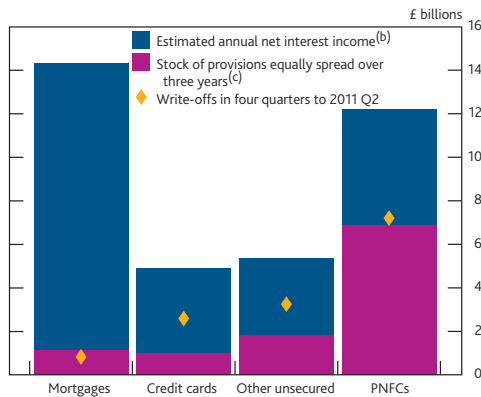
Following a request by the FPC in June 2011, the FSA has conducted a review of forbearance on UK loans, including the CRE market. The review covers loans extended by the six largest UK lenders, accounting for around two thirds of the value of the UK CRE market. It found that around a third of these loans by value are subject to forbearance, or around £50 billion.

The FSA estimated that forbearance in relation to LTV covenant breaches was the most important form of forbearance granted in the year to June 2011, accounting for nearly a third of the total value of forborne loans. Other types of forbearance mentioned related to breaches of debt-service coverage ratios, payment holidays, or maturity extensions. By forbearing on these loans, banks give borrowers time to adjust their balance sheets without crystallising losses immediately. But that has contributed to a bulge in refinancing requirements over the next three years (**Chart 2.25**).

...and could be amplified by weaker collateral values.

One trigger for losses could be weaker corporate profits, reducing borrowers' means of servicing debt and making forbearance less viable. And if banks restrain lending in the face of their own funding constraints, forborne loans may not

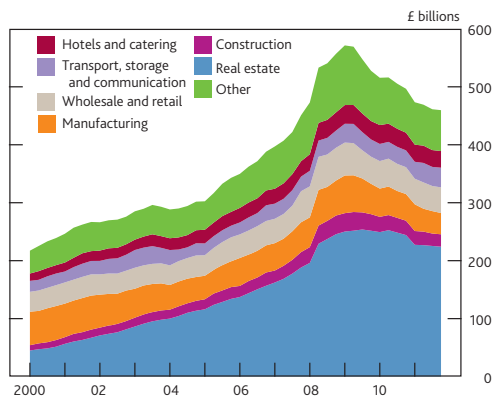
Chart 2.23 UK real-economy provisions, estimated net interest income and write-offs^(a)



Sources: Bank of England, FSA and Bank calculations.

- (a) Data for Barclays, HSBC, LBG, Nationwide, RBS and Santander UK for 2011 H1. Differences between the coverage of Bank of England and FSA data reduce comparability. Write-off practices may differ between exposure categories. In particular, the lag between provisions and write-offs is likely to be shorter for unsecured exposures.
- (b) Current exposure multiplied by estimated net interest margin (using the methodology in Chart 3.12).
- (c) Stock of provisions for PNFCs is estimated using the flows of specific provisions and write-offs on PNFC lending and estimates of the sector's share of flows of new general provisions and releases.

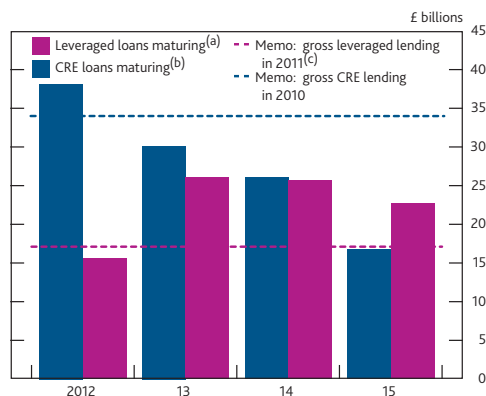
Chart 2.24 Stock of lending to UK PNFCs^{(a)(b)}



Source: Bank of England.

- (a) Data cover lending by UK monetary and financial institutions in both sterling and foreign currency, expressed in sterling terms, non seasonally adjusted.
- (b) Excludes elements of the industrial breakdown thought to contain mainly lending to the public sector. Development of buildings is included in real estate, not construction.

Chart 2.25 UK corporate loan refinancing requirements



Sources: Bank of England, Dealogic, De Montfort University and Bank calculations.

- (a) Foreign currency loans are converted into sterling using October 2011 exchange rates.
- (b) Based on information available at end-2010 and an estimate of maturity extensions during 2011, using behaviour observed in 2010. This assumes around 30% of loans that were due to mature in 2011 were extended for a period of between one and three years (50% allocated to 2012 and the remainder split between 2013 and 2014). The remainder were either extended beyond 2015 or written off.
- (c) Data to end-October 2011.

be refinanced. This would crystallise losses on banks' balance sheets where collateral values fall short of the amount lent.

UK commercial property values have been broadly flat over 2011, remaining around 35% below their peak in 2007. But derivative contracts suggest further falls of 10%–15% by end-2014. And around two thirds of property financed by UK banks is secured against non-prime property, where collateral values have continued to edge down. FSA estimates suggest nearly half of forbore loans (by value) are in negative equity. Losses could be amplified by fire sales of CRE assets.

It is difficult to judge whether banks have made sufficient provisions against losses on forbore CRE lending. The FSA's survey reported that provision coverage for forbore CRE exposures was around five times higher than coverage for non-forbore CRE exposures. But there remains the potential for significant losses on forbore loans with high LTVs. The FSA estimated that provisions against forbore accounts may be understated by up to £5 billion, but this was not thought to be systemically significant.

Another potential source of bank losses is leveraged loans. The value of loans maturing in each year beyond 2012 exceeds the gross flow of lending seen in 2011 (Chart 2.25). Around half of outstanding leveraged loans are to consumer-facing industries, where companies are sensitive to persistent weakness in consumer spending. Foreign lenders may withdraw from leveraged-loan syndicates, given recently announced deleveraging plans. And market intelligence and data on syndicated loan volumes suggest a tightening in leveraged loan market conditions since the summer.

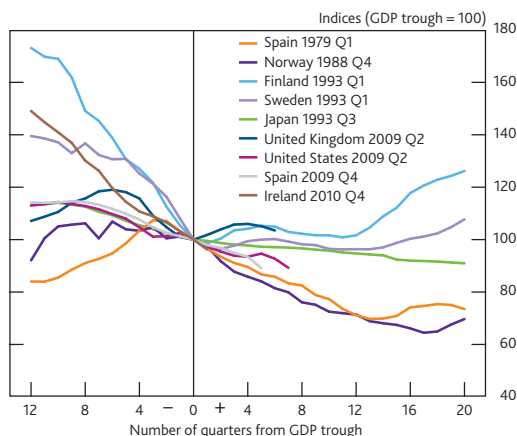
Household credit risks could be exposed by renewed declines in house prices...

Exposures to households are predominantly secured against housing assets. Any tightening in credit conditions could depress house prices, either by reducing potential buyers or by precipitating forced sales of property possessed by banks that are no longer willing or able to exercise forbearance. In previous banking crises, real house prices have tended to decline for up to three years after the trough in GDP (Chart 2.26).

On average, house prices have been relatively stable in the euro area in 2011. But that masks a wide range of experiences across countries. In more vulnerable euro-area countries where UK-owned banks are exposed (Chart 2.19), such as Ireland and Spain, prices have continued to decline.

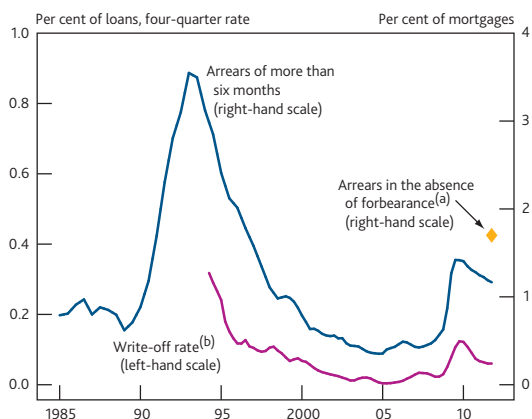
Some UK banks also have material exposures to housing markets in the United States and Asia, in particular Hong Kong. In the United States, house prices have recovered a little during 2011, but remain constrained by the large inventory of houses where loans are delinquent or are in negative equity. Market

Chart 2.26 Real house prices following banking crises



Sources: OECD and Bank calculations.

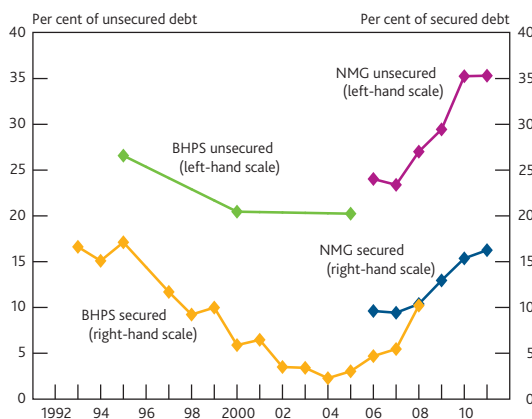
Chart 2.27 Mortgage arrears



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

- (a) FSA estimate.
- (b) Write-off rate on 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. Lending is in both sterling and foreign currency, expressed in sterling terms. Non seasonally adjusted.

Chart 2.28 Illustrative estimates of debt held by 'vulnerable' households^{(a)(b)}



Sources: British Household Panel Survey (BHPs), NMG Consulting survey and Bank calculations.

- (a) Vulnerable mortgagors are those with housing equity below 5%, or housing equity below 25% and at least one characteristic suggesting debt-repayment difficulties. Vulnerable unsecured debtors are those with less than 25% housing equity (including renters) and at least one characteristic suggesting debt-repayment difficulties.
- (b) Based on historical BHPs data and more timely information from the annual NMG survey. Differences in survey questions and sample size mean the estimates from the two surveys are not directly comparable.

forecasts for US house prices in 2012 have become more pessimistic since the summer.

Litigation risks have also increased. The Federal Housing Finance Agency has brought lawsuits totalling around US\$200 billion against US and European banks for the mis-selling of mortgages to GSEs. There is a risk that this will set a precedent for investors in private RMBS to bring forward similar lawsuits, amplifying bank losses. The moratorium on foreclosures, following legal challenges to the way that banks had processed them, may also be contributing to an increase in defaults by mortgagors. For example, HSBC reported that impairments on its US consumer loan portfolio had increased in 2011 Q3, citing greater incentives for households to stop mortgage payments while the moratorium was in place.

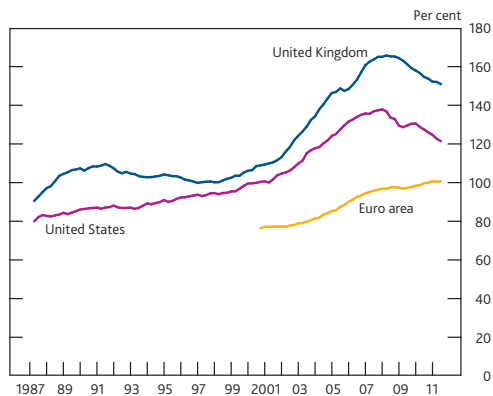
In Hong Kong, property prices are at near record levels, supported by very rapid credit growth. Collateral values could be vulnerable to a reversal of capital flows. The risk of credit losses is, however, mitigated by low LTV ratios.

...including where loans have benefited from forbearance... UK banks are also exposed to distress in the domestic housing market. UK house prices have been broadly unchanged over the past year but forward-looking indicators of housing market activity have remained weak. Although write-off rates on secured household lending have remained very low (Chart 2.27), there is evidence that underlying distress has been masked by forbearance.

The FSA forbearance review carried out for the FPC covered three quarters of UK mortgages. It suggests that 5%–8% of mortgages are subject to forbearance, depending on the definition applied. FSA estimates indicate that around 5% of these households would have been in arrears of six or more months if they had not received forbearance. That suggests that, in the absence of forbearance, the mortgage arrears rate might have been 0.5 percentage points higher at 1.7%, even at near-zero official interest rates (Chart 2.27).

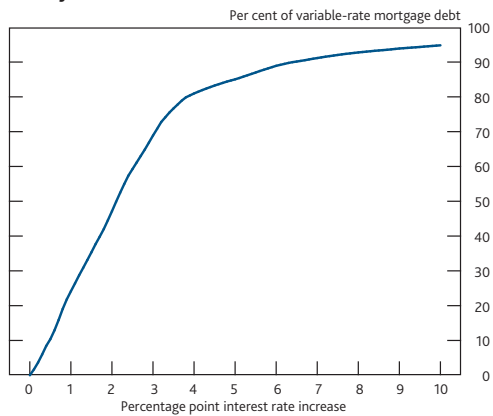
Although forbearance actions do not appear to be fully reflected in banks' provisioning processes, data collected by the FSA suggest that provision coverage on mortgages in forbearance is around three times higher than coverage on non-forborne mortgages. Given the limited evidence on the performance of forborne loans, it is not possible to assess whether this higher provision coverage is adequate. But FSA scenario analysis suggests any provisioning shortfall is unlikely to be systemically significant. Nevertheless, lenders who have exercised greater forbearance could be more exposed to losses in the event of a sharp deterioration in macroeconomic conditions.

The NMG survey suggests that around 12% of households may be benefiting from forbearance on their unsecured debt.

Chart 2.29 Household debt relative to income^(a)

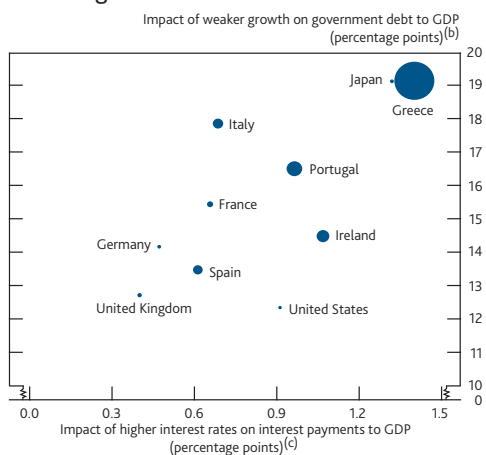
Sources: ECB, Thomson Reuters Datastream and Bank calculations.

(a) Household gross debt as a percentage of the four-quarter moving sum of household disposable income.

Chart 2.30 Percentage of debt held by mortgagors needing to adjust in the face of increases in interest rates^{(a)(b)}

Sources: NMG Consulting survey and Bank calculations.

- (a) Calculated from responses to the question in the NMG survey: 'The interest payment on mortgages is often linked to the official interest rate set by the Bank of England. If the rate was to increase, your monthly payments would also increase. About how much do you think your monthly mortgage payments could increase for a sustained period without you having to take some kind of action to find the extra money eg cut spending, work longer hours, or request a change to your mortgage?'
- (b) The question was asked to mortgagors with discounted, base rate tracker or standard variable-rate mortgages only.

Chart 2.31 Impact of weaker growth and higher interest rates on government finances^(a)

Sources: IMF Fiscal Monitor (September 2011) and Thomson Reuters Datastream.

- (a) The size of the data points indicates the five-year sovereign CDS premia on 22 November 2011.
- (b) Shows the increase in government debt to GDP ratios in 2016 if GDP growth is 1 percentage point below the September IMF WEO baseline scenario from 2011 to 2016.
- (c) Shows the increase in interest payments to GDP ratios in 2016 if the interest rate on new issuance is 100 basis points higher than the WEO baseline from the second half of 2011 to 2016.

Write-off rates on unsecured lending, which had been very high, have fallen a little in recent quarters. But arrears on credit cards remain high, which could indicate latent vulnerabilities.

...and where households are sensitive to weaker growth or higher funding costs...

An indication of underlying household vulnerabilities can be inferred from surveys. The NMG and BHPS surveys help to identify households with an elevated risk of defaulting, for example because they have limited housing equity and characteristics that suggest difficulties in making debt repayments. In 2011, the NMG survey indicated that around 15% of secured debt and 35% of unsecured debt was held by these vulnerable households, slightly more than in 2010 (Chart 2.28).

