Overview

The financial system has been significantly more stable over the past six months, underpinned by the authorities' sustained support for the banking system and monetary policy measures. Low risk-free interest rates and reduced uncertainty among investors have led to a rebound in a range of asset prices. Activity in many capital markets has resumed, reducing financing risks for some borrowers. The market rally has boosted bank profits and lowered concerns about potential future losses, and banks have raised further external capital. As solvency concerns have eased, banks have been able to issue unguaranteed term debt, helping them to reduce their reliance on short-term funding.

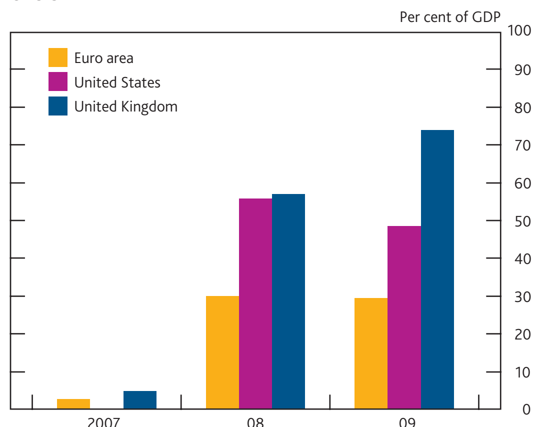
But overstretched balance sheets will take time to adjust fully. Around the world, a number of borrowers, including in the commercial property sector, have large refinancing needs in the coming years. And while funding costs remain low, there is a risk of market participants building excessively risky positions, which could unwind abruptly when yield curves eventually rise. Banks need to reduce leverage further, extend the maturity of their funding and refinance substantial sums as official sector support is withdrawn. While their profitability is relatively buoyant and market conditions are broadly favourable, banks should take the opportunity to do so. That will reduce the risk of disruption to the flow of credit in the future.

In the medium term, the root causes of this and previous systemic crises must be tackled — excessive risk-taking in the upswing of the credit cycle and insufficient resilience in the subsequent downturn. An expectation that 'too important to fail' firms will receive public assistance, and that unsecured wholesale creditors will not share losses, has exacerbated both the boom and the bust. That calls for a robust multi-faceted policy response. Regulatory policies should give greater emphasis to systemic risks over the cycle and across institutions, as set out in a recent Bank discussion paper. They should be complemented by structural measures to contain the spread of risk across the system. And because failures of financial institutions cannot and should not be prevented, the resolution framework will need to be improved to limit the impact on the wider economy.

Greater financial system stability

A stable financial system is able to sustain critical services to the wider economy — payments, credit provision and insurance against risk — even when it is hit by unanticipated events. In the past few years, credit has been severely impaired and payments were sustained only by public interventions. Over the past six months, there have been signs that the system has become better able to provide these critical services.

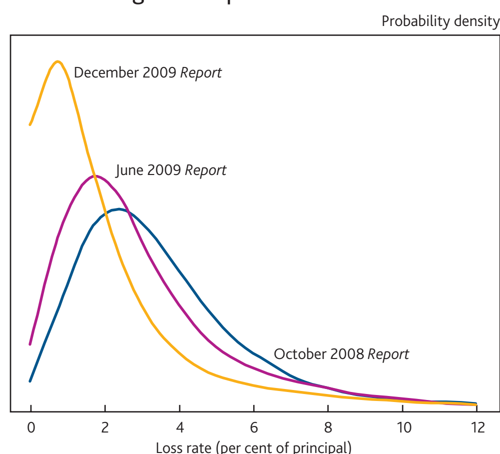
Chart 1 Public sector interventions during the financial crisis(a)



Sources: Bank of England, BIS, Board of Governors of the Federal Reserve System, ECB, FDIC, HM Treasury, IMF *World Economic Outlook* (October 2009), US Treasury and Bank calculations.

(a) End-year. 2009 figures are for November. See also footnotes to **Chart 1.1**.

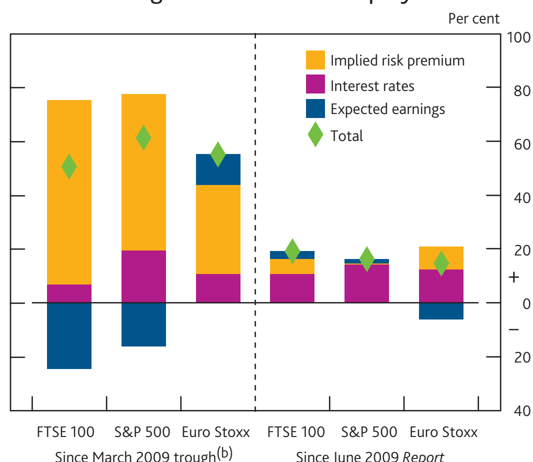
Chart 2 Implied loss rates on European investment-grade corporate bonds(a)



Sources: JPMorgan Chase & Co. and Bank calculations.

