



UNITED KINGDOM

2012 ARTICLE IV CONSULTATION

July 2012

Under Article IV of the IMF's Articles of Agreement, the IMF holds bilateral discussions with members, usually every year. In the context of the 2012 Article IV consultation with the United Kingdom, the following documents have been released and are included in this package:

- **Staff Report** for the 2012 Article IV consultation, prepared by a staff team of the IMF, following discussions that ended on May 22, 2012, with the officials of the United Kingdom on economic developments and policies. Based on information available at the time of these discussions, the staff report was completed on July 2, 2012. The views expressed in the staff report are those of the staff team and do not necessarily reflect the views of the Executive Board of the IMF.
- **Informational Annex**
- **Staff Supplement** of July 10, 2012 updating information on recent developments.
- **Staff Statement** of July 13, 2012 updating information on recent developments.
- **Public Information Notice (PIN)** summarizing the views of the Executive Board as expressed during its July 16, 2012 discussion of the staff report that concluded the Article IV consultation.
- **Statement by the Executive Director** for the United Kingdom.

The policy of publication of staff reports and other documents allows for the deletion of market-sensitive information.

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UNITED KINGDOM

STAFF REPORT FOR THE 2012 ARTICLE IV CONSULTATION

July 2, 2012

KEY POINTS

Recovery has stalled. Post-crisis repair and rebalancing of the UK economy is likely to be more prolonged than initially envisaged. Confidence is weak and uncertainty is high. Looking ahead, the economy is expected to grow modestly, but with current policy settings the pace will be insufficient to absorb significant slack in the economy, raising the risk of a permanent loss of productive capacity.

Demand support is needed. More expansionary demand policies would close the output gap faster and reduce the risk of hysteresis. In particular:

- Additional monetary stimulus via quantitative easing and possibly cutting the policy rate is required.
- Credit easing measures announced in June to lower borrowing costs through provision of bank funding, as recommended in staff's May 2012 [concluding statement](#), are welcome and may need to be expanded.
- Budget neutral reallocations should be undertaken to make room to increase government spending on items with higher multipliers (e.g., public investment).
- The planned pace of structural fiscal tightening will need to slow if the recovery fails to take off even after additional monetary stimulus and strong credit easing measures. The UK has the fiscal space to make such adjustments.

Further steps are needed to fortify financial sector stability. Such stability is critical to anchor a strong and durable recovery in the UK and is also of global systemic importance as highlighted in spillover analysis. To this end, policies should aim to:

- Strengthen bank balance sheets by building capital rather than reducing assets.
- Address "too big to fail" issues, including by legislating reforms proposed by the Vickers Commission, resisting pressure to reduce their effectiveness.
- Intensify supervision and broaden its authority over financial holding companies.
- Broaden the macroprudential toolkit to help restrain future property bubbles.

Approved By
**Reza Moghadam and
 David Marston**

Discussions took place in London during May 9-22, 2012. The staff team comprised Messrs. Chopra (head), Srinivasan, Fletcher, Kannan, Sandri, Takizawa and Ms. Ruiz-Arranz (EUR); Ms. Elliot (MCM) and Ms. Asmundson (SPR). Mr. Teja (SPR) joined for discussions on spillovers. The Managing Director joined for the concluding discussions. UK Executive Director Mr. Gibbs and Mr. Perks (OED) participated in the discussions.

CONTENTS

THE FOCUS OF THE CONSULTATION	4
RECOVERY HAS STALLED	4
A. Large Imbalances Have Produced Headwinds for Growth	4
B. Growth Has Stagnated and the Output Gap Remains Large	5
C. Internal Rebalancing Has Not Fully Materialized	10
D. Progress Has Been Made in Rebalancing Toward External Demand	19
OUTLOOK, RISKS, AND POLICY IMPLICATIONS	21
MONETARY AND CREDIT EASING POLICIES	30
A. Monetary Policy	30
B. Credit Easing and Bank Funding Policies	32
FISCAL POLICY	35
A. Fiscal Consolidation Has Been Strong and is Now Slowing	35
B. Budget-Neutral Reallocations Can Further Support Growth	37
C. If the Recovery Remains Stalled, then Fiscal Tightening Should Slow	38
FINANCIAL SECTOR POLICIES	40
A. Strengthening Bank Balance Sheets	40
B. Strengthening the Framework for Financial Sector Stability	41
THE AUTHORITIES' VIEW	43
STAFF APPRAISAL	45

TABLES

1. Selected Economic Indicators, 2008-13	47
2. Medium-Term Scenario, 2007-17	48
3. Statement of Public Sector Operations, 2009/10-16/17	49
4. Statement of General Government Operations, 2005-11	50
5. General Government Stock Positions, 2005-11	51
6. Balance of Payments, 2005-17	52
7. Net Investment Position, 2005-11	53

FIGURES

1. Real Sector Developments	6
2. Behavior of Macro Variables Around Recession Times	7
3. Labor Market Developments	8
4. Indicators of Capacity Utilization	9
5. Financial Position of Households	11
6. UK vs. Euro Area: Recent Developments in Global Financial Markets	14
7. Credit Survey: Supply and Demand Factors	15
8. UK vs. Other European Banks: Main Banking Sector Indicators	18
9. External Sector Developments	20
10. Residential Housing Markets	23
11. Price Developments	26
12. External Claims of Consolidated UK-Owned MFIs	29

BOXES

1. The Health of UK Banks	16
2. Risk Assessment Matrix	28
3. Credit Easing: Key Considerations	34

ANNEXES

1. Estimating Hysteresis Effects	54
2. The Structural Fiscal Balance and Asset Prices in the UK	62
3. Alternative Fiscal Scenarios: Effects of Delaying Consolidation in the Presence of Hysteresis	70
4. FSAP Update: Status of Main Recommendations	77
5. Spillovers: Financial Contagion Through G-SIBs	82
6. Fiscal Debt Sustainability Analysis	85

THE FOCUS OF THE CONSULTATION

1. The global economy is struggling to regain its footing amid renewed financial strains. Even relative to this global softness, the UK's economic recovery has been sluggish. Economic activity is projected to gain some momentum, but the pace of expansion in the UK is expected to be weak relative to the scale of underutilized resources. As a result, the output gap is projected to remain sizeable for an extended period, raising the risk that sustained cyclical weakness will reduce the economy's productive capacity.

2. Against this background, the consultation focused on policies to support a strong and durable recovery and reduce adverse spillovers to the rest of the world. The report thus addresses the following questions:

- What explains the sluggish recovery?
- How should current macroeconomic policies be adapted to provide additional demand support?
- How can financial sector policies reduce vulnerabilities, support a balanced recovery, and limit negative spillovers to the rest of the world?
- How should policies respond in case of negative shocks?

RECOVERY HAS STALLED

A. Large Imbalances Have Produced Headwinds for Growth

3. Leading up to the financial crisis, economic growth in the UK was brisk, led by consumption and fueled by declining national saving and rising leverage.¹ With the household share of national income falling sharply, households reduced their saving and borrowed more to sustain consumption growth and a housing bubble. Public finances entered the crisis with little policy space and deteriorated sharply when the crisis hit. Much of this deterioration in the fiscal position was structural, reflecting permanent revenue losses and a sharp drop in potential GDP growth during the crisis.

4. Sustainable recovery requires addressing the factors underpinning pre-crisis imbalances, notably leverage and debt, and a rebalancing of demand. In particular, there needs to be a hand-off from public to private sector-led demand, notably greater investment and net exports. However, this rebalancing will not be frictionless and so must be paced to minimize disruptions to growth. To support such growth and prevent another buildup of imbalances and stability risks, financial sector repair and reform is also needed. As discussed next, progress on these fronts has been mixed.

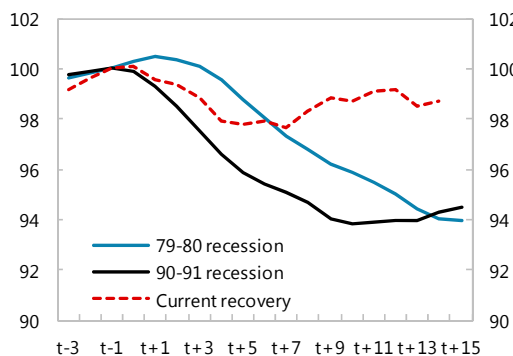
¹ See [United Kingdom Sustainability Report](#), prepared by IMF staff as technical input for the G-20 Mutual Assessment Process, 2011.

B. Growth Has Stagnated and the Output Gap Remains Large

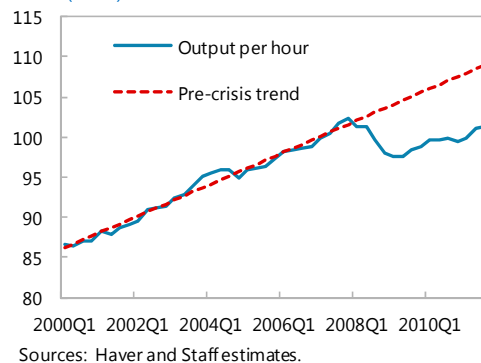
5. The big picture on growth is one of stagnation since late-2010 (Figures 1 and 2). After turning negative in the last quarter of 2010, growth recovered modestly to 0.7 percent in 2011 before declining again by 0.3 percent in the first quarter of 2012, in line with renewed economic weakness in advanced Europe. This broad stagnation has left output per capita a staggering 14 percent below its pre-crisis trend and 6 percent below its pre-crisis level.²

6. Weak growth has kept unemployment high at 8.2 percent (Figure 3), with youth unemployment (21.9 percent) particularly worrisome. Relative to growth, however, labor markets have been surprisingly resilient, with fewer employment losses than in the aftermath of previous major UK recessions. This stark divergence between growth and employment has left labor productivity well below its pre-crisis trend.

Employment around Recessions
(Last pre-recession quarter t-1 = 100)



UK: Productivity
(index)



7. The reasons for this poor labor productivity performance are much debated.³ The debate is fundamentally about the size of the output gap, with at least three points of view:

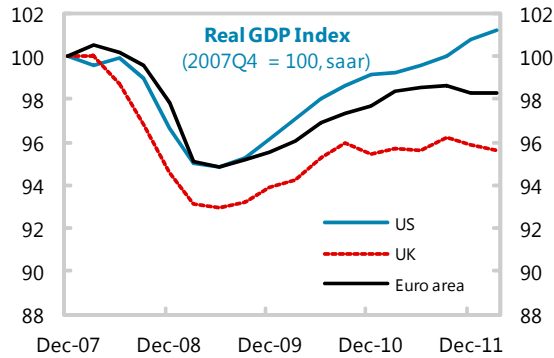
- “Supply pessimists” contend that the drop in productivity is mainly permanent, implying a small output gap. They argue that (i) the pre-crisis productivity level and trend reflect an unsustainable credit boom and (ii) historical evidence of past financial crises points to large and persistent output losses, in part due to tight post-crisis credit conditions that limit investment and the reallocation of capital to more productive activities. As further evidence of limited supply capacity, pessimists cite elevated inflation (exceeding 5 percent in late 2011), the relatively restrained increase in unemployment, and the limited spare capacity reported by businesses (Figure 4).

² Data is current at least through June 25, 2012; if important, subsequent data updates may be discussed in an accompanying staff supplement.

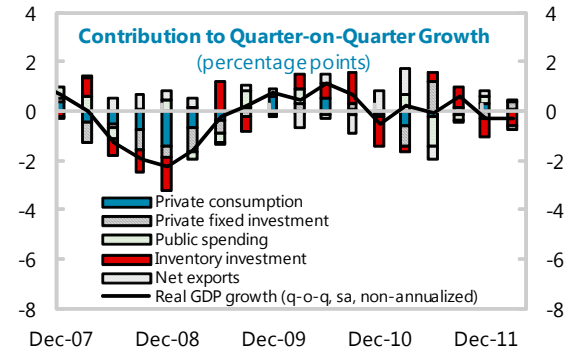
³ See [Martin and Rowthorn \(2012\)](#) for a discussion of this debate from the “optimist” view. For further views, see the BoE’s [Quarterly Bulletin 2012 Q2](#).

Figure 1. Real Sector Developments

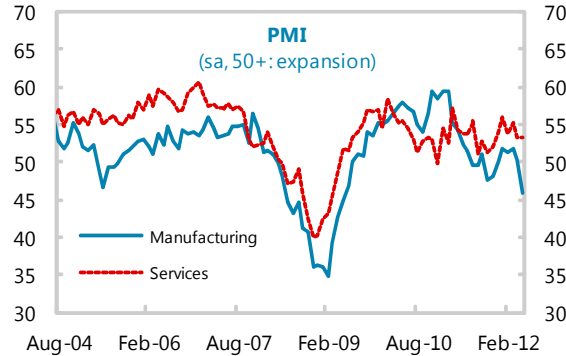
The UK's downturn was deeper and longer than in most countries; recovery has been weak.



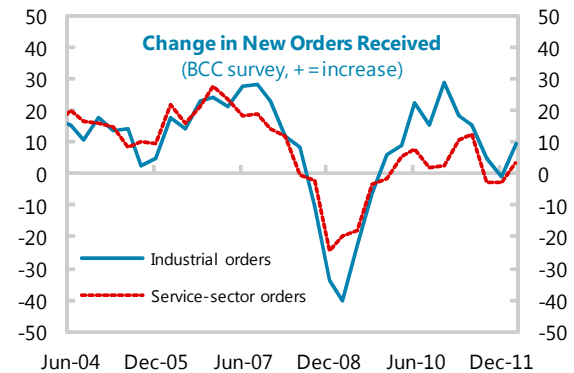
Recovery came first from inventory re-stocking and then from net exports.



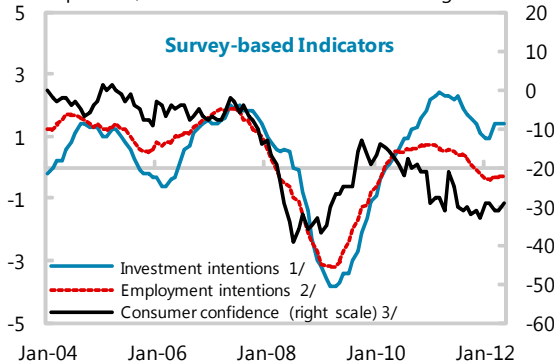
Short-term indicators point to expansion in services but contraction in manufacturing...



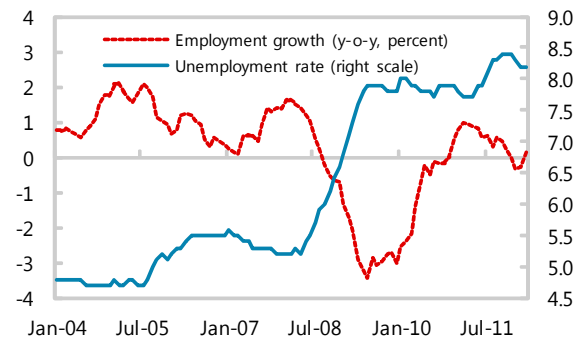
...with orders falling from mid-2011.



Consumer confidence is low, but investment intentions are more positive, consistent with desired rebalancing.



Employment growth turned downward again in late 2011, causing unemployment to rise, though it has recently ticked back down.



Sources: Bank of England; British Chambers of Commerce; Office for National Statistics; and IMF staff calculations.

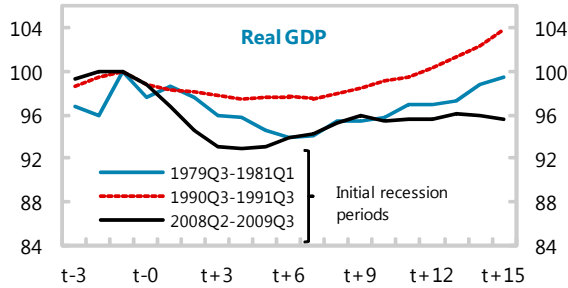
1/ Bank of England Agents' Survey, manufacturing.

2/ Bank of England Agents' Survey, services.

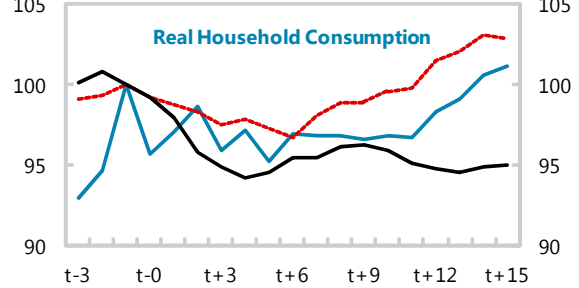
3/ GfK Consumer Confidence Barometer.

Figure 2. Behavior of Macro Variables Around Recession Times 1/
 (Last pre-recession quarter t-1 = 100, unless otherwise noted)

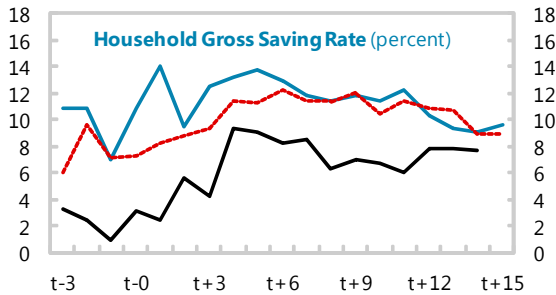
The current recovery has been weaker than most...



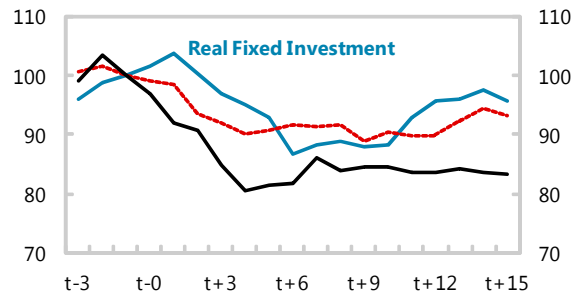
...with household consumption being especially depressed...



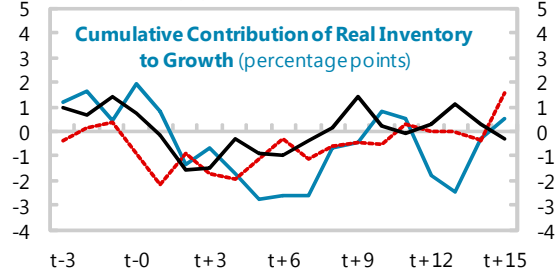
...as the saving rate surged from very low pre-crisis levels.



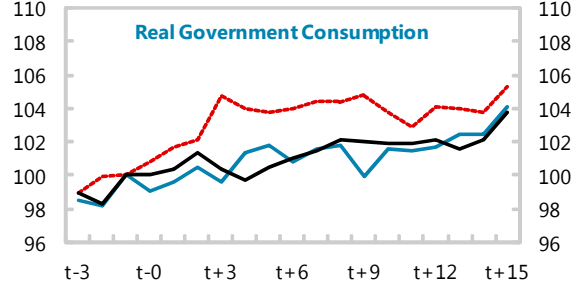
Similarly, fixed investment has not rebounded strongly.



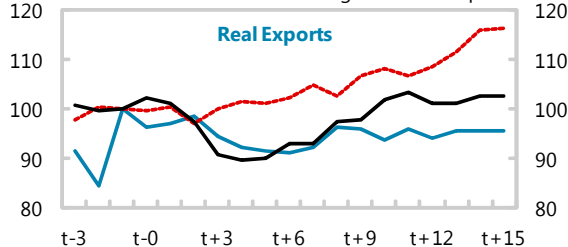
Following historical patterns, the recovery was initially led by a turn in the inventory cycle...



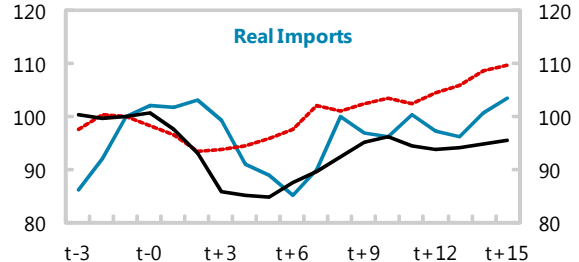
...and supported by public spending.



Recovery was also supported by exports, which benefited from sterling depreciation at the onset of the crisis, but exports have started to level off in line with weaker growth in Europe...



...while import growth has flattened, keeping net export growth stronger than in past recoveries.

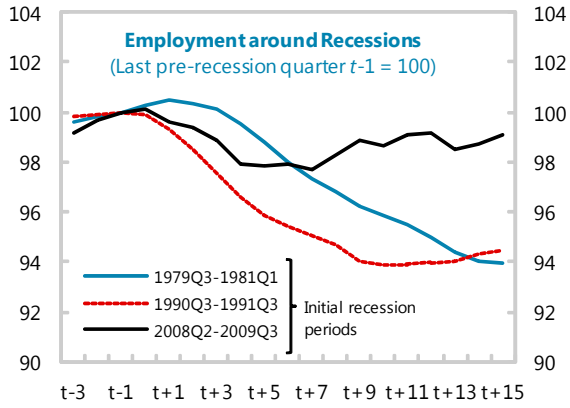


Sources: Haver Analytics; and IMF staff calculations.

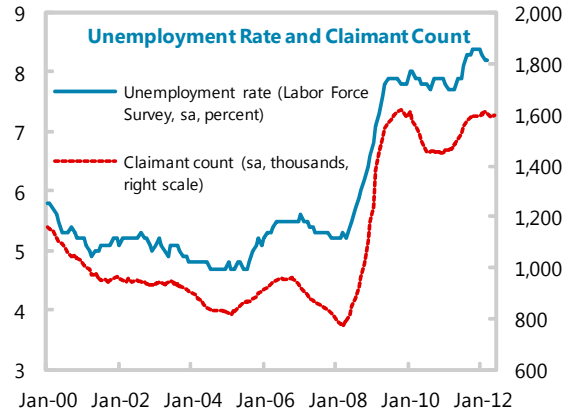
1/ The starting point of recessions is marked from the previous peak in GDP.

Figure 3. Labor Market Developments

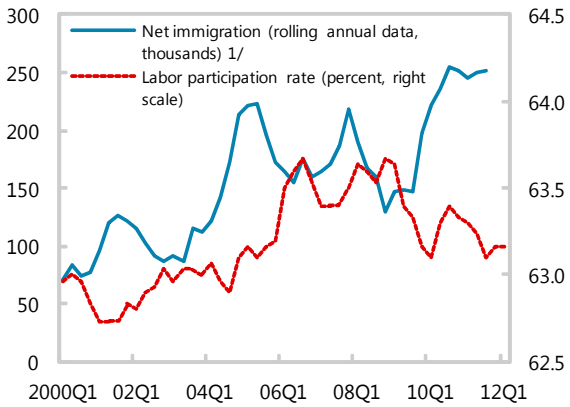
The labor market has proven relatively resilient, as employment has risen earlier than usual...



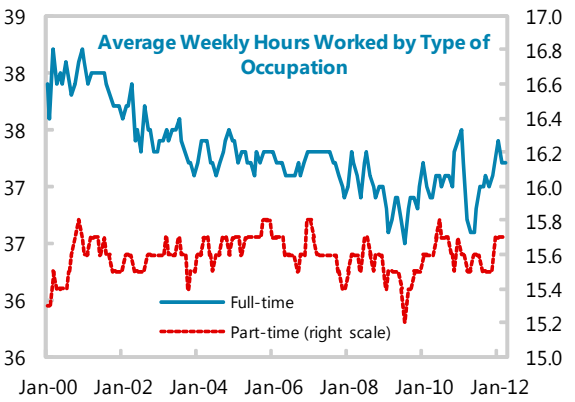
...though unemployment has risen over the last year...



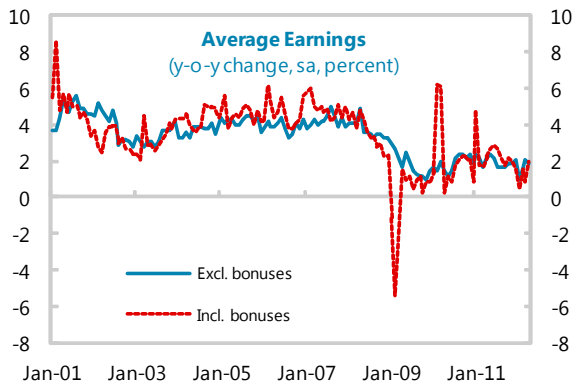
...while labor force participation has fallen somewhat.