The burden of servicing debt has been eased by significant falls in mortgage rates since the beginning of the crisis. But household debt levels remain elevated (Chart 2.29), so households are sensitive to increases in interest rates. For example, in the NMG survey households accounting for nearly half of floating-rate mortgage debt reported that they would need to take some kind of action — such as cut spending, work longer hours, or change mortgage — in response to an increase in mortgage rates of 2 percentage points (Chart 2.30).

...creating an adverse feedback loop.

Greater credit losses for banks in the United Kingdom and overseas could prompt a further round of credit tightening, weaker economic activity and credit quality, and an adverse feedback loop.

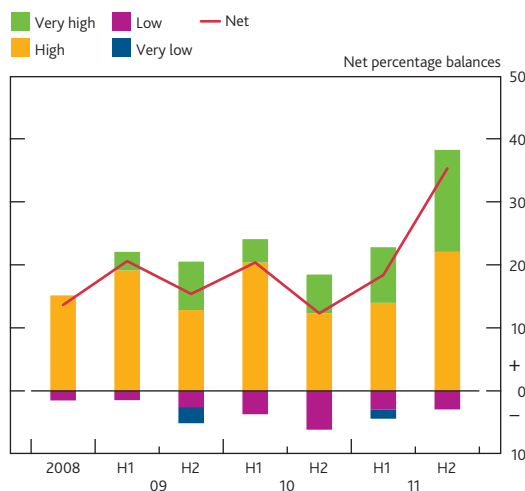
In part reflecting this, in the September 2011 *World Economic Outlook*, the IMF judged downside risks to growth as having increased. Slower growth could increase the challenges facing some sovereigns. The IMF estimates that the budgetary impact of shocks to growth and borrowing costs would be sizable for countries with higher debt and shorter maturity structures — including Greece, Ireland, Italy, Japan, Portugal and the United States (Chart 2.31). To date, Japan and the United States have benefited from a flight to safety which has kept their interest rates very low. But the developments outlined in Section 1 demonstrate how market confidence can weaken in countries where credible medium-term fiscal consolidation plans, and measures to improve competitiveness, are not forthcoming. That, in turn, could interact with continuing banking sector fragilities.

3 Medium-term risks to financial stability

Recently announced measures provide liquidity support within the euro area. But market concerns over debt sustainability might persist unless relative competitiveness in the euro area is restored. This underlines the importance of tackling imbalances at a global level. The financial crisis could also have a sustained impact on investors' risk appetite, hindering a recovery in asset prices and growth. This would add to headwinds to banks' profitability, limiting their capacity to build capital buffers and maintain lending to the real economy.

Structural vulnerabilities could also pose risks to the solvency and liquidity position of the UK banking system in the medium term. Market participants have increasingly questioned the reliability of current regulatory measures of capital adequacy, which is adding to uncertainty over counterparty creditworthiness. And opaque funding vulnerabilities can threaten banks' liquidity position in times of stress.

Chart 3.1 Probability of a high-impact financial event in the medium term^(a)



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

(a) Respondents were asked for the probability of a high-impact event in the UK financial system in the medium term. From the 2009 H2 survey onwards, medium term was defined as 1–3 years. The net percentage balance is calculated by weighting responses as follows: very high (1), high (0.5), medium (0), low (-0.5) and very low (-1). Bars show the contribution of each component to the net percentage balance.

The Bank's October 2011 *Systemic Risk Survey* showed a sharp rise in the perceived probability of a high-impact financial event in the medium term (**Chart 3.1**). Medium-term risks stem from possible adverse developments in the macrofinancial environment, including concerns over external and public debt sustainability and the risk of a prolonged period of weak global growth. They also arise from structural vulnerabilities, such as fault lines in the regulatory framework and innovations in financial markets.

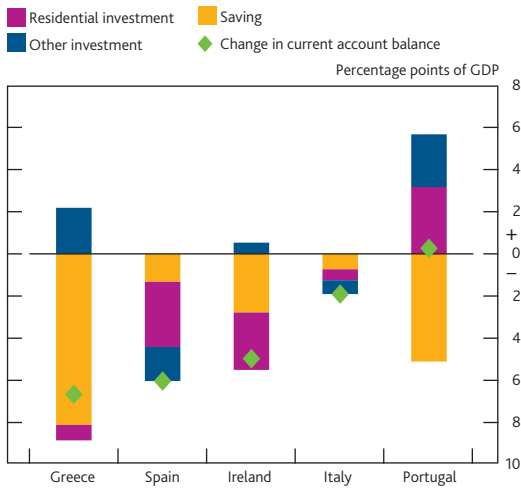
3.1 Risks from macrofinancial developments

As discussed in Section 2, uncertainty remains over the implementation of measures to support the euro area announced on 27 October. But even if these measures resolve the immediate crisis of confidence by providing a financing bridge for vulnerable countries, underlying macroeconomic imbalances still need to be tackled if financial stability is to be durably strengthened across the euro area.

Imbalances in the euro area underlie concerns over debt sustainability...

Prior to the crisis, the euro area experienced a build-up of imbalances in trade and capital flows. Saving in parts of the euro area fell, often accompanied by an increase in investment (**Chart 3.2**). But the rise in investment was largely concentrated in non-tradable sectors, such as commercial or residential property, rather than tradable goods and services that could be used to boost future export earnings. Coupled with a gradual erosion in price competitiveness as labour costs

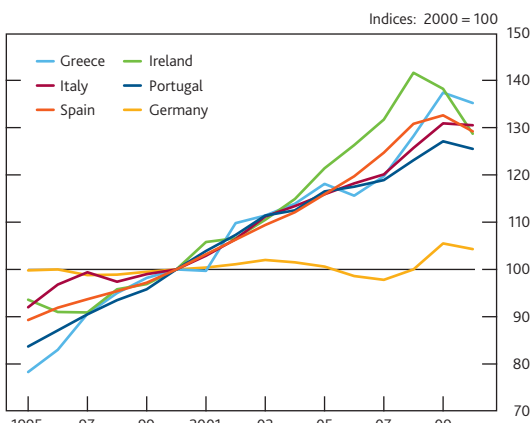
Chart 3.2 Contributions to changes in current account balances of selected euro-area countries, 2000–07^(a)



Sources: IMF *World Economic Outlook* (September 2011) and Bank calculations.

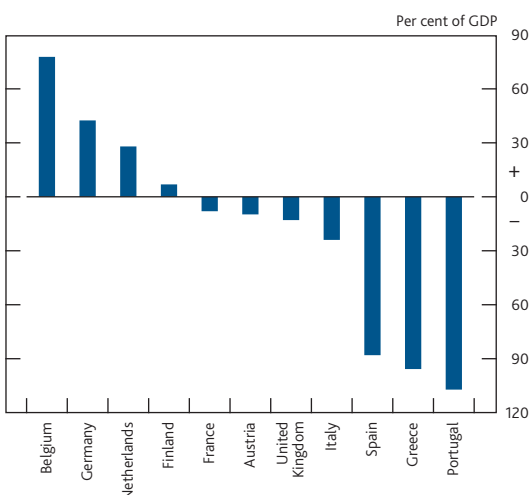
(a) A fall in saving (orange bar) and a rise in investment (blue and magenta bars) contribute to a deterioration in current account balances. Saving less investment may not equal the current account balance due to statistical discrepancies.

Chart 3.3 Unit labour costs for selected euro-area countries



Source: Eurostat.

Chart 3.4 Net international investment position of the United Kingdom and selected euro-area countries^(a)



Sources: Eurostat and Bank calculations.

(a) Data as of end-2010.

increased faster than productivity (Chart 3.3), this resulted in widening trade deficits and an accumulation of external debt in some euro-area economies. Current account imbalances have been narrowing recently, in part due to cyclical developments. But external debt positions remain large (Chart 3.4).

The adjustment path to more sustainable external debt positions across the euro area will require a rebalancing of saving and investment. To achieve this, vulnerable euro-area countries will need to regain competitiveness. In the absence of flexible exchange rates, this is likely to have to take place through changes in relative wages or productivity. Until this adjustment process has been credibly established — and relative competitiveness within the euro area improves — market concerns over debt sustainability seem likely to persist.

...reflecting broader imbalances in the world economy...

Financial imbalances in the euro area are mirrored across the globe (Chart 3.5). Since the crisis, current account positions of some of the largest deficit countries have shrunk. This reflects a sharp rise in net private saving relative to income, partly due to a process of balance sheet repair and deleveraging (Chart 3.6). The impact of this retrenchment has been cushioned by increased government borrowing. More recently, though, governments in large advanced economies have embarked on ambitious fiscal consolidation plans, committing to halve their deficits by 2013 and stabilise or reduce government debt to GDP ratios by 2016.

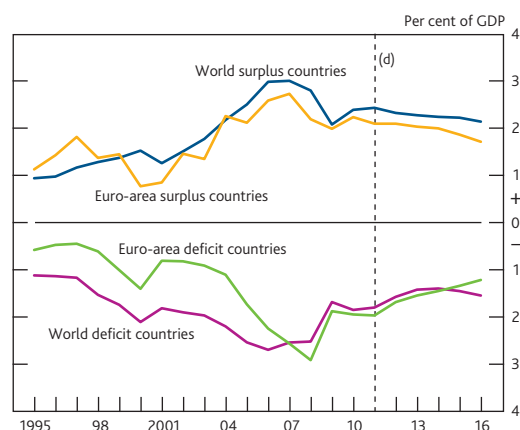
In principle, the global macroeconomic effects of deleveraging in debtor countries could be offset by stronger domestic spending growth in economies with more resilient balance sheets. This would allow highly indebted countries to recover on the back of stronger export demand. But, unlike in other post-crisis recoveries, export performance in major debtor countries has been relatively weak during the current crisis (Chart 3.7).

In part, the relatively weak export performance of debtor countries reflects the highly synchronised nature of this crisis, as economic activity contracted in many large economies at the same time. It is also because some creditor countries have opted to sustain aggregate demand through exports by preventing necessary exchange rate appreciations. The combined effects of private sector deleveraging, fiscal consolidation and exchange rate inflexibility risk a prolonged period of weak global demand, with adverse implications for financial stability.

...and adding to 'scarring' effects on investor behaviour.

Partly reflecting this uncertain macroeconomic outlook, risk appetite among global investors has fallen sharply over recent months, to levels last seen in 2009 (Section 1). While this recent fall has been driven by events in the euro area, the

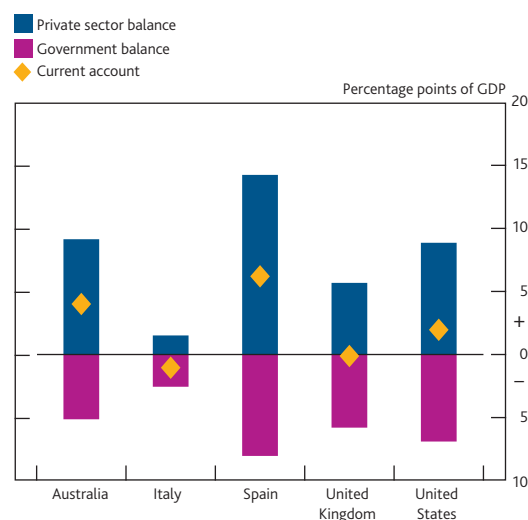
Chart 3.5 World and euro-area current account imbalances^{(a)(b)(c)}



Sources: IMF *World Economic Outlook* (September 2011) and Bank calculations.

- (a) Calculated as the sum of absolute current account surpluses and deficits as a percentage of world and euro-area GDP respectively.
 (b) World current account balances do not sum to zero due to statistical discrepancies. Euro-area current account balances do not need to sum to zero because of trade and income flows with economies outside of the euro area.
 (c) Includes the 17 current euro-area countries over the full sample period.
 (d) Forecasts from 2011 onwards.

Chart 3.6 Change in financial balances of major debtor countries^{(a)(b)(c)}



Sources: IMF *World Economic Outlook* (September 2011) and Bank calculations.

- (a) Change in financial balances as a percentage of GDP between 2007 and 2011 (forecast).
 (b) Private sector balance calculated as the residual between the current account and the general government balance.
 (c) Countries with largest absolute current account deficits in 2007.

financial crisis might be expected to have more persistent effects on investors' attitudes towards risk and their asset allocation decisions.

Evidence from previous crises points to such 'scarring' effects. For example, academic studies suggest that the Great Depression had a long-lasting impact on investors' attitudes towards risk.⁽¹⁾ And, in the aftermath of the East Asian crisis in the late 1990s, private investment remained subdued relative to the pre-crisis period (**Chart 3.8**). National savings were instead invested — through reserve accumulation — in relatively safe assets in advanced economies. This precautionary behaviour has persisted for over a decade, with foreign currency reserves rising more than sixfold since the Asian financial crisis.

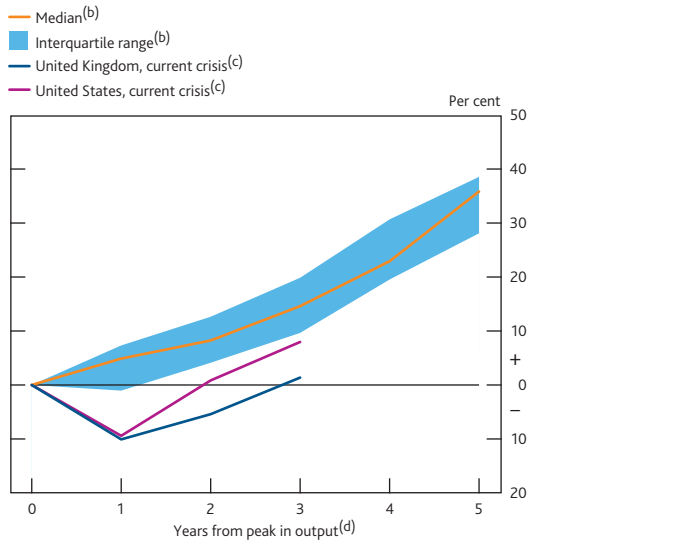
More recently, market intelligence suggests that some investors are increasingly asking for benchmark investment indices to exclude instruments issued by certain countries and financial institutions. This could have a lasting impact on the demand for sovereign and bank debt. Asset managers themselves have become more conscious of liquidity risks, focusing on worst-case scenarios that might involve fire sales of illiquid instruments due to investor redemptions. They have responded by shortening investment horizons to self-insure against possible liquidity shocks.

This shift towards derisking appears to have continued despite the low-yield environment. For example, a recent IMF survey of large asset management companies found that investors are reluctant to hold risky assets to generate returns, despite expectations of a prolonged period of low interest rates. Rather than aiming to boost yield, investors are seeking to preserve their capital. As a result, a large proportion of financial resources remains in cash or other safe assets. For example, holdings of liquid assets by the corporate sector in the United States are currently at historical highs (**Chart 3.9**). And market intelligence suggests that a material proportion of fund managers' assets continues to be invested in cash. As discussed in Sections 1 and 2, market metrics also point to continued aversion to risk by investors, with the price of 'safe-haven' assets, such as gold, remaining high by historical standards (**Chart 3.10**).

Another manifestation of the recent rise in risk aversion has been a retrenchment of cross-border flows of capital. For example, market intelligence suggests that investors in advanced economies have decreased their portfolio allocation to foreign assets recently. While this partly reflects increased flows to 'safe-haven' assets in advanced economies, it might also be due to an increase in 'home bias' by international

(1) See, for example, the studies referenced in Malmendier, U and Nagel, S (2011), 'Depression babies: do macroeconomic experiences affect risk taking?', *Quarterly Journal of Economics*, Vol. 122, Issue 1, pages 376–416.