(a) Estimated from five-year iTraxx Europe Main CDS indices. As perceived by a 'risk-neutral' investor that is indifferent between a pay-off with certainty and a gamble with the same expected pay-off.

Chart 3 Changes in international equity indices(a)



Sources: Bloomberg, IBES, Thomson Datastream and Bank calculations.

(a) Contributions to changes in indices, based on a three-stage dividend discount model. See Panigirtzoglou, N and Scammell, R (2002), 'Analysts' earnings forecasts and equity valuations', *Bank of England Quarterly Bulletin*, Spring, pages 59–66.
(b) Taken as 9 March 2009.

Asset market conditions have improved...

Since the previous *Report*, there has been a strong, synchronised rise in asset prices internationally, underpinned by substantial interventions to support banking systems (**Chart 1**) and monetary policy measures that have lowered risk-free interest rates. By reducing concerns about severe losses (**Chart 2**), these measures have boosted investor appetite for holding corporate securities, including equities (**Chart 3**). In the United Kingdom, the rally in equity prices has been one of the strongest on record (**Chart 4**).

Capital market functioning has also improved (**Chart 5**), with a compression of illiquidity premia across financial markets. Although securitisation markets remain impaired, conditions have recovered in some other primary markets. That has made it easier for large, highly rated firms to raise finance and substitute for subdued domestic and foreign bank lending (**Chart 6**). Indeed, issuance of corporate bonds by investment-grade non-financial companies around the world has been around 50% higher this year than in 2008.

...and banking sector resilience has increased.

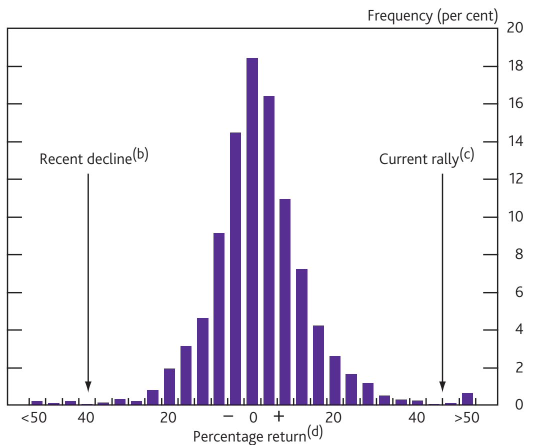
Improved market conditions have boosted bank profitability. Over half of global banks' revenues related to non-interest income in 2009 H1, of which an important component was investment banking activities (**Chart 7** and Box 4). The rise in asset prices has reduced losses of financial wealth since the start of the crisis to US$6.3 trillion (**Table A**) — less than half the level at the time of the June 2009 *Report* — reducing banks' write-downs and in some cases leading to write-backs of earlier losses. And while UK banks' provisions have picked up, implied mark-to-market losses in their banking books (an indicator of future provisions) have more than halved since March.

Banks have taken advantage of strong profitability and improved investor risk appetite to strengthen their capital positions. The major UK banks have raised more than £50 billion in additional core Tier 1 capital in the past six months, taking the total to £127 billion since the start of the crisis. Core Tier 1 capital ratios, at 9.6%, now exceed pre-crisis levels, although they remain relatively low historically.

Improved perceptions of banking sector resilience are reflected in market indicators. UK bank equity prices have risen by almost 40% since their March trough, recouping all of the decline over the previous nine months. There have also been sharp falls in the cost of insuring bank debt. UK banks' credit default swap (CDS) premia are 40% lower than six months earlier, though they remain fifteen times higher than the level at the onset of the crisis. Falls in subordinated debt spreads have been even more marked (**Chart 8**).