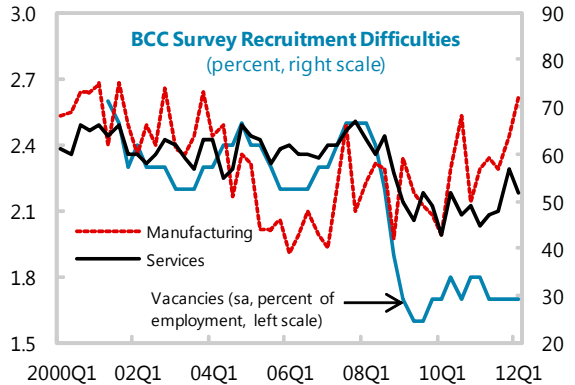
In contrast, average hours worked has increased recently.



Anemic wage growth has helped keep employment losses down.



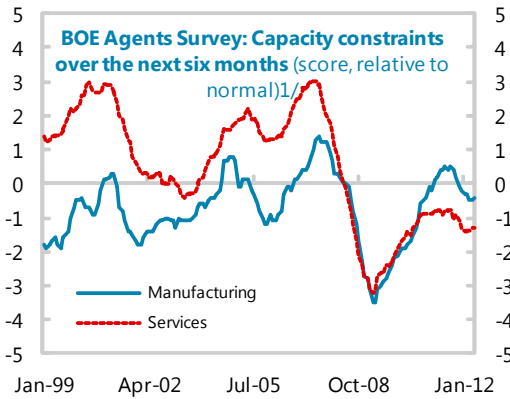
Despite the labor market's resilience, both vacancy data and surveys point to continued slack, at least in services.



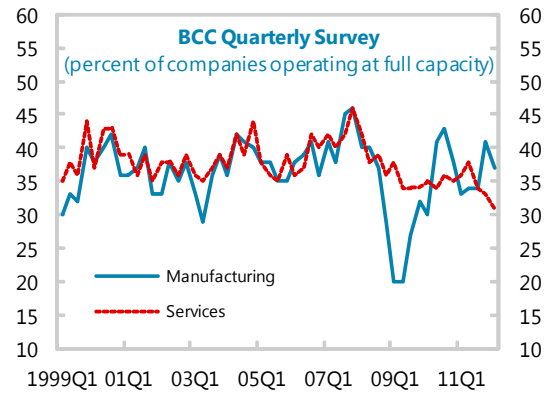
Sources: Haver Analytics; Office for National Statistics; and IMF staff calculations.
1/ Estimates based on provisional data from the International Passenger Survey.

Figure 4. Indicators of Capacity Utilization

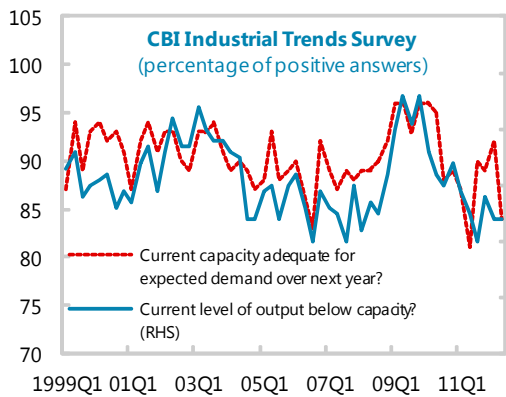
The BoE's regional agents report less spare capacity in manufacturing than services.



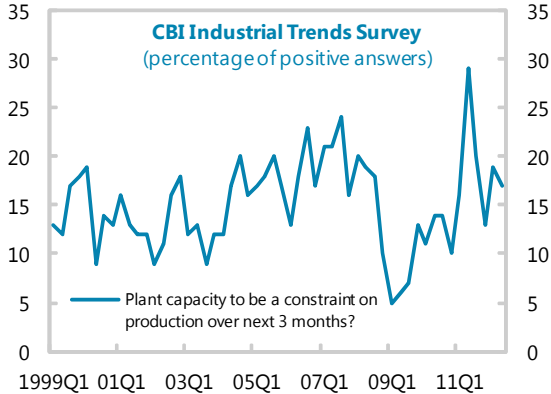
A finding confirmed by other surveys.



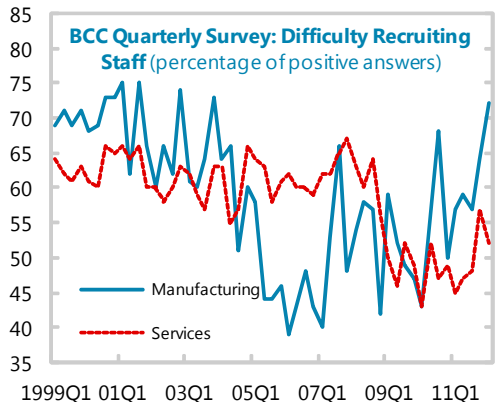
Excess capacity in the industrial sector has fallen since the 2008-09 recession...



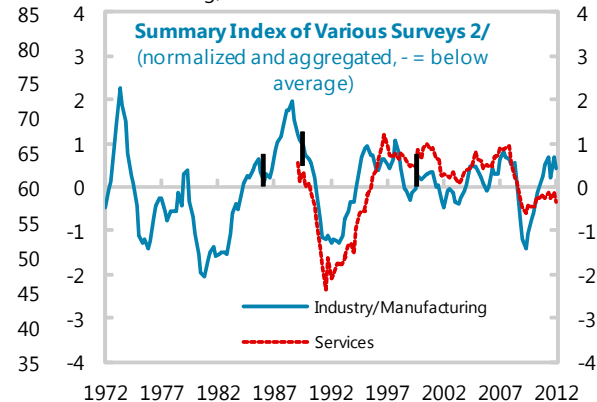
...though survey data are volatile.



The service sector is facing less difficulty recruiting new staff compared to the volatile manufacturing sector.



In sum, survey indicators suggest that capacity utilization has returned to average levels in manufacturing, but remains below normal for services.



Sources: Haver Analytics; and IMF staff calculations.

1/ Before January 2005: based on companies' current situation, rather than being forward-looking.

2/ Based on a range of survey indicators (provided by the Bank of England, British Chambers of Commerce, Confederation of British Industry, and Eurostat, respectively) for capacity constraints and recruitment difficulties; normalized to average zero over the cycle, with unit standard deviation. Vertical bars in chart mark structural breaks in series due to inclusion of new indicators.

- “Supply optimists” contend that such a large “technology reversal” from pre-crisis levels is implausible and that the pessimists’ points do not hold up to scrutiny: the financial crisis story cannot explain the much stronger productivity growth in other countries experiencing financial crises, such as the US and Spain; high inflation over the past two years can be completely explained by transitory shocks, such as indirect tax hikes and commodity price shocks (paragraph 22); and business surveys of capacity are notoriously unreliable. Stories of structural shifts from high to low productivity sectors can explain at most a small part of the shortfall when quantified, as the productivity drop is broad-based across sectors. Optimists argue that restrained unemployment and low productivity can instead be explained by labor hoarding, as weak real wage growth points to significant slack in labor markets. This implies that the output gap is large and that, with more demand, labor hoarding would unwind and productivity would rebound toward its previous trend.
- “Statistics skeptics” note that both labor market resilience and PMI readings during the last 18 months suggest possible underestimation of growth in official statistics, which are subject to large *ex post* revisions. Such revisions would shrink differences with the pre-crisis GDP trend. However, such revisions are very unlikely to be big enough to explain a majority of this gap.

8. All analysts nevertheless agree that the output gap is negative and the debate is about the magnitude. Given the uncertainty regarding the accuracy of specific methodologies, staff bases its output gap estimates on a broad range of indicators—including two filter models, a production function model, and a model based on Okun’s Law—and finds a large output gap of about -4 percent in 2012, which persists at this level into 2013. The independent Office for Budget Responsibility (OBR) relies mostly on the limited spare capacity reported by businesses to arrive at the official output gap estimate of -2.7 percent of GDP in 2012.

C. Internal Rebalancing Has Not Fully Materialized

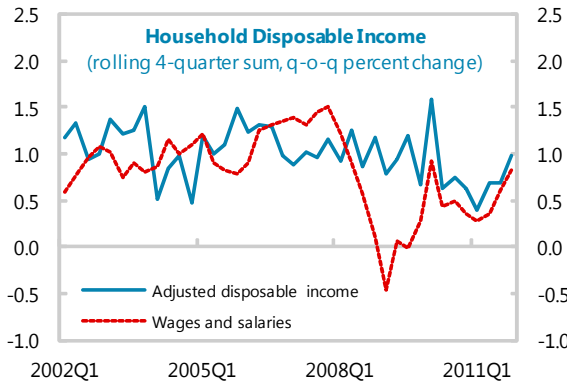
9. The tepid recovery reflects weak and inadequate rebalancing of domestic demand. Specifically, it has been one-sided. On the side of the public sector, large and frontloaded fiscal adjustment has, as expected, been an important headwind. Consolidation amounting to a cumulative 4¾ percent of potential GDP in FY10/11 and FY11/12 is estimated to have subtracted roughly 2½ percentage points from growth during these two years. But against this, underlying private domestic demand (i.e., demand before the effects of consolidation) has been insufficiently strong to keep total domestic demand growth from turning negative on average since 2010 (Figures 1 and 2).

Private consumption has declined sharply

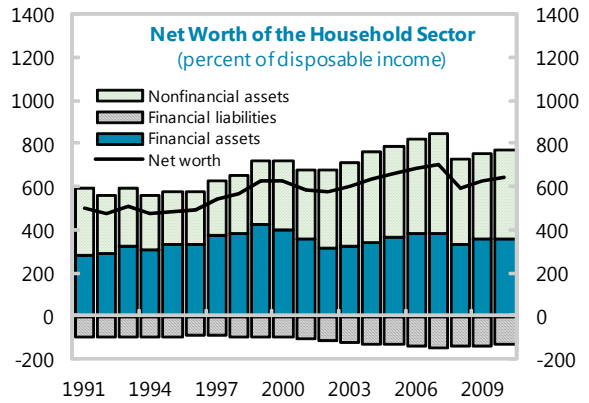
10. Real private consumption declined at a 1 percent annual rate over the last 18 months. This can be attributed largely to ongoing household balance sheet repair. The shock to households’ balance sheets from the fall in house prices during the crisis, as well as more subdued expectations for house price appreciation going forward, has contributed to a sharp increase in the household saving rate to about 7½ percent (Figure 5), as households seek to

Figure 5. Financial Position of Households

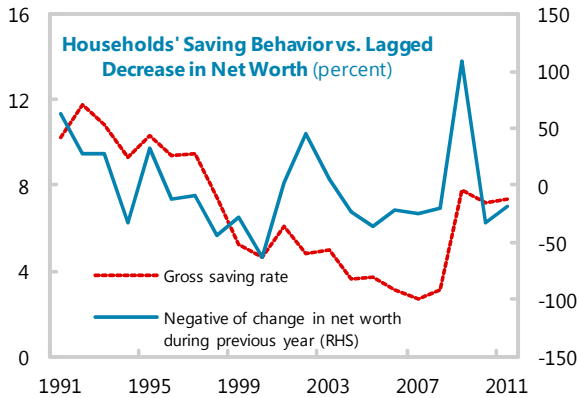
Labor income growth dropped during the crisis, but lower net taxes shielded disposable income. Over the last 2 years, however, disposable income has not kept pace with inflation.



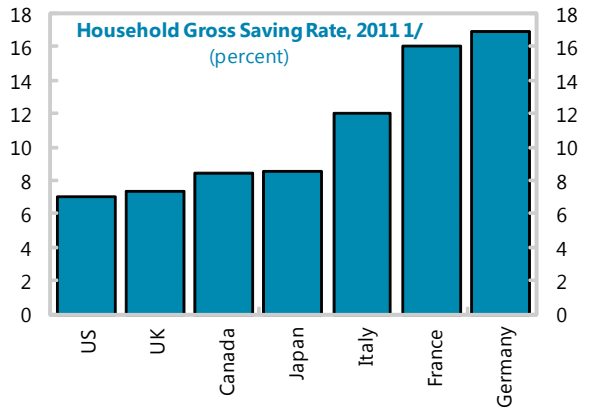
Meanwhile, the recovery of asset prices has bolstered household net worth, but gross debt has fallen only a bit.



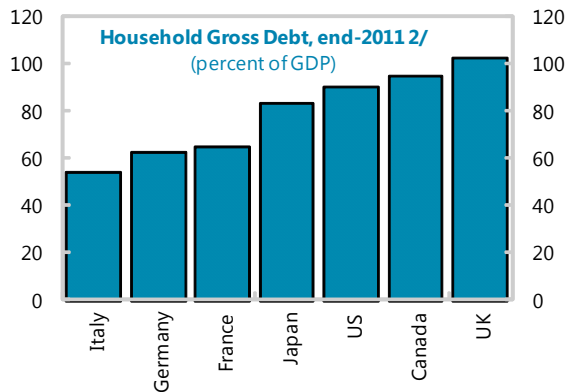
The household saving rate spiked during the crisis and remains elevated...



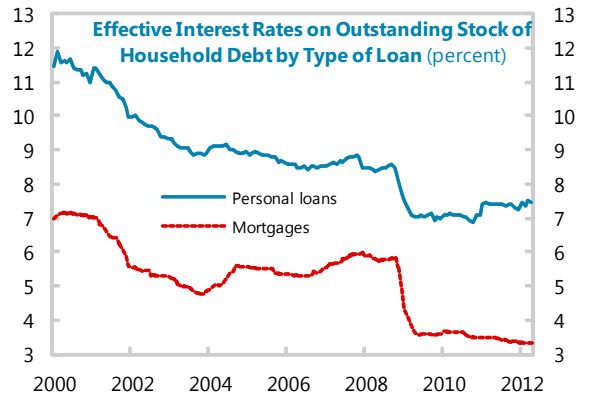
...although it remains low by advanced economy standards.



The stock of household debt is higher than in any other G7 country...



...implying some cash flow relief for indebted households as interest rates came down during the crisis.



Sources: Haver Analytics; OECD; and IMF staff calculations.
1/ 2010 data for Italy and Japan.
2/ 2010 data for Germany.

reduce their high level of indebtedness. Debt-to-income ratios have fallen from their pre-crisis peaks, although they remain high both from a historical and cross-country perspective (Figure 5).

11. In addition, private consumption has been held back by weak household incomes and low consumer confidence. Real household income declined by 1.2 percent in 2011, as higher global commodity prices and a 2½ percentage point VAT increase drove up inflation and reduced households' spending power. Household finances were further squeezed as growth in nominal wages remained low amid high unemployment. At the same time, consumer confidence fell to levels not seen since the Lehman crisis due to high commodity prices, concerns about job prospects, and heightened turmoil in the euro zone.

Private investment has fared better, but has not been sufficiently robust to power recovery

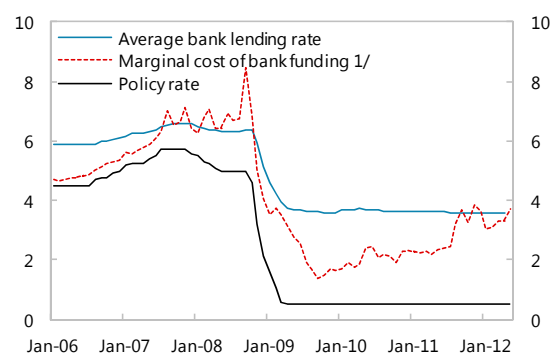
12. Real private fixed investment grew at an average annual rate of 3 percent over the last 18 months. Although this better performance relative to consumption is consistent with rebalancing objectives, private investment has been insufficiently strong to recover from its 24 percent collapse during 2008-09 or to offset contraction of other elements of domestic demand during the recovery. In explaining this reluctance to unleash investment, respondents to industrial surveys point to uncertainty about future demand as the overarching factor. Indeed, the escalation of euro area turmoil in the latter half of 2011 led to an accompanying reduction in investment intentions by firms (Figure 1).

Financial sector conditions have affected private demand

13. Notwithstanding an accommodative monetary policy stance, credit conditions remain tight due to an incomplete process of financial repair (Box 1) and high risk premia in the wake of the crisis, which have been exacerbated by escalating stress in the euro area. Tight credit conditions are in turn constraining private demand. Specifically:

- Bank lending rates have fallen much less than the policy rate due to higher risk premia in the wake of the 2008-09 financial crisis. Indeed, the observed average lending rate overstates the true drop in lending rates, as the composition of lending has shifted toward lower-risk credit (e.g., higher credit scores are required for mortgages). Bank funding costs have also risen over the last two years in line with escalating euro area tensions, such that 5-year CDS spreads for some major UK banks are now near record highs and exceed their Lehman-crisis peaks (Figure 6). These higher funding costs have in turn squeezed net interest margins on loans and reduced banks' incentive to lend.

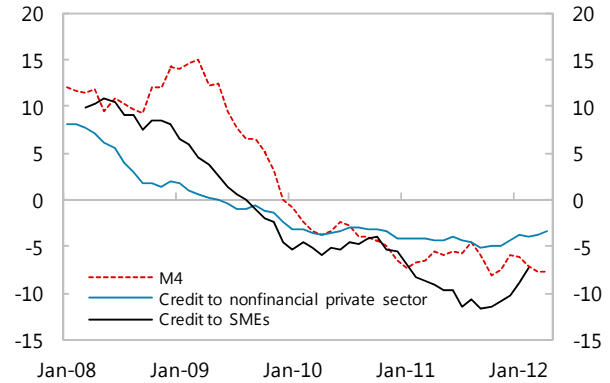
Key Interest Rates
(Percent)



Sources: Bloomberg; and Bank of England.
1/ Calculated as the sum of the 3-month Libor plus the 5-year CDS premia. For more details, see Bank of England Quarterly Bulletin, Vol. 50, No. 3, pages 174-75.

- Partly reflecting these factors, broad money (M4) and real credit growth to the nonfinancial private sector have been negative for the last two years. SMEs, which account for more than 50 percent of private-sector employment, have been particularly constrained. Bank of England (BoE) credit surveys confirm that credit availability and lending conditions remain much tighter than pre-crisis levels (Figure 7).

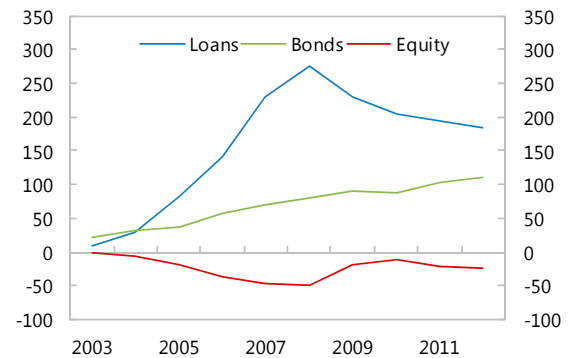
Real Growth of Broad Money (M4) and Lending
(Annual growth, percent)



Source: Bank of England.

14. This said, demand factors may have also contributed to weak credit growth. Banks report a considerable decline in the demand for loans (Figure 7). Household loan demand started to recover in early 2009, but has fallen again since 2010. The contraction in corporate loan demand possibly reflects a substitution away from bank borrowing and toward a greater reliance on debt markets. Indeed, capital markets have provided an alternative source of funding for larger companies, with bond issuance more than offsetting the decline in lending over the last two years.

Cumulative Net Funds Raised by UK Companies 1/
(Billions of British Pounds)

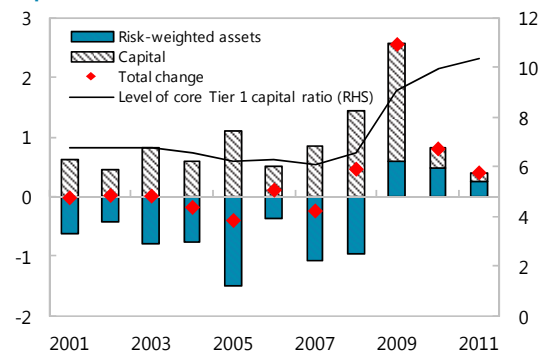


Source: Bank of England. 1/ 2012 data are for January -April.

15. Going forward, some factors that have mitigated the impact of banks' deleveraging and regulatory requirements on credit availability may dissipate. This could further constrain credit expansion and the pace of recovery. These factors include:

- Capital-raising efforts.** About two-thirds of the increase in capital ratios since 2008 reflects direct capital measures, with the majority of this being government capital injections. More recently, reliance on asset-shedding and risk weight optimization has increased, though some of this reflects necessary post-crisis restructuring under state aid rules.
- Post-crisis restructuring.** Balance sheet repair has focused on addressing legacy assets and restoring the conditions for a sound banking sector. Future restructuring targets will be more difficult to achieve, as the low-hanging fruit for repairing balance sheets has already been plucked.

Contributions to the Change in Major UK Banks' Core Tier 1 Capital Ratios (Percent)

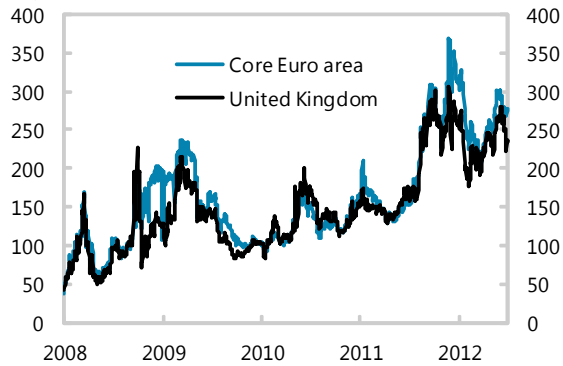


Sources: Bank of England; and IMF staff calculations.

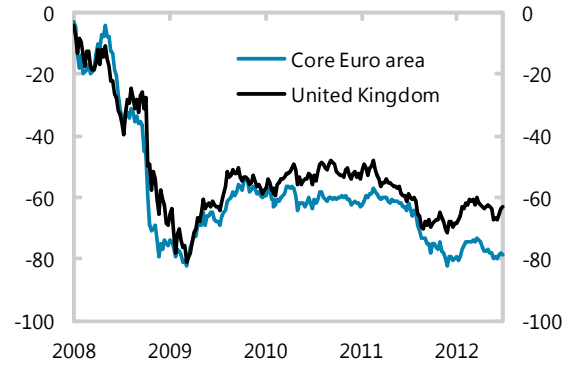
- *Reduction of intra-financial assets.* Most of the contraction in UK banks' balance sheets since 2008 has concentrated on derivatives positions and intra-financial system lending, thereby reducing interconnectedness and the fragility of the financial system. The scope for further reduction of intra-financial activity may be limited, as this activity also provides funding and supports the real economy.