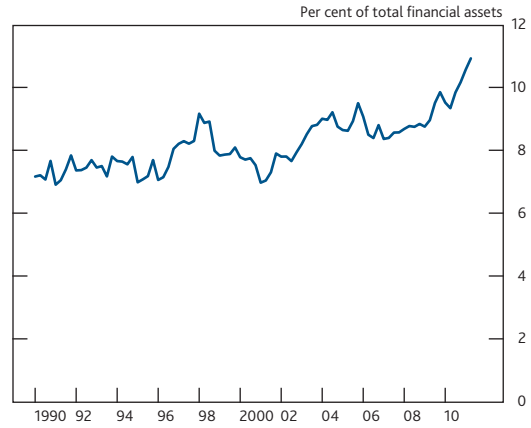
Chart 3.7 Exports following recessions associated with financial crises^(a)



Sources: IMF *World Economic Outlook* (September 2011), World Bank and Bank calculations.

- (a) Growth in real exports from year of peak output.
- (b) Sample includes 15 recessions associated with financial crises in advanced economies since 1960.
- (c) Data for 2011 represent a forecast.
- (d) Year of peak output defined as the year in which quarterly output peaked before the recession.

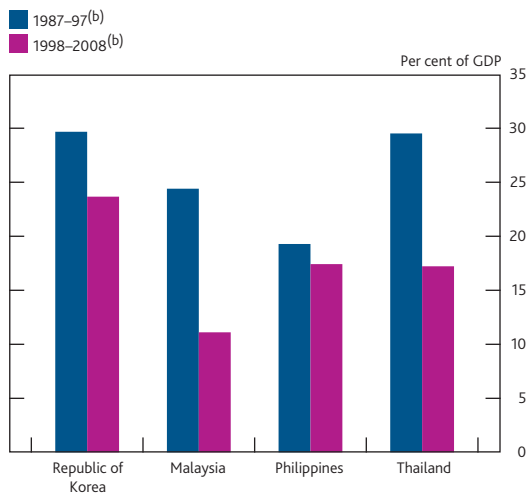
Chart 3.9 US corporate sector holdings of liquid assets^(a)



Sources: Thomson Reuters Datastream and Bank calculations.

- (a) Stock of liquid assets held by US non-farm, non-financial publicly listed corporations as a percentage of total financial assets. Liquid assets defined as currency, bank deposits and cash held at US money market mutual funds.

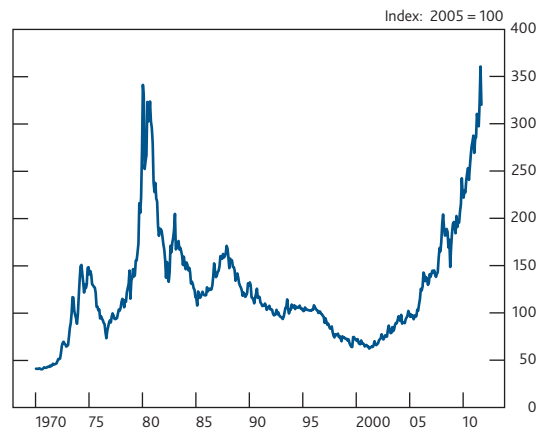
Chart 3.8 Private investment in selected East Asian countries^(a)



Sources: IMF *World Economic Outlook* (September 2011) and Bank calculations.

- (a) Calculated as the annual average share of private investment to GDP over the respective periods.
- (b) Periods before and after the Asian crisis.

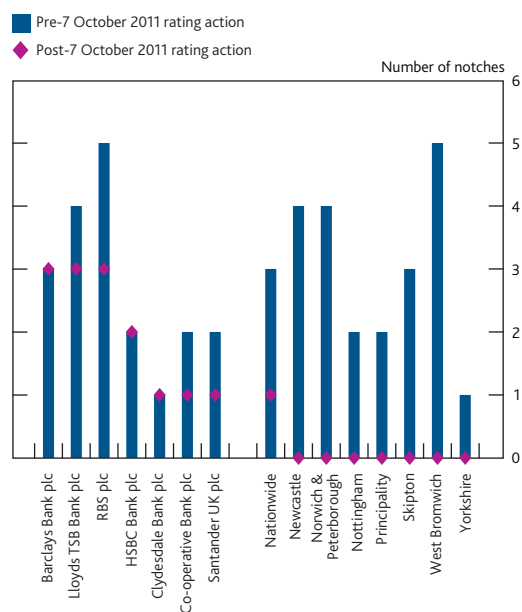
Chart 3.10 Real gold price^(a)



Sources: Bloomberg, Global Financial Data and Bank calculations.

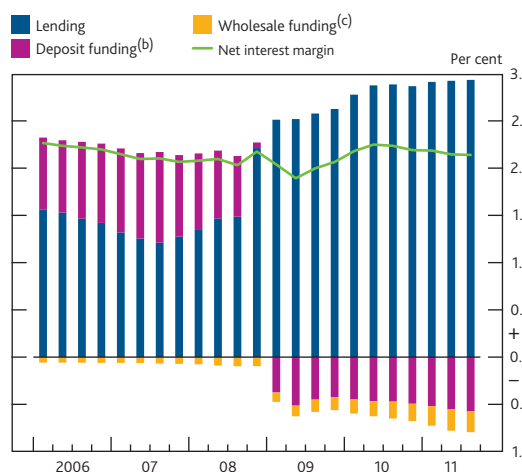
- (a) Deflated using the world consumer price index.

Chart 3.11 UK banks' ratings uplift due to Moody's expectations of government support



Sources: Moody's and Bank calculations.

Chart 3.12 Breakdown of estimated net interest margins earned on UK household and corporate lending^(a)



Sources: Bank of England, Dealogic, JPMorgan European & CB Research, Markit Group Limited and Bank calculations.

(a) The net interest margin is calculated by comparing interest spread earnings (relative to a matched-maturity risk-free rate) on the stock of household and corporate lending less interest spread payments on the funding side. This method attempts to abstract from any margins earned from taking interest rate risk.
 (b) About 70% of lending is assumed to be funded through household and corporate deposits, where a spread is calculated by comparing the effective interest rate on the deposit stock relative to Bank Rate.
 (c) About 25% of lending is assumed to be funded through wholesale borrowing. The relevant spread is calculated by comparing an issuance-weighted average spread of historical secured and unguaranteed unsecured wholesale funding costs. Those costs are proxied using RMBS spreads and CDS premia for the major UK banks.

investors. It is not yet clear how persistent these effects might be. But a deceleration or reversal of the trend towards financial globalisation could hinder the allocation of risk capital globally, including that available to fund fast-growing emerging economies.

Risk aversion could strengthen headwinds to banks' profitability...

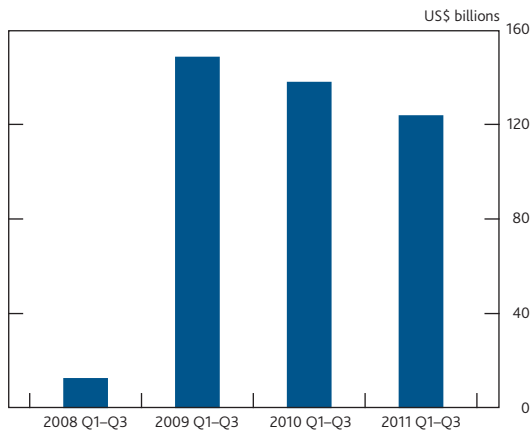
Although some of the recent rise in the cost of bank funding reflects concerns over short-term risks, persistent risk aversion could lead to a longer period of higher wholesale borrowing costs. This could have an adverse impact on the profitability of the banking sector over the medium term, reducing its ability to build capital buffers through retained earnings.

A permanent reduction in the perceived probability of public support for UK banks could also lead to higher borrowing costs. There is already some evidence that market participants' expectations of government support are falling. For example, Moody's cited a reduced probability of public support as the main reason for downgrading a number of UK banks in October (Chart 3.11). Removing expectations of public support is an explicit aim of the regulatory reform agenda. But the transition to a banking sector that is less reliant on implicit government guarantees will strengthen headwinds to profitability.

Banks could seek to restore margins by relying less on unsecured wholesale funding. But other stable sources of funding, such as deposits and secured funding instruments, have also risen in cost (Section 2). And while individual banks may be able to increase their market share of deposits, the banking system as a whole will find it difficult to increase deposits significantly in the context of subdued aggregate lending growth. The ability to raise secured funding will also be limited by the availability of suitable collateral. Increasing levels of asset encumbrance could raise the cost of unsecured borrowing as encumbrance reduces the assets available to meet unsecured creditors' claims in the event of default. In the medium term, this could reduce banks' ability to access unsecured funding markets, especially in times of stress.

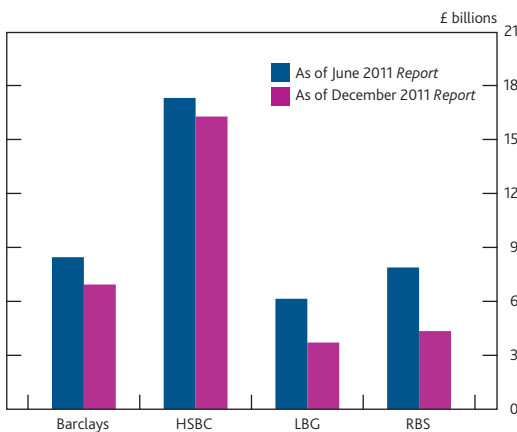
...adding to pressures on net interest margins from low risk-free rates...

Banks and building societies normally charge customers above Bank Rate on loans and pay below Bank Rate on sight and instant-access deposits. The sum of these two spreads represents a margin that covers profits and the cost of providing banking services. Since the sharp reduction in Bank Rate during the financial crisis, the average rate paid on deposits has exceeded Bank Rate, putting pressure on UK banks' net interest margins (Chart 3.12). Concerns over the outlook for global growth have led markets to expect a prolonged period of near-zero risk-free interest rates. This means that the drag on banks' net interest margins from this effect might last for longer than previously expected.

Chart 3.13 LCFIs' investment banking revenues^{(a)(b)(c)}

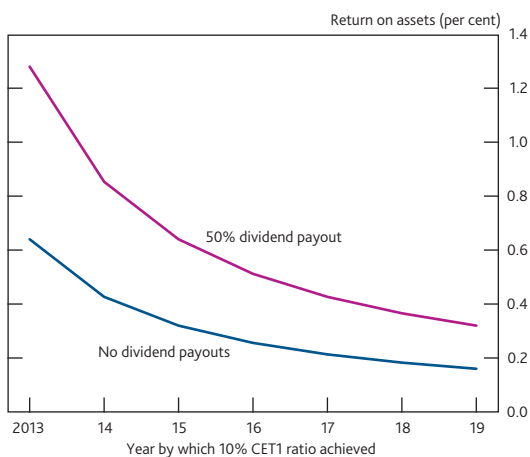
Sources: Bank of England, published accounts and Bank calculations.

- (a) Includes investment banking revenues of Bank of America, Citigroup, Credit Suisse, Deutsche Bank, Goldman Sachs, JPMorgan Chase & Co., Morgan Stanley and UBS.
 (b) Sum of total investment banking revenues for each year up to and including the third quarter. Excludes gains/losses from changes in banks' own credit spreads (debt valuation adjustment) recorded in investment banking segments.
 (c) Changes to Goldman Sachs' reporting structure incorporated from 2009 Q4.

Chart 3.14 Consensus forecasts of UK banks' profits^(a)

Source: Bloomberg.

- (a) Consensus forecasts of UK banks' 2012 annual pre-tax profits.

Chart 3.15 Estimated return on assets required for major UK banks to reach 10% CET1 on a Basel III basis^(a)

Sources: Morgan Stanley research estimates and Bank calculations.

- (a) Indicative estimates based on public disclosures of additional capital required to reach a 10% common equity Tier 1 (CET1) ratio on a Basel III basis for Barclays, HSBC, Lloyds TSB Bank plc and RBS. Disclosures are not fully comparable across banks and some figures are extrapolated. Calculations do not take account of planned mitigating actions. They also assume that banks do not issue additional equity and that risk-weighted assets stay at their end-2010 levels.

...and concerns over the sustainability of investment banking revenues...

Investment banking revenues for global LCFIs have also been weakening recently (**Chart 3.13**). These revenues are likely to face continuing pressure if risk aversion remains high for a prolonged period, especially if this is associated with a period of reduced activity in global capital markets.

In the medium term, investment banking revenues could also face headwinds from a number of regulatory initiatives. As discussed in Box 2, capital requirements against market and counterparty credit risk are likely to increase by about 150% and 70% respectively. And national initiatives, like the Volcker Rule in the United States and the recommendations of the Independent Commission on Banking in the United Kingdom (Box 3), involve restrictions on the types of investment banking activities that some institutions are allowed to undertake.

Banks are seeking to adjust their business models in response to the new regulatory environment. For example, some US LCFIs have already closed their proprietary trading desks in advance of the implementation of the Volcker Rule. Other banks have discussed plans to reform permanently investment bank business models in anticipation of the new Basel requirements, including by exiting certain business lines altogether. But uncertainty over the range of regulatory initiatives that affect wholesale operations might stall this restructuring process.

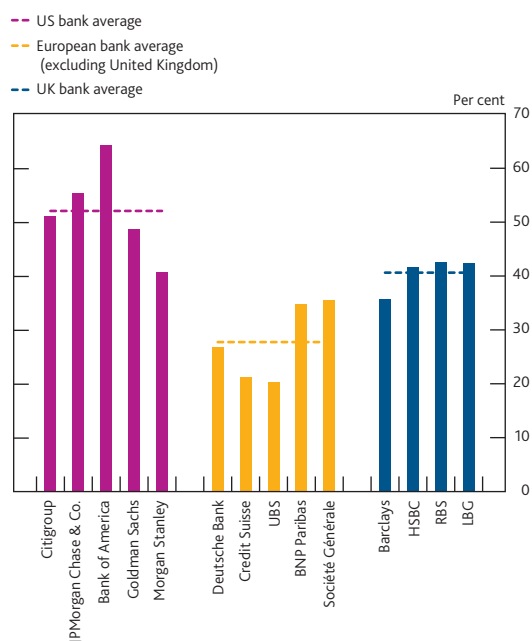
...reducing banks' capacity to build capital and extend lending...

Should risks to bank profitability crystallise, UK banks' capacity to manage the trade-off between lending and resilience over the medium term will be weakened. Market analysts have recently downgraded their profit forecasts for major UK banks (**Chart 3.14**). And banks are transitioning towards the new Basel III requirements. A period of low profitability could, other things being equal, threaten the ability of the banking system to raise capital ratios (**Chart 3.15**) and at the same time supply adequate credit to the real economy (Section 5).

...especially in light of return on equity targets that may be unrealistic.

There are other distortions that may weaken banks' incentives to boost their capital levels. The use of return on equity (RoE) targets to measure banks' performance, including by institutional investors, is one example. RoE can be a misleading metric of performance for bank shareholders because it is not risk-adjusted and can be boosted by leverage. It may also incentivise banks to cut low-yielding assets, rather than increase equity levels, when seeking to boost capital ratios. This is likely to be particularly the case if risk weights are mismeasured.

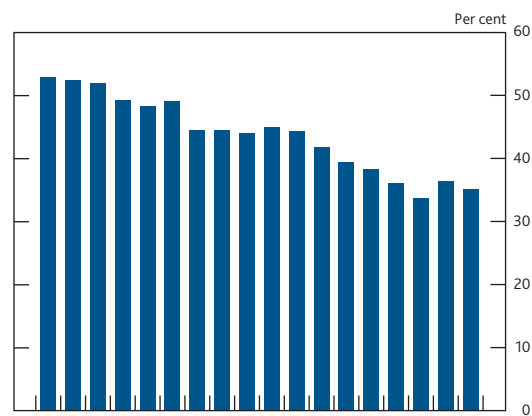
Chart 3.16 US and European banks' average risk weights^{(a)(b)}



Sources: Published accounts and Bank calculations.