As concerns about solvency have eased, banks' access to funding has improved. Spreads of unsecured interbank

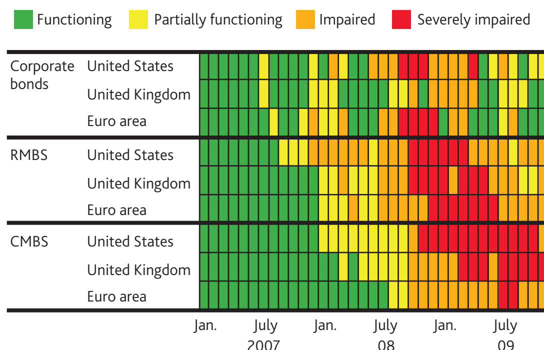
Chart 4 Declines and rallies in equity prices since 1693[(a)]



Sources: Bloomberg, Global Financial Data Inc. and Bank calculations.

(a) The chart shows returns on the FTSE All-Share index in the rally in the nine months to 4 December and in the decline over the preceding nine months, compared with the relative frequency of returns over other nine-month periods since 1693 (partly estimated).
(b) 4 June 2008 to 4 March 2009.
(c) 4 March 2009 to 4 December 2009.
(d) Axis labels reference the mid-point of categories that are 4 percentage points wide.

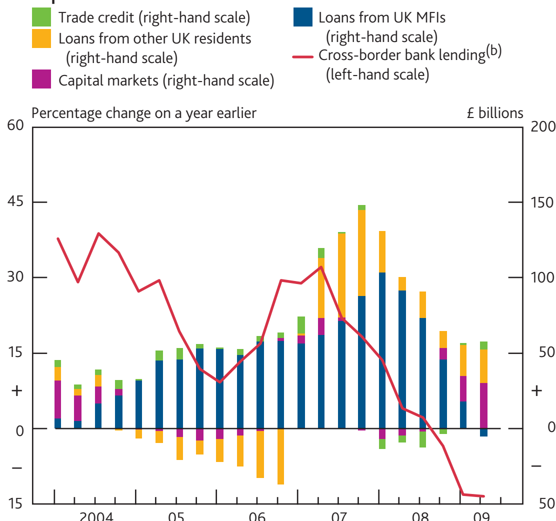
Chart 5 Primary market functioning[(a)]



Sources: Bank of America Merrill Lynch, Dealogic, JPMorgan Chase & Co. and Bank calculations.

(a) Shading is based on a score that reflects issuance (relative to GDP) and spreads at issue, both expressed as a number of standard deviations from average. Standard deviations and averages were calculated using available data from January 1998.

Chart 6 Sources of finance raised by UK non-financial companies[(a)]



Sources: Bank of England, BIS, ONS and Bank calculations.

(a) Four-quarter flow, excluding retained earnings and direct investment loans.
(b) Includes lending to financial companies. Data shown are BIS-reporting banks' claims on a locational, exchange rate adjusted basis.

borrowing rates over expected policy rates have fallen internationally to near pre-crisis levels. Longer-term debt markets have reopened for UK banks, with issuance of around £32 billion of unguaranteed senior debt in 2009 (**Chart 9**), helping to reduce reliance on very short-term wholesale funding. UK banks have also increased insurance against a loss of such funding by holding more liquid assets.

A challenging transition

Adjustment from the global credit cycle will be prolonged for borrowers internationally...

Recent improved conditions need to be set against the backdrop of overextended balance sheets across a wide range of countries and sectors. The global boom in loan issuance has left a legacy of significant refinancing challenges for some companies, including in the United Kingdom. Household default rates continue to rise sharply in the United States. There are also pockets of vulnerability in certain emerging economies within Central and Eastern Europe, where private sector credit has grown rapidly over the past few years, partly financed by foreign bank lending (**Chart 10**). These problems can have unanticipated spillovers, particularly if there is a lack of clarity about sovereigns' support for quasi-government entities — as seen in Dubai and, earlier in the crisis, at US mortgage finance agencies Fannie Mae and Freddie Mac.

...including in the United Kingdom...

In the United Kingdom, past falls in commercial property prices have raised average loan to value (LTV) ratios above 100%, according to industry estimates (Box 3). Around £160 billion of loans are scheduled to be refinanced between 2009 and 2013.

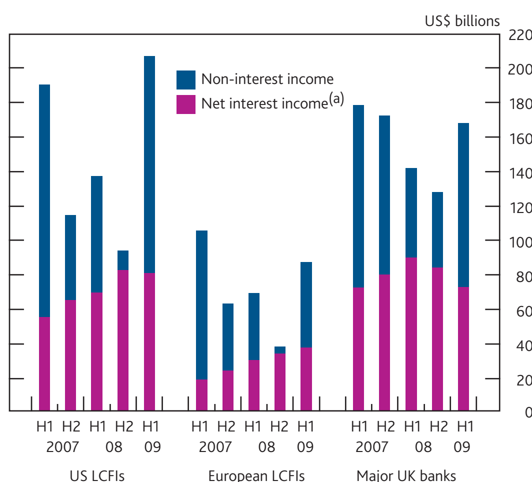
UK household borrowing also rose rapidly during the upswing. Exceptionally low policy rates have reduced the burden of debt servicing, but rises in interest rates would increase pressures on some households. Household income gearing in the United Kingdom would be around three quarters higher if Bank Rate were 5%, its level prior to the financial market turmoil in October 2008 (**Chart 11**).