Figure 6. UK vs. Euro Area: Recent Developments in Global Financial Markets

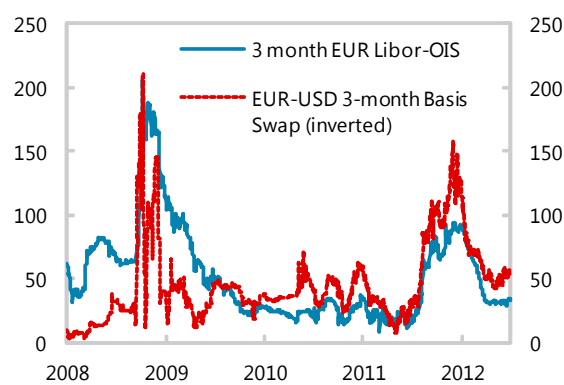
UK and Euro Area Banking Sector CDS
(5-year senior CDS spreads)



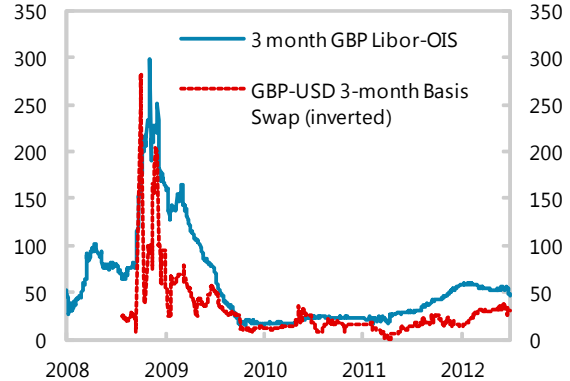
Cumulative Weekly Bank Equity Return
(Percent)



Euro: Forward OIS Spreads and Basis Swaps
(Bps)



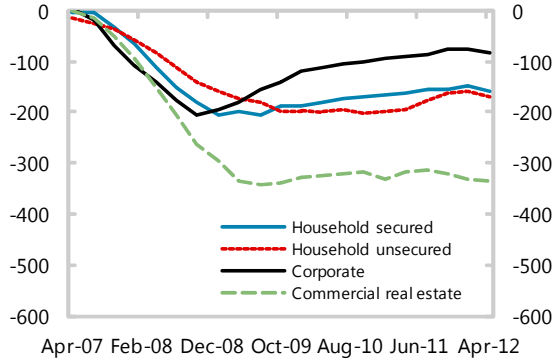
British Pound: Forward OIS Spreads and Basis Swap
(Bps)



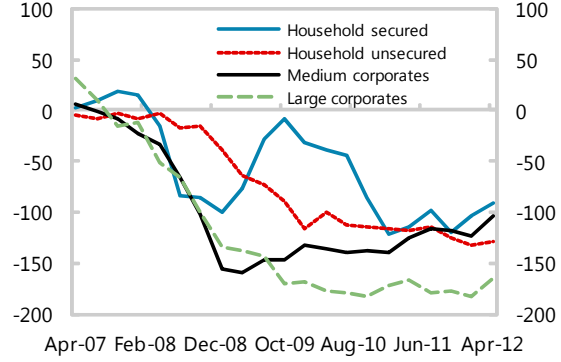
Sources: Bloomberg; Datastream; and IMF staff calculations.

Figure 7. Credit Survey: Supply and Demand Factors

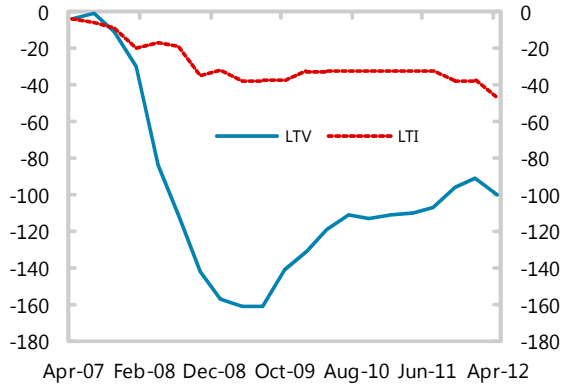
Cumulative Change in Credit Availability
(Index, increase means more credit availability)



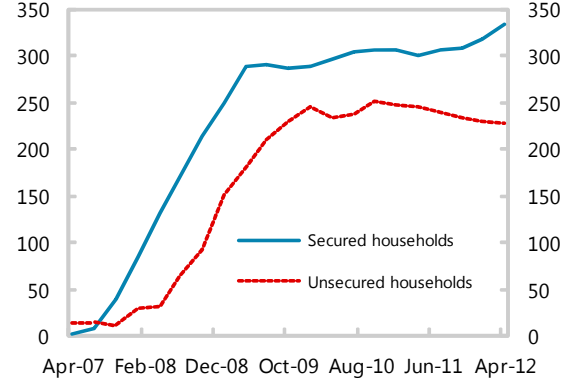
Cumulative Change in Demand for Credit
(Index, increase means more credit demand)



Cumulative Change in Looseness of LTVs and LTIs Requirements
(Index, increase means higher ratios)



Cumulative Change in Credit Scoring Criteria for Granting Loan Applications
(Index, increase means tighter requirements)



Source: Bank of England Credit Survey.

Box 1. The Health of UK Banks

Stress in UK banks' funding and equity markets intensified in the second half of 2011 as euro area stress intensified.

UK bank equity prices fell, and CDS spreads for some major UK banks rose sharply above their previous peaks reached during the Lehman crisis. Nonetheless, UK banks' CDS spreads remained below those of many core euro area banks. In turn, interbank funding and US\$ basis swap spreads widened, though significantly less than in the euro area (Figure 6). This reflected to some extent the limited reduction in US money market fund (MMF) exposures to UK banks relative to those in France and other euro area economies.

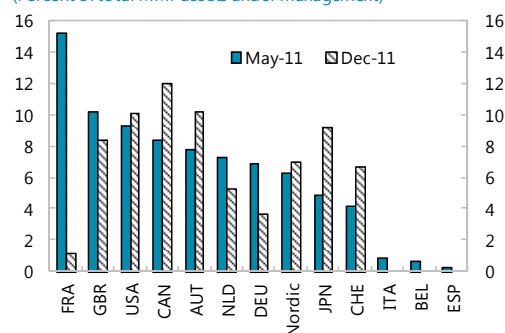
Funding conditions improved following special policy measures. UK banks' CDS spreads came down from their peak levels in late 2011 as the ECB provided LTROs and the Fed expanded its US\$ swap facilities with the ECB, BoE, and other national central banks. Staff analysis suggests that these policies had positive spillovers to UK banks, some of which participated directly in the LTROs.

After a brief respite, financial market stress has re-intensified. Renewed euro area turmoil in May-June prompted the average CDS spread for UK banks to spike back near record levels, tracking core euro area banks. Following BoE announcements in mid-June of steps to ease bank funding strains (paragraph 34-35), UK bank CDS spreads eased somewhat, including relative to core euro area banks, but remain high (Figure 6).

Progress in strengthening banks' balance sheets and funding profiles slowed over the last year.

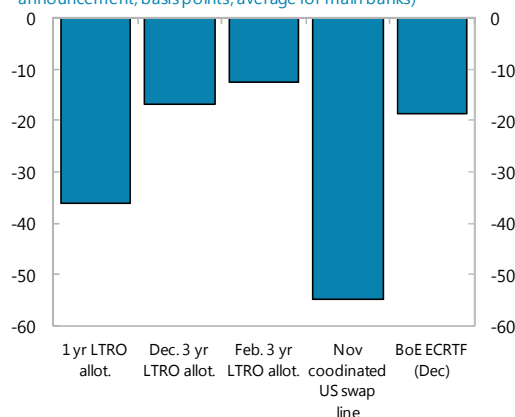
- Capital ratios have been broadly flat.** The pace of capital-raising has slowed sharply over the last two years, and reliance on cutting risk-weighted assets to boost capital ratios is increasing. Core tier one capital ratios of major UK banks, at over 10 percent, are above-average in Europe, but compare less favorably to US and Asian peers. Furthermore, analyst estimates suggest that UK banks are still about 25 percent below the capital levels that will be required under fully-loaded Basel III, not including additional top ups for the countercyclical buffer. Last year's European Banking Authority (EBA) stress tests and capital adequacy exercise did not identify any capital shortfall for UK-owned banks. The exercise confirmed that UK banks' direct exposures to vulnerable sovereigns are limited, but exposures to the private sector in these countries and indirect exposures through other euro area banking systems are more substantial.
- Liquidity and funding profiles are gradually improving.** Loan-to-deposit ratios have continued to trend down as banks were successful in expanding their deposit bases (Figure 8). Reliance on market wholesale funding increased slightly as banks refinanced away from central bank and government facilities (SLS/CGS). This was partly offset by the disposal of non-core assets, which reduced the need for wholesale funding. Funding needs this year appear manageable, with banks ahead of schedule in their funding plans.

US Money Market Fund (MMF) Exposures
(Percent of total MMF assets under management)



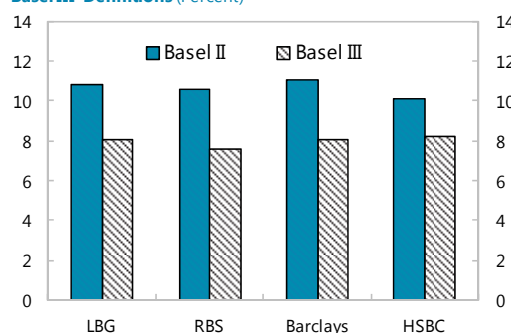
Source: Fitch.

Impact of Central Banks' Policies on UK Banks' CDS Spreads
(Difference between the spread 5 days after and 5 days before the announcement, basis points, average for main banks)



Sources: Bloomberg; and staff estimates.

UK Banks' 2011 Core Tier 1 Capital Ratios under Basel II and Basel III Definitions (Percent)

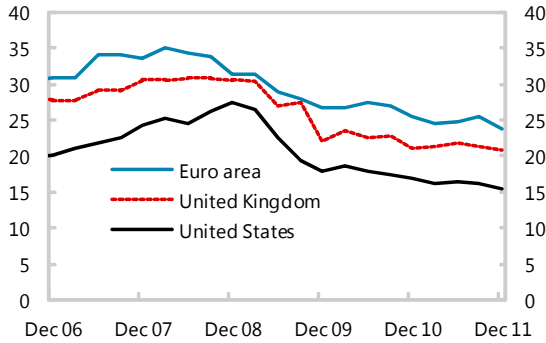


Sources: Citi; and Banks' accounts.

Box 1. The Health of UK Banks (concluded)

- **The restructuring of the government-supported banks is ahead of schedule.** The reduction of non-core assets has enabled these banks to improve its funding mix as well as capital positions.
- **Asset quality is broadly stable.** The system-wide NPL ratio was essentially unchanged in 2011 at a manageable 4 percent. However, impairments remain substantial for some banks and segments, especially non-UK exposures. Rapid reductions in non-core assets, which represent the majority of credit losses so far, imply that credit losses should slow down.

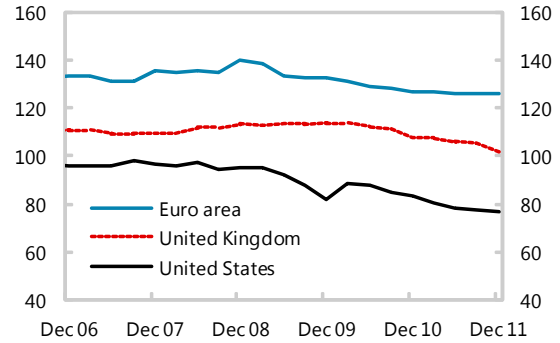
Bank Leverage 1/
(Adjusted in percent)



Sources: SNL; and IMF staff estimates.

1/ Tangible assets are adjusted for accounting differences in derivatives.

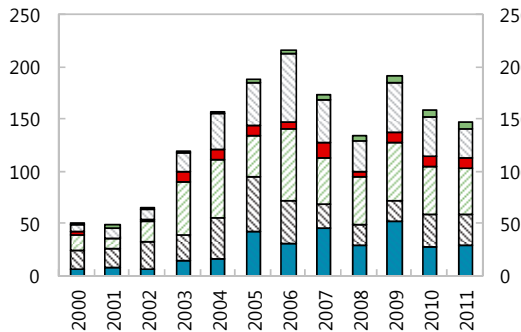
Bank Loan-to-Deposit Ratio
(Percent)



Sources: SNL; and IMF staff estimates.

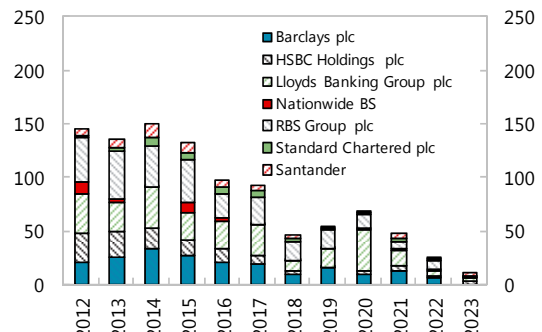
- **But forbearance adds to uncertainty.** An FSA review in June 2011 concluded that about a third of commercial real estate loans and 5-8 percent of residential mortgages are subject to some form of forbearance. These forborne loans are more highly provisioned for and hence the FSA concluded that such forbearance was unlikely to be of systemic importance. Nonetheless, the prevalence of forbearance increases the uncertainty regarding the exact state of banks' balance sheets. The FSA is now extending the review to analyze (i) differences in forbearance across banks and (ii) some loan types not covered by the initial review.
- **Profitability has weakened.** System-wide profitability declined slightly in 2011, and the two government-supported banks reported losses. Profitability has been affected by still-high impairments (mainly on non-UK exposures), non-core disposal losses, one-off factors (e.g., charges for mis-sold payment protection insurance), and higher wholesale funding costs as strains in Europe intensified.

Debt Issuance by Bank
(Billions of U.S. dollars)



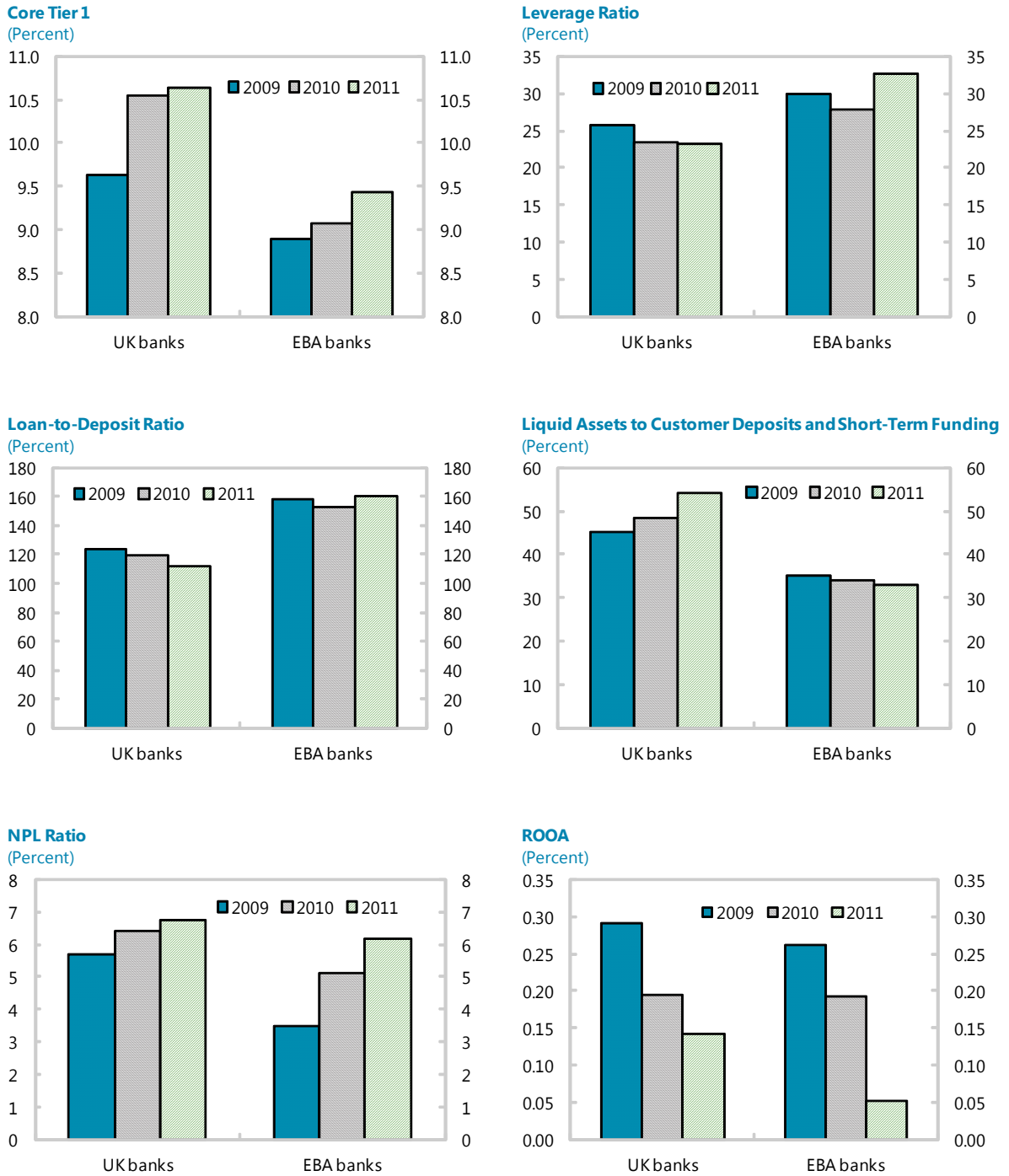
Source: SNL.

Maturity Profile by Bank
(Billions of U.S. dollars)



Source: SNL.

Figure 8. UK vs. Other European Banks: Main Banking Sector Indicators 1/

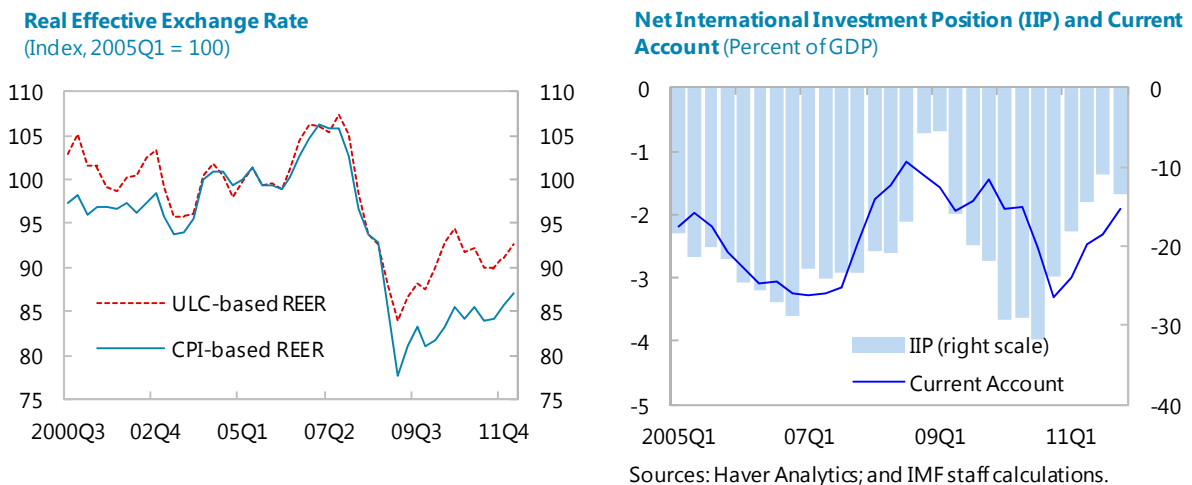


Sources: Bankscope; and IMF staff calculations.

1/ These data only include banks that participated in the recent European-wide stress tests under the auspices of the EBA and that have reported data for 2011. For the UK, this sample of only the four largest banks results in differences with some system-wide numbers reported in the main text (e.g., for NPL ratios). The “EBA banks” group excludes UK banks. 2011 refers to end-2011 or latest quarter available.

D. Progress Has Been Made in Rebalancing Toward External Demand

16. Net exports have contributed much more to growth during this cycle than during the previous two recoveries and account for essentially all of the growth since 2010 (Figures 1, 2, 9). Fiscal consolidation and private-sector deleveraging have been factors behind this external adjustment, as they have suppressed growth of domestic demand below that of foreign demand. Another significant factor has been the depreciation of the sterling exchange rate, which declined by about 25 percent in real effective terms (CPI-based) at the onset of the crisis and has since appreciated only modestly. However, the depreciation of the unit labor cost (ULC)-based real effective exchange rate has been more muted due to weak productivity growth.



The external position is modestly weaker than implied by fundamentals and desirable policy settings

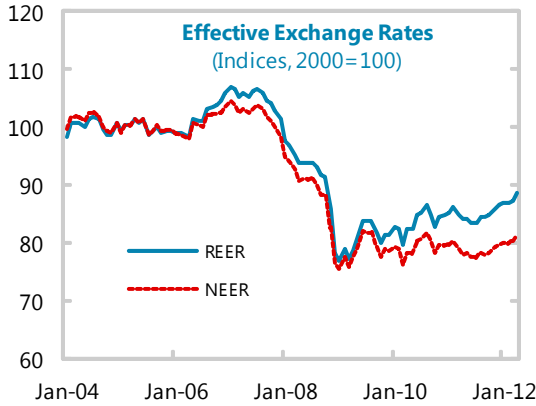
17. Staff estimates the cyclically-adjusted current account balance to be about 1-2 percent of GDP below its equilibrium value and sterling to be overvalued by 5-10 percent.⁴ This reflects several considerations:

- Moving to a more sustainable fiscal position is expected to increase the cyclically-adjusted current account balance by 1-2 percent of GDP, from -2 percent of GDP in 2011 to around -½ percent of GDP in the steady state. Similarly, a cyclically-adjusted current account of roughly -½ percent of GDP is needed to stabilize the UK's net international investment position (IIP), which was -13 percent of GDP at end-2011.

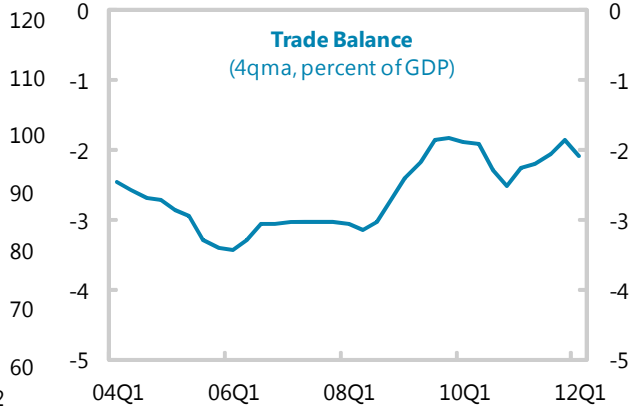
⁴ The cyclically-adjusted current account is defined as the current account balance adjusted for temporary effects of terms of trade and the difference between the output gap and that of trading partners.

Figure 9. External Sector Developments

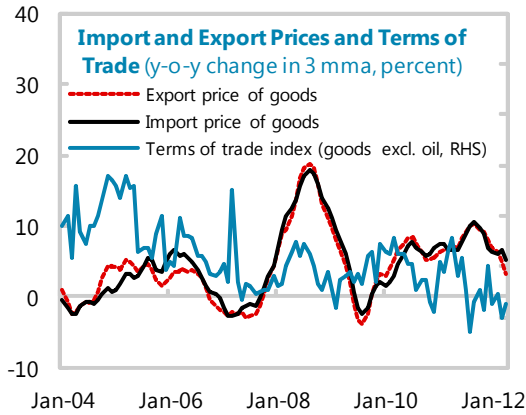
The CPI-based real effective exchange rate has risen slightly following its large depreciation in 2008.



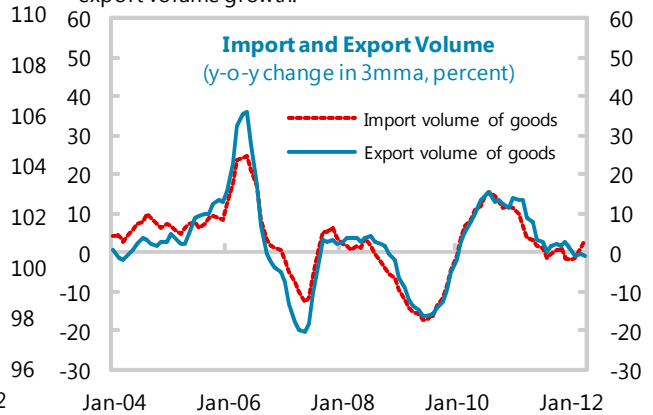
Depreciation has facilitated an improvement in the trade balance relative to pre-crisis levels.



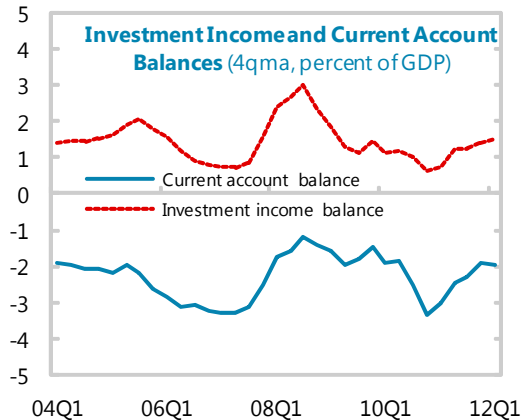
Terms of trade have been volatile...