(a) Data as of end-2010.
 (b) Average risk weights defined as total risk-weighted assets as a percentage of total assets. Total assets have been adjusted on a best-efforts basis to increase comparability between US GAAP and IFRS with respect to the treatment of derivatives.

Chart 3.17 European banks' average risk weights^{(a)(b)}



Source: Barclays Capital (2011), *Two hundred million inputs: can you trust risk weightings at European banks?*

(a) Sample size varies over time, consisting of 57 banks at its largest point.
 (b) Average risk weights defined as total risk-weighted assets as a percentage of total assets.

The RoE targets announced by many banks aim to deliver returns to equity investors that are close to pre-crisis levels. But new regulatory standards mean that banks' leverage is unlikely to match the levels seen prior to the crisis. So banks' RoE is likely to be lower in the future. Still, a materially lower headline RoE may match investors' previous required levels of returns once adjusted for risk.

3.2 Risks from structural vulnerabilities

Structural vulnerabilities can amplify shocks stemming from the macrofinancial environment. Fault lines in the regulatory framework are one example of such structural risks.

The regulatory capital regime is designed to require banks to fund their assets with sufficient capital to maintain confidence in their solvency. But if investors lose confidence in the design of the capital adequacy regime itself, this can pose risks to the resilience of the financial system. At the height of the crisis, for example, market participants lost confidence in the numerator of the regulatory capital ratio — the nominal amount of capital. Investors chose to focus on truly loss-absorbing equity, rather than broader regulatory capital metrics that included debt. Market intelligence suggests that investors are now questioning the reliability of the denominator of the risk-based capital ratio — specifically, the calculation of risk-weighted assets (RWAs).

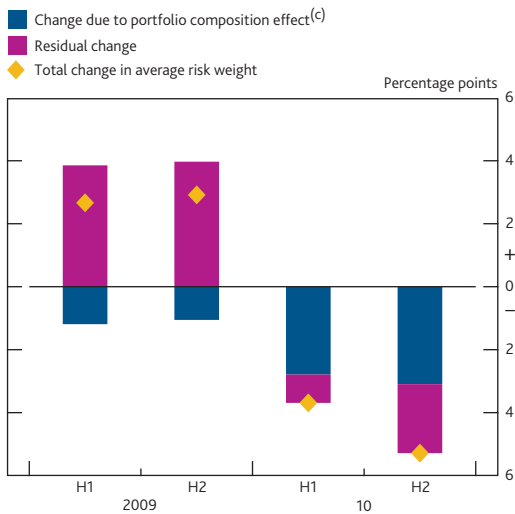
Market confidence in the reliability of RWA calculations is ebbing...

The regulatory capital framework is complex and implementation of internationally agreed rules varies across jurisdictions. The move to Basel II added to this complexity. It aimed to increase the risk-sensitivity of the capital framework through the use of internal models. In doing so, it also introduced a new source of variation in regulatory capital ratios: differences in banks' own estimates of RWAs.

Some degree of variation in banks' models can contribute to financial stability. Banks with different beliefs may react differently to new information and the banking system as a whole will be less susceptible to the failure of a single risk model. Observed variation in RWAs also does not necessarily relate to the use of internal models. For example, it could also reflect differences in business models, accounting standards or the implementation of international regulatory requirements.

But market participants have increasingly raised concerns over the degree of variation in average risk weights both across banks (Chart 3.16) and through time (Chart 3.17). Investors are often unable to compare reported capital adequacy ratios across banks meaningfully and have expressed doubts over the extent to which RWAs accurately reflect the risk of different banks' portfolios. This could lower the sensitivity of debt prices to changes in risk-taking by banks, reducing the

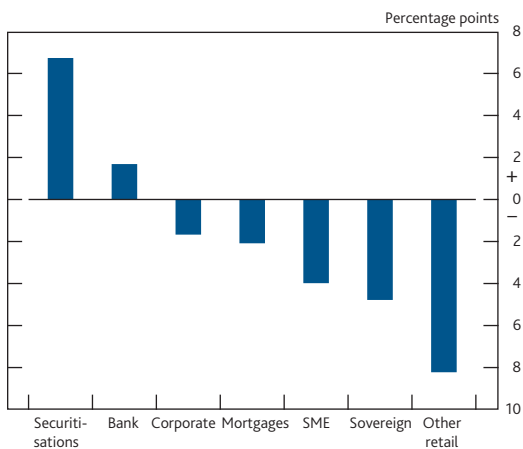
Chart 3.18 Decomposition of cumulative changes in UK banks' average risk weight since end-2008^{(a)(b)}



Sources: FSA regulatory returns and Bank calculations.

- (a) Average risk weight on the IRB portfolio of Barclays, HSBC, LBG and RBS.
 (b) Average risk weight defined as total risk-weighted assets as a percentage of total exposures at default as reported in banks' regulatory returns.
 (c) Calculated by applying 2008 H2 sectoral average risk weights through time.

Chart 3.19 Change in average risk weights on selected sectors, 2008–10^{(a)(b)}



Sources: FSA regulatory returns and Bank calculations.

- (a) Change in average risk weights on selected sectors between 2008 H2 and 2010 H2 for Barclays, HSBC, LBG and RBS.
 (b) Average risk weights defined as sectoral risk-weighted assets as a percentage of sectoral exposures at default as reported in banks' regulatory returns.

effectiveness of market discipline in good times. And, in times of stress, it could increase uncertainty over counterparty solvency, contributing to funding strains.

...and RWA calculations can be opaque even to regulators...

Reported RWAs can be opaque not only to market participants, but also to regulators. The experience with the use of internal models for credit risk in the banking book — the internal ratings-based (IRB) approach — highlights some of these concerns. In part, this is because of the large number and high degree of complexity of models employed by banks. For example, a single bank might employ more than 100 models merely to calculate credit risk capital charges in the banking book.

Chart 3.18 shows changes to the average risk weight on major UK banks' IRB portfolios between 2008 and 2010. Changes in portfolio composition, keeping sectoral average risk weights constant, can explain some of the fall in the aggregate average risk weight over the period. But this leaves a material unexplained component, as sectoral average risk weights themselves change through time (Chart 3.19). With current data, it is very difficult for both regulators and investors to assess the extent to which this residual is due to changes in the composition of banks' portfolios (for example, improvements in the credit quality of new loans) or changes in banks' risk measurement approaches.

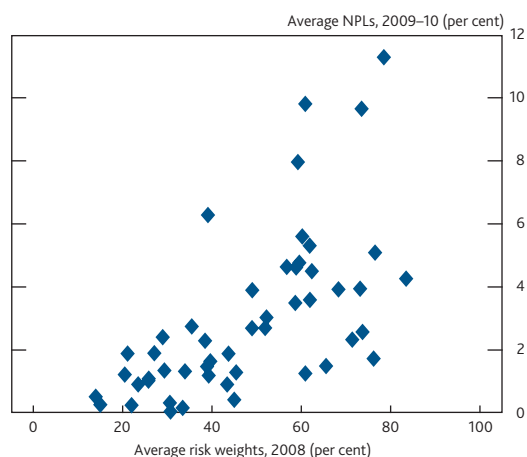
...with evidence of material variation in capital requirements against similar risks.

Evidence from the recent crisis suggests that the observed variation in RWAs might not entirely reflect genuine differences in risk-taking. While there is a positive relationship between average risk weights and non-performing loans (NPLs), which suggests RWAs have some capacity to differentiate the risk on banks' loan books (Chart 3.20), there is material variation across banks.

To identify the impact of internal modelling, the FSA conducted two hypothetical portfolio exercises (HPEs) for credit risk in the banking book in 2007 and 2009. Banks were asked to use their models to estimate the risk of a common portfolio of borrowers supplied by supervisors. The HPEs showed a very high degree of variation in risk estimates across banks. For example, in 2009 the average estimated probability of default on a hypothetical portfolio of corporate exposures varied by a factor of nearly six across banks (Chart 3.21). This suggests that banks might be financing portfolios of similar risk with widely varying levels of equity capital.

The advent of internal models in the regulatory framework also strengthens banks' incentives to adjust their RWA calculations — not because their assessment of risk has changed, but as a way of minimising regulatory capital charges. These incentives have been illustrated recently in the

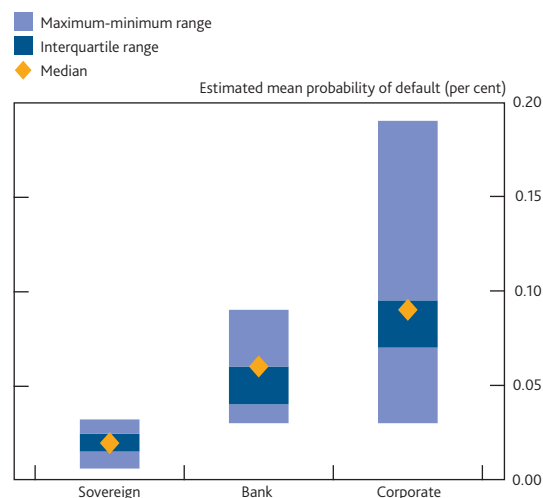
Chart 3.20 European banks' non-performing loans relative to average risk weights^{(a)(b)(c)(d)}



Sources: Capital IQ and Bank calculations.

- (a) This is an imperfect comparison because risk-weighted assets cover capital requirements for both credit and market risk, whereas NPLs only relate to banks' loan books.
- (b) NPLs are included with a time lag to assess whether reported risk-weighted assets have the capacity to predict losses in a forward-looking manner.
- (c) Average NPLs defined as NPLs as a percentage of total assets.
- (d) Average risk weights defined as risk-weighted assets as a percentage of total assets.

Chart 3.21 Variation in estimated probabilities of default on common hypothetical portfolios^(a)



Sources: FSA 2009 hypothetical portfolio exercise and Bank calculations.

- (a) Ten, thirteen and seven banks rated the sovereign, bank and corporate portfolios shown in the chart, respectively. The portfolios include 17 sovereign borrowers, 34 bank borrowers and 13 corporate borrowers.

Table 3.A Risks to creditor confidence and mitigating balance sheet characteristics

Mitigating balance sheet characteristics	Risks to creditor confidence in a bank	Constrained availability of refinancing	Bank recourse to fire sales	Credit losses on bank's assets	Correlated or concentrated exposures	Lack of transparency
Low leverage			✓	✓		
High-quality, diverse assets			✓	✓	✓	✓
Liquid assets		✓	✓			✓
Diverse funding sources		✓	✓		✓	
Low maturity mismatch		✓	✓			
Low currency mismatch		✓	✓			
Simple funding instruments						✓
Low encumbrance		✓		✓		
Stable deposit base		✓				
Stable investor base		✓			✓	

context of the EBA recapitalisation exercise. Some banks have announced their intention to meet the required 9% target ratio through so-called 'RWA optimisation' — changes in risk measurement methodology that lead to reductions in reported RWAs. Such changes may not result in any improvement in underlying resilience.

Solvency concerns are accentuated by funding vulnerabilities...

The June 2011 Report outlined a set of balance sheet characteristics that contribute to a resilient bank funding profile (Table 3.A). As outlined in Section 2, since the onset of the crisis the structure of UK banks' balance sheets has improved on a number of these dimensions, although renewed strains in bank funding markets have stalled progress in recent months. But the emerging pattern of funding is not without risks.

...such as reliance on opaque sources of borrowing.

One risk is that UK banks could become more reliant on opaque funding structures. In June, the FPC advised the FSA that bank supervisors should monitor closely the risks associated with such structures. The FSA reported the findings of a review on opaque funding to the FPC in October 2011.

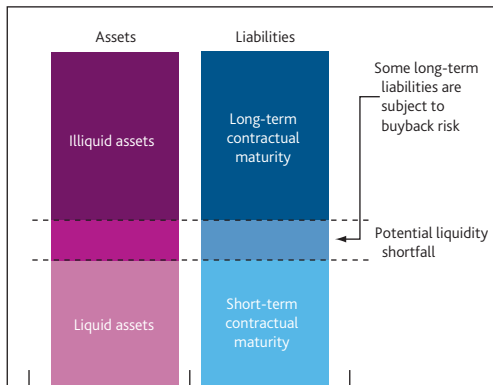
Collateral swaps and exchange-traded funds had been highlighted by the FPC as two examples of opaque funding structures. A review conducted by the FSA of 23 banks, investment firms and insurance firms found collateral swaps to be a limited, but growing, source of funding. Institutions that were recipients of funding had raised about £80 billion through collateral swaps as of mid-2011. And over two thirds of these transactions had been executed since mid-2009. The FSA review found synthetic exchange-traded funds to be a material source of funding for some major European banks. But UK banks have limited exposures to these structures at present. Section 4 summarises the actions taken by the FSA to meet the FPC's June recommendations.

'Buyback' risk is one example of an opaque funding vulnerability...

Banks often repurchase their own debt from investors ahead of its contractual maturity. In normal times, this can be part of 'business as usual' cash management activities, with investors reinvesting the proceeds at longer maturities. But, in times of stress, investors may ask banks to repurchase their own debt due to counterparty credit concerns, without reinvesting the proceeds. This can leave banks facing unexpected cash outflows. As investors often expect banks to make markets in their own debt, a range of wholesale funding instruments is subject to buyback risk.

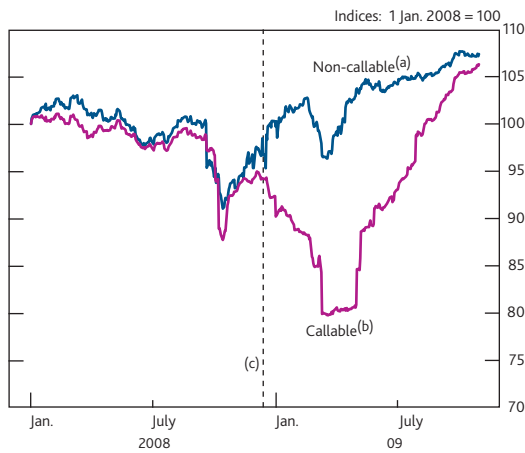
Usually, there is no legal obligation to repurchase own debt from the market. But banks typically offer an implicit commitment to do so, which is felt important to maintain

Chart 3.22 Stylised illustration of ‘buyback’ risk



Source: Bank of England.

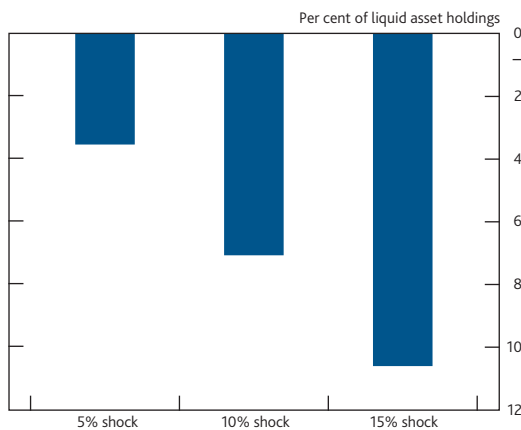
Chart 3.23 Pricing of Deutsche Bank’s hybrid capital instruments



Sources: Bloomberg and Bank calculations.

- (a) Final maturity in 2013. Lower Tier 2 instrument.
- (b) First call date in 2012. Final maturity in 2017. Lower Tier 2 instrument.
- (c) The day before Deutsche Bank announced it would not be calling another hybrid capital instrument.

Chart 3.24 Impact of illustrative debt buyback shocks on UK banks’ liquid asset holdings^{(a)(b)(c)}



Sources: FSA and Bank calculations.

- (a) Average impact on Barclays, HSBC UK, LBG, Nationwide, RBS UK and Santander UK.
- (b) Data as of 11 November 2011.
- (c) Illustrative shocks represent a repurchase of the specified percentage of the banks’ stock of senior unsecured notes and structured notes with maturity greater than three months. Applying a common shock to all instruments is a crude assumption likely to overestimate the risk for some types of funding instruments and underestimate it for others.

their reputation with customers and the franchise of their issuance programmes. Buyback risk means that the contractual funding position of a bank can understate its true liquidity risk. What appear to be long-dated liabilities may in fact create short-term demands for cash (Chart 3.22).⁽¹⁾

...which depends on the behaviour of issuing banks in times of stress...