...and for financial institutions.

Banks' balance sheets also need to adjust. Banks will face higher capital requirements on trading assets and securitisations from 2011 — of around £33 billion for financial institutions in the United Kingdom, based on FSA estimates — as well as from changes to the definition of core capital. Over the medium term, banks will need to lower their leverage from current high levels (**Chart 12**) to reduce the likelihood of future systemic stress.

Higher levels of capital would also facilitate improvements to banks' funding. Banks need to reduce the mismatch between long-term assets and risky, uninsured short-term wholesale

Chart 7 Financial institutions' income



Sources: Published accounts and Bank calculations.

(a) Net interest income pre-provisions.

Table A Mark-to-market losses on selected financial assets[a]

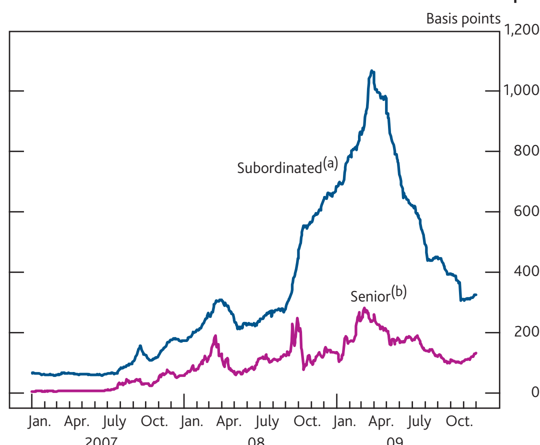
US$ trillions

	Outstanding amounts[b]	Mid-March 2009[c]	June 2009 *Report*[c]	Dec. 2009 *Report*
Equities	37.1	20.2	12.3	5.9
Corporate bonds	16.4	2.0	0.7	-0.7
RMBS[d]	3.4	1.4	1.1	0.7
CDOs[e] and CLOs	0.8	0.5	0.4	0.3
CMBS	0.8	0.3	0.2	0.2
Memo: debt securities	21.4	4.1	2.4	0.4
Total losses	–	**24.3**	**14.7**	**6.3**

Source: Bank calculations.

(a) Estimated loss of market value since January 2007, except for US CLOs, which are losses since May 2007. Assets cover the United Kingdom, United States and euro area, except for equities, which are global.
(b) Outstanding face values, except for equities, which are market values.
(c) Updated to reflect new estimates of outstanding amounts in mid-March and June 2009.
(d) Includes prime, non-conforming and buy-to-let mortgages for the United Kingdom; residential mortgages for the euro area; prime, Alt-A and sub-prime mortgages for the United States.
(e) US high-grade and mezzanine home equity loan ABS CDOs.

Chart 8 Senior and subordinated financial credit spreads



Sources: Thomson Datastream and UBS Delta.

(a) iBoxx index of sterling financial subordinated debt spreads.
(b) Asset-weighted average of major UK banks' five-year senior credit default swap premia.

debt. Over the next five years, UK banks also need to refinance over £1 trillion of wholesale funding (**Chart 13**), including funding that has been supported by the public sector. In the absence of stronger capital positions, that would require a dramatic revival in risk appetite from investors in bank debt. A recovery in residential mortgage-backed securities (RMBS) markets would ease the transition. But that may require greater transparency and clearer incentives for issuers to maintain the quality of asset pools (Box 1).

Improving balance sheet structures may be costly. In retail markets, competition for funding has raised retail bond rates to around 200 basis points above risk-free rates, compared with a spread below zero in 2005. And, in wholesale markets, longer-term interest rates are well above short-term rates. Based on those rates, the cost to the industry of increasing the maturity of funding, while replacing Special Liquidity Scheme (SLS) and Credit Guarantee Scheme (CGS) support and acquiring low-yielding assets to meet regulatory requirements, could be significant.

Banks should take advantage of favourable market conditions.