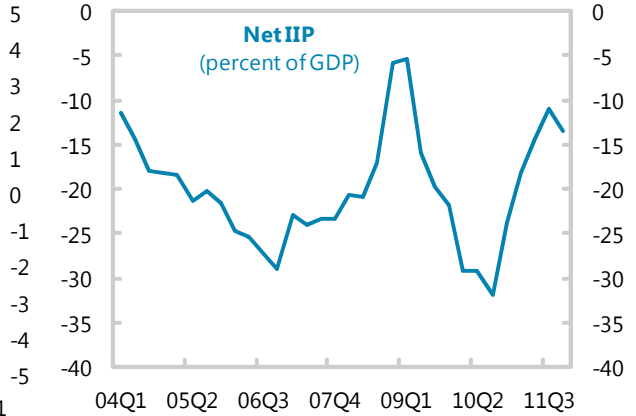
...and import volume growth has been slightly below export volume growth.



An improving income balance has assisted current account adjustment...

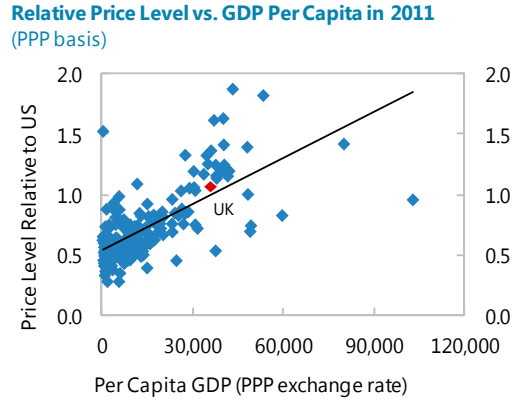


...while the UK's net international investment position (IIP) has been improving of late.



Sources: Haver Analytics; IMF's International Financial Statistics; and IMF staff calculations.

- A macroeconomic scenario that yields adjustment of the current account to around $-1/2$ percent of GDP in the medium term is consistent with exchange rate depreciation of 5-10 percent.
- A simple comparison of the UK price level to countries at a similar level of income suggests overvaluation of a similar magnitude.
- One downside risk to this assessment (implying a smaller degree of overvaluation) is the possibility that an unwinding of labor hoarding could boost productivity and competitiveness. In this case, the current account could adjust to more sustainable levels without as much real depreciation. However, such a productivity burst is uncertain.



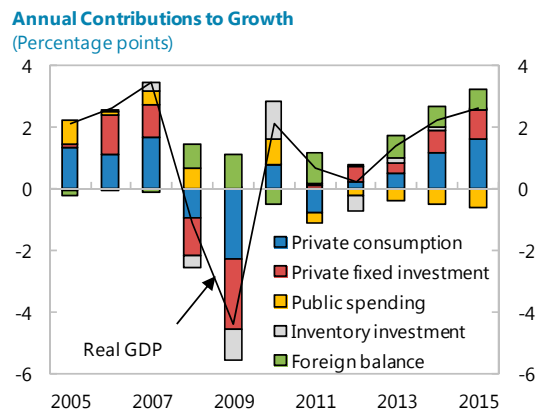
Source: IMF staff calculations.

- Balancing this is an upside risk that the degree of overvaluation is larger: the UK's small net IIP position masks large gross liabilities (over 600 percent of GDP), reflecting its status as a major financial center. Several other major financial centers (e.g., Singapore and Switzerland) have large positive IIPs, which may in part reflect precautionary saving against these large gross liabilities and capital flows. If the UK's equilibrium IIP were also to be higher than its current level, this would suggest more overvaluation. One factor that perhaps mitigates the need for such precautionary balances is the current structure of the UK's IIP: its external assets have a larger foreign-currency component relative to its external liabilities, such that sterling depreciation acts as a powerful "automatic stabilizer" of the IIP.

OUTLOOK, RISKS, AND POLICY IMPLICATIONS

Recovery is expected to gain modest traction in the second half of this year

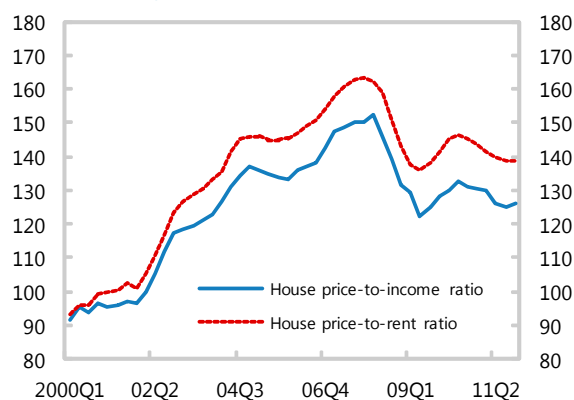
18. Quarterly growth will be choppy in 2012, as extra holidays depress growth in Q2 and the Olympics boost it in Q3. However, staff and consensus forecasts expect underlying growth to accelerate to roughly a $1\frac{1}{2}$ percent annual rate over the next 12 months under a scenario in which actions are taken to ease euro area tensions and substantially avoid US fiscal cliff effects. With government expenditure contracting, such an acceleration is expected to be driven by private demand:



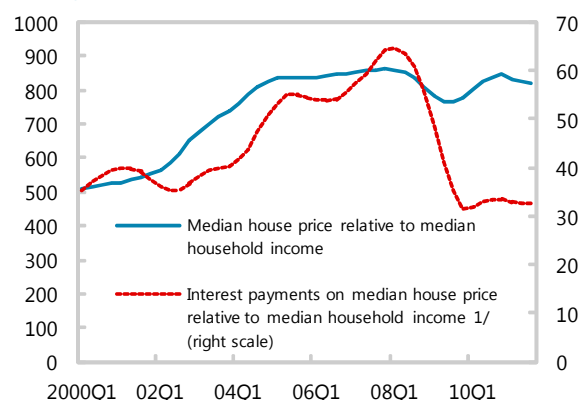
Sources: Haver; and IMF staff estimates.

- Private consumption.** Household real disposable income growth should improve as the effects of past consumption tax hikes and oil price shocks fade. However, the soft housing market and the still high level of household debt are likely to keep the acceleration in consumption restrained. Despite a fall in house prices at the onset of the crisis and a broadly flat market over the last two years, the house price-to-income ratio remains roughly 30 percent above its historical average (Figure 10). Although the above-average ratio can be partially explained by the trend decline in real interest rates over the past two decades and by supply constraints due to tight planning restrictions, historical experience suggests that such elevated ratios do not persist. As such, staff projects house prices to decline relative to income by roughly 10-15 percent over the medium term, with consequent adverse effects on consumption via wealth effects (see [2011 UK Selected Issues Paper](#)).

Key Measures of Housing Valuation
(Historical average = 100)



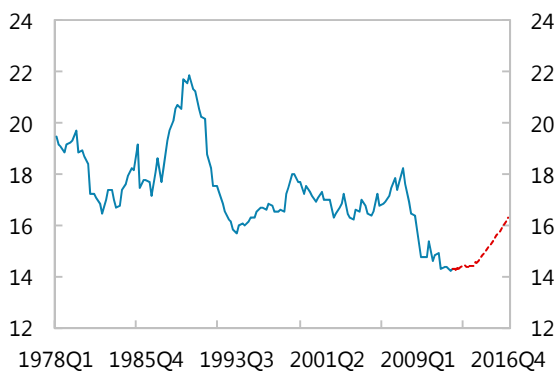
House Price Affordability
(Rolling four quarters, percent)



Sources: Haver Analytics; Land Registry; UK Dept. for Work and Pensions; and IMF staff estimates.

- Investment.** With investment at historically low levels as a percent of GDP, there is much room for it to rebound as global growth prospects improve and as uncertainty falls due to an easing of euro area turmoil.⁵ Such a recovery in investment should be supported by low interest rates and strong corporate cash positions.

Private Investment-to-GDP Ratio
(Percent; dashed segment indicates forecasts)

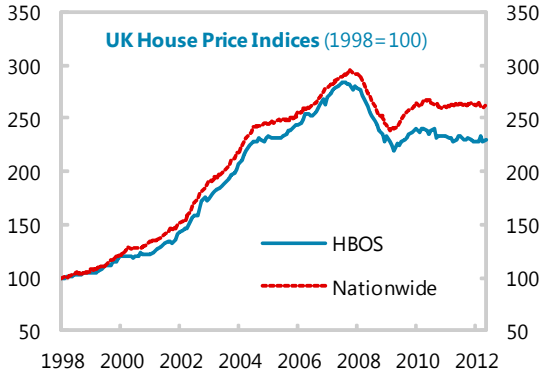


Sources: ONS; and IMF staff estimates.

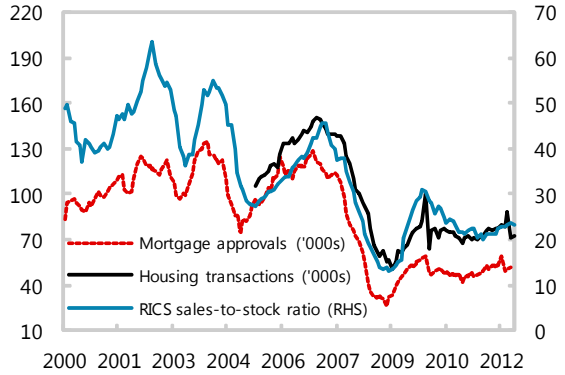
⁵ For more on how uncertainty affects growth, see the forthcoming IMF working paper, "The Impact of Uncertainty Shocks on the UK Economy" by S. Denis and P. Kannan.

Figure 10. Residential Housing Markets

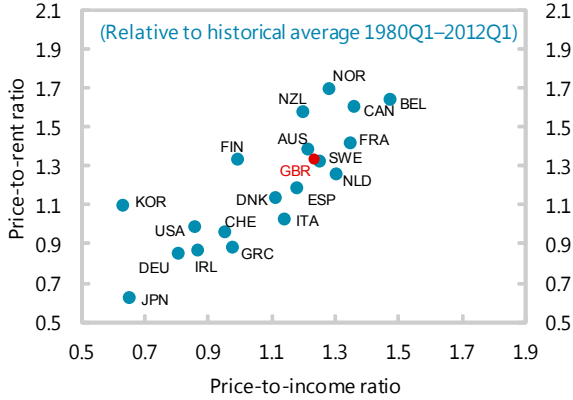
After falling during the crisis, UK house prices rebounded a bit in 2009 and have since been broadly flat...



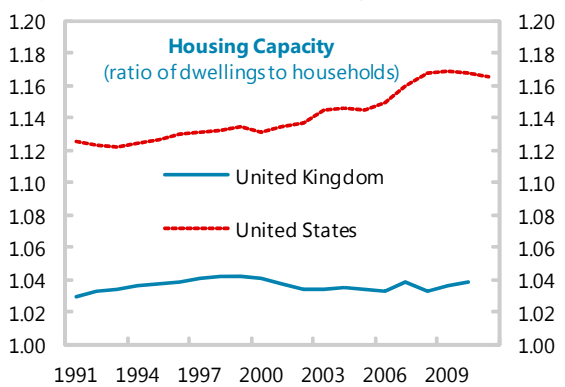
...amid housing market activity that remains very subdued by historical standards.



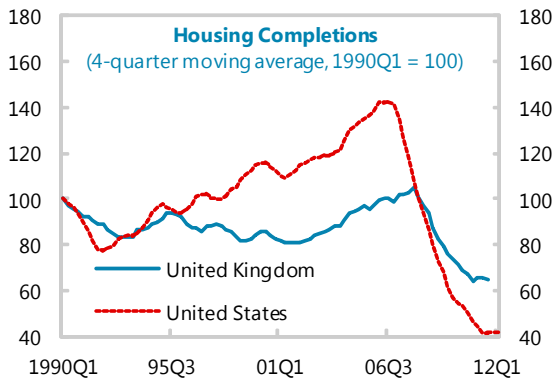
Standard valuation metrics suggest the UK market remains overvalued by up to 30 percent...



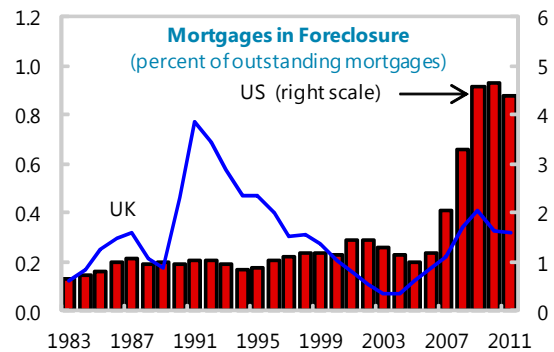
...but supply constraints due to tight planning regulations may be a fundamental factor supporting prices.



Construction of new units, which was relatively limited even during the boom times, has continued to decline.



Relative to the US, UK repossession and mortgage default rates have remained rather moderate, partly due to forbearance.



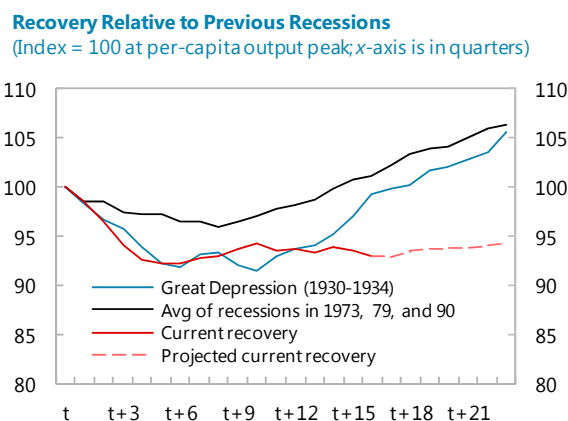
Sources: Bank of England; Haver Analytics; OECD; UK Communities and Local Government; UK Council of Mortgage Lenders; UK Department for Work and Pensions; UK Office for National Statistics; US Census Bureau; US Mortgage Bankers Association; and IMF staff calculations.

- **Net exports.** As the euro area accounts for roughly half of the UK's overall trade, export growth in the first half of 2012 is expected to be weak given the weak outlook for the region. But exports should strengthen toward the end of the year in line with a modest pick-up in growth in both the euro area and the US. Over the medium term, net exports are expected to continue to register a positive contribution to growth. Central to this outlook is the assumption of low real effective exchange rates, as the relative demand for nontradables remains low in light of the ongoing fiscal consolidation and private-sector deleveraging.

But the large output gap will narrow only gradually, raising the risk of hysteresis

19. In staff's central scenario—which is based on an unchanged monetary stance and current fiscal plans (paragraphs 26 and 40)—growth is projected to accelerate to only around 2½ percent in the medium term, given continued correction of fiscal imbalances and other headwinds (Tables 2 and 3). As a result, the output gap is projected to remain large for an extended period and not close until 2018. This would further establish this recovery episode as the weakest on record.

20. The large and persistent output gap raises the risk of hysteresis effects, where factors arising from a cyclical downturn depress potential GDP permanently. These factors could include skill erosion from persistently high long-term unemployment, scrapping of idle capital, and inadequate investment eroding the capital stock and hindering the development of new technologies. Indeed, staff's central scenario assumes that hysteresis effects will lower potential GDP growth by about a third of a percentage point annually on average over the medium term, with other lingering effects of the crisis (e.g., restrained global demand for financial services) taking off another fifth of a percentage point.⁶ The magnitude of hysteresis effects are uncertain, but cross-country experience with persistent large output gaps suggests that hysteresis effects in this range are plausible (Annex 1).

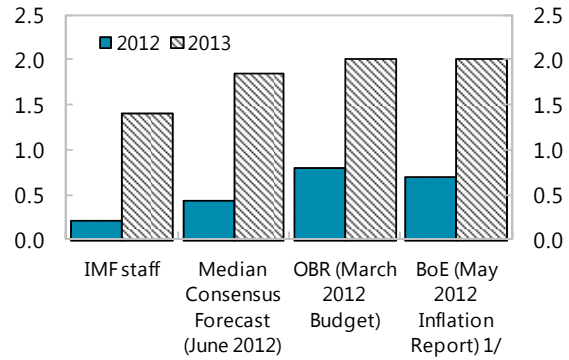


Sources: NIESR; ONS; and Haver Analytics.

⁶ Absent these effects, potential growth would be about 2¼ percent—roughly the historical average, adjusted for labor force changes. Hysteresis effects are projected to gradually decline in line with the output gap.

21. The authorities' latest official projections assume somewhat higher near-term growth than staff's projections, but this may partly reflect that these official projections are more dated and do not incorporate the latest data, which have been downbeat. The OBR's medium-term growth projections are also higher than staff's, as the OBR assumes a more rapid return to historical potential growth rates and less lingering effects from hysteresis and the crisis (Table 3). Both the authorities and staff project a similar composition of medium-term growth.

Comparison of Real GDP Growth Projections (Percent)

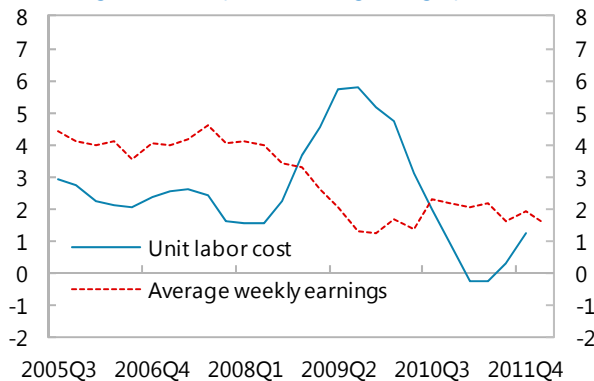


Sources: As shown above.
1/ Calendar-year growth rate computed as average of 4-quarter growth rates (mean forecast at market interest rates).

Inflation is currently elevated, but is expected to fall below the 2 percent target in the medium term under current policies

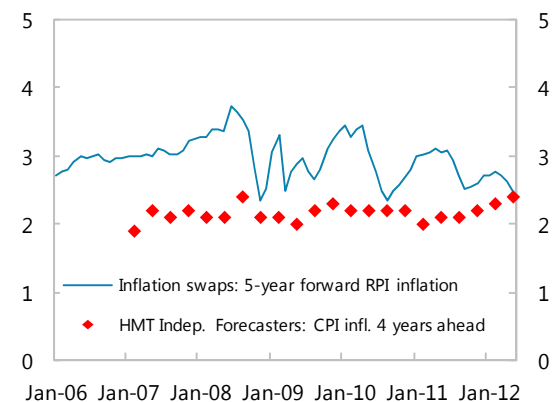
22. A series of indirect tax hikes and commodity price shocks have kept inflation above target since January 2010 (Figure 11). With these effects starting to ease, inflation is now falling, reaching 2.8 percent in May 2012 after peaking at 5.2 percent in late 2011. Further disinflation is expected going forward, as the large output gap exerts disinflationary pressure and as the effects of past shocks continue to fall out of the headline rate. Staff expects inflation to eventually fall to around 1.7 percent—modestly below the target—by end-2013. Core inflation, which is currently running close to 2 percent, testifies to a lack of strong underlying inflationary pressure. Additional evidence includes anemic nominal wage growth of 2 percent and broadly stable inflation expectations.

Unit Labor Costs and Wages
(Annual growth of 4-quarter moving average, percent)



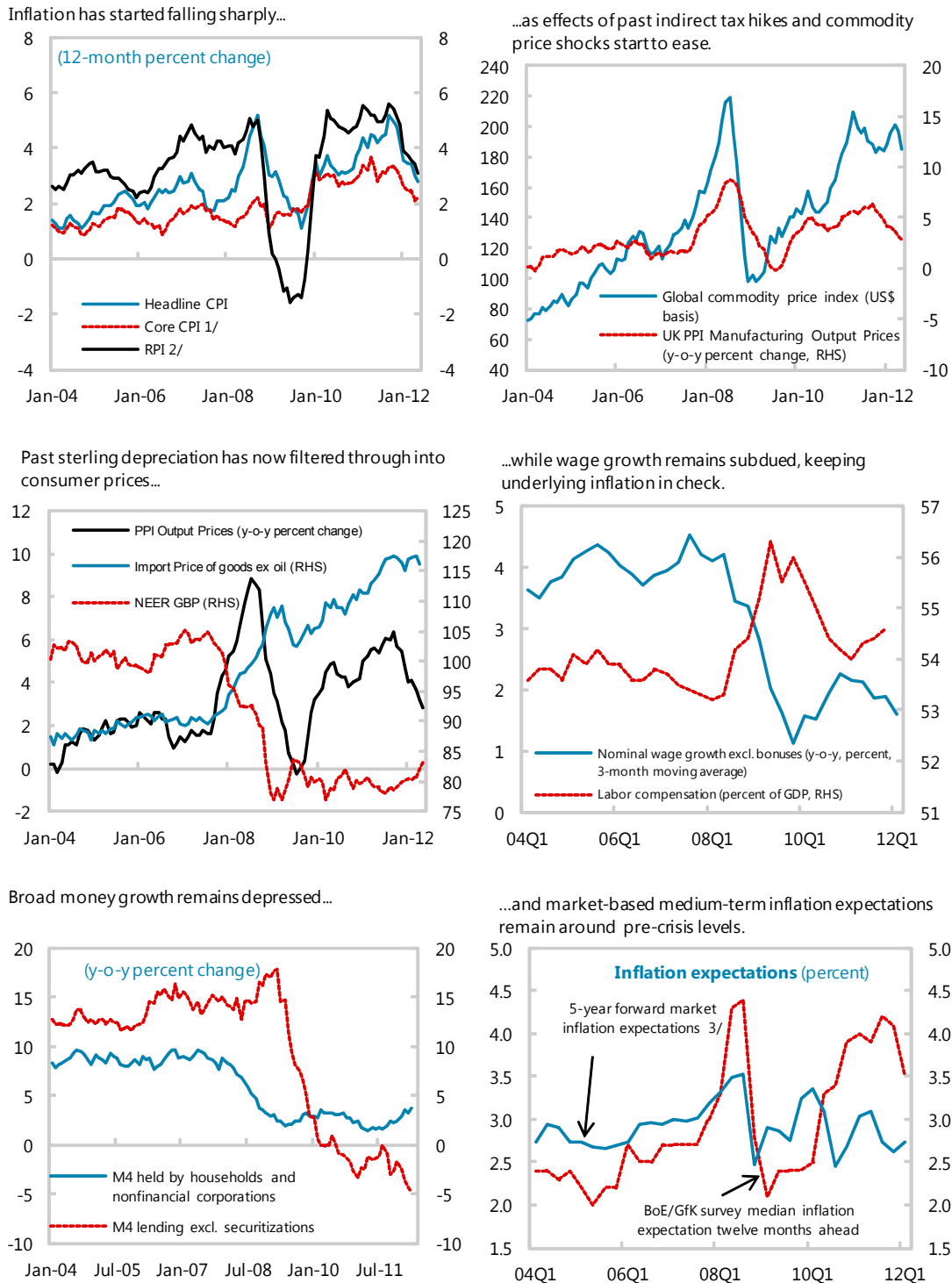
Source: Haver Analytics.

Medium-Term Inflation Expectations
(Percent)



Sources: Bank of England; and HM Treasury.

Figure 11. Price Developments



Sources: Bank of England; Office for National Statistics; and IMF staff calculations.

1/ Core CPI excludes energy, food, alcohol, and tobacco.

2/ Retail Price Index; contains cost of housing.

3/ Computed as quarterly average of difference between nominal and real (RPI-linked) forward gilt yields. Estimates likely to be biased upward by the presence of an inflation risk premium, and downward by the liquidity risk premium on real gilts. RPI inflation tends to be higher than CPI inflation.