Buyback risk was evident in the market for hybrid capital instruments in the earlier parts of the crisis. Banks had issued regulatory capital securities with embedded call features. The implicit assumption was that these instruments would be called before their contractual maturity. Many banks chose to meet their implicit commitments, despite the need to preserve capital at the height of the crisis. So many of the callable hybrid capital instruments were priced by investors on a yield-to-call rather than a yield-to-maturity basis. It was not until December 2008, when Deutsche Bank decided not to call a Lower Tier 2 security, that investors started pricing the possibility that these instruments might not be called ahead of maturity (Chart 3.23).

...complicating the assessment of liquidity risk by banks and regulators.

Buyback risk could be a source of liquidity risk for UK banks. A buyback rate of about 10% would reduce the liquid asset holdings of major UK banks by about 7% (Chart 3.24). But the 10% buyback rate shock is arbitrary. There is little consistent information from previous periods of stress to assess the scale of buyback risk as it varies by market and instrument. For example, market contacts suggest that requests for buybacks increase in times of stress for medium-term structured notes and short-term debt instruments (eg certificates of deposit and commercial paper), but less so for traditional medium-term debt instruments. And the impact of any shock on banks’ liquidity position will depend on whether the buyback occurs at par or at a lower market price. Uncertainty around the possible scale of buyback risk can hinder the assessment of the banking system’s resilience to liquidity shocks in times of stress.

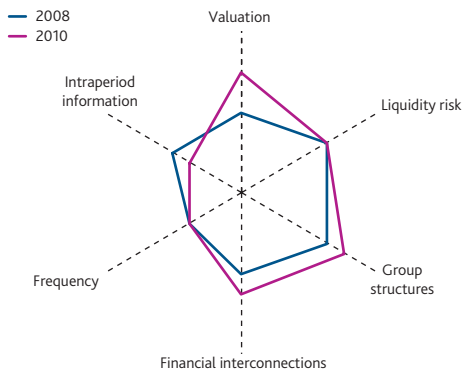
These structural weaknesses highlight the role for stronger market discipline...

Effective market discipline requires adequate disclosure by financial institutions. If investors do not have information to assess risk adequately, they may demand a premium for bearing that risk. Enhanced disclosure may help to mitigate some of these informational frictions.

At its meeting in June 2011, the FPC made recommendations to improve disclosure by UK banks. It advised the FSA to ensure that improved disclosure of sovereign and banking

(1) For a broader discussion of reputational risks in tail events, see Fisher, P (2011), ‘Tail risks and contract design from a financial stability perspective’, available at www.bankofengland.co.uk/publications/speeches/2011/speech515.pdf.

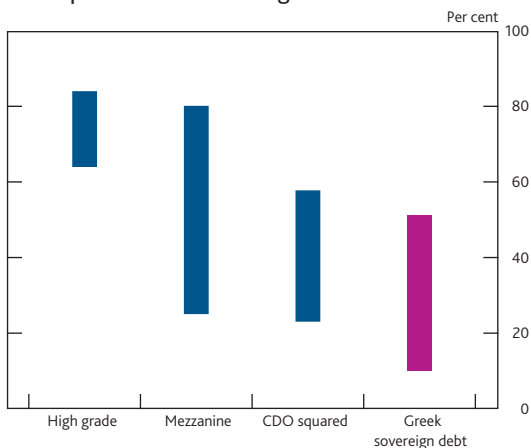
Chart 3.25 Disclosure practices in selected areas of financial reports of UK banks^{(a)(b)(c)}



Sources: Published accounts and Bank calculations.

- (a) Sample includes Barclays, HSBC, LBG and RBS.
 (b) A movement towards the outer parts of the chart indicates an improvement in disclosure.
 (c) This chart summarises an assessment of quantitative information disclosed on fair-value methodologies (Valuation), liquidity risk profiles (Liquidity risk), legal structure and risk positions of key group affiliates (Group structures), exposures between financial institutions (Financial interconnections), period averages, highs and lows (Intra-period information) and frequency of comprehensive reports (Frequency).

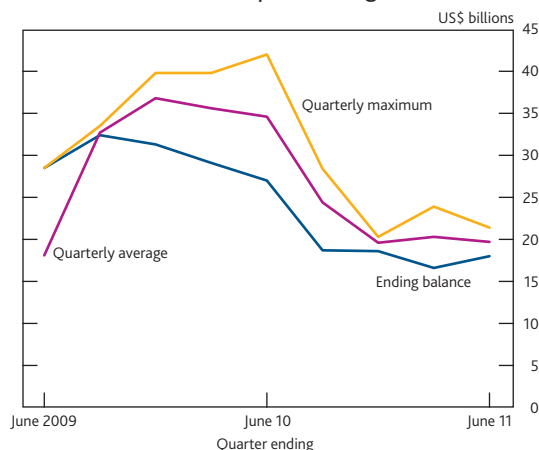
Chart 3.26 Ranges in reported valuations of structured credit products and sovereign bonds^{(a)(b)}



Sources: Citigroup, company reports, SEC filings and Bank calculations.

- (a) Implied or reported marks on selected structured credit products by five banks at end-2007. The range of implied marks is not based on a like-for-like comparison of individual exposures, which might differ in their precise characteristics. So the chart should only be interpreted as an illustrative indicator of valuation uncertainty.
 (b) Impairment charges on available-for-sale holdings of Greek sovereign debt by 24 European banks as of 2011 Q2.

Chart 3.27 MF Global repurchase agreements^(a)



Source: MF Global Holdings Ltd SEC filings.

- (a) Excludes repurchase agreements qualifying for sales accounting.

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. Section 4 summarises the FSA's response to this recommendation. More broadly, there have been some improvements in bank transparency in recent years (**Chart 3.25**). For example, banks have been providing more quantitative information on valuation techniques and definitions used in their fair-value calculations.

...but important gaps in transparency remain...

A material outstanding gap is the lack of information on the uncertainty around point estimates of the fair value of financial instruments. Such uncertainty has been a recurrent theme of the recent crisis and can contribute to concerns over counterparty solvency in times of stress. In the early stages of the crisis, this uncertainty was evident in material divergences in the valuation of complex structured credit products by different firms. More recently, substantial variation has been observed in the valuation practices applied to firms' exposures to vulnerable euro-area sovereigns (**Chart 3.26**).

Another key area where progress has been slow over the past two years is on the publication of intra-period information. Point-in-time figures can be unrepresentative of banks' behaviour either due to intra-period volatility in banks' business activity or window dressing at period end (see Box 8 in the June 2010 Report). This has been highlighted again by the recent experience with MF Global. In the seven quarters prior to its collapse, reported quarter-end borrowing levels were on average 16% lower than the quarterly average (**Chart 3.27**).

...in part due to lack of disclosures of regulatory reports.

Disclosure practices differ across countries. In the United Kingdom, the majority of banks' public reporting currently takes place through their annual reports. But reporting tends not to be standardised. This makes it harder for investors to take a system-wide perspective and compare the risk characteristics of different banks consistently. In the United States, supervisory agencies publish regulatory returns, facilitating both comparability across banks and assessment of risks to the banking system as a whole through time.

4 Macroprudential policy since the June 2011 Report

This section details the activity of the Committee and the progress made in implementing its recommendations over the past six months.

Activity of the Committee

The Committee has held two policy meetings and issued six additional recommendations since the publication of the June 2011 Report. A full account of these meetings will be made available in the published Records.

In September, the Committee discussed the impact of worsening economic and financial conditions, especially in the euro area, on the stability of the UK financial system and issued two recommendations to bolster resilience. It also discussed potential macroprudential instruments for which statutory powers might be desirable and issued a recommendation to HM Treasury to continue its efforts to ensure that EU legislation does not constrain the capacity of the FPC to use such instruments in the interests of UK financial stability. The Committee's November meeting discussions are outlined in Section 5 of this Report.

Progress made in implementing recommendations

Recommendations issued in June

Recommendation 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.

The FSA has worked with banks and auditors to improve disclosure of banks' 2011 interim results. This has led to enhanced disclosure of direct exposures to sovereigns, financial institutions and corporate and retail customers in selected euro-area countries. The EU-wide stress-testing exercise conducted by the European Banking Authority (EBA) resulted in similar disclosures by major European banks. Market contacts reacted positively to these disclosures and there was some evidence of differentiation by equity and debt markets according to the level of banks' exposures to vulnerable

sovereigns and post-stress capital ratios. The Committee expects these improvements to become a permanent feature of banks' disclosures.

The FSA is also working with the Bank, and observers from HM Treasury and the Financial Reporting Council, to develop proposals for further improvements in future reporting cycles. Areas identified for improvement in 2011 annual reports include greater consistency of disclosures and additional disclosure of: indirect euro-area exposures; credit risk, impairment and loans subject to forbearance agreements; and deferred tax assets. Disclosure priorities for 2012 and beyond include: publication of regulatory returns; quarterly reporting and intra-period exposures; enhanced Pillar 3 reporting of risk-weighted assets; liquidity risk; reconciliation of accounting capital to regulatory capital; and valuation uncertainty.

Status: Ongoing

The establishment of a framework to deliver improvements to banks' disclosures on an ongoing basis should secure the intended outcome of the second part of this recommendation. The specific improvements identified for banks' 2011 annual reports, building on those delivered in their 2011 interim results, should conclude the first part of this recommendation in early 2012. The Committee will therefore reconsider the status of this recommendation in its next Report.

Recommendation 2

The Committee advised the FSA to compile data on the current sovereign and banking sector exposures of other UK banks not subject to the EBA stress tests. If these exposures are significant, then the FSA should publish an aggregate estimate.

In July, the largest banks and building societies not subject to the EBA stress test — Co-operative Bank, Nationwide Building Society and Standard Chartered — published their exposures to European Economic Area (EEA) countries.⁽¹⁾ The FSA also collated and published aggregate exposures to EEA sovereigns

(1) Exposures of Santander UK were included in Santander Group's EBA stress-test disclosure.

and financial institutions of the remaining 47 UK-owned building societies and 30 UK-owned banks.⁽¹⁾ This confirmed that UK banks and building societies had only limited direct exposures to sovereigns and financial institutions in Greece, Ireland, Italy, Portugal and Spain.

Status: Closed

The compilation and publication of these data has concluded this recommendation.

Recommendation 3

The Committee advised the FSA to extend its review of forbearance and associated provisioning practices across UK banks' household and corporate sector exposures on a global basis.

The FSA has undertaken a review of the proportion of UK banks' loans that are benefiting from forbearance and the adequacy of provisions against these loans. The initial phase of the review, comprising collation and analysis of quantitative data for UK residential mortgage and commercial real estate loan portfolios and qualitative data for other material UK and non-UK retail and corporate loan portfolios, has been completed. The key results are reported in detail in Section 2 of this *Report*.

On the basis of the evidence available the FSA concluded that, by itself, any potential understatement of provisions in the UK residential mortgage and commercial property sectors in respect of forborne loans is unlikely to be systemically important. But it has identified material differences in the levels of forbearance reported by individual banks. The FSA's review will therefore be extended to investigate these differences further. It will also include analysis of additional loans on a risk-based basis, including leveraged loans and certain non-UK commercial real estate portfolios.

Status: Closed

The conclusion of the FSA's initial review completes this recommendation. The Committee noted that the FSA is requiring banks to be able to provide improved management information in this area and that the FSA will continue with the next stage of its review and will highlight any material findings to the Committee.

Recommendation 4

The Committee advised the FSA that its bank supervisors should monitor closely the risks associated with opaque funding structures, such as collateral swaps or similar transactions employed by exchange-traded funds.

The FSA reported the results of a review of opaque funding structures to the Committee in October. This included a definition of opaque funding and analyses of exchange-traded products and collateral/liquidity swap funding. Further details

are discussed in Section 3 of this *Report* with the key findings summarised below.

Collateral swaps were noted as a small but growing funding source for UK banks. While such transactions may deliver some efficiencies (by matching market participants with differing liquidity preferences), they also create risks. These include increasing asset encumbrance, valuation uncertainty due to volatility or illiquidity, lack of transparency and greater system interconnectedness.

Exchange-traded funds (and similar products) were noted as a material funding source for some European banks and a potential growth area for UK banks seeking to benefit from alternative funding sources and fee income generation. These products also create risks for banks, most notably liquidity risks arising from call features and potential intra-group contagion (between bank treasuries and swap desks).

The Committee also noted international developments in this area including the recent consultation by the European Securities and Markets Authority, and concerns expressed by the European Systemic Risk Board (ESRB), on exchange-traded products, and the treatment of collateral swaps under the Basel III liquidity framework.

Status: Closed

This recommendation has been completed. The FSA is continuing to engage with banks, asset managers, market infrastructure providers and overseas regulators to identify and mitigate risks associated with these funding structures and will highlight any material new findings to the Committee.

Recommendation 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.

The period since these recommendations were issued has not been characterised by strong earnings. The four major UK banks which reported results for the three months to September all saw a decline in the level of their core Tier 1 capital. The outlook for future profitability has also deteriorated, with two banks having reported slower-than-expected progress against their medium-term strategic plans.

Status: Closed

This recommendation has been superseded by Recommendation 7 which takes account of the deterioration in

(1) For more information on these disclosures, see www.fsa.gov.uk/pages/Library/Other_publications/Miscellaneous/2011/eea_exposure.shtml.

market conditions that occurred between June and September 2011.

Recommendation 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 5.

The FSA has been engaging in discussions with senior management of the UK banks about their funding, capital and distribution plans for the next three years and has continued to stress the importance of using earnings to build capital.

Status: Ongoing

These discussions will conclude in early 2012. The Committee will therefore reconsider the status of this recommendation in its next Report.

Recommendations issued in September

Recommendation 7

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.

Recommendation 8

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.

The environment for sovereign debt and bank funding has not been conducive to the strengthening of banks' liquidity. In the absence of strong earnings, banks have not generally improved their capital levels and have chosen not to raise external equity capital on terms available.

Status: Ongoing

These recommendations are being captured as part of the ongoing capital planning discussions between the FSA and senior management of the UK banks, as referenced above under Recommendation 6.

Recommendation 9

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.

The Government is continuing to work with Member States, some of whom have also questioned the proposed maximum harmonisation of requirements in the EU, to enable the application of macroprudential policy without undermining a single rule book on banking regulation. This approach has also been supported by the ESRB.

Status: Ongoing

Discussions are continuing on the relevant draft EU regulations.

Recommendations issued in November

Recommendations issued at the November policy meeting are discussed in detail in Section 5 of this Report. Progress against these recommendations will be reported in the June 2012 Report.

Table 4.A summarises the recommendations issued by the Committee during 2011 and tracks progress in their implementation.

Table 4.A Summary of recommendations

No.	Short title	Start date	Lead/Target	Status ^(a)
1	Improved disclosure by major UK banks	2011 Q2	FSA	Ongoing
2	EEA sovereign and banking sector exposures of smaller UK banks	2011 Q2	FSA	Closed
3	Forbearance and provisioning practices	2011 Q2	FSA	Closed
4	Opaque funding structures	2011 Q2	FSA	Closed
5	Building internally generated capital during transition to Basel III	2011 Q2	UK banks	Closed
6	FSA monitoring of earnings retention of UK banks	2011 Q2	FSA	Ongoing
7	Strengthened capital and liquidity without constraining lending	2011 Q3	UK banks	Ongoing
8	Balance sheet management to limit fragility	2011 Q3	FSA	Ongoing
9	Flexibility in EU legislation to enable national discretion	2011 Q3	HMT	Ongoing
10	Building capital by limiting distributions and raising external capital	2011 Q4	UK banks	Ongoing
11	Strengthening balance sheet resilience	2011 Q4	FSA	Ongoing
12	Disclosure of leverage ratios	2011 Q4	UK banks	Ongoing

(a) Green shading indicates implementation is on track; amber shading indicates implementation is behind schedule; red shading indicates implementation is off track; and grey shading indicates recommendation is closed.