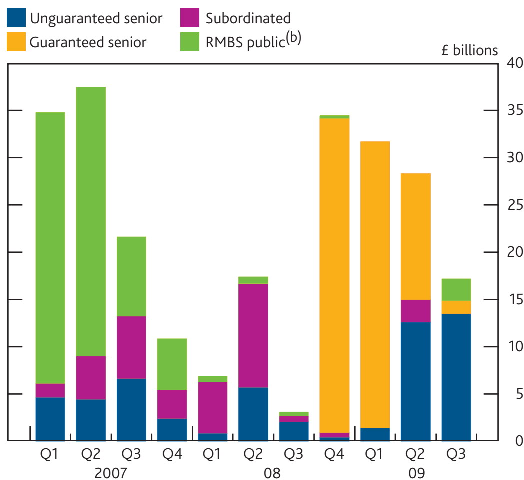
Despite inevitable short-term costs, there is a strong case for banks acting now to improve balance sheet positions while conditions are favourable. Retaining a higher share of current buoyant earnings could significantly increase banks' resilience and ability to lend. If discretionary distributions had been 20% lower per year between 2000 and 2008, banks would have generated around £75 billion of additional capital — more than provided by the public sector during the crisis. It is also an opportune time for banks to raise capital externally, extend the maturity of their funding, and develop and implement plans for refinancing substantial sums as official sector support is withdrawn.

Taking advantage of current favourable conditions would help to repair balance sheets and thereby insure banks against future adverse developments. Given their balance sheet vulnerabilities, banks remain exposed to any future deterioration in macroeconomic and market conditions, which could substantially raise the cost of funding and capital raising in the future. Specific risks include:

- **Impact of the exit from policy support**. This is hard to gauge, but could lead to heightened volatility in safe and risky asset prices and abrupt portfolio adjustments — for example, as positions funded in low-yielding currencies, such as the US dollar, unwind. Previous episodes, such as the sharp rise in US policy and market interest rates during 1994, highlight that risk.

- **Sovereign risk**. Concerns about sovereign risk have increased recently internationally, after ebbing for most of the period since the previous *Report* (**Table B**). Some sovereigns, including Ireland and Greece, have been

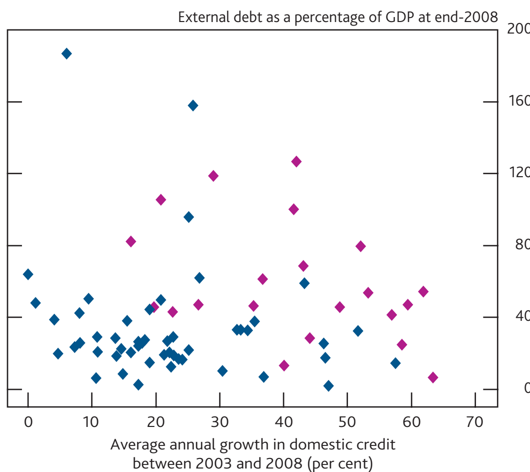
Chart 9 Debt issuance by UK banks[a]



Source: Dealogic.

(a) Issuance with a value greater than US$500 million equivalent and original maturity greater than one year.
(b) Classified as residential mortgage-backed securities (RMBS) where more than 50% of the underlying assets are residential mortgages. Excludes issues that are not sold to the market by the originator, issuer or bookrunner.

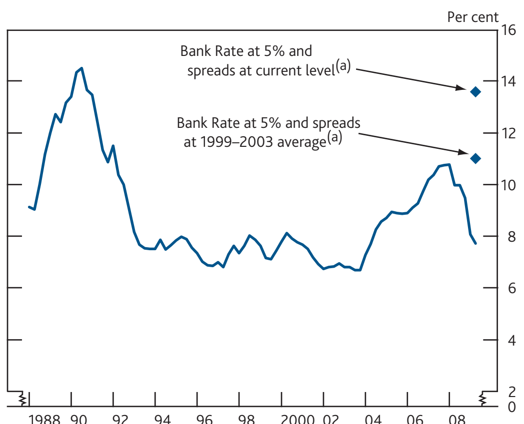
Chart 10 Private credit[a] and external debt in selected emerging market economies[b]



Sources: IMF *International Financial Statistics* and *World Economic Outlook*.

(a) Excludes credit to the government, public non-financial corporations and other financial institutions, except where countries do not report using the standardised IFS template.
(b) Emerging Europe and Commonwealth of Independent States shown as magenta diamonds.

Chart 11 UK household income gearing



Sources: Bank of England and Bank calculations.