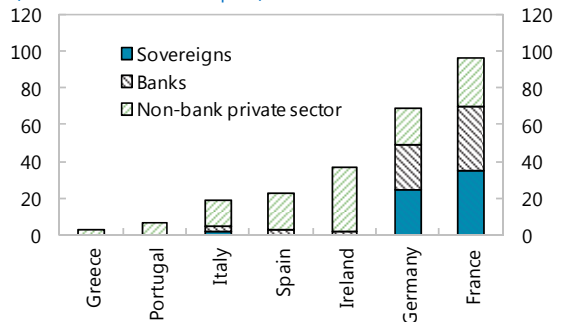
Risks to the baseline are predominantly to the downside

23. The outlook is subject to a number of downside risks, the impact of which could be severe (Box 2). Two of the most notable include:

- **Further setbacks to the euro area crisis.**

This remains the overarching risk to economic prospects and financial stability in the UK, as trade and financial links are substantial. While UK banks' direct exposure to vulnerable euro-area sovereigns appears manageable in isolation, the effects on the economy would be magnified if additional turmoil in the euro area leads to stresses in core European banks or the private sector in major countries (Figure 12) or if it combines with disruptions in wholesale funding markets. This could set off an adverse and self-reinforcing cycle of higher bank losses and funding costs, tighter credit, lower consumer confidence and exports, and falling real estate prices, resulting in a substantial contractionary shock. UK financial sector turbulence would, in turn, spillover to the rest of the world (as discussed in the section on Financial Sector Policies), further worsening the global outlook.

Major UK banks' Exposures to Euro Area Countries, end-2011 1/
(Percent of core Tier 1 capital)



Sources: Bank of England; EBA; IMF staff calculations.
1/ Banks included: Barclays, HSBC, LBG, and RBS.

- **Larger-than-expected headwinds.** Another risk to the central scenario is that the adverse impact of public and private sector deleveraging may be larger than expected and the anticipated rebalancing of demand may not materialize, for instance, because house prices may need to fall more than expected to return to equilibrium. This would produce a longer-than-expected period of negative output gaps. A slowdown of global growth and softer demand from the UK's main trading partners (the euro zone and the US) would also impede the UK's recovery and rebalancing. Alternatively, the output gap may be smaller than estimated, resulting in a toxic mix of higher-than-expected inflation and lower-than-expected growth.

Against this backdrop, a more supportive macroeconomic policy stance is needed

24. The UK economy has ample spare capacity and demand is weak. Thus, given the outlook for growth and inflation, additional macroeconomic easing is needed to close the output gap faster, reduce risks of hysteresis, and insure against the predominance of downside risks. Policy options in this regard come with risks, including uncertainty concerning their effectiveness. However, these risks must be weighed against the risk of weak demand that leads to persistently slow growth and high unemployment, which in turn could become entrenched in the decisions of consumers and investors.

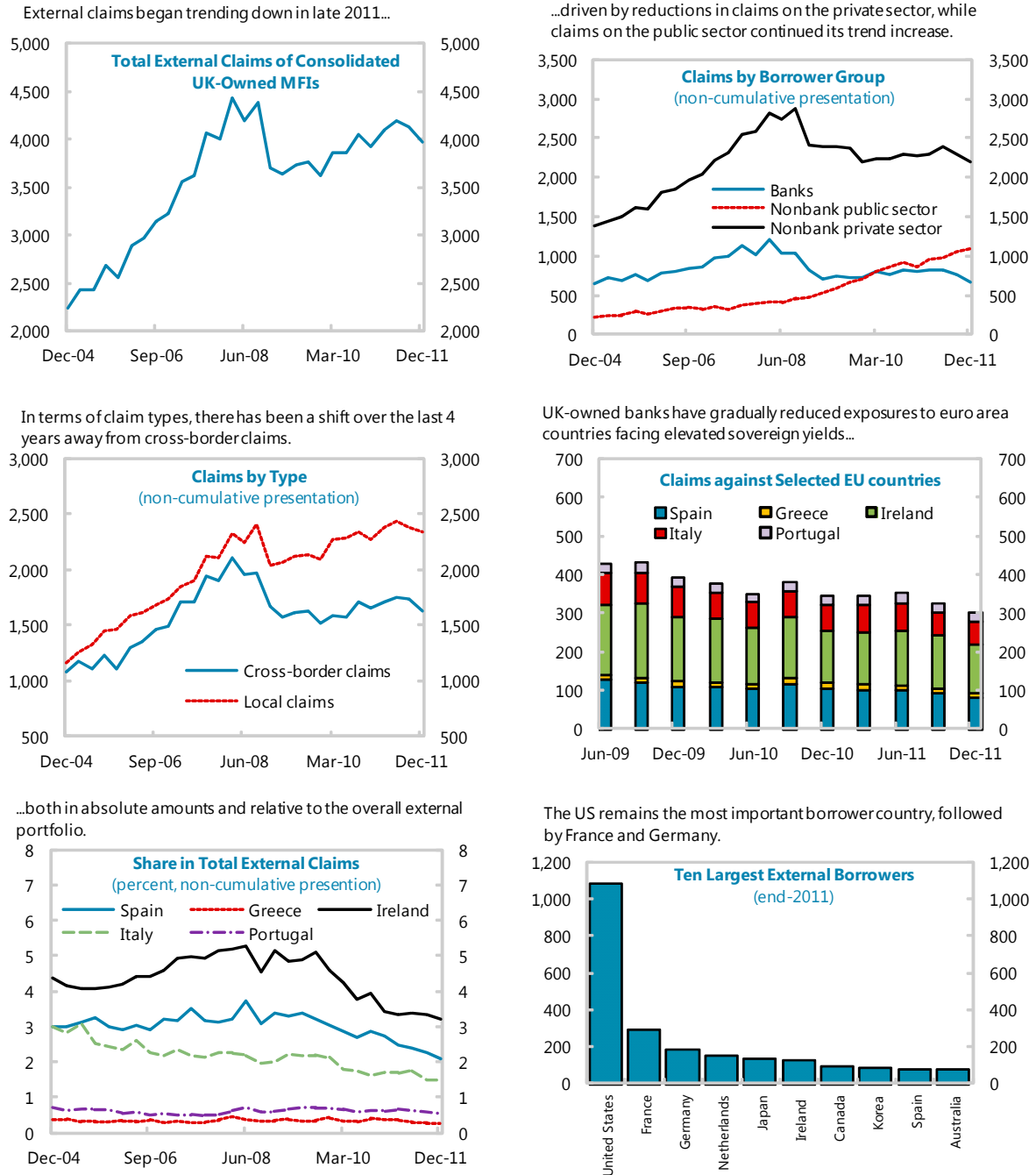
25. A more supportive macroeconomic policy stance is hence essential. The policy options to achieve such a stance are discussed in the following sections.

Box 2. UK: Risk Assessment Matrix 1/

Risk	Relative Likelihood	Impact if Realized	Policy response
Strong intensification of euro area crisis. Such an intensification could batter investor and consumer confidence, curtail exports, diminish UK banks' capital, and escalate their funding costs.	Medium	High	Use monetary policy supportively and provide longer-term liquidity for the banking sector. Ease the pace of fiscal consolidation. Promote bank capital replenishment through strict limits on dividends and remuneration.
Significant deterioration of banks' asset quality. Prolonged weak growth could cause loan losses to escalate. This could prompt banks to curtail lending to meet capital requirements, leading to a vicious cycle of lower growth and additional losses.	Medium	Medium	Examine scope for using financial buffers counter-cyclically to reduce asset-shedding. Strictly limit dividends and remuneration and require more equity issuance. If necessary, inject public capital (only for solvent banks; insolvent banks should be resolved first). Enhance liquidity provision. Ease macro policies further.
Oil price hike. Geopolitical instability could trigger an oil price shock. Each 10 percent increase in crude prices is estimated to temporarily reduce growth by 0.15 percentage points and raise inflation by 0.2 percentage points (2011 UK Selected Issues). Indeed, oil price shocks are estimated to have reduced growth by ½ percentage point in 2011.	Low	Medium	Absent large second-round effects, maintain easy monetary conditions to deal with the GDP impact of the shock.
Extended housing market slump. Price-to-rent and price-to-income ratios remain 30 percent above their historical averages. An extended price slump would depress residential investment and private consumption via wealth effects.	High	Medium	Ease monetary conditions further to counteract the longer period of negative output gaps. Revisit the pace of fiscal consolidation.
Stagflation due to smaller-than-estimated output gap. The loss of potential capacity from the crisis could be larger than estimated, resulting in a toxic mix of higher-than-expected inflation and lower-than-expected growth.	Low	High	Strengthen efforts to increase potential growth by increasing the labor force and productivity. Macro policies will have to tighten to re-anchor inflationary expectations and address a worse-than-expected structural fiscal deficit.

1/ The RAM shows events that could materially alter the central scenario, which is the scenario most likely to materialize in the view of the staff.

Figure 12. External Claims of Consolidated UK-Owned MFIs 1/
(Billions of USD, unless indicated otherwise)



Source: Bank of England.
1/Ultimate risk basis.

MONETARY AND CREDIT EASING POLICIES

A. Monetary Policy

Bold action has been taken to ease monetary policy, but credit conditions remain tight

26. Following the onset of the crisis, the BoE cut its key policy rate (the Bank Rate paid on central bank reserves) to a historic low of 0.5 percent. Additional stimulus was provided by large-scale asset purchases, with initial purchases amounting to £200 billion conducted between March 2009 and January 2010 (QE1). Faced with a weakening economic outlook and the prospect of inflation undershooting the target in the medium term, the BoE resumed QE last October. The purchase announcements of October 2011 and February 2012 (QE2) bring the total stock of purchased assets—which consist almost entirely of government bonds—to £325 billion (21 percent of GDP). Despite this monetary easing, monetary and credit conditions remain tight due to elevated risk aversion and rising bank funding costs (paragraph 13).

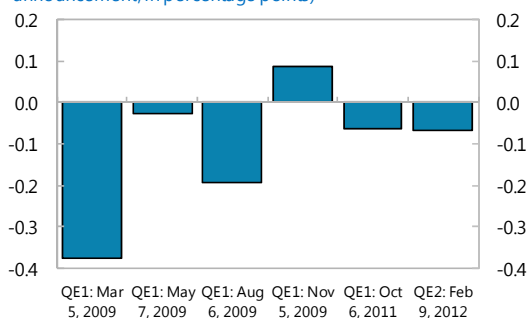
Further monetary stimulus is required

27. Anemic wage growth and well-contained inflation expectations provide scope for further monetary stimulus to close the output gap faster and avoid inflation undershooting in the medium term. That said, uncertainty about inflation dynamics and the strength of disinflationary pressure coming from the output gap imply risks that inflation could take longer-than-expected to return to target, with convergence being further delayed by additional monetary stimulus. Nonetheless, the cost of such a delay would likely be low relative to the benefits of more rapidly closing the large output gap and reducing unemployment. Monetary easing would thus be consistent with the Monetary Policy Committee's (MPC) mandate "to set interest rates so that inflation can be brought back to target within a reasonable time period without creating undue instability in the economy." Monetary stimulus will also assist balance sheet repair. Indeed, a low interest rate-growth rate differential is the only way to simultaneously achieve both rapid household and corporate deleveraging and renewed borrowing to fund consumption and investment.

One option for easing is more "plain-vanilla" QE, which remains at least somewhat stimulative

28. Estimates by staff, the Bank for International Settlements, and the BoE suggest that QE1 was effective in reducing yields by 50-100 basis points. The BoE further estimates that QE1 boosted GDP by 1½-2 percent, an impact that is equivalent to a policy rate cut of 150-300 basis points. For QE2, relatively muted market reactions to announcements have raised concerns that QE may be becoming less effective. However,

Change in 10-Year Sovereign Yield Spreads: UK vs. Average of US and Germany (Difference between the average spread 5 days after the announcement and 5 days before the announcement, in percentage points)



assessing the effectiveness of QE2 is complicated, since markets had anticipated the move ahead of its actual announcement. Nonetheless, BoE research indicates that large surprises in the composition of QE purchases across maturities that accompanied the February 2012 announcement resulted in changes in relative yields across these maturities comparable to the yield effects estimated for QE1. QE is also likely to stimulate lending by increasing deposits in the banking system as the nonbank sector (the main holder of government bonds) sells bonds to the BoE and deposits the proceeds in the banking system.⁷ Such an expansion of the deposit base should support lending by making it easier for banks to reduce their loan-to-deposit ratios and move to Basel III liquidity requirements without scaling back loans.

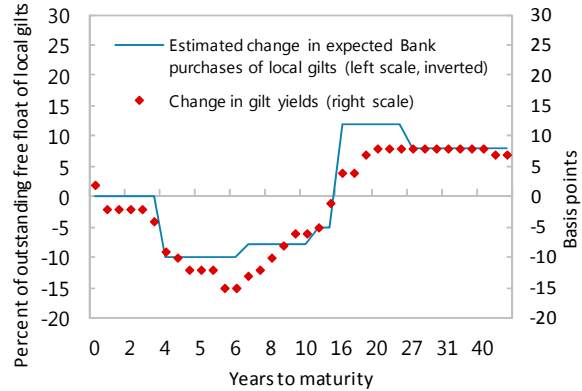
A cut in the policy rate should also be considered

29. Standard rules-of-thumb suggest that cutting the policy rate by 25 basis points could boost growth by 0.1-0.2 percentage points—perhaps equivalent to fiscal stimulus of 0.2-0.4 percent of GDP. However, the substantial flattening of the yield curve near the policy rate over the last 18 months may have made a rate cut more powerful than usual, as such flatness indicates that markets expect the policy rate to be stuck at whatever the MPC deems to be the lower bound (currently ½ percent) for a long time. These expectations make the chosen level of this lower bound more important. Specifically, with yields now roughly flat at the policy rate out to 4-year maturities, a rate cut may reduce yields nearly one-for-one much further out into the curve than usual. Effects on yields of 5 years or below are especially important, as about 90 percent of lending to the private sector is linked to this range (60 percent is at variable rates). In contrast, the flattening yield curve has reduced the scope for QE to compress term premia further.

30. Such increased benefits of a rate cut should be weighed carefully against possible costs:

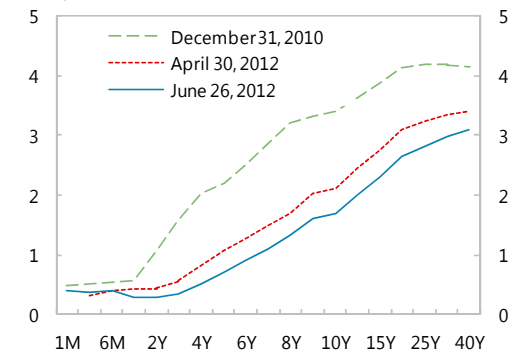
- In explaining its past decisions not to cut the policy rate further, the MPC has cited concerns that a rate cut may reduce activity in money markets. However, policy rates of ¼ percent or less prevail in the US and Japan and have not produced adverse side effects of a sufficient magnitude to prod a policy reversal.

Changes in Gilt Yields and Expected Bank Gilt Purchases around the 9 February Asset Purchase Announcement



Source: Bank of England, May 2012 *Inflation Report*.

UK Sovereign Yield Curves (Basis points)



Source: Bloomberg.

⁷ Even if the initial sellers of bonds shift into assets other than deposits, the cash will continue being passed along until it is eventually deposited in the banks, assuming no change in the transactional demand for cash.

- The MPC has also expressed concern that some financial institutions may have difficulties cutting deposit rates by enough to offset lower interest on mortgages tied to the policy rate. Lower financial sector profits could in turn adversely affect financial stability. However, average sight and time deposit rates of 0.21 percent and 1.34 percent, respectively, would seem to provide scope to lower deposit rates in response to a policy rate cut. Banks could also increase charges for services. Complementary credit easing measures (see below) would further support interest margins.

B. Credit Easing and Bank Funding Policies

Carefully designed credit easing measures could further boost demand

31. UK government borrowing costs have fallen to record-low levels while credit conditions for many parts of the private sector remain tight. In this context, several considerations suggest a strong case for supplementing traditional monetary easing—which works mainly on the risk-free rate—with credit easing measures that lower risk premia and more directly reduce private-sector borrowing costs (Box 3).

The government took some steps in this direction earlier this year

32. In Spring 2012, the government started a National Loan Guarantee Scheme that provides £20 billion in government guarantees on wholesale bank funding over two years. The cost of the guarantee is set to save each participating bank 1 percentage point on its funding costs, which banks must pass along by reducing interest rates on an identical amount of SME loans by 1 percentage point. However, gross SME lending by participating banks significantly exceeds the size of the scheme. The scheme may thus result mainly in lower interest rates for SME loans that would have occurred anyway, with little rate reduction for the marginal borrower. Consequently, the impact on SME borrowing and investment may be limited.

During the May mission, staff suggested new credit easing measures

33. The [concluding statement](#) recommended two types of credit easing:

- ***Longer-term bank funding facilities.*** BoE liquidity facilities currently provide term funding of a year or less. Longer-term funding (2-3 years) against a wide range of collateral, including SME loans, (with appropriate haircuts) would enhance incentives to lend by trimming funding costs and boosting demand for assets eligible as collateral. To prevent banks from becoming addicted to this support, such facilities would need to be complemented by regulatory policies to ensure that banks continue bolstering buffers and that intervened banks complete their restructuring strategies.
- ***Purchases of private-sector assets aimed at easing credit conditions and boosting demand.*** For example, purchases of covered bonds, as undertaken by the ECB, could help ease tight credit conditions in the mortgage market and spur new covered bond issuance. This in turn would support residential investment and house prices, which have significant effects on consumption via wealth effects. Although the relatively moderate amount of private-sector bonds in the UK

places some limits on the scope for such measures, this market size also implies that relatively moderate purchases could have large effects on bond yields and demand for underlying collateral. In contrast to direct provision of bank funding, purchases of bonds on secondary markets also do not require active participation by banks and hence will not be hindered by stigma concerns. Because the objective of such operations would be to ease broad credit conditions and not to favor specific borrowers, purchases within an asset class would need to be based on nondiscretionary rules. These could include allocation according to market share or as a function of behaviors that have positive externalities in the current environment, such as how much a bank increases equity or net lending to the nonfinancial private sector. The government may need to authorize such purchases and indemnify the BoE from any losses, as the BoE views the assumption of credit risk as a government decision.⁸

The authorities announced steps along these lines in June

34. The first new measure is a “funding for lending” program. The details are yet to be announced, but the intent of the program—designed by the BoE in consultation with the Treasury—will be to provide funding to banks for an extended period of several years (against collateral, with appropriate haircuts) at below the current elevated market rates and linked to each bank’s performance in sustaining or expanding its lending to the UK nonfinancial sector. The authorities plan to announce the details of the program in the coming weeks.

35. In addition, the BoE activated its Extended Collateral Term Repo Facility (ECTR), announced in December 2011. The BoE will offer, via competitive auction, at least £5 billion of 6-month sterling liquidity, at least once a month until further notice. Borrowing can be backed by a wide range of collateral (the same set that is eligible for use in the discount window), including portfolios of household and SME loans. The ECTR uses a uniform price format, so that all successful bidders pay the lowest accepted clearing rate, subject to a minimum of 25 basis points over the policy rate. This differentiates the ECTR from the discount window, which charges higher fixed spreads over the policy rate. The first ECTR auction, conducted on June 20, provided banks with £5bn in sterling liquidity, at a fee of the policy rate plus 25 basis points.

36. These new measures are welcome steps that could help ease credit conditions and boost demand. However, further information on the specifics of the funding for lending program is needed to make a more thorough evaluation. Similarly, it is difficult at this stage to quantify the likely impact of these new measures, including because it is unclear to what degree banks will access them. Consequently, effects of these measures are not included in staff’s central scenario at this point. Depending on the details and performance of these programs, other measures, such as purchases of private-sector assets on secondary markets, may be needed. More generally, measures to ease credit conditions may require some “learning-by-doing” in their implementation, with adjustments based on results, given the lack of extensive experience with such measures.

⁸ The government has already authorized the BoE to purchase up to £10 billion of private-sector assets, of which it has only used £350 million.

Box 3. Credit Easing: Key Considerations

Credit easing essentially entails central bank or government purchases of private-sector assets that have some degree of credit or equity risk. The idea is to lower risk premia—defined as spreads of private-sector borrowing rates over the government borrowing rate—and thereby stimulate demand and ease credit conditions. For example, the world’s major central banks have in the last few years purchased commercial paper, mortgage-backed securities, corporate bonds, and even equities. Such purchases are typically funded by public sector debt (government securities or central bank reserves). Government guarantees of private-sector funding in exchange for a fee and lending to banks against private-sector collateral are other forms of credit easing. Some label credit easing a monetary operation whereas others consider it to be fiscal policy.

Complementing traditional monetary easing with various forms of credit easing could be useful in the UK for at least two reasons:

- *Shrinking scope to cut risk-free rates further.* Risk-free rates (i.e., government borrowing rates) have dropped dramatically during the crisis to very low levels (the 10-year yield is now 1.6 percent). At the same time, risk premia have risen substantially and now constitute the largest part of most private-sector borrowing rates. Thus, while there is still scope to reduce risk-free rates a bit further, efforts to reduce risk premia may have more ability to achieve a major easing of credit conditions.
- *Policy diversification.* The magnitude of QE’s stimulative effect is somewhat uncertain, given the limited experience with its application. Diversification of efforts to ease credit conditions could thus be of value.

One concern with credit easing is that it exposes the government to credit risk, which could prove costly.

Such operations should be profit-making in expectation, as expected returns on risky assets should be higher than the government’s (very low) borrowing rate. But such operations may entail net expected costs in risk-adjusted terms if markets are correctly pricing risks and if large purchases by the government causes it to buy at a discount.

However, such operations may not incur net costs to the government, even on a risk-adjusted basis, if either of the following apply:

- *Markets are not pricing risk properly.* The current high levels of risk aversion could be excessive (i.e., insufficient “animal spirits”), just as there was insufficient risk aversion before the crisis. In this case, leaning against excessive risk aversion by raising demand for risky assets should not be costly in expectation.
- *Multiple equilibria.* Markets may be pricing credit risk correctly for a scenario in which demand remains inadequate for an extended period. But markets may be overpricing credit risk for a scenario in which demand is bolstered through a battery of measures (QE, rate cut, credit easing, balanced budget reallocation). Individual market players cannot arbitrage away such multiple equilibria, as no single player is big enough to push the economy from the bad scenario to the good one. But the government has this ability. So if it increases its exposure to credit risk while markets are still pricing for a scenario of inadequate demand—and in so doing pushes the economy to the scenario of higher demand and fewer credit losses—then such operations may be profitable for the government in expectation, even in risk-adjusted terms.

Undertaking credit risk is not necessarily less risky than standard QE. Standard QE reduces the average maturity of consolidated public sector debt (BoE + government), as it replaces long-term government debt with overnight debt (central bank reserves that pay interest). QE thus raises the public sector’s exposure to interest rate risk. Higher interest rate risk could increase the overall riskiness of the public sector balance sheet by more or less than the undertaking of credit risk, depending on the covariance of these risks with other risks facing the public sector. Some scenarios in which undertaking credit risk will be beneficial (e.g., more rapid-than-expected closing of the output gap leading to higher near-term growth and interest rates) are those in which interest rate risk will be costly, and vice-versa. Consequently, one type of risk could potentially hedge the other. In this regard, the BoE is notable in that its balance sheet is currently exposed to significantly less credit risk than those of the Federal Reserve or European Central Bank.

Using the government's balance sheet to promote growth should emphasize value for money

37. The government has also announced that it is considering expanding government guarantees (for a fee) to fund large, privately operated infrastructure projects. Boosting infrastructure spending would support growth, given its high multiplier and ability to increase productive capacity. However, it is important that the choice of projects and the modalities of their operation (public versus private) and financing (e.g., issuing public debt versus guarantees) be based on efforts to use public funds as efficiently as possible. Such decisions should not be affected by artificial attempts to limit government gross debt or near-term expenditure by transforming costs into contingent liabilities that might be realized only later.

FISCAL POLICY**A. Fiscal Consolidation Has Been Strong and is Now Slowing*****The authorities embarked on a frontloaded fiscal consolidation plan in 2010***

38. Loose fiscal policy before the financial crisis, damage to potential GDP as a result of the crisis, and fiscal stimulus deployed to ameliorate the crisis all took a major toll on the UK's fiscal position.⁹ The overall deficit rose to a massive 11 percent of GDP in FY09/10—a historic record. With debt rising sharply and much of the deficit estimated to be structural, the newly elected coalition government in mid-2010 committed to two self-imposed “fiscal mandates” to:

- i) balance the structural current budget by the end of a rolling 5-year window and
- ii) put the net debt-to-GDP ratio on a downward path in FY15/16.