5 Prospects for financial stability

The outlook for financial stability has deteriorated materially since June. Over the past three years, UK banks have strengthened their resilience. But progress in building capital has slowed and recent strains in term funding markets are increasing refinancing risk. The deteriorating situation in the euro area presents the most significant and immediate threat to UK financial stability. Market concerns about the sustainability of debt positions have spread from the periphery to some other euro-area countries, interacting with vulnerabilities in banking systems and a weakening growth outlook. These stresses could lead banks across Europe to tighten credit conditions further, exacerbating an adverse feedback loop of weakening economies and deteriorating bank asset quality.

- Following its recommendation from September, and given the current exceptionally threatening environment, the Committee recommends 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.
- The Committee reiterates 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.
- The Committee recommends that the FSA encourages 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.

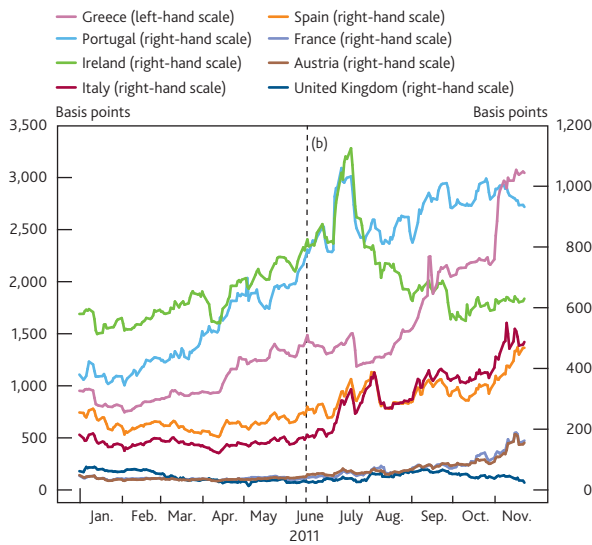
Sections 1–3 of this *Report* outline developments in the economic and financial environment and short and medium-term risks to financial stability. Section 4 provides an update on previous FPC recommendations and how they have contributed to maintaining financial stability. This section records the decisions taken by the Committee 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 materially since the previous *Report*, principally as a result of an intensification of stresses in the euro area.

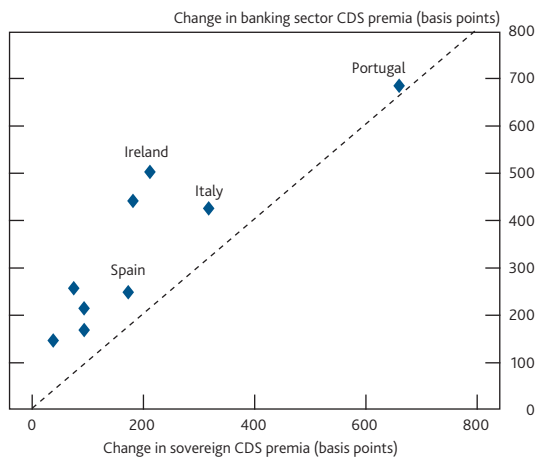
Risks to the financial system

Sovereign and banking risks emanating from the euro area have intensified and remain the most significant and immediate threat to UK financial stability. Against a backdrop

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) June 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 22 November 2010 to 22 November 2011.
 (b) The other countries included, in addition to those labelled on the chart, are Austria, Belgium, France, Germany and the Netherlands.
 (c) Banking sector CDS premia are asset-weighted.
 (d) Five-year senior CDS premia.

of deteriorating global growth prospects, market concerns about the sustainability of external and public debt positions have broadened from smaller euro-area economies, such as Greece and Portugal, to some larger euro-area economies. This has been particularly evident in sovereign bond markets where spreads on some government bonds over German bonds have increased to historically high levels. The spreads on Italian and Spanish debt relative to German bonds have increased by an average of around 260 basis points since the previous Report (Chart 5.1). Wider contagion effects have also started to be seen, including in Austrian, Belgian, Dutch, Finnish and French sovereign bond markets.

Euro-area banks hold large amounts of debt issued by euro-area governments and, in some cases, are perceived to rely on support from these governments. Partly for these reasons, the creditworthiness of some European sovereigns and many euro-area banks have been closely intertwined (Chart 5.2).

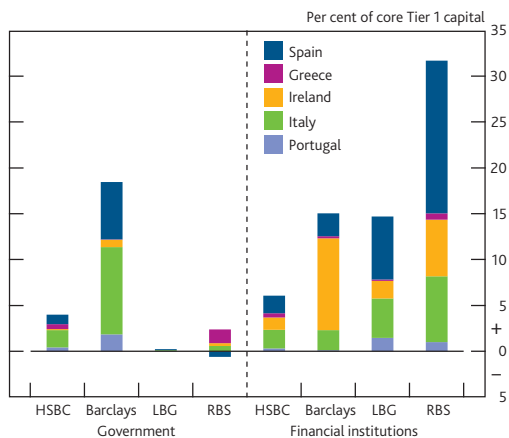
The European authorities announced a package of measures in October 2011 to stem the crisis, including a nominal discount of 50% on notional Greek sovereign debt held by private investors, proposals to allow the resources of the EFSF to be leveraged up to €1 trillion, and an increase in the core Tier 1 capital ratios of European banks to 9%, after accounting for the market valuation of sovereign debt, by end-June 2012. At that time, if this were to have been achieved by an increase in capital rather than reducing balance sheets, it would have required additional capital of €106 billion. Market reaction, however, suggests that there are concerns about how easy it will be to implement these measures and/or how effective they will prove to be. It should be noted, however, that if this calculation were to reflect recent rises in sovereign bond spreads, the implied recapitalisation needs of European banks would be significantly greater.

UK banks' direct exposures to the sovereign debt of the most vulnerable economies are limited (Chart 5.3) and fell in Q3. But they have larger exposures to the private sectors of some of the weaker euro-area countries, such as Italy, Spain and Ireland (Chart 5.4). They also have significant exposures to Germany and France, which in turn have large exposures to weaker euro-area countries (Chart 5.5). A continuing deterioration in the euro area would weaken banks' asset quality and profits. That would also increase uncertainty in funding markets, reducing the availability, or increasing the cost, of term refinancing.

Resilience of the financial system

Since the events of Autumn 2008, UK banks have made significant progress in improving their capital and funding resilience. Capital ratios and the level and quality of capital are all considerably higher than in 2008. Leverage has been reduced (Chart 5.6) and wholesale funding requirements are

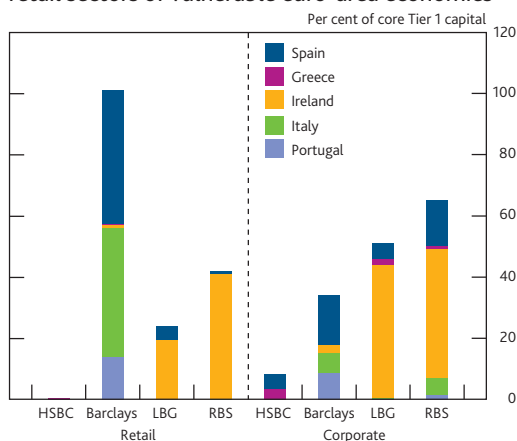
Chart 5.3 Major UK banks' exposures to governments and financial institutions of vulnerable euro-area economies^{(a)(b)}



Sources: Published accounts and Bank calculations.

(a) All data are as at end-September 2011.
 (b) Trading book positions are reported on a net basis. Where this results in a net short position, this is recorded as a negative value.

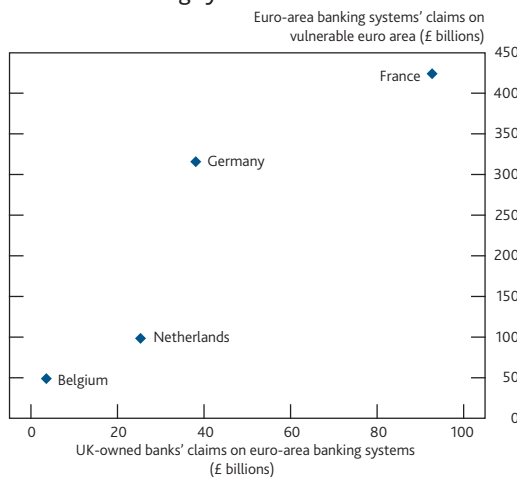
Chart 5.4 Major UK banks' exposures to corporate and retail sectors of vulnerable euro-area economies^(a)



Sources: EBA, published accounts and Bank calculation.

(a) All data are as at end-September 2011 except HSBC which is as at end-December 2010. Gross of provisions.

Chart 5.5 Claims on vulnerable euro-area countries via euro-area banking systems^{(a)(b)}



Sources: BIS consolidated banking statistics and Bank calculations.

(a) All data are as at end-June 2011. Converted from US dollars into sterling using end-June exchange rate.
 (b) X-axis shows consolidated ultimate risk basis foreign claims by UK-owned banks on the banking systems of selected euro-area countries. Y-axis shows consolidated ultimate risk basis foreign claims on all sectors of Greece, Ireland, Italy, Portugal and Spain by selected euro-area banking systems.

smaller. But progress on building capital in the UK banking sector has slowed in recent quarters. Capital levels over the past year have been broadly flat for the majority of the major UK banks (Chart 5.7), with increasing reliance on cutting risk-weighted assets to boost capital ratios. Looking ahead, the outlook for UK banks' profits has deteriorated since the previous Report, particularly since the start of October (Chart 5.8), which would limit banks' ability to build capital without taking other actions.

While banks met most of their term wholesale funding targets for 2011 earlier in the year, progress in building funding resilience has been set back in recent months. Issuance of term unsecured funding has been very weak since May (Chart 5.9). Banks have £140 billion of term funding due to mature in 2012, with maturities concentrated in the first half of the year. At the same time, banks face significant competition in retail funding markets.

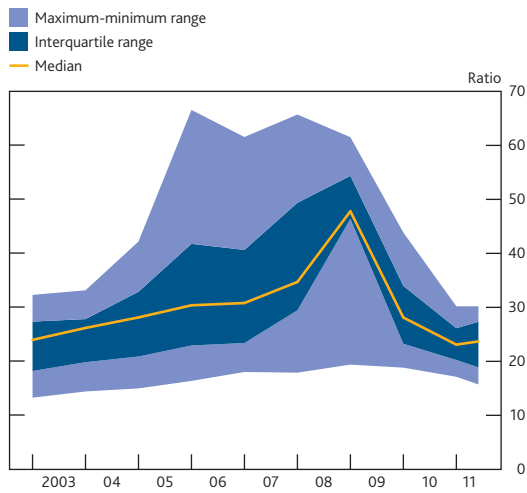
Banks' CDS premia have risen for virtually all banking systems. While UK banks' CDS premia generally remain below those of many euro-area banks, they are mainly higher today than in 2008 (Chart 5.10). This indicates ongoing concerns about UK banks' solvency and the weakening outlook for banks' profitability.

The Committee also remains concerned that the current strains are being amplified by ongoing structural vulnerabilities in the financial system, particularly the high degree of intra-financial sector lending discussed in Box 2. Problems arising from interconnectedness would be magnified if recovery and resolution arrangements for clearing infrastructure were to come under stress. Concerns about capital adequacy continue to be exacerbated by opacity, including overly complex regulatory risk-weight calculations and inconsistent and incomplete disclosure, as discussed in Section 3.

Credit conditions

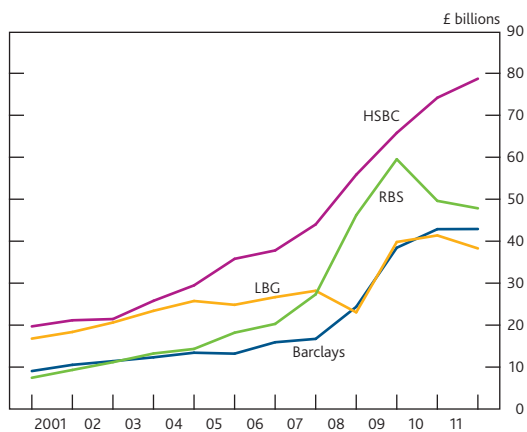
The current funding pressures facing banks could lead to a renewed tightening in credit conditions for real-economy borrowers. Credit conditions could also tighten if banks' ability to raise capital internally is reduced by higher credit losses, including from exposures to the euro area.

As discussed in Section 2, a renewed tightening in credit conditions appears to be already under way in the euro area. Furthermore, contacts also suggest that some banks plan to respond to the EBA's capital strengthening exercise by reducing assets, through what is described as 'optimisation' of risk-weighted asset calculations (for instance through changes to internal risk models) and through the use of public funds, with only a small contribution to raising capital ratios from new external private capital raising. Deleveraging by banks is likely to lead to a further material tightening of credit

Chart 5.6 Major UK banks' leverage ratios^(a)

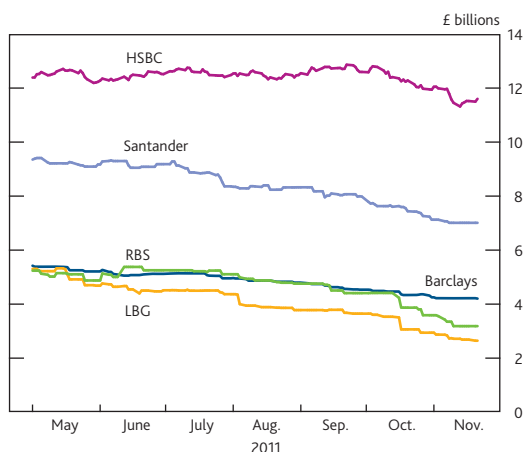
Sources: Published accounts and Bank calculations.

(a) For explanatory notes see Chart 2.4.

Chart 5.7 Major UK banks' level of core Tier 1 capital^(a)

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

(a) 2011 data are as at Q3.

Chart 5.8 External analyst forecasts of UK banks' 2012 net income

Source: Bloomberg.

conditions in European economies, while adjustment of risk-weight calculations may not result in any improvement of underlying resilience.

UK banks have reported that higher funding costs have started to feed through to their internal transfer prices, although, as yet, the effects on loan pricing for corporate and household borrowing have been relatively muted. This comes against an existing backdrop of weak growth of lending by UK banks (Chart 5.11), particularly to smaller businesses (Chart 5.12). These factors could exacerbate an adverse feedback loop of weak macroeconomic activity and deteriorating bank asset quality, which could ultimately harm the financial system's resilience.

5.2 Mitigating risks to financial stability

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

Capital levels

The Committee discussed whether there were measures to mitigate the immediate risk that a further deterioration in conditions in the euro area could lead to a significant disruption to UK financial stability and hence to the supply of credit to households and firms. This could feed back through the economy to increase pressure on the financial system.

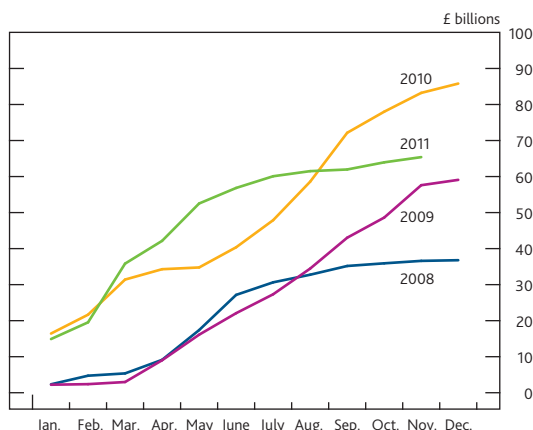
At its meetings in June and September, the FPC had made policy recommendations aimed at encouraging banks to build their capital levels in order to enhance their resilience and increase their capacity to absorb future shocks, without constraining lending to the wider economy (see Section 4 for an update on the progress of previous FPC recommendations). In the light of the exceptionally threatening environment, and the weaker outlook for banks' profits, the Committee judges that stronger action is needed to build the resilience of the UK financial system. There was an increased risk that banks would respond to pressures by accelerating the reduction in their balance sheets in ways that would exacerbate economic or financial fragility. Success in raising capital levels could maintain the confidence of funding providers and the lending capacity of the system.