(a) Bank Rate was most recently 5% on 7 October 2008.

downgraded. Further downgrades internationally could result from prolonged economic weakness or the absence of credible fiscal consolidation plans. That could prompt capital flight, potentially raising the cost and availability of bank funding.

- **A slower-than-anticipated recovery**. Economic uncertainty remains high (**Chart 14**) and is a key risk noted by respondents to the Bank's *Systemic Risk Survey* (**Table C**). A sluggish recovery could lead to financing difficulties among overstretched borrowers and larger-than-expected bank loan impairments.

- **A setback in the asset price rally**. Higher risk-free rates or heightened economic uncertainty could lower asset prices, reducing banks' ability to sustain strong trading revenues. Problems could develop in specific markets — such as high-risk corporate bonds and leveraged loans — where contacts have reported concerns that speculative activity may have begun to emerge. There has also been a re-emergence of so-called covenant-lite loans that provide limited protection to lenders.

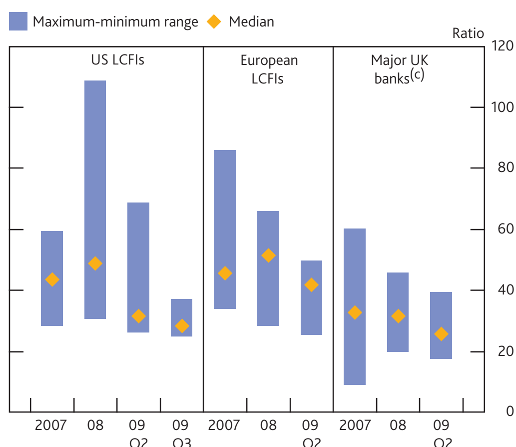
Safeguarding financial stability

A large number of policy initiatives are under active discussion, by the UK tripartite authorities and internationally, to deal with problems highlighted by the crisis. The range of work has raised concerns among some market participants – including respondents to the Bank's *Systemic Risk Survey* — that measures will either be disproportionate or inadequately co-ordinated. So it is crucial that these policies complement one another and form an integrated and robust package for tackling the root causes of the crisis.

The crisis has highlighted two key sources of systemic risk. First, a tendency for financial systems to become excessively exuberant in upswings and then overly conservative in downturns (**Chart 15**). Second, financial firms may fail to take account of the spillover effects of their actions on the financial system and the wider economy. A manifestation is the tendency for some institutions to become too important to fail — a problem exacerbated by the lack of market discipline associated with unsecured wholesale creditors not facing losses.

A multi-faceted approach is needed to mitigate these problems. Having a range of safeguards increases the robustness of the policy framework to future changes in private sector behaviour and future pressures on policymakers to dilute protection in more tranquil times. This framework should comprise complementary initiatives in three areas: regulatory policies; the structure of the financial system; and resolution arrangements.

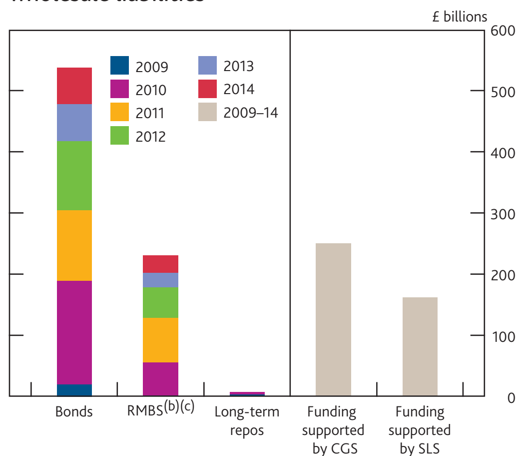
Chart 12 Major UK banks' and LCFIs' leverage ratios[a][b]



Sources: Published accounts and Bank calculations.

(a) Assets adjusted on a best-efforts basis to achieve comparability between institutions reporting under US GAAP and IFRS. Derivatives netted in line with US GAAP rules. Off balance sheet vehicles included in line with IFRS rules.
(b) Assets adjusted for cash items, deferred tax assets and goodwill and intangibles. For some firms, changes in exchange rates have impacted foreign currency assets, but this cannot be adjusted for. Capital excludes Tier 2 instruments, preference shares, hybrids and goodwill and intangibles.
(c) Excludes Northern Rock.