The government announced a detailed and frontloaded 5-year consolidation plan that aimed to meet both of these mandates a year early. Since then, deficit reduction has been rapid and strong, with the deficit falling to 8¾ percent of GDP in FY11/12, which ended on April 5, 2012. Structural adjustment over the last 2 years has equaled about 4¾ percent of GDP (text table below).

Fiscal adjustment has restrained growth

39. Quantifying how much fiscal consolidation has restrained growth requires assumptions about fiscal multipliers. The size of these is quite uncertain. However, some [studies](#) find below-average multipliers for the UK relative to other major advanced economies, which likely reflects the UK's relative openness, floating exchange rate, monetary independence, and labor market flexibility.

⁹ Evidence suggests that asset price bubbles may affect structural fiscal balances in the UK, although such adjustments to the structural balance would be less than ½ percent of GDP at the moment (Annex 2).

Taking this into account, staff assumes an average multiplier during the consolidation of about 0.5 after incorporating the boost to demand from automatic stabilizers and the monetary policy reaction. This estimate is roughly in line with the OBR's estimates and implies that consolidation has so far reduced GDP by a cumulative 2½ percent.

United Kingdom: Public Sector Operations, 2009-17 1/
(Percent of GDP, unless otherwise noted)

	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17
	2012 Budget							
Primary balance	-9.2	-6.5	-5.3	-5.0	-3.3	-1.5	0.0	1.7
Overall balance	-11.1	-9.3	-8.3	-7.6	-5.9	-4.3	-2.8	-1.1
Cyclically adjusted current balance	-5.5	-4.4	-4.6	-4.2	-2.7	-1.5	-0.7	0.5
Cyclically adjusted primary balance (CAPB) 2/	-6.7	-4.1	-3.3	-3.0	-1.6	-0.1	1.0	2.1
Fiscal adjustment (change in CAPB) 2/	...	2.6	0.8	0.3	1.5	1.5	1.1	1.1
Net debt	52.6	60.5	67.3	71.9	75.0	76.3	76.0	74.3
General government gross debt 3/	71.1	76.5	84.0	89.0	91.9	92.7	91.4	88.6
Memorandum items:								
Real GDP growth (percent)	-2.4	2.2	0.5	1.0	2.3	2.8	3.1	3.0
Potential GDP growth (percent)	...	1.0	0.2	1.1	2.0	2.3	2.3	2.3
Output gap (percent)	-4.1	-2.9	-2.6	-2.7	-2.4	-1.9	-1.1	-0.4
	Staff projections							
Primary balance	-9.2	-6.5	-5.2	-5.4	-4.0	-2.4	-0.8	0.7
Overall balance	-11.1	-9.3	-8.2	-8.0	-6.7	-5.4	-3.8	-2.3
Cyclically adjusted current balance	-6.6	-5.3	-4.4	-3.8	-2.5	-1.7	-0.9	0.1
Cyclically adjusted primary balance (CAPB) 2/	-7.9	-5.0	-3.1	-2.6	-1.2	-0.1	0.8	1.9
Fiscal adjustment (change in CAPB) 2/	...	2.9	1.9	0.5	1.4	1.1	0.9	1.1
Net debt	52.6	60.5	66.6	71.9	76.4	78.8	79.7	79.0
General government gross debt 3/	71.1	76.5	84.4	89.8	93.9	95.9	96.1	94.9
Memorandum items:								
Real GDP growth (percent)	-2.4	2.2	0.2	0.6	1.5	2.4	2.6	2.6
Potential GDP growth (percent)	0.1	1.9	1.6	1.4	1.4	1.5	1.7	2.0
Output gap (percent)	-2.2	-1.9	-3.3	-4.0	-3.9	-3.0	-2.1	-1.6

Sources: UK Treasury; and staff projections.

1/ Fiscal year starts April 6. Excludes temporary effects of financial sector interventions, unless otherwise noted, as well as the one-off effect on public sector net investment in 2012/13 of transferring assets from the Royal Mail Pension Plan to the public sector.

2/ In percent of potential GDP.

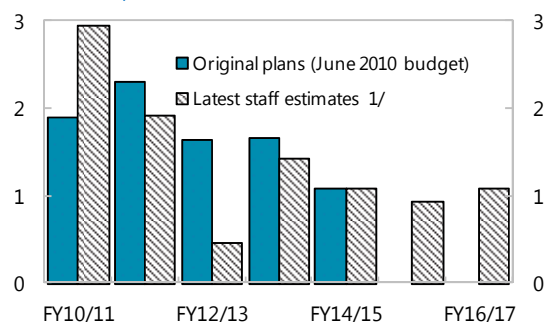
3/ On a Maastricht treaty basis. Includes temporary effects of financial sector interventions.

The pace of consolidation slows in 2012, as appropriate given the weak outlook

40. Fiscal adjustment—as measured by the change in the ratio of the cyclically-adjusted primary balance (CAPB) as a percent of potential GDP—slowed from 3 percentage points in FY10/11 to 2 percentage points in FY11/12. It is expected to ease further to only ½ percentage points in FY12/13 under current fiscal plans, a pace well below what was anticipated in the government's first budget in June 2010. This slowdown

Fiscal Adjustment

(Change in the ratio of the cyclically-adjusted primary balance to potential GDP)



Sources: HMT Treasury; and IMF staff estimates.

1/ Based on the authorities' fiscal plans as announced in the 2012 Budget and staff's macroeconomic forecasts. Fiscal year starts April 6.

partly reflects the authorities' decision in November 2011 not to undertake additional discretionary tightening over the next 3 years in response to the OBR's upward revisions to the structural deficit, owing to substantial downward revisions to potential GDP and near-term potential growth. To keep fiscal plans consistent with meeting the mandates, the government instead chose to (i) use up all previous buffers, such that both mandates are now met just in time and with little margin, and (ii) announce further, unspecified consolidation in 2015-17. This accommodation of higher structural deficits in the near term was appropriate given the weak outlook. Under staff's weaker medium-term growth projections, the net debt target is expected to be met one year late (Table 3). If future OBR revisions to projected growth produce a similar result, such a delay should be accommodated rather than prevent the operation of automatic stabilizers.

B. Budget-Neutral Reallocations Can Further Support Growth

Modest changes in the composition of consolidation to make it more "growth friendly" have been adopted

41. Changes announced over the last year to help support demand include spending cuts in items with low multipliers (e.g., public employee wages) to fund increased spending on items with high multipliers (e.g., infrastructure spending). In an effort to boost supply, the government also cut the top income tax rate (from 50 to 45 percent) and the corporate tax rate (by 1 percentage point, to 22 percent by FY14/15) while raising taxes on sales of expensive homes and rationalizing income tax allowances, among other items. However, the scale of these adjustments has been modest—the fiscal effect of each individual measure is 0.1 percent of GDP or less. Consequently, the macroeconomic impact of such measures is likely to be modest.

Further steps are needed

42. Deeper budget-neutral reallocations from low-multiplier items to high-multiplier items and further structural reform could further support recovery. Low-multiplier candidates for generating fiscal space include:

- property tax reform aimed at shifting more of the base from transactions to current property values, which is less distortive and as recommend by the [Mirrlees Review](#), in a net revenue-generating manner;
- further restraining growth of public employee compensation, with a focus on positions where public-private sector pay premia are the largest; and
- better targeting of transfers to those most in need.

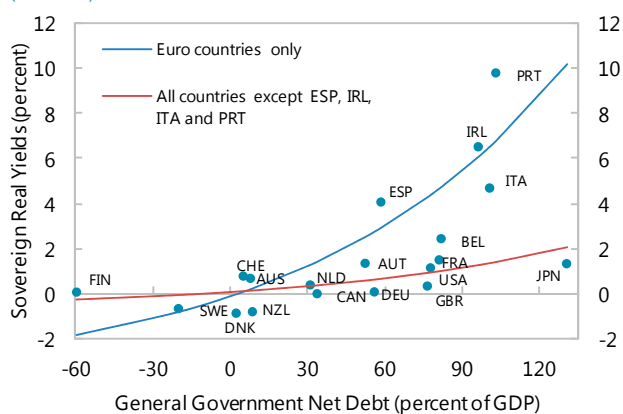
Fiscal space generated by such measures could be used to increase infrastructure spending, which has a higher multiplier and can increase productive capacity. Revenue-neutral tax reform to introduce an allowance for new corporate equity would also be helpful, as this would reduce the tax code's bias in favor of debt over equity finance. This in turn would encourage corporate and financial sector deleveraging through equity accumulation rather than contractionary asset reduction.

C. If the Recovery Remains Stalled, then Fiscal Tightening Should Slow

Some further slowing of consolidation is unlikely to trigger major market turmoil

43. Further slowing consolidation would likely entail the government renegeing on its net debt mandate. Would this trigger an adverse market reaction? Such hypotheticals are impossible to answer definitively, but there is little evidence that it would. In particular, fiscal indicators such as deficit and debt levels appear to be weakly related to government bond yields for advanced economies with monetary independence. Though such simple relationships are only suggestive, they indicate that a moderate increase in the UK's debt-to-GDP ratio may have small effects on UK sovereign risk premia (though a slower pace of fiscal tightening may increase yields through expectations of higher near-term growth and tighter monetary policy). This conclusion is further supported by the absence of a market response to the easing of the pace of structural adjustment in the 2011 Autumn Statement. Bond yields in the US and UK during the Great Recession have also correlated positively with equity price movements, indicating that bond yields have been driven more by growth expectations than fears of a sovereign crisis.

Sovereign Yields and Government Net Debt
(End-2011)



Sources: Datastream; and IMF's World Economic Outlook.

Gains from delaying consolidation depend on the degree to which multipliers are asymmetric over the cycle

44. Alternative fiscal scenarios have been prepared to assess potential gains from delaying fiscal consolidation to support the economy and reduce hysteresis effects now (Annex 3). Two categories of simulations are conducted.

- The first set assumes that multipliers are symmetric across the business cycle. These simulations show that the path of fiscal consolidation has essentially no effect on cumulative GDP because delaying consolidation simply trades off higher growth and less hysteresis today for equivalent amounts of lower growth and more hysteresis tomorrow. This is true even if multipliers and hysteresis effects are large, as the powerfulness of these effects during the stimulus phase has an offsetting reverse effect during the inevitable consolidation phase.¹⁰
- The second set assumes that multipliers are asymmetric across the business cycle. Substantial GDP gains can be generated under these assumptions if the asymmetry is relatively large.

¹⁰ This result assumes that multipliers and hysteresis effects are not so large as to cause fiscal stimulus to permanently lower the debt-to-GDP ratio (Annex 3).

45. The degree to which multipliers will be significantly smaller several years from now, such that substantial gains can be achieved by delaying consolidation, is uncertain. For example, the [Spring 2012 Fiscal Monitor](#) finds a weak relationship between the output gap and multipliers in the UK. Other studies across a range of countries find stronger evidence for asymmetry. Of note, [Auerbach and Gorodnichenko \(2012\)](#) find that multipliers may be better correlated with growth rates than the level of the output gap. Such findings suggest that scope to exploit asymmetries may be significantly higher in a downside scenario in which growth does not improve than in an upside scenario in which robust monetary and credit easing helps close the output gap faster than envisaged in the central scenario.

Fiscal consolidation plans should thus be reconsidered if growth fails to take off even after further monetary and credit easing

46. If growth does not take off and unemployment fails to recede even after substantial further monetary stimulus and strong credit easing measures have been given time to work, the policy response should include a further slowing of fiscal consolidation. This is because the benefits of delayed consolidation may increase during periods of weak growth due to larger multipliers, as noted above. The absence of growth even after additional monetary and credit easing measures would also indicate that the ability of monetary policy to mitigate the contractionary effects of fiscal consolidation is more constrained than currently assumed, implying higher and more asymmetric multipliers. Weak effects from monetary and credit easing may occur, for example, if heightened uncertainty, including concern about tail risks, deters the private sector from borrowing, even in response to significantly cheaper and more easily available credit.

47. In particular, fiscal adjustment for FY13/14 would need to be scaled back if growth does not build momentum by early 2013. Current plans envisage structural adjustment accelerating from ½ percent of GDP in FY12/13 to nearly 1½ percent of GDP in FY13/14. Such an acceleration may be difficult for the economy to handle if it remains very weak. The planned pace of fiscal tightening may need to ease before FY13/14 if the outlook deteriorates sharply before then.

48. Fiscal easing measures in such a scenario should focus on higher infrastructure spending and temporary tax cuts that are targeted (e.g., to lower-income households) so as to boost their multipliers, as these measures are more credibly temporary than increases in current spending. Slower fiscal tightening should be accompanied by deeper entitlement reform, including legislating accelerated increases in the state pension age, to help safeguard confidence in fiscal sustainability.

FINANCIAL SECTOR POLICIES

A. Strengthening Bank Balance Sheets

Financial sector policies need to balance stability and cyclical considerations

49. The rebuilding of banks' capital and liquidity buffers over the last few years has been valuable to maintain stability in the face of recent market stress and heightened spillover risks from the euro area. Continued financial sector healing—with a focus on building capital rather than contracting lending—is also critical to provide credit to the economy and anchor a strong and durable recovery. As this healing progresses, banks' capital and liquidity requirements should aim to ensure resilience against a highly uncertain environment, while at the same time minimizing the adverse effects on credit expansion and economic growth.

The balance of risks calls for greater capital levels and some moderation of liquidity requirements

50. As noted by the Interim Financial Policy Committee (FPC), the overall outlook for financial stability remains fragile, and the level of capital across the banking sector is not yet at levels that would ensure resilience in the face of prospective risks. To support the recovery, the focus should be on building capital rather than reducing assets and credit. Specifically, the Interim FPC and FSA should continue to encourage banks to raise external capital "as early as feasible," while linking the approval of dividend and remuneration to the outcome of credible stress tests. In this context, the Interim FPC should also clarify its expectations about the transition path to Basel III capital ratios, as an accelerated pace could exacerbate deleveraging and have adverse cyclical implications.

51. Since the introduction of the new liquidity regime in 2010, liquidity requirements in the UK have been more stringent than in other jurisdictions, and perhaps in excess of Basel III requirements (not fully concluded). This has proved effective in strengthening banks' liquidity and funding positions, as discussed in Box 1, but may have constrained credit availability, particularly as market stress related to the euro area crisis intensified. Going forward, the Interim FPC should evaluate liquidity requirements with a view to converge to the phase-in schedule agreed internationally, while taking into account cyclical considerations and the availability of liquidity insurance from the BoE. At the same time, banks should be encouraged to continue to improve their funding profiles by expanding their deposit bases and lengthening the term of their wholesale funding. Given UK banks' vulnerabilities to funding shocks, the BoE should stand ready to provide liquidity through a range of facilities if strains from the euro area crisis intensify. In this regard, banks' prepositioning of collateral facilitates potential access to these liquidity operations.

B. Strengthening the Framework for Financial Sector Stability

The financial regulatory structure is being revamped

52. A Financial Services Bill to provide a permanent legal basis for the new framework is currently before parliament and is expected to come into force in early 2013. It will create the statutory FPC in charge of macroprudential policy and a new Prudential Regulation Authority (PRA)—a subsidiary of the BoE—responsible for prudential regulation of banks, insurance companies, and large investment firms. The result should be greater integration of micro- and macro-prudential supervision to better safeguard financial stability. A separate agency, the Financial Conduct Authority (FCA), will be responsible for the conduct and regulation of secondary markets, investment funds, and small investment firms, as well as consumer protection issues across all institutions. Successful navigation of the transition, combined with the new model of intensified supervision, will require skillful management and a serious commitment of resources.

53. Progress has been made in implementing most recommendations of the 2011 IMF Financial Sector Assessment Program (FSAP) Update (Annex 4). However, many initiatives are closely tied to the transition to the new structure and will need to be assessed when the work is finalized. In this connection, the framework for coordination between the new agencies is already set out; the mandate for the PRA is clarified, but concern remains about the clarity of the prudential mandate of the FCA. Furthermore, there is concern that both the PRA and the FCA will have insufficient high-quality resources to undertake the considerable tasks given to them. As recommended in the FSAP, greater authority of the PRA over financial holding companies than currently envisaged in the draft Financial Services Bill will be essential for effective supervision of large financial groups.

A broader macroprudential toolkit is desirable

54. The Interim FPC has appropriately requested directive powers to adjust the countercyclical capital buffer, sectoral capital requirements, and the leverage ratio. It also considered that it should have a time-varying liquidity tool, but that this should wait for international standards on liquidity before such powers are taken forward. The FPC may, however, need additional powers to address future asset price bubbles that could threaten financial stability and undermine economic prospects. In particular, the FPC should be empowered with the ability to limit loan-to-value and loan-to-income ratios, as higher capital requirements alone may be insufficient to restrain property bubbles. This will be especially relevant if most banks are comfortably above minimum capital requirements during the boom, such that higher risk weights on property loans may have little effect on banks' lending behavior. Macroprudential tools will need to be complemented by intensified supervision to be effective.

International coordination and further progress in addressing too-big-to-fail are crucial for UK and global financial stability

55. Spillover analysis highlights the potential for large shocks to be transmitted through the UK financial system (Annex 5). In this connection, international collaboration will be necessary to further bolster the stability of the financial system, and the UK authorities should continue to exercise leadership in these matters.

- On the supervisory front, the authorities view cross-border supervisory cooperation as a priority, as exchange of key information on a timely basis and coordination of supervisory actions are critical to containing risks to UK and global financial stability. This is particularly important for branches of large global banks operating in the UK and for large UK banks operating in major financial centers. Continued efforts in this direction from both the authorities and their global counterparts are encouraged.
- On the regulatory front, a broad range of EU-wide financial legislation is currently under development, which will affect the UK's regulatory regime. Capital adequacy rules under the Capital Requirements Directive (CRDIV), for example, are now being finalized. The recent compromise draft, which provides greater flexibility at the national level by allowing countries to impose stricter prudential requirements, balances the need of the single rulebook with financial stability concerns of national authorities. However, the draft falls short of Basel III minima in some key areas (e.g., definition of core tier one capital). Further, liquidity and leverage rules are still to be determined.

56. In light of large spillover effects and to reduce the risk to taxpayers, it is also crucial that too-big-to-fail issues are addressed expeditiously. In this connection, progress made in developing a more flexible resolution framework and recovery and resolution plans for major institutions is welcome. The government's preliminary response to the recommendations of the Independent Commission on Banking (ICB, or "Vickers Commission") has been set out in a White Paper. The White Paper takes on board the thrust of the ICB proposals for additional loss-absorbing capacity and ringfencing of retail operations, but softens some aspects to balance stability and cyclical considerations, while maintaining the competitiveness of the UK banking sector. Notably, the White Paper

- permits simple derivative products to be provided directly to third parties from within the ringfence, while the ICB had proposed that inclusion of such products be more strictly limited, and
- adopts for all banks a leverage ratio of 3 percent in line with Basel III proposals, instead of 4 percent for large ringfenced banks as proposed by the ICB.

On the whole, the government's plan will help limit the frequency and severity of banking crises and strengthen the resilience of the system. A push by the UK authorities at the European level to allow the leverage ratio to increase above the Basel III minimum, alongside weighted capital ratios, would strengthen the package. Similarly, the Financial Services Bill should grant the FPC the power to tighten the leverage ratio as needed. Ultimately, neither ringfencing nor other measures to address too-big-to-fail should create complacency about the accumulation of risks outside of the ringfence.

THE AUTHORITIES' VIEW

57. The authorities broadly concurred with staff's overall assessment of economic developments. Like staff, the OBR projects the output gap to remain wide for the coming years, though they project the size and duration of this deviation to be somewhat less than in staff's central scenario (Table 3; paragraph 21). More generally, the authorities highlighted the complexity of assessing the true state of the economy and degree of slack, not least because labor market indicators are somewhat better than growth outcomes and inflation has declined more slowly than expected. They also noted the significant uncertainty regarding the degree of hysteresis effects, citing little evidence so far of a rise in the NAIRU. However, they remained focused on pursuing policies that can support growth while maintaining fiscal and monetary stability. They agreed that all policy options come with risks, including uncertainty concerning their effectiveness, and that there could be some merit in policy diversification.

Monetary and Credit Easing Policies

58. With headline inflation still above the target and ongoing uncertainty about the disinflationary power of the output gap, the majority of the MPC did not yet see further easing as warranted at this time. However, this decision was finely balanced for many MPC members. If the balance tilts toward easing, there was agreement that quantitative easing can continue to support demand by lowering long-term interest rates and improving banks' liquidity position. Although there was agreement that the flattening yield curve might make a cut in the policy rate more stimulative than it would be otherwise, several MPC members stressed that this might be outweighed by possible adverse effects on the availability of bank credit (as a result of a squeeze in banks' and building societies' margins) and on the functioning of money markets.

59. On credit easing, the authorities are examining further ways to use the credibility of the government's balance sheet to ease credit conditions and support the economy, notably through the use of guarantees. In this regard, they noted staff's suggestion to complement standard QE with purchases of private-sector assets (possibly with the BoE acting as the government's agent) or provision of longer-term bank funding (against collateral) to more directly reduce private-sector borrowing costs, but highlighted that all policies must be delivered within European Commission State Aid constraints. They also noted that scope to purchase private-sector bonds is somewhat constrained by the moderate size of these markets in the UK (excluding unsecured bank bonds). The BoE also underscored that it would not embark on large-scale purchases of private-sector assets on its own accord because it views the assumption of credit risk as a decision to be made by the government.

60. After the May Article IV mission and as discussed earlier (paragraph 34), the Governor of the BoE announced that a program is being developed to tackle high funding costs directly and improve credit conditions.

Fiscal Policy

61. The authorities emphasized that significant progress had been made in strengthening public finances, with the cyclically-adjusted primary deficit cut in half since 2009. They also stressed that the slower pace of fiscal consolidation in FY12/13 was occurring as a result of the flexibility provided by the government's fiscal framework, which allows automatic stabilizers to operate, rather than any discretionary fiscal action. They highlighted the significant risks that discretionary changes to fiscal plans to slow the pace of tightening could undermine the implementation and credibility of their fiscal strategy and be punished by markets. They recognized the time lags and logistical impediments of the policy options raised by staff. They are also of the view that supporting UK financial stability—which has large global spillovers—is a significant constraint on the UK's fiscal space, particularly considering tensions in the euro zone. If downside risks materialize, further monetary and credit easing were identified as the first ports of call for discretionary response, with the fiscal framework allowing for automatic stabilizers to operate freely while ensuring plans were set to restore public finances to a sustainable path.

62. The authorities agreed that budget-neutral reallocations can be used to provide demand stimulus and pointed to policies announced in the 2011 Autumn Statement. They are also exploring options to use the credibility of the government's balance sheet to provide targeted support to the economy, in particular for the provision of credit, housing, and infrastructure.

Financial Sector Policies

63. In seeking to balance financial stability and cyclical considerations, the authorities, notably the Interim FPC, have recommended that banks take the opportunity to raise capital levels by limiting distributions of dividends and bonuses while maintaining credit supply and are relatively dovish on liquidity requirements, which is consistent with staff's position. On the issues of the FPC's toolkit, the government is considering carefully the recommendations made by the Interim FPC and will consult on proposals as soon as possible.

64. The authorities agreed with the Fund recommendation that ensuring the adequacy of high-quality supervisory resources will be a key to success in the transition to the new institutional structure for the conduct of supervision. They also agreed in principle to give consideration to whether greater authority over financial holding companies than currently envisaged in the draft Financial Services Bill is necessary, and stressed that this matter needs to be tackled in the context of the emerging international crisis management framework.

STAFF APPRAISAL

65. Current policies aim to assist economic rebalancing. Substantial progress has been made toward achieving a more sustainable budgetary position and reducing fiscal risks. Bold monetary stimulus has helped support the economy. This macroeconomic policy mix assists in rebalancing the economy toward investment and net exports. In the financial sector, policies have encouraged the buildup of buffers, the oversight framework is being strengthened, and work is underway to enhance the capacity to deal with systemically important financial institutions. These policies have been broadly consistent with the Fund's past surveillance advice.

66. But the recovery has stalled, and unemployment is still too high. Activity is expected to gain modest momentum going forward, but additional macroeconomic easing is needed to close the output gap faster, reduce the risks of hysteresis, and insure against the predominance of downside risks.