Recommendation 1

Following its recommendation from September, and given the current exceptionally threatening environment, the Committee recommends 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.

The Committee also noted that the continued use of performance metrics, such as return on equity targets, that

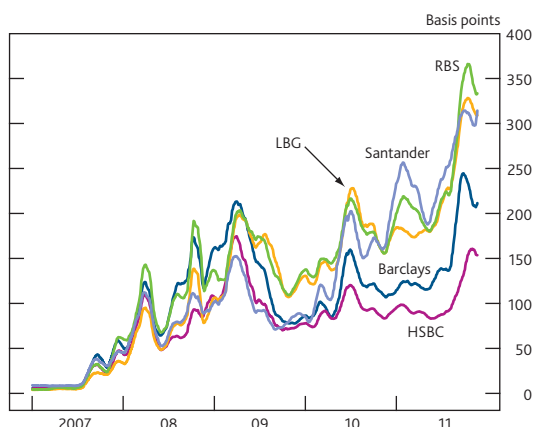
Chart 5.9 Major UK banks' cumulative senior unsecured term debt issuance in public markets^{(a)(b)}



Sources: Bank of England, Dealogic and Bank calculations.

- (a) Includes securities with an original contractual maturity or earliest call date of at least 18 months issued in all currencies, converted into sterling values.
- (b) Excludes securities issued under HM Treasury's Credit Guarantee Scheme.

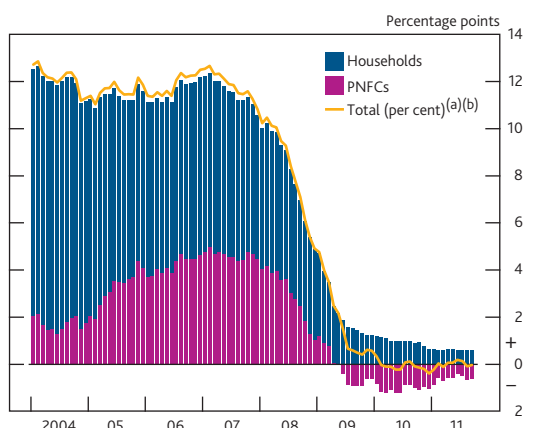
Chart 5.10 Major UK banks' CDS premia^{(a)(b)}



Sources: Markit Group Limited and Bank calculations.

- (a) Five-year senior CDS premia.
- (b) Chart plots a 30-day moving average.

Chart 5.11 Contributions to changes in sterling lending to UK households and private non-financial corporations



Sources: Bank of England and Bank calculations.

- (a) Percentage change on a year earlier in the stock of sterling lending.
- (b) Growth rates of components may not sum to total growth rate due to rounding.

take little account of the risks taken to achieve them could be distorting banks' incentives to boost their capital levels (as discussed in Section 3). Given the importance the Committee attaches to this issue, it agreed to consider it in greater depth at a future meeting. It would consider, among other things, the extent to which such performance metrics influence shareholder expectations, business strategies, remuneration and other distributions.

Banks' balance sheet management

In the light of the immediate risks, the Committee discussed whether banks could manage their assets in ways that improved their resilience to shocks, while supporting their ability to maintain the supply of lending.

In September, the Committee had advised the FSA to encourage banks, via its supervisory dialogue, to manage their balance sheets in a way that would not exacerbate market or economic fragility. This implied that, where possible, banks should scale back intra-financial sector claims that might be associated with spillovers if risks crystallised. But they should avoid taking actions that would reinforce the strains in financial markets or the adverse feedback loop between the financial sector and the real economy.

The FSA was continuing to have such a dialogue with banks. Given the current market conditions, that dialogue is likely to focus on elements of the balance sheet that face considerable funding risk in dislocated markets. The FPC also requested that the FSA should collect granular information and intelligence to enable the Committee in future meetings to examine such structural vulnerabilities, including those stemming from chains of exposures, more closely.

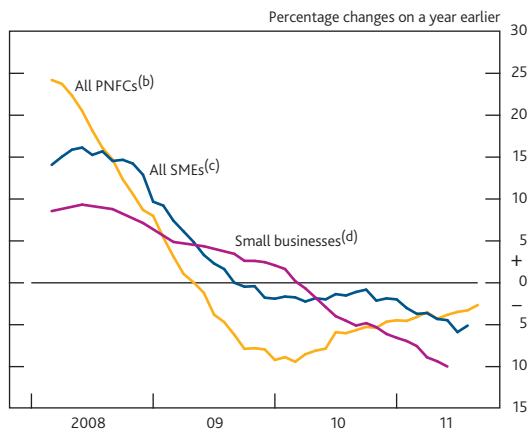
Recommendation 2

The Committee reiterates 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.

Longer-term balance sheet management incentives

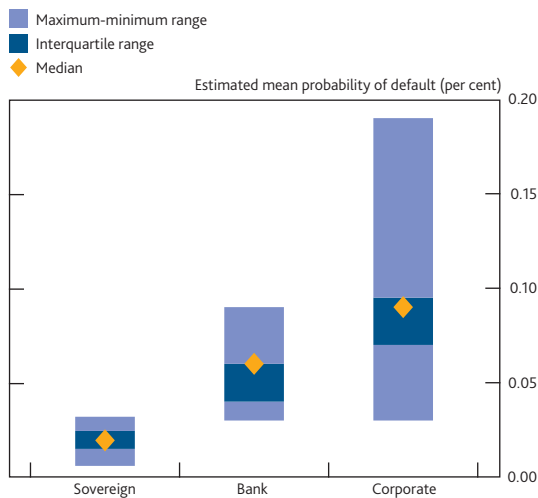
A key influence on the way banks choose to manage their balance sheets in the medium term are the risk weights assigned to different types of exposures in the current regulatory framework. These risk weights determine how much capital banks have to hold against different exposures. But there are a number of weaknesses in the way that risk weights are currently determined.

The methods used by banks to calculate risk weights, particularly those calculated using internal models, are opaque to investors. Market intelligence suggests that this opacity has led to a lack of confidence in risk-weighting methods and could be undermining market confidence in the capital adequacy of banks. That suggests there is a potentially useful

Chart 5.12 Lending to UK businesses by size^(a)

Sources: Bank of England, British Bankers' Association (BBA), Department for Business, Innovation and Skills (BIS) and Bank calculations.

- (a) Rate of growth in the stock of loans. Data are non seasonally adjusted.
 (b) Data cover both sterling and foreign currency loans. The latest observation is September 2011.
 (c) BIS data and Bank calculations. Stock of sterling and foreign currency lending, expressed in sterling terms, by four UK lenders to enterprises with an annual bank account debit turnover of less than £25 million. The latest observation is August 2011.
 (d) BBA data. Stock of sterling lending by seven UK lenders to commercial businesses with an annual bank account debit turnover of up to £1 million. Data are quarterly until September 2009 and monthly thereafter. The last observation is June 2011: www.bba.org.uk/statistics/article/small-business-support-december-2010/small-business/.

Chart 5.13 Variation in estimated probabilities of default on common hypothetical portfolios^{(a)(b)}

Sources: FSA and Bank calculations.

- (a) Hypothetical portfolio exercise for credit risk in the banking book in 2009.
 (b) Ten, thirteen and seven banks rated the sovereign, bank and corporate portfolios shown in the chart, respectively. The portfolios include 17 sovereign borrowers, 34 bank borrowers and 13 corporate borrowers.

role for a leverage measure that does not attempt to adjust for the riskiness of banks' exposures, as an alternative to risk-sensitive measures of solvency. A leverage ratio is due to be introduced under Basel III. As well as being an alternative solvency metric which may be useful to investors, it can play a useful backstop role to existing risk-sensitive capital requirements. The Basel III implementation timetable requires banks to calculate their leverage ratio from 1 January 2013 and to disclose it from 1 January 2015, with the aim of the leverage ratio migrating to Pillar 1 on 1 January 2018.

Recommendation 3

The Committee recommends that the FSA encourages 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.

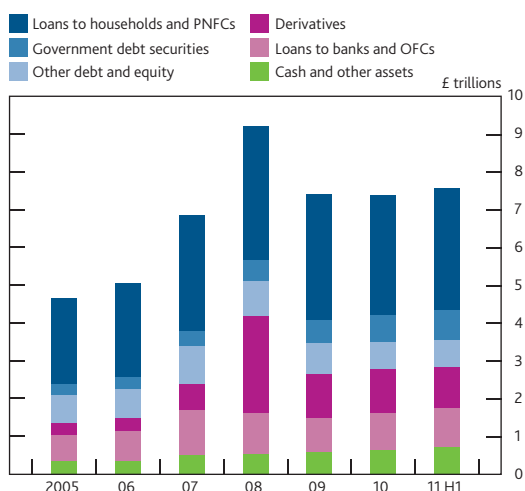
Another flaw in the way risk weights are currently determined is that different banks can assign significantly different risk weights to the same portfolios of assets (Chart 5.13). The FSA had already undertaken a number of reviews of the variability and comparability of risk weights among UK banks and the FPC encourages the FSA to continue this work. Moreover, attempts are under way internationally to try to improve the reliability and consistency of risk-weighted asset calculations. For example, the Basel Committee on Banking Supervision (BCBS) is currently undertaking a longer-term review of risk-weighted asset measurement. As part of that work it would be appropriate to consider whether to supplement model-based calculations with minimum risk weights for specific categories of assets.

Methods for calculating risk weights also do not currently account for some wider — macroprudential — costs and benefits associated with different types of exposures. They are largely calibrated from a microprudential perspective. In this context, the Committee noted that a sharp rise in intra-financial system assets (Chart 5.14) had added to systemic fragility and contributed to considerable opacity. In the past, however, little capital had been set aside to cover these risks. Moreover, lending to the real economy can have wider benefits, particularly at this point in the cycle, that are not captured in risk weights. The issue of the adequacy of intra-financial sector weights is likely to be mitigated in part by reforms of trading book capital requirements currently being considered by the BCBS. Nevertheless, the Committee will consider further at future meetings the issue of the relative risk weights applied to intra-financial sector and real-economy exposures. The Committee will also consider whether banks should be required to disclose further details of their risk weights for specific asset categories.

Asset encumbrance

Just as opacity about risk weights might be obscuring the picture on capital adequacy, so investor uncertainty about the

Chart 5.14 Major UK banks' total assets^(a)



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

(a) See footnotes (a) and (b) in Chart A on page 26.

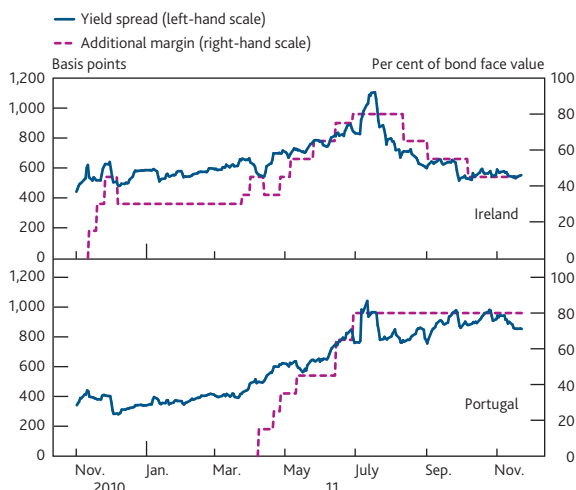
level of banks' asset encumbrance — the degree to which banks' assets are not available to unsecured creditors in the event of a default — could be hindering debt investors' ability to assess the value of their claim on banks. As discussed in Section 2, market intelligence suggests that there are concerns about the extent to which banks' assets are encumbered. This may have contributed to the increase in unsecured funding costs and could have hindered primary issuance.

The FSA recently completed a survey of major UK banks' levels of asset encumbrance. The Committee intends to work with the FSA to review this exercise and the appropriate level of transparency in this area.

CCPs

As discussed in Box 1, the increased use of central clearing prospectively gives rise to significant risk-reduction benefits and enhances systemic resilience. But it may also increase CCPs' systemic importance. The likely impact of CCP distress or failure is greater now than in the past due to the expansion of central clearing to new products and markets. So robust arrangements are needed for managing losses while maintaining the continuity of clearing services. Most CCPs do not, however, have proven arrangements for managing losses that exceed their margin and other financial resources.

Chart 5.15 Yield spreads and additional margin under LCH.Clearnet Ltd sovereign risk framework^(a)



Sources: Bloomberg, LCH.Clearnet Ltd and Bank calculations.

(a) Spreads of ten-year government bonds over benchmark basket of AAA-rated sovereign bonds. From 12 October 2011, spreads for Ireland use the Irish nine-year bond.

Previous Reports have highlighted that the contribution central clearing can make to overall financial stability is critically dependent upon the adequacy of CCPs' risk management. This is especially important in the current conjuncture. Collecting additional margin can be a prudent method for CCPs to manage their risk. But margining and collateral policies should also aim to avoid procyclical effects, notably by limiting where possible cliff-edges associated with particular price or rating triggers (Chart 5.15). These cliff-edges could exacerbate instability by triggering liquidity problems in the wider system.

The Committee notes that more forward-looking margin rules could reduce procyclicality, for example by ensuring that margins do not fall to too low a level during periods of low market volatility. This highlights the potential importance of macroprudential policy tools which could enable authorities not only to set a floor to margin requirements but also to vary them as conditions change, for both CCP and bilateral trades. The FPC notes that the draft CPSS-IOSCO principles for financial market infrastructures, which will apply internationally, require CCPs to adopt to the maximum extent that is prudent, forward-looking, conservative margin requirements that avoid the need for destabilising, procyclical changes⁽¹⁾ and supports the FSA and Bank's work to ensure that such principles are agreed.

(1) See Principle 6 (Margin) of the CPSS-IOSCO 'Principles for financial market infrastructures — consultative report', page 43.

It is not practical for CCPs to hold sufficient financial resources to eliminate entirely the possibility that they will be exhausted, for example in the event of multiple member failures at the same time as unusually volatile market prices. Yet CCPs do not generally have formal arrangements for allocating losses that exceed their default resources. In this circumstance, the CCP would be faced with insolvent liquidation. If a CCP were to fail in this way, residual losses would fall on participants (as creditors) and it is likely any allocation would occur in a way that was difficult to predict with certainty and could take a considerable period of time. This highlights the importance for CCPs of introducing loss-allocation rules and for governments of establishing effective resolution tools. It is preferable for CCPs to embody loss-allocation requirements within their own rule books as this would provide transparency to CCP participants.⁽¹⁾

In this context the FPC welcomed ongoing work to ensure that UK CCPs have robust arrangements to manage potential losses, which should include rules for allocating among their participants, and therefore absorbing, losses that are not covered by margin, default fund and other financial resources.

The FPC also notes that, given their systemic importance, it is as vital to have resolution regimes for CCPs as it is to have them for banks. In that context, the Committee welcomes the considerable international work under way to develop appropriate frameworks that attempt to tackle these issues, for example by CPSS-IOSCO, at FSB and in the European Commission.⁽²⁾ Any resolution arrangements need to be especially robust in the growing number of cases where CCPs operate across jurisdictions.

(1) CPSS-IOSCO has also identified the importance of CCPs having rules for allocating credit losses that are not covered by margin, default fund and other financial resources. See CPSS-IOSCO draft principles (Key consideration 7 to Principle 4 (Credit risk)) 'An FMI (financial market infrastructure) should have clear and transparent rules and procedures that address how potentially uncovered credit losses would be allocated'.