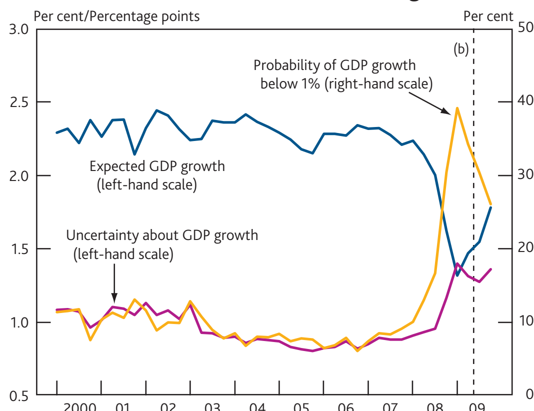
Chart 13 Major UK banks' maturing funding: selected wholesale liabilities[a]



Sources: Bank of England, Bloomberg, Deutsche Bank and Bank calculations.

(a) Shows the full limit for the Credit Guarantee Scheme.
(b) Shows the date at which markets expect the residential mortgage-backed securities to be called.
(c) Excludes Britannia, Co-operative Financial Services and HSBC.

Chart 14 External forecasts of UK GDP growth[a]



Sources: Bank of England and Bank calculations.

(a) Calculated from the distributions of external forecasters' predictions of UK GDP growth two years ahead, sampled by the Bank and as reported in the *Inflation Report* each quarter.
(b) June 2009 *Report*.

Strengthened regulatory policies

Prudential regulation can play a key role in limiting cyclical overexuberance and reducing risks across the financial network. To do so, it must give greater emphasis to the build-up of risk across the system as a whole. The Basel Committee is at present considering ways to mitigate such risks. A recent Bank discussion paper[1] set out how macroprudential instruments — such as capital surcharges gauged to the credit cycle and to banks' individual contributions to systemic risk — might help to achieve these objectives.

A macroprudential framework would need to be founded on effective microprudential regulation. That requires a reassessment of the appropriate capital structure of banks. In the current crisis, banks' equity buffers were too small, hybrid capital instruments were not always able to absorb losses while banks were a going concern, and short-term wholesale debt was too large relative to more stable sources of funding. That is why the international regulatory community has embarked on a wide-ranging agenda for reform of prudential standards.

Capital buffers will need to rise, possibly substantially, over the coming years. The quality of banks' capital also needs to improve. To absorb losses, capital should comprise equity or instruments that convert to equity automatically under pre-defined conditions. To avoid excessive reliance on refined regulatory risk weights, risk-based capital requirements should be accompanied by a mandatory maximum leverage ratio (Box 6). Reliance on external credit ratings for assessing risks should also be reduced, potentially through regulatory incentives.

Liquidity regulation is being strengthened, with a new regime for the United Kingdom published by the FSA in October. A key aspect of the regime is that banks should hold larger amounts of genuinely liquid assets. As discussed by the Basel Committee on Banking Supervision (BCBS), there may also be a role for a structural funding ratio. This ensures that a significant proportion of a bank's loan book is financed through stable sources of funding, such as retail deposits and long-term wholesale liabilities. The ratio might be supported by measures requiring unsecured creditors to bear losses in the resolution of failing firms, as proposed by some in the United States.

Changes to the structure of the system

While regulatory measures may be necessary to reduce the likelihood of financial instability, calibration challenges and the risk of erosion in standards over time mean they may not be sufficient. Changes to market structure can buttress regulatory measures, reducing the risk of stress spilling over

(1) 'The role of macroprudential policy', *Bank of England Discussion Paper*, November 2009.

Table B Selected sovereign credit default swap premia[(a)]

	January 2008	October 2008 *Report*	February 2009	June 2009 *Report*	December 2009 *Report*
United Kingdom	9	43	175	87	70
United States	8	28	94	45	32
France	10	31	85	38	24
Germany	7	22	78	34	23
Greece	22	87	285	155	182
Ireland	13	67	396	220	150
Spain	18	66	170	98	86
Japan	9	33	121	44	67
Dubai	n.a.	470	977	505	486

Source: Thomson Datastream.

(a) Senior five-year credit default swap premia in basis points.