67. As a first step, further monetary stimulus is required. Monetary stimulus can be provided via further QE and cutting the policy rate. Evidence suggests that QE can continue to support demand by lowering long-term interest rates and improving banks' liquidity. The MPC should reassess the efficacy of cutting the policy rate, taking into account the recent sharp flattening of the yield curve, as well as possible effects on money markets and financial stability.

68. Recently announced efforts to lower private-sector borrowing costs through broader provision of bank funding are welcome, as elevated funding costs have limited the quantity and tenor of lending to the private sector, while government borrowing costs have fallen to record lows. Depending on the details and performance of these new programs, further credit easing measures may be needed, including purchases of private-sector assets on secondary markets. In general, credit easing measures will need to be complemented by regulatory policies to ensure that banks do not become dependent on such facilities.

69. Deeper budget-neutral reallocations could also support recovery. Such reallocations within the current overall fiscal stance could include greater investment spending funded by property tax reform or spending cuts on items with low multipliers. Automatic stabilizers should continue to operate freely. It will also be important to shield the poorest from the impact of consolidation.

70. Scaling back fiscal tightening plans should be the main policy lever if growth does not build momentum by early-2013 even after further monetary stimulus and strong credit easing measures. To preserve credibility, any adjustment to the path of consolidation should be in the context of a multi-year plan and ideally accompanied by deeper entitlement reform, such as legislating accelerated increases in the pension age. Temporary easing measures in such a scenario should focus on infrastructure spending and targeted tax cuts, as they may be more credibly temporary.

71. It is important to continue with efforts aimed at bolstering financial stability. Such stability will anchor a strong and durable recovery and reduce the risk to taxpayers, as well as limit spillovers

from shocks that are transmitted through the UK financial system. Policies should promote continued strengthening of the financial sector by balancing stability and growth considerations. In this context, policies should focus on strengthening bank balance sheets by building capital rather than reducing assets. Supervisors should thus continue to encourage banks to focus on improving capital buffers by raising external capital and limiting the payout of bonuses and dividends. Evaluation of liquidity requirements should take into account cyclical considerations and the availability of liquidity insurance from the BoE.

72. It is crucial that “too big to fail” issues are addressed. The progress made in developing a more flexible resolution framework and “living wills” for major institutions is welcome. Reforms proposed by the ICB should be legislated, resisting pressure to reduce their effectiveness.

73. A broader macroprudential toolkit for the FPC is desirable. In particular, the power to limit loan-to-value and loan-to-income ratios is essential, as higher capital requirements alone are likely to be insufficient to restrain property bubbles.

74. Intensifying supervision and broadening authority over financial holding companies is a priority. Adequacy of high-quality supervisory resources will be a key to the success of the transition to the new institutional structure for the conduct of supervision, together with the new supervisory models designed to intensify supervision. In addition, greater authority over financial holding companies than currently envisaged in the draft Financial Services Bill will be essential for the future Prudential Regulatory Authority. The emerging international crisis management framework provides an opportunity to revisit this issue. International collaboration will be necessary to further bolster the stability of the financial system, and the UK authorities should continue to exercise leadership in these matters.

75. It is recommended that the next Article IV consultation with the United Kingdom be held on the standard 12-month cycle.

Table 1. United Kingdom: Selected Economic Indicators, 2008–13

	2008	2009	2010	2011	2012 Proj.	2013 Proj.
Real Economy (change in percent)						
Real GDP	-1.1	-4.4	2.1	0.7	0.2	1.4
Domestic demand	-1.8	-5.4	2.9	-0.8	-0.1	0.6
Private final domestic demand	-2.7	-5.9	1.1	-0.8	1.0	1.2
CPI, end period	3.1	2.9	3.7	4.7	2.0	1.7
Unemployment rate (in percent) 1/	5.6	7.5	7.9	8.0	8.3	8.3
Gross national saving (percent of GDP)	15.6	12.7	12.1	12.9	11.6	12.6
Gross domestic investment (percent of GDP)	17.0	14.2	15.4	14.8	14.2	14.4
Public Finance (fiscal year, percent of GDP) 2/						
General government overall balance	-6.9	-11.4	-9.4	-8.4	-8.1	-6.8
Public sector overall balance	-6.9	-11.1	-9.3	-8.2	-8.0	-6.7
Cyclically adjusted overall balance (staff estimates)	-7.8	-10.1	-7.8	-6.2	-5.4	-3.9
General government gross debt	56.5	71.1	76.5	84.4	89.8	93.9
Public sector net debt	43.5	52.6	60.5	66.6	71.9	76.4
Money and Credit (end-period, 12-month percent change) 3/						
M4	15.5	6.7	-1.5	-2.5	-3.8	...
Net lending to private sector	5.0	0.5	-0.4	-0.2	-0.4	...
Interest rates (percent; year average) 3/						
Three-month interbank rate	5.8	1.2	0.7	0.9	1.1	...
Ten-year government bond yield	4.7	3.6	3.6	3.1	2.2	...
Balance of Payments (percent of GDP)						
Current account balance	-1.4	-1.5	-3.3	-1.9	-2.6	-1.8
Trade balance	-2.7	-1.8	-2.5	-1.8	-1.8	-0.9
Net exports of oil	-0.5	-0.2	-0.3	-0.8	-0.7	-0.6
Exports of goods and services (volume change in percent)	1.3	-9.5	7.4	4.6	1.6	3.8
Imports of goods and services (volume change in percent)	-1.2	-12.2	8.6	1.2	1.3	1.3
Terms of trade (percent change)	-0.6	-0.5	-0.6	-0.9	-0.1	0.0
FDI net	-3.6	1.2	0.9	1.0	...	...
Reserves (end of period, billions of US dollars)	53.9	66.4	78.8	93.9	...	...
Fund Position (as of May 31, 2012)						
Holdings of currency (in percent of quota)						64.8
Holdings of SDRs (in percent of allocation)						94.4
Quota (in millions of SDRs)						10,738.5
Exchange Rates						
Exchange rate regime						Floating
Bilateral rate (June 13, 2012)						US\$1 = £0.6417
Nominal effective rate (2005=100) 3/ 4/	89.3	78.8	79.3	78.7	80.6	...
Real effective rate (2005=100) 3/ 4/ 5/	92.1	80.8	83.7	84.9	87.4	...

Sources: Bank of England; IMF's International Finance Statistics; IMF's Information Notic System; OHM Treasury; Office for National Statistics; and IMF staff estimates.

1/ ILO unemployment; based on Labor Force Survey data.

2/ The fiscal year begins in April. Data exclude the temporary effects of financial sector interventions. Debt stock data refers to the end of the fiscal year using centered-GDP as a denominator.

3/ 2012: actual data through April.

4/ Average. An increase denotes an appreciation.

5/ Based on relative consumer prices.

Table 2. United Kingdom: Medium-Term Scenario, 2007–17
(Percentage change, unless otherwise indicated)

	2007	2008	2009	2010	2011	2012 Proj.	2013 Proj.	2014 Proj.	2015 Proj.	2016 Proj.	2017 Proj.
Real GDP	3.5	-1.1	-4.4	2.1	0.7	0.2	1.4	2.2	2.6	2.6	2.7
Q4/Q4 1/	4.1	-5.4	-0.8	1.7	0.5	0.8	1.2	2.6	2.7	2.5	2.8
Real domestic demand	3.3	-1.8	-5.4	2.9	-0.8	-0.1	0.6	1.6	2.0	2.1	2.5
Private consumption	2.7	-1.5	-3.5	1.2	-1.2	0.4	0.8	1.9	2.6	2.6	2.8
Government consumption	0.6	1.6	-0.1	1.5	0.1	1.5	-1.1	-2.1	-2.8	-2.7	-2.3
Fixed investment	8.1	-4.8	-13.4	3.1	-1.2	-0.2	1.7	4.7	6.1	6.0	6.9
Public	12.3	11.6	0.4	12.9	-8.5	-14.9	-3.8	0.0	0.7	-1.6	0.3
Residential	2.8	-11.8	-25.5	6.9	4.8	0.3	0.4	2.7	4.1	5.4	6.1
Business	11.5	0.0	-12.7	-2.1	1.2	5.6	3.9	6.7	8.2	8.2	8.7
Stocks 2/	0.3	-0.4	-1.0	1.3	0.0	-0.5	0.1	0.1	0.0	0.0	0.0
External balance 2/	-0.1	0.8	1.1	-0.5	1.0	0.1	0.8	0.7	0.7	0.5	0.3
Exports of Goods and Services	-1.3	1.3	-9.5	7.4	4.6	1.6	3.8	4.9	5.9	5.5	5.4
Imports of Goods and Services	-0.9	-1.2	-12.2	8.6	1.2	1.3	1.3	2.8	3.9	4.0	4.8
Current account 3/	-2.5	-1.4	-1.5	-3.3	-1.9	-2.6	-1.8	-1.5	-1.0	-0.8	-0.8
CPI Inflation, end period	2.1	3.1	2.9	3.7	4.7	2.0	1.7	1.7	1.8	1.8	1.9
Output gap 4/	3.5	1.7	-2.2	-1.9	-2.8	-4.0	-4.0	-3.3	-2.3	-1.7	-1.1
Potential output	2.5	0.7	-0.6	1.8	1.6	1.5	1.4	1.4	1.6	1.9	2.1
Employment and productivity											
Employment	0.7	0.7	-1.6	0.3	0.5	0.2	0.3	0.5	0.8	1.0	1.0
Unemployment rate 5/	5.4	5.6	7.5	7.9	8.0	8.3	8.3	8.2	7.8	7.4	7.2
Productivity 6/	2.7	-1.7	-3.0	1.9	0.1	0.0	1.1	1.7	1.8	1.6	1.7
Memorandum items:											
Private final domestic demand	3.5	-2.7	-5.9	1.1	-0.8	1.0	1.2	2.6	3.4	3.5	3.8
Household saving rate 7/	2.7	3.1	7.8	7.2	7.4	7.1	7.2	6.5	6.1	5.9	5.5
Private saving rate	16.1	17.1	19.2	18.7	18.4	17.0	17.1	16.6	16.3	15.8	15.5

Sources: Office for National Statistics; and IMF staff estimates.

1/ Percentage change in quarterly real GDP in the fourth quarter on four quarters earlier.

2/ Contribution to the growth of GDP.

3/ In percent of GDP.

4/ In percent of potential GDP.

5/ In percent of labor force, period average; based on the Labor Force Survey.

6/ Whole economy, per worker.

7/ Percent of total household available resources.

Table 3. United Kingdom: Statement of Public Sector Operations, 2009/10–16/17 1/
(Percent of GDP, unless otherwise noted)

	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17
						2012 Budget		
Revenue	36.4	37.3	37.5	37.5	37.7	37.8	37.6	37.9
Taxes	34.4	28.7	29.1	29.0	29.1	29.2	28.9	29.0
Social contributions	6.9	6.6	6.7	6.7	6.7	6.7	6.8	6.9
Other revenue, of which:	2.0	1.9	1.7	1.9	1.9	1.9	2.0	2.1
Interest income	0.2	0.2	0.2	0.3	0.3	0.4	0.5	0.6
Expenditure	47.6	46.5	45.8	45.1	43.6	42.2	40.5	39.0
Expense	45.3	45.0	44.7	44.2	42.8	41.4	39.8	38.4
Consumption of fixed capital	1.4	1.4	1.4	1.4	1.4	1.4	1.3	1.3
Interest	2.2	2.9	3.2	2.9	2.9	3.1	3.3	3.4
Other	41.8	40.7	40.1	39.8	38.5	36.9	35.2	33.7
Net acquisition of nonfinancial assets	2.2	1.5	1.1	1.0	0.8	0.7	0.6	0.6
Gross operating balance	-8.9	-7.7	-7.2	-6.6	-5.1	-3.6	-2.2	-0.5
Net lending/borrowing (overall balance)	-11.1	-9.3	-8.3	-7.6	-5.9	-4.3	-2.8	-1.1
Net financial transactions	11.1	9.3	8.3	7.6	5.9	4.3	2.8	1.1
Current balance 2/	-7.7	-6.7	-6.5	-6.0	-4.5	-3.0	-1.6	0.1
Primary balance	-9.2	-6.5	-5.3	-5.0	-3.3	-1.5	0.0	1.7
Cyclically adjusted overall balance	-8.9	-7.0	-6.4	-5.7	-4.1	-2.9	-1.9	-0.7
Cyclically adjusted current balance 2/	-5.4	-4.4	-4.6	-4.2	-2.7	-1.5	-0.7	0.5
Cyclically adjusted primary balance	-6.9	-4.2	-3.4	-3.1	-1.6	-0.1	1.0	2.1
Memorandum items:								
Output gap (Percent of potential)	-4.1	-2.9	-2.6	-2.7	-2.4	-1.9	-1.1	-0.4
Deflator growth (Percent)	1.8	2.7	2.2	2.7	2.5	2.5	2.5	2.5
Real GDP growth (Percent)	-2.4	2.2	0.5	1.0	2.3	2.8	3.1	3.0
Potential GDP growth (Percent)	0.7	1.0	0.2	1.1	2.0	2.3	2.3	2.3
General government gross debt 3/	71.1	76.5	84.0	89.0	91.9	92.7	91.4	88.6
Public sector net debt 4/	52.6	60.5	67.3	71.9	75.0	76.3	76.0	74.3
						Staff projections 5/		
Revenue	36.4	37.3	37.5	37.4	37.6	37.7	37.6	37.8
Taxes	27.6	28.7	29.1	28.9	29.0	29.0	28.8	28.9
Social contributions	6.9	6.6	6.7	6.7	6.7	6.7	6.8	6.8
Other revenue, of which:	2.0	1.9	1.7	1.9	1.9	1.9	2.0	2.1
Interest income	0.2	0.2	0.2	0.3	0.3	0.4	0.5	0.6
Expenditure	47.6	46.5	45.8	45.5	44.3	43.0	41.4	40.1
Expense	45.3	45.0	44.6	44.5	43.5	42.3	40.7	39.5
Consumption of fixed capital	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
Interest	2.2	2.9	3.2	3.0	3.0	3.3	3.4	3.6
Other	41.8	40.7	40.0	40.1	39.1	37.6	36.0	34.6
Net acquisition of nonfinancial assets	2.2	1.5	1.1	1.0	0.8	0.7	0.6	0.6
Gross operating balance	-8.9	-7.7	-7.1	-7.1	-5.9	-4.6	-3.1	-1.6
Net lending/borrowing (overall balance)	-11.1	-9.3	-8.2	-8.0	-6.7	-5.4	-3.8	-2.3
Net financial transactions	11.1	9.3	8.2	8.0	6.7	5.4	3.8	2.3
Current balance 2/	-7.7	-6.7	-6.4	-6.5	-5.3	-4.0	-2.5	-1.1
Primary balance	-9.2	-6.5	-5.2	-5.4	-4.0	-2.4	-0.8	0.7
Cyclically adjusted overall balance	-10.1	-7.8	-6.2	-5.4	-3.9	-3.1	-2.1	-1.0
Cyclically adjusted current balance 2/	-6.6	-5.3	-4.4	-3.8	-2.5	-1.7	-0.9	0.1
Cyclically adjusted primary balance	-8.1	-5.1	-3.2	-2.7	-1.2	-0.1	0.9	1.9
Memorandum items:								
Output gap (Percent of potential)	-2.2	-1.9	-3.3	-4.0	-3.9	-3.0	-2.1	-1.6
Deflator growth (Percent)	1.8	2.7	2.3	2.7	2.6	2.5	2.5	2.5
Real GDP growth (Percent)	-2.4	2.2	0.2	0.6	1.5	2.4	2.6	2.6
Potential GDP growth (Percent)	0.1	1.9	1.6	1.4	1.4	1.5	1.7	2.0
General government gross debt 3/	71.1	76.5	84.4	89.8	93.9	95.9	96.1	94.9
Public sector net debt 4/	52.6	60.5	66.6	71.9	76.4	78.8	79.7	79.0

Sources: HM Treasury; Office for National Statistics; and IMF staff estimates.

1/ Excludes the temporary effects of financial sector interventions, unless otherwise noted, as well as the one-off effect on public sector net investment in 2012/13 of transferring assets from the Royal Mail Pension Plan to the public sector, unless otherwise noted.

2/ Includes depreciation.

3/ On a Maastricht treaty basis. Includes temporary effects of financial sector interventions.

4/ End of fiscal year using centered-GDP as the denominator.

5/ IMF staff projections based on 2012 Budget expenditure plans and staff's macroeconomic assumptions.

Table 4. United Kingdom: Statement of General Government Operations, 2005–11
(Percent of GDP)

	2005	2006	2007	2008	2009	2010	2011
Revenue	40.7	41.5	41.1	42.9	40.1	40.2	40.8
Taxes	28.9	29.7	29.3	30.7	27.7	28.5	29.2
Social contributions	8.4	8.3	8.2	8.5	8.6	8.4	8.5
Other	3.4	3.5	3.6	3.7	3.8	3.2	3.1
Expense	44.1	44.2	43.9	47.8	51.5	50.3	49.0
Expense	44.4	43.4	43.0	46.5	49.9	48.9	47.9
Compensation of employees	11.3	11.2	10.9	11.0	11.6	11.4	11.2
Use of goods and services	11.4	11.8	11.6	12.5	13.7	13.1	12.6
Consumption of fixed capital	0.9	0.9	0.9	0.9	1.0	1.0	1.0
Interest	2.1	2.1	2.2	2.3	1.9	2.9	3.2
Subsidies	0.6	0.7	0.7	0.6	0.7	0.6	0.5
Social benefits	12.9	12.6	12.7	13.3	15.1	15.1	15.2
Other	5.2	4.1	4.0	5.9	5.9	4.7	4.1
Net acquisition of nonfinancial assets	-0.3	0.8	0.8	1.3	1.6	1.4	1.1
Consumption of fixed capital	-0.9	-0.9	-0.9	-0.9	-1.0	-1.0	-1.0
Gross operating balance	-2.8	-1.0	-1.0	-2.8	-8.8	-7.7	-6.1
Net operating balance	-3.7	-1.9	-1.9	-3.7	-9.8	-8.7	-7.1
Net lending/borrowing (overall balance)	-3.4	-2.7	-2.7	-5.0	-11.4	-10.1	-8.2
Net financial transactions	-3.3	-2.8	-2.9	-5.4	-11.2	-10.0	-7.8
Net Acquisition of Financial assets	0.6	0.9	0.4	4.6	3.8	0.8	2.2
Currency and deposits	-0.1	0.6	0.7	2.1	0.5	-0.4	0.7
Securities other than shares	0.3	0.2	0.1	0.2	0.0	0.5	0.6
Loans	0.2	0.2	0.3	0.3	0.5	0.5	0.3
Shares and other equity	-0.3	-0.2	-0.6	0.7	2.7	0.0	0.1
Insurance technical reserves	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Financial derivatives	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Other accounts receivable	0.5	0.2	-0.1	1.2	0.0	0.2	0.4
Monetary gold and SDRs	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net Incurrence of Liabilities	3.9	3.7	3.3	9.9	15.0	10.8	10.0
Currency and deposits	0.5	0.4	0.6	1.3	0.6	-0.4	0.6
Securities other than shares	2.9	3.0	2.7	7.6	15.9	11.4	9.4
Loans	0.3	-0.1	0.0	1.0	-1.4	-0.3	-0.1
Shares and other equity	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Insurance technical reserves	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Financial derivatives	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other accounts receivable	0.3	0.4	0.0	0.0	0.0	0.1	0.1

Source: IMF's International Finance Statistics.

Table 5. United Kingdom: General Government Stock Positions, 2005–11
(Percent of GDP)

	2005	2006	2007	2008	2009	2010	2011
Net worth	...	...	...	...	...	...	...
Nonfinancial assets	...	...	...	...	...	...	...
Net financial worth	-25.9	-26.7	-27.7	-32.3	-43.2	-52.9	-67.6
Financial assets	21.6	20.9	21.2	26.8	31.1	31.0	32.4
Currency and deposits	2.2	2.5	3.4	5.5	6.2	5.7	6.4
Securities other than shares	2.0	1.9	1.9	2.7	2.1	2.5	2.9
Loans	2.4	2.4	2.6	2.9	3.4	3.6	3.8
Shares and other equity	11.0	10.1	9.6	11.0	13.6	13.1	12.9
Insurance technical reserves	0.1	0.1	0.1	0.1	0.1	0.0	0.0
Financial derivatives	0.0	0.1	0.0	-0.2	-0.1	0.1	0.1
Other accounts receivable	3.6	3.6	3.4	4.5	4.7	4.7	5.0
Monetary gold and SDRs	0.3	0.3	0.3	0.4	1.1	1.2	1.3
Liabilities	47.5	47.6	48.9	59.1	74.4	84.0	100.0
Currency and deposits	7.0	7.0	7.2	8.4	9.2	8.4	8.7
Securities other than shares	35.5	35.5	36.4	45.4	61.4	71.8	87.5
Loans	3.8	3.5	3.5	3.6	1.9	1.7	1.7
Shares and other equity	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Insurance technical reserves	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Financial derivatives	0.0	0.0	0.0	0.0	0.0	0.1	0.1
Other accounts payable	1.1	1.5	1.7	1.7	1.9	1.9	1.9

Source: IMF's International Finance Statistics.

Table 6. United Kingdom: Balance of Payments, 2005–17
(Percent of GDP)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
								Proj.	Proj.	Proj.	Proj.	Proj.	Proj.
Current account	-2.6	-3.2	-2.5	-1.4	-1.5	-3.3	-1.9	-2.6	-1.8	-1.5	-1.0	-0.8	-0.8
Trade balance	-3.4	-3.1	-3.0	-2.7	-1.8	-2.5	-1.8	-1.8	-0.9	-0.6	-0.1	0.1	0.1
Trade in goods	-5.5	-5.8	-6.4	-6.6	-5.9	-6.7	-6.6	-6.2	-5.6	-5.3	-4.9	-4.7	-4.7
Exports	16.9	18.3	15.7	17.6	16.4	18.2	19.8	19.9	19.8	19.6	19.7	19.7	19.7
Imports	22.3	24.1	22.1	24.1	22.3	24.9	26.5	26.1	25.4	24.9	24.6	24.4	24.4
Trade in services	2.1	2.7	3.4	3.8	4.1	4.2	4.8	4.5	4.6	4.7	4.8	4.8	4.8
Exports	9.5	10.2	10.9	11.9	12.0	12.0	12.5	12.1	12.1	11.9	11.9	11.7	11.7
Imports	7.5	7.5	7.5	8.1	7.9	7.7	7.7	7.6	7.4	7.2	7.1	7.0	6.9
Income balance	1.7	0.7	1.5	2.3	1.5	0.6	1.4	0.6	0.6	0.6	0.6	0.6	0.6
Current transfers	-0.9	-0.9	-1.0	-1.0	-1.1	-1.4	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5
Capital and financial account	2.9	2.6	2.0	2.0	2.0	3.1	1.9	...	...	...	...	...	...
Of which													
Direct investment	4.3	3.0	-4.5	-3.6	1.2	0.9	1.0	...	...	...	...	...	...
Portfolio investment	-1.7	1.0	9.0	22.6	1.9	0.1	0.9	...	...	...	...	...	...
Other investment	0.3	-1.5	-2.7	-17.3	-0.9	2.2	0.2	...	...	...	...	...	...

Sources: Office for National Statistics; and IMF staff estimates.

Table 7. United Kingdom: Net Investment Position, 2005–11 1/
(Percent of GDP)

	2005	2006	2007	2008	2009	2010	2011
Assets	449	456	550	766	620	676	727
Direct investment abroad	56	55	64	75	74	71	73
Portfolio investment abroad	109	115	120	116	135	141	138
Other investment abroad	216	220	266	292	252	259	272
Reserve assets	2	2	2	3	3	3	4
Liabilities	470	485	574	772	642	700	741
Direct investment in the UK	39	43	44	46	47	54	52
Portfolio investment in the UK	117	128	138	138	173	172	163
Other investment in the UK	248	246	293	315	272	277	290
Net investment position	-21	-29	-23	-6	-22	-24	-13
Direct investment	17	12	20	28	27	17	22
Portfolio investment	-8	-13	-18	-22	-38	-30	-25
Other investment	-31	-27	-26	-24	-20	-19	-18
Reserve assets	2	2	2	3	3	3	4
Monetary financial institutions	-13	-13	-17	-10	-18	-10	-6
Other sectors	-2	-8	3	16	9	5	16
Public sectors	-6	-8	-9	-12	-13	-18	-22
Memorandum items:							
Change in the net investment position	-4.2	-8.6	3.9	17.1	-15.8	-3.1	9.7
Current account balance	-2.6	-3.2	-2.5	-1.4	-1.5	-3.3	-1.9

Source: Office for National Statistics.