(2) See footnote 3, page 5 of www.financialstabilityboard.org/publications/r_111104cc.pdf.

Box 3

The final report of the Independent Commission on Banking

The Independent Commission on Banking (ICB) released its final report on 12 September. The report, on which the Government is due to respond by the end of the year, makes two main financial stability-related proposals:

- Banks' most critical retail activities should be ring-fenced in legally, economically and operationally separate subsidiaries.
- Systemically important banks (including large ring-fenced banks) should have additional loss-absorbing capacity beyond Basel III requirements.

The FPC welcomes this report and supports its main conclusions. This box sets out the initial views of Committee members on the limited question of the ICB's key recommendations.

Motivation and objectives

The ICB's recommendations are designed to:

- make banks better able to absorb losses;
- make it easier and less costly to resolve banks that still get into trouble; and
- curb incentives for excessive risk-taking.

In so doing, the ICB aims to reduce the 'too important to fail' problem. That arises when a government is unable to commit credibly not to rescue a troubled bank because its failure would impose high costs on the rest of the financial system or the wider economy. In recent years, large amounts of public money have been used to avert the failure of banks and other institutions.

The expectation of government support entails an implicit funding subsidy by taxpayers. Expectations of support have begun to fall only recently and remain high on most estimates (Chart 3.11).

The subsidy provides an incentive for banks to over-expand their balance sheets, take on excessive leverage and become more complex and interconnected. This issue is particularly relevant for the United Kingdom, given the large size of UK banks and the concentration of the industry.

The ICB's proposals

The establishment of the ICB and the publication of its findings are important steps towards dealing with the too important to fail problem. The ICB's ring-fencing and loss-absorbency proposals build on, and complement, other regulatory initiatives such as Basel III and work by the Financial Stability Board (FSB).

The Government will need to consider fully the costs of the proposals as well as the potential benefits. Transition issues are also relevant. Although the stability benefits are hard to quantify, they are likely to exceed by far any costs.

Ring-fence design

The ICB's ring-fence proposals comprise a set of principles that define the height and location of the ring-fence. The ICB also sets out provisions designed to ensure that banks can continue to undertake essential treasury activities and manage their own balance sheet risk. For the ring-fence to be effective, the key characteristics of its design need to be defined in legislation. This is properly a role for Government, ensuring the legitimacy of the reform.

Height and location of the ring-fence

The ICB recommends a 'high' ring-fence, with strict operational and economic separation between ring-fenced banks and other group entities. The relationship between ring-fenced and non ring-fenced entities should be treated no more favourably than third-party relationships.

Clear and enforceable separation — legal, economic and operational — is essential to the effectiveness of the proposal in enhancing stability. With clear separation, ring-fenced banks would be smaller, less complex, and less interconnected within the financial system. This would increase transparency and improve the ability of managers, supervisors and investors to monitor and manage ring-fenced banks' risk-taking. Strict separation would also reduce contagion to the real UK economy from global financial shocks and make banks easier to resolve by carving out banking services that need to be provided continuously.

The ICB specifies two categories of banking services: *mandated* services that *must* be located in a ring-fenced bank; and *prohibited* services that *must not* be. There is a large third category of *permitted* services that may be carried out either inside or outside the ring-fence. These categories are designed to distinguish between functions that customers need to access continuously throughout the resolution of a bank, such as current accounts, and those which could be interrupted — though these would still need to be wound down in an orderly way. Importantly, the ICB envisages that both the ring-fenced and non ring-fenced banks should be resolvable without Government solvency support.

The only mandated services specified by the ICB are taking deposits from and extending overdrafts to individuals and small and medium-sized enterprises (SMEs). The inclusion of overdrafts is important, particularly for SMEs, as customers may be reliant on access to committed lines of credit. The set of prohibited services is wider, including all the functions typically

associated with investment banks. This leaves lending to individuals and SMEs, as well as taking deposits from and lending to larger corporates, among the set of permitted services.

This model should be effective in safeguarding continuous provision of critical retail deposit-taking and payments functions, by making them easier to resolve without recourse to taxpayers' funds. Some flexibility in the ring-fence boundary is desirable, though the design of the ring-fence should perhaps ensure continuity in some forms of credit intermediation beyond the provision of overdrafts. In particular, disruption to the flow of SME lending by a major provider could entail high economic costs.

It was also noted that some macroprudential tools could, if appropriate, be targeted at the level of ring-fenced banks rather than at groups as a whole.

Managing banks' balance sheet risk

The ICB's principle on 'ancillary activities' permits ring-fenced banks to assume interbank exposures and engage in some otherwise prohibited activities in the course of their provision of permitted services. Such activity would be subject to backstop exposure limits and other safeguards.

This principle should permit banks to undertake essential treasury and risk management activities. But separating legitimate treasury and risk management activities from profit-making trading activities will be a complex exercise. And calibrating and policing backstop exposure limits will be crucially important in maintaining the integrity of the ring-fence.

The ICB also recommends that the governance of the ring-fenced bank should be independent of the parent group, with its board having a specific duty to uphold the 'spirit' of the ring-fence. This is important, since separate governance and risk management should help to improve the monitoring and management of risk.

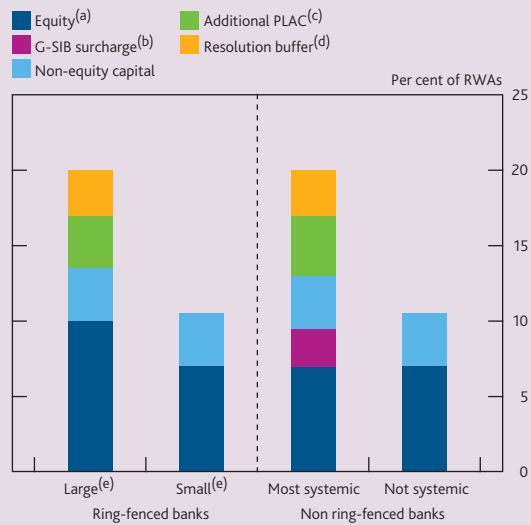
Supervision and enforcement

Subject to the key design characteristics being set out in legislation, it is crucial that the regulator is given appropriate scope to exercise judgement in enforcing the principles of the ring-fence. This is consistent with the supervisory approach articulated by the Prudential Regulation Authority (PRA).⁽¹⁾ For example, the PRA could set an expectation that certain permitted activities would be located in ring-fenced banks. Banks would then be required to justify any decision not to do so.

Loss-absorbency requirements

The ICB proposes measures to enhance banks' loss-absorbency beyond Basel III levels (Chart A).

Chart A ICB loss-absorbency recommendations



Source: Independent Commission on Banking (2011), *Final Report: Recommendations*.

- (a) The equity requirement includes the Basel III conservation buffer of 2.5% RWAs, but not the countercyclical buffer.
 (b) It is proposed that global systemically important banks (G-SIBs) be required to hold an additional equity buffer, ranging from 1% to 2.5% of RWAs. This chart assumes the maximum 2.5% surcharge for 'most systemic' banks.
 (c) Additional primary loss-absorbing capacity.
 (d) The 3% resolution buffer is only imposed at the discretion of the supervisor.
 (e) 'Large' banks are those with RWAs greater than 3% of UK GDP, 'small' banks are those with RWAs less than 1% of UK GDP.

The largest ring-fenced banks would be subject to:

- A common equity requirement of 10% of risk-weighted assets (RWAs) — that is, an additional 3% requirement above the Basel III minimum.⁽²⁾
- A requirement to hold additional common equity, non-equity capital or 'bail-inable' bonds⁽³⁾ so as to maintain total 'primary loss-absorbing capacity' (PLAC) of at least 17% of RWAs.
- Where not readily resolvable, an additional 'resolution buffer' of up to 3% of RWAs, the size and composition of which would be at the discretion of the supervisor.

For non ring-fenced banks, overall PLAC requirements for the most systemically important banks would include the same 17% minimum and 3% resolution buffer. Common equity requirements would be largely tied to international standards. Under the approach proposed by the FSB and Basel Committee, the current most systemically important banks globally will be required to hold additional common equity of 2.5% of RWAs.⁽⁴⁾

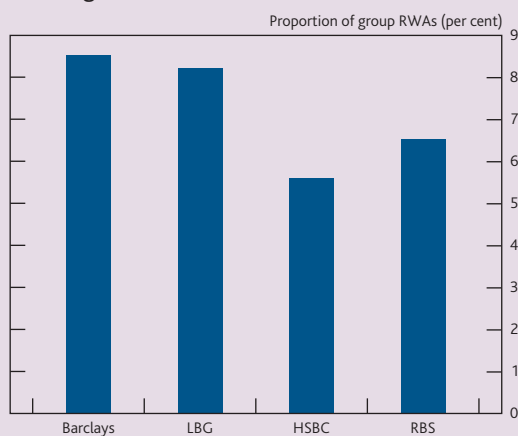
In addition, as a backstop, the ICB recommends a Tier 1 leverage ratio of at least 3% for all UK-headquartered banks and all ring-fenced banks, rising to just over 4% for the largest ring-fenced banks. This is potentially an important element of the loss-absorbency proposals, given the wide variation in banks' estimates of risk weights (Section 3).

It is crucial not only that all banks and dealers are subject to the statutory resolution regime, but also that resolution can occur

without significant disruption to financial stability. Particular emphasis should therefore be placed on permitting sufficient flexibility in applying the 'resolution buffer' to increase loss absorbency for banks that could otherwise impose high economic costs were they to fail in a disorderly way. In some cases, a buffer in excess of the proposed 3% may be appropriate. As the ICB proposes, supervisory discretion to determine the composition of the buffer, as between equity, other forms of capital or 'bail-inable' debt, is also important. This should reflect the propensity for spillovers either at or before resolution.

In practice, banks are likely to satisfy the non-equity component of the PLAC requirement with Tier 2 capital instruments and/or unsecured debt that could be bailed in to provide loss-absorbency when a bank enters resolution. Indeed, most of the largest banks currently have more than enough senior unsecured debt in issue to meet the requirement at group level (**Chart B**).⁽⁵⁾

Chart B Senior unsecured debt in issuance from the four largest UK banks^{(a)(b)}



Sources: Autonomous (2011), *UK banks: the ICB catalyst*, Dealogic and Bank calculations.

- (a) Estimates of senior unsecured debt as a proportion of RWAs. Based on 2010 RWAs, adjusted for the expected impact of the change from Basel 2.5 to Basel 3 in 2012/13. Debt issued by UK entity only as a percentage of group RWAs.
- (b) Stock of publicly issued unsecured long-term (greater than 18 months) debt issued from 1 January 1980 to present, with a contractual maturity beyond 25 October 2012. Maturity is based on contractual maturity at date of issuance. Data do not take account of buybacks. Excludes government-guaranteed debt.

The ICB's proposal to include bail-inable debt in PLAC is supported by a proposal to introduce 'bail-in' into the Special Resolution Regime (SRR). If implemented, these proposals would help to reduce the social cost of a disorderly bank failure, and by introducing a credible threat of loss they should improve market discipline. The proposals are broadly consistent with FSB-led initiatives on resolution arrangements for systemically important institutions.⁽⁶⁾

The ICB also proposes to strengthen the credibility of bail-in by distinguishing between a 'primary' and a 'secondary' power. The former would apply to bail-inable debt only; the latter to all other unsecured liabilities. As with the ICB's

recommendation on depositor preference, this approach would provide greater transparency over how losses would be allocated in resolution, but may require changes to the creditor hierarchy in liquidation.

Systemic risk outside the ring-fence

The ICB's recommendations are focused on the UK banking sector. However, systemic risk can still arise from the activities of international banks and non deposit-takers. The FPC's proposed responsibilities include mitigating systemic risks across the financial system and making recommendations to HM Treasury on the regulatory perimeter.

The potential for systemic risk to arise outside the ring-fence strengthens the case for extending bail-in and the full range of stabilisation powers under the SRR to non deposit-taking institutions. It also highlights the importance of other complementary financial reform measures. It is vital that momentum is maintained in the implementation of international agreements, including those recently concluded on greater loss-absorbency and resolution arrangements for systemically important banks.

Citing competitiveness concerns, the ICB concluded that non ring-fenced institutions should be subject only to globally agreed capital requirements — as long as they were adequately resolvable. Achieving orderly resolution of complex cross-border investment banking and trading activities is likely to be challenging, at least until recent international agreements have been implemented. Therefore, it may be that in some cases a higher resolution buffer will be required outside of the ring-fence than inside.

Summary and conclusions

The Committee welcomes and supports the ICB report. It notes that the ring-fence proposal will need to be translated into enforceable rules, with key ring-fence design characteristics settled as part of the legislative process. The Committee shares the ICB's view that additional loss-absorbency is required. In particular, it stresses the importance of a flexibly applied resolution buffer to ensure that ring-fenced and non ring-fenced banks alike can be resolved in an orderly manner.

- (1) See www.bankofengland.co.uk/publications/other/financialstability/uk_reg_framework/pr_a_approach.pdf.
- (2) The Basel III minimum, as quoted here, is taken to include the capital conservation buffer. Ring-fenced banks that are part of a wider group should meet all requirements on a solo basis. For smaller ring-fenced banks (with a ratio of RWAs to GDP less than 3%), the additional requirements would be proportionately lower. For banks designated as globally systemically important and subject to additional equity requirements under Basel III rules, the increase over the Basel III requirement would be smaller.
- (3) The ICB defines these as senior unsecured debt with residual maturity of at least twelve months.
- (4) See www.bis.org/publ/bcbs207.htm.
- (5) For HSBC, estimates depend on whether debt issued in its non-UK subsidiaries will count towards group PLAC requirements.
- (6) See www.financialstabilityboard.org/publications/r_110719.pdf.

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Glossary and other information

Glossary of selected data and instruments

ABCP – asset-backed commercial paper.

CDO – collateralised debt obligation.

CDS – credit default swap.

Euribor – euro interbank offered rate.

GDP – gross domestic product.

Libor – London interbank offered rate.

RMBS – residential mortgage-backed security.

Abbreviations

BBA – British Bankers' Association.

BCBS – Basel Committee on Banking Supervision.

BHPS – British Household Panel Survey.

BIS – Bank for International Settlements.

BIS – Department for Business, Innovation and Skills.

BoAML – Bank of America Merrill Lynch.

CBI – Confederation of British Industry.

CCP – central counterparty.

CET1 – common equity Tier 1.

CFO – chief financial officer.

CGFS – Committee on the Global Financial System.

CGS – Credit Guarantee Scheme.

CHAPS – Clearing House Automated Payment System.

CLS – Continuous Linked Settlement.

CRE – commercial real estate.

EBA – European Banking Authority.

ECB – European Central Bank.

EEA – European Economic Area.

EFSS – European Financial Stability Facility.

EME – emerging market economy.

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.

GAAP – generally accepted accounting principles.

GSE – government-sponsored enterprise.

G-SIB – global systemically important bank.

HMT – Her Majesty's Treasury.

HPE – hypothetical portfolio exercise.

ICB – Independent Commission on Banking.

IFRS – International Financial Reporting Standard.

IMF – International Monetary Fund.

IRB – internal ratings based.

LBG – Lloyds Banking Group.

LCFI – large complex financial institution.

LTV – loan to value.

MFI – monetary financial institution.

MMF – money market fund.

NPL – non-performing loan.

NYSE – New York Stock Exchange.

OECD – Organisation for Economic Co-operation and Development.

OFC – other financial corporation.

ONS – Office for National Statistics.

PLAC – primary loss-absorbing capacity.

PNFC – private non-financial corporation.

PRA – Prudential Regulation Authority.

RBS – Royal Bank of Scotland.

RoE – return on equity.

RWA – risk-weighted asset.

SEC – Securities and Exchange Commission.

SLS – Special Liquidity Scheme.

SME – small and medium-sized enterprise.

SRR – Special Resolution Regime.

S&P – Standard & Poor's.

WEO – IMF *World Economic Outlook*.

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