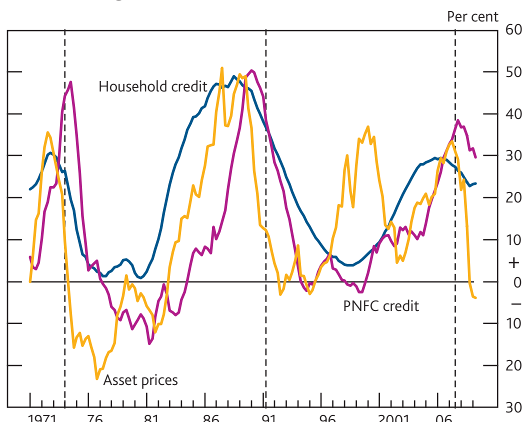
Table C *Systemic Risk Survey* results: key risks to the UK financial system[(a)(b)]

	Key risks		Risks most challenging to manage	
	Nov. 2009	May 2009	Nov. 2009	May 2009
Economic downturn	68	58	41	30
Borrower defaults	49	45	22	21
Regulatory and accounting changes	49	24	35	24
Funding and liquidity problems	35	30	30	12
Property price falls	27	18	5	3
Disruption in securities, insurance, and/or derivatives markets	24	15	16	3
Sovereign risk	24	24	3	6
Tight credit conditions	24	24	11	3
Timing of fiscal and/or monetary policy tightening	22	3	5	3
Inflation	14	9	5	0
Financial institution failure/distress	11	24	14	15

Sources: Bank of England *Systemic Risk Survey* (May 2009 and November 2009) and Bank calculations.

(a) Per cent of respondents citing each risk. Market participants were asked to list (in free format) the five risks they believed would have the greatest impact on the UK financial system if they were to materialise, as well as the three risks they would find most challenging to manage as a firm.
(b) Risks cited in the May 2009 survey have been regrouped into the categories used to describe the November 2009 data, so results differ slightly from those published in the June 2009 *Report*.

Chart 15 Asset prices and credit cycles in the United Kingdom[(a)(b)(c)]



Sources: Bank of England, Global Financial Data Inc., Halifax, Nationwide, ONS, Thomson Datastream and Bank calculations.

(a) The chart shows ratios of real asset prices, household credit and private non-financial corporate credit to GDP, relative to their ten-year moving averages.
(b) The dashed lines show start dates for banking crises. The chart shows the secondary banking crisis, small banks crisis and the current crisis.
(c) Asset price index is a weighted average of real equity prices, real house prices and real commercial property prices, weighted according to national accounts data for holdings of assets.

across the system. For example, authorities internationally have encouraged the extension of central clearing and improved counterparty risk management. There are benefits in extending such clearing to other markets — such as currency swaps and long-dated foreign exchange forwards — backed by improved risk management standards at central counterparties.

The recent revival in capital market finance highlights the potential benefits of lowering the economy's reliance on bank finance. At present, a small number of UK banks account for over 80% of finance to households and corporates, higher than in many other economies. Measures to develop capital markets and to encourage entry to the UK banking system could leave the wider economy less exposed to distress at individual banks.[(1)]

There is also a case for complementing changes to market structure with arrangements that insulate banking services core to the functioning of the real economy — such as payments and credit provision — from disruption in other, higher-risk banking activities. Such functional separation is common in utilities industries (Box 7). And this need not necessarily require strict institutional separation. But it would present significant implementation challenges to guard against financial institutions beyond the boundary becoming too important to fail — for example, as has been the case for some US money market mutual funds.

Better crisis resolution arrangements

Structural reform and changes to regulation will not, and should not, prevent bank failures. Well-designed resolution arrangements are required to ensure that economic disruption is limited and that unsecured wholesale creditors share losses in times of stress. A credible threat of loss would sharpen market discipline, limiting excess risk-taking and the tendency for some institutions to become too important to fail.

Deposit insurance regimes can facilitate orderly resolution by reducing incentives for retail depositors to run. As set out in the June 2009 *Report*, the Bank believes that deposit insurance should be pre-funded through risk-based levies. That would avoid some of the incentives associated with the current flat-rated scheme in the United Kingdom, which encourages risk-taking (Box 8), and would reduce pressures on banks and taxpayers at times of stress by levying banks when their profitability is strong. Strengthening deposit insurance is one of a number of financial sector issues addressed in a recent HMT discussion paper.

Arrangements for resolution have been strengthened materially in the United Kingdom with the introduction of the

(1) As announced in the Pre-Budget Report, the Government intends to launch a consultation paper on developing non-bank lending channels, advised by the FSA and the Bank.

Special Resolution Regime (SRR). The proposed development of recovery and resolution plans (RRPs), at both the national and international level, should help to identify potential difficulties in implementing SRR tools. Effectively enforced, such plans might lead to some institutions changing the structure and legal complexity of their businesses. Alongside the development of RRPs, consideration should be given to strengthening resolution arrangements for non-deposit taking institutions whose failure could undermine financial stability under some circumstances. HM Treasury has recently published a consultation document outlining a package of policy initiatives to improve resolution arrangements for investment firms.