1/ Data corresponds to the end of the indicated period, expressed as a percent of the cumulated GDP of the four preceding quarters.

Annex 1. Estimating Hysteresis Effects¹

The current deep and prolonged period of negative output gaps in the UK raises concern of permanent losses of production capacity. This annex seeks to quantify such effects by looking at the impact of previous episodes of persistent and large output gaps on steady-state unemployment and on potential output. We find that each 1 percentage point widening of the cumulative output gap during such periods is associated with an increase in the NAIRU of about 0.14 percentage points. This equates to a 0.1 percent fall in potential output. This effect is linear with respect to the cumulative output gap and falls with labor market flexibility. Hysteresis effects from unemployment may thus be modest once the UK's flexible labor markets are taken into account. However, other channels may be important, as each 1 percentage point widening of the cumulative output gap correlates to a 0.2 percent drop in potential output relative to its pre-slump trend. This is likely to be an upper bound on such effects, given possible upward biases.

A. Introduction

Four years after the start of the financial crisis, the level of output in the UK remains below its pre-crisis peak. Measured against a pre-crisis trend, the gap is even more substantial. Based on staff estimates, the output gap in the UK has averaged $-2\frac{3}{4}$ percent per year over the last four years. The unemployment rate has not increased by as much as would have been expected given the depth of the downturn, but youth unemployment has reached record highs.

This prolonged period of slack in the economy raises concern that the supply capacity of the economy could be eroded. Increased incidence of long-term unemployment, for example, could lead to the long-term unemployed experiencing skill erosion and becoming detached from the labor market. Insider-outsider models of unemployment can also generate hysteresis, as an adverse shock reduces the number of insiders employed; when demand returns during the recovery, insiders may then bargain for higher wages rather than allowing employment to expand, resulting in permanently higher structural employment (Blanchard and Summers, 1986). Idle machinery may also have to be scrapped during slumps, as the gloomy projections of demand by businesses become entrenched in their business investment decisions.

This annex attempts to quantify the size of potential hysteresis effects. To do so, we examine the impact of prolonged periods of large output gaps (PLOG episodes) in advanced economies on estimates of the “non-accelerating inflation rate of unemployment” (NAIRU) and on potential output in general. We focus on PLOG episodes for their particular relevance in the current juncture, as they capture drawn-out periods of sluggish demand.

¹ Prepared by Prakash Kannan (EUR).

B. Data

We use quarterly OECD data on GDP, unemployment, the output gap, and the NAIRU for 17 advanced economies.² The data span 1970:Q1 to 2011:Q4. Broadly speaking, the OECD's output gap estimates are based on a production function approach, while its NAIRU estimates are based on Phillips curve equations.³

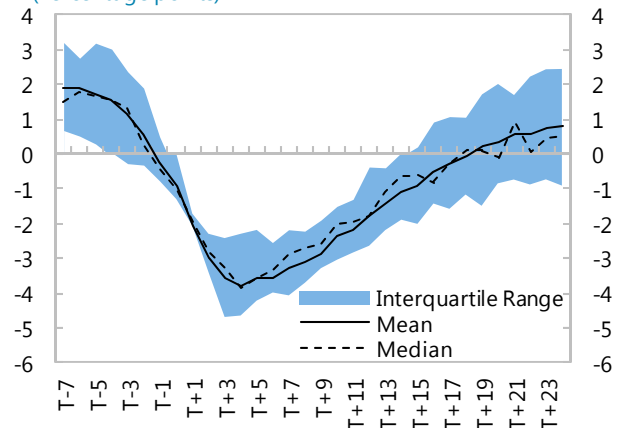
Using the OECD estimates of the output gap, we follow Meier (2010) and define a PLOG episode as one that consists of at least eight consecutive quarters of negative output gaps exceeding 1.5 percent in absolute terms. This definition captures both the persistence and depth of the episodes that we are interested in. In particular, the current UK experience would be classified as a PLOG based on this definition.

C. Stylized Facts of PLOGs and the NAIRU

The criteria for defining PLOG episodes identify 28 separate PLOG episodes. All countries in our sample—with the exception of Australia—experience at least one PLOG episode during the period under study. Some countries, such as Japan, experienced 3 episodes over the past 4 decades. The average episode lasts for 12.4 quarters and features an average annual output gap of -3.1 percent.

Figure A1.1 shows the quarterly path of the output gap around PLOG episodes. The horizontal axis starts from 2 years prior to the PLOG episode and ends 6 years after the start of the episode. The run-up to PLOG episodes typically features large, positive output gaps. A year into the PLOG episode, however, the output gap reaches a trough value of -4 percent on average. Three and one-half years later, the output gap closes again.

Figure A1.1. Behavior of the Output Gap around PLOGs
(Percentage points)



The unemployment rate increases on average by about 3½ percentage points during PLOG episodes (Figure A1.2). The peak unemployment is reached about two years into the episode. The average estimated NAIRU increases more gradually over the event window, ending up about 1.1 percentage points higher (Figure A1.3).

² Countries included in the study are Australia, Austria, Canada, Denmark, Finland, France, Germany, Iceland, Israel, Italy, Japan, Netherlands, Norway, New Zealand, Sweden, the UK, and the United States.

³ See Giorno and others (1995) for details on the output gap calculation and Gianella and others (2008) for details on the NAIRU estimation.

Figure A1.2. Behavior of Unemployment Rate around PLOGs (Percentage points)

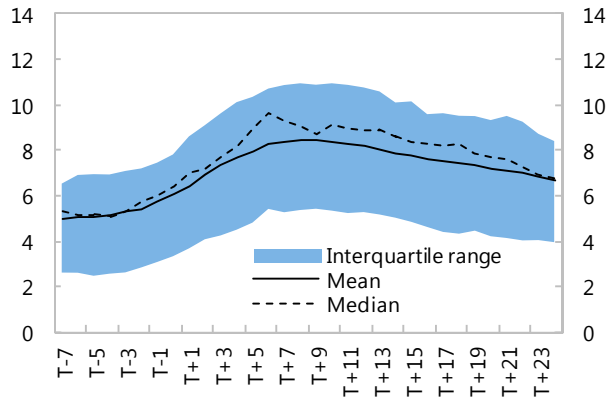
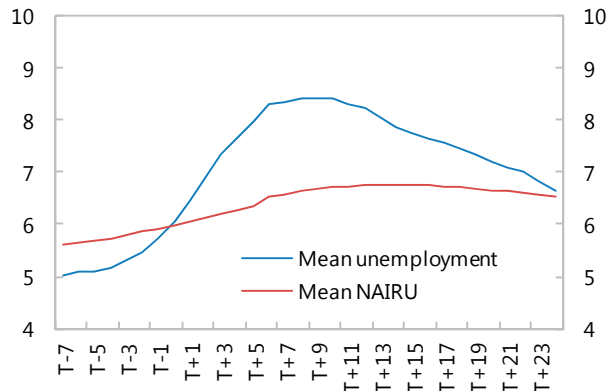


Figure A1.3. Behavior of NAIRU and Unemployment around PLOGs (Percentage points)



One straightforward measure of unemployment-related hysteresis effects is the change in the NAIRU across a PLOG episode. The increase in NAIRU across these episodes, however, can be distorted by abnormal levels of activity before and after PLOG episodes. For example, as shown in Figure A1.4, the run-up to PLOG episodes typically features a period of strong growth and large positive output gaps. In these periods, the estimated NAIRU may be biased downward, as some variables used in the estimation procedure may be procyclical. The lower NAIRU will then exaggerate any changes in the NAIRU that we measure across PLOG episodes. On the other hand, the slow adjustment of the NAIRU, as shown in Figure A1.3, indicates that we may underestimate the change in NAIRU across PLOG episodes if we do not consider periods sufficiently far away from the PLOG episode.

In order to reduce these biases, we exclude a window around PLOG episodes and consider changes across periods before and after PLOG episodes. This scheme is depicted graphically in Figure A1.4. Before and after each PLOG episode, we exclude Y years of data to avoid the biases described above. The changes in the NAIRU across PLOG episodes is then computed as the difference between the NAIRU averaged over X years before and after the episode. In what follows, we will use a value of 2 years for Y and 3 years for X.⁴

Figure A1.4. Computing Changes around PLOG Episodes

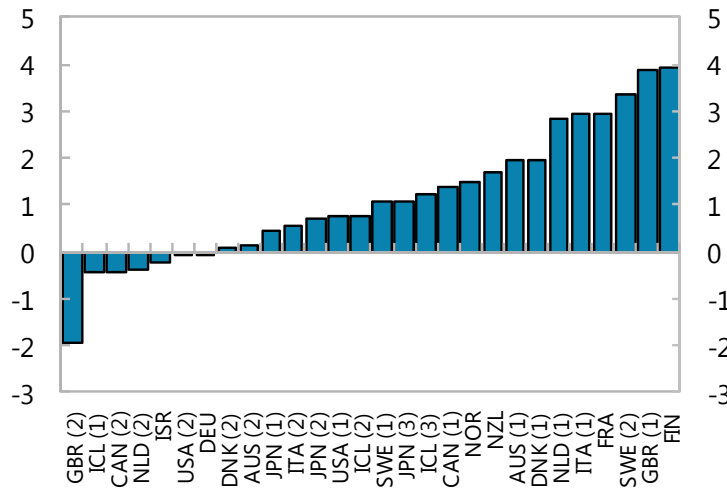


Based on the methodology described above, we find that the NAIRU increases by 1.1 percentage points after a PLOG. This increase in the NAIRU reaffirms the findings in Ball (2009) that the NAIRU increases during periods of significant disinflation, which is the case for PLOGs, as shown in Meier

⁴ Robustness calculations have been done using different values for Y and X. The results are qualitatively similar.

(2010). There is substantial variation around the average change, as shown in Figure A1.5. The two UK episodes (GBR (1) and GBR (2)) lie on opposite sides of the range of NAIRU changes. In the first episode, which occurred during the early 1980s, the NAIRU increased by close to 4 percentage points, indicating significant hysteresis effects. However, the PLOG episode in the early 1990s actually saw a sizeable decline in the NAIRU of about 2 percentage points. For the majority of episodes, however, the NAIRU recorded an increase during a PLOG episode. The covariates of the changes in NAIRU are discussed in the next section.

Figure A1.5. Changes in NAIRU across PLOGs
(Percentage points)



D. Cross-sectional Analysis of NAIRU Changes

We found in the last section that, on average, the NAIRU increases by 1.1 percentage points, with a large variation across different episodes. The large variation could be due to either country-specific factors, such as labor market regulations and institutions, or features of the PLOG itself, such as the extent of the fall in the output gap during these episodes. In this section, we examine how changes in the NAIRU during PLOG episodes covary with these variables.

Size of the PLOG

The increase in the NAIRU is positively correlated with the cumulative annual output gap during a PLOG (Figure A1.6; output gaps during PLOGs are negative, but we refer to them here and in the following figures in terms of their absolute values to ease the exposition). The slope of the regression line suggests that an increase in the output gap of 1 percent (on an annual basis) is associated with an increase in the NAIRU of 0.13 percentage points. The coefficient is significant at the 1 percent level. One might question whether the statistical significance of the result depends on the inclusion of Finland, which is an outlier episode in terms of the size of the output gap experienced (in Figure A1.6, it is the right-most point). Figure A1.7 shows the fitted line for the scatterplot with the Finnish episode dropped. The coefficient remains statistically significant at the 5

percent level. The coefficient in this case implies that a 1 percent higher output gap is associated with a 0.15 percentage point increase in the NAIRU.

Figure A1.6. Changes in NAIRU vs. Cumulative Output Gap during PLOGs (Percentage points)

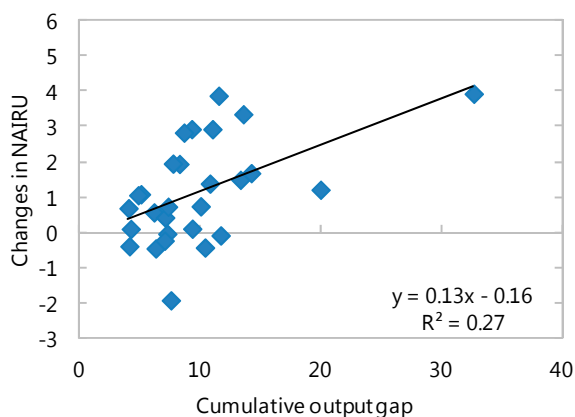
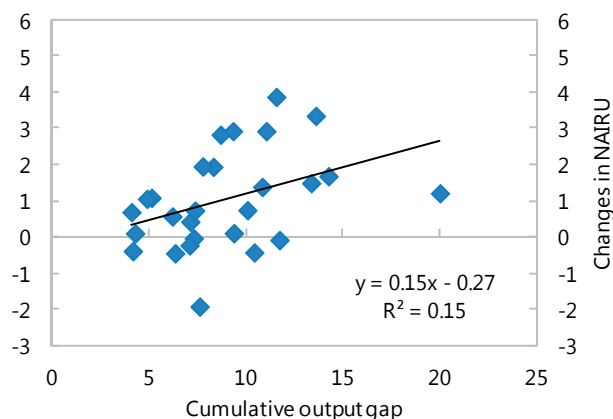


Figure A1.7. Changes in NAIRU vs. Cumulative Output Gap during PLOGs (Excluding Finland; percentage points)



We can translate the estimated change in NAIRU into changes in potential output using a standard production function. Assuming a Cobb-Douglas functional form, we can write potential output, Y^* , as

$$Y^* = A^* K^{*\alpha} [(1 - u^*) LF^*]^{1-\alpha} \quad (1)$$

where A^* , K^* , and LF^* refer to the potential level of productivity, capital stock, and the labor force. u^* refers to the NAIRU, and α is the capital share. Differentiating the logarithmic value of equation (1) gives us the percentage change in potential output for a small change in the NAIRU.

$$\frac{\partial \ln Y^*}{\partial u^*} = -\frac{1 - \alpha}{1 - u^*}$$

Based on this approach, a 1 percent higher output gap during a PLOG episode is estimated to reduce potential output by 0.1 percent. This estimate is based on a capital share of 0.3, the historical average for the UK, and a steady-state NAIRU of 6.3 percent, the OECD estimate for the UK in 2008.

Nonlinearity

The regression model above restricts itself to only consider linear effects of the size of the output gap on changes in the NAIRU. However, nonlinear effects may be important. To a certain extent, the analytical approach in this note implicitly acknowledges the nonlinearity of hysteresis effects in that we are only considering PLOG episodes, which are periods of large output gaps by construction. Still, it is worth examining if, even within this set of episodes, there is evidence of nonlinear effects. We test for nonlinearity by including squared terms of the output gap in the regression equation. The coefficient on these terms turns out to be insignificant (p-value: 0.54), thus providing evidence against the presence of nonlinear effects of the output gap on the NAIRU.

Labor market institutions

Apart from features of the PLOG episodes, country-specific factors could also help explain differences in NAIRU changes. One such factor is institutional differences across countries that govern labor market flexibility. These might be important if, for example, more flexible labor markets are less subject to insider-outsider behavior and have fewer real rigidities that cause skill erosion (from an extended period of high unemployment) to increase to the NAIRU.

To assess this theory, we examine how changes in the NAIRU are associated with the OECD’s index of Employment Protection Legislation (EPL)—a measure of the tightness of regulations governing hiring and firing practices. The EPL strictness index is produced annually and goes back to the mid-1980s for most countries. It is a summary indicator based on 14 weighted components, such as dismissal procedures for regular contracts, group layoffs, and use of temporary contracts. The EPL is scaled from 0-6. A higher number reflects more highly regulated labor markets.

The number of PLOG episodes for which we have EPL data is limited. Of the 28 PLOG episodes, only 15 have EPL data. Within this group, the average level of the EPL index is 2.1. The index for the UK’s 1990 PLOG episode is 0.6, indicating a relatively flexible labor market, owing to reforms in the 1980s.

Based on available data, we find that changes in the NAIRU are higher for countries that have a higher EPL (Figure A1.8). Table A1.1 shows the regression results of a model that includes an interaction term between the cumulative size of the output gap and the EPL index. The interaction term is highly significant. Evaluated at the average EPL level, the impact of a larger output gap on the NAIRU is statistically significant at the 1 percent level. Lower levels of the EPL, however, result in a lower impact of the output gap on the NAIRU. The fitted value for the UK’s current EPL index, for example, implies that a 1 percent output gap leads to an increase in the NAIRU of only 0.01 percentage points, which is statistically insignificant.

Figure A1.8. Changes in NAIRU vs. EPL Index

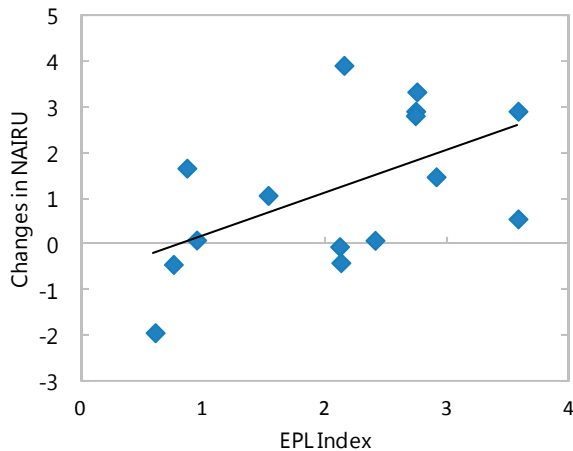


Table A1.1. Regression including EPL Index 1/

Cumulative output gap	-0.04 (0.08)
Cumulative output gap * EPL	0.09 *** (0.03)
Constant	-0.31 (0.52)
N	15
R ²	0.65
P-value of impact of output gap on NAIRU at average EPL	0.01

1/ Dependent variable is the change in the NAIRU across PLOG episodes; standard errors in parentheses; *** = significant at the 1 percent level.

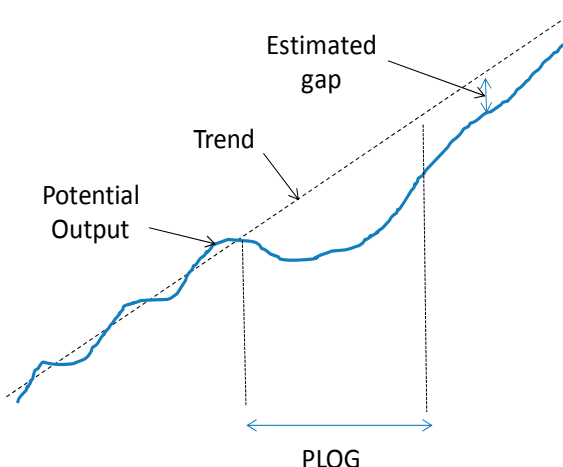
E. Looking at Potential Output

The analysis in the preceding section takes a conventional, but limited, view of hysteresis effects. Although the impact of slumps on the steady-state unemployment rate has been the focus of much of the literature on hysteresis, there are other channels through which hysteresis effects can manifest. One such channel is a fall in labor force participation, as workers who have been unemployed for long spells may become discouraged and drop out of the labor market, especially if they are middle-aged. Apart from hysteresis effects that operate through the labor market, lower levels of business investment during prolonged periods of large output gaps can also have permanent effects on the economy's potential. The low level of business investment implies that, as older capital equipment is scrapped, limited new capacity is installed to replace it.

Finding specific data to account for some of the additional hysteresis channels, however, is difficult. Instead, we take a broader approach and look at the behavior of potential output across PLOG episodes. As any hysteretic effects would eventually lead to lower potential output (relative to its pre-PLOG trend), this strategy should, in theory, encompass all of the various channels of hysteresis.

We thus examine how far potential output is from its pre-crisis trend several years after PLOG episodes. Figure A1.9 provides a stylistic representation of this methodology. As before, we exclude a window before and after the PLOG episode. A pre-PLOG trend growth line is estimated for the five years prior to the start of the window. The distance between potential output and its trend line for up to five years following the PLOG episode (controlling for the size of the fall) serves as a measure of hysteresis effects.

Figure A1.9. Computing the Gap in Potential Output after a PLOG



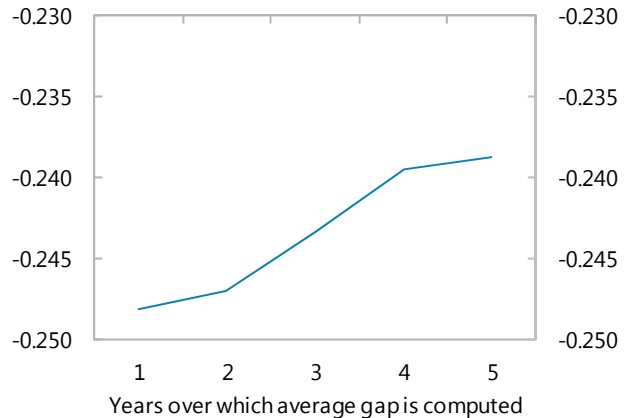
We should view this approach as setting an upper bound on the extent of hysteresis for the following reason: although PLOG episodes are arguably largely driven by negative demand shocks, there could also be coincident supply shocks that reduce potential output and which standard methods of estimating the output gap might pick up as periods of output gaps. Thus, attributing all of the decline in potential output during measured PLOGs to demand shocks that result in hysteresis effects clearly is an upper bound for such effects.

Using this methodology, we find an upper bound for hysteresis effects on the order of 0.2 percent for every 1 percent of output gap (on an annual basis). Figure A1.10 shows the average effect following the 2-year window.

F. Conclusion

We find that hysteresis from unemployment effects reduces potential GDP by 0.1 percent for each 1 percentage point increase in the cumulative annual output gap during PLOG episodes. The effects appear to be linear and smaller in economies with more flexible labor markets. With the UK's relatively flexible labor market, hysteresis effects from unemployment may be modest. However, hysteresis can operate through a number of other channels. Changes in estimated potential GDP during PLOGs might better capture all hysteresis effects. Such changes suggest that the upper bound of hysteresis effects might be around an 0.2 percent decline in potential GDP for every 1 percentage point increase in the cumulative annual output gap. Given this upper bound, the UK's relatively flexible labor market, and estimates in other studies (DeLong and Summers, 2012), IMF staff use a hysteresis coefficient of around 0.1 in its current projections. However, there is much uncertainty in both directions about this number. Given the usual methodological difficulties with making strong causal inferences from macroeconomic data, the results in this annex should be viewed as suggestive and not conclusive.

Figure A1.10. Estimated Drop in Potential Output Following a PLOG Episode (Percent)



References

- Ball, L. (2009), "Hysteresis in Unemployment: Old and New Evidence," NBER Working Paper No. 14818.
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- Gianella, C. and others (2008), "What Drives the NAIRU? Evidence from a Panel of OECD Countries", OECD Economics Department Working Papers, No. 649.
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Annex 2. The Structural Fiscal Balance and Asset Prices in the UK¹

This annex examines the impact of asset prices on the fiscal balance, with a view to estimating more carefully the structural fiscal position of the UK. The study finds that deviations in equity prices from their equilibrium can have a significant bearing on the fiscal balance. Deviations in house prices from their equilibrium appear to have a more limited effect on the aggregate fiscal balance, although they may affect some individual revenue components, such as stamp duty.

A. Introduction

The cyclically-adjusted fiscal balance (CAFB) has been a workhorse tool to measure the underlying fiscal stance in the UK. The cyclically-adjusted fiscal balance is derived by adjusting the fiscal balance for its cyclical variations and is often regarded as a measure of the structural fiscal balance (SFB). The latter is defined as the fiscal balance that is consistent with the long-run equilibrium of macroeconomic factors that determine the fiscal balance. Indeed, staff currently uses the concepts of CAFB and the SFB interchangeably in the UK. Staff estimates of the CAFB are derived by applying a “ready reckoner” formula that is used by UK Treasury to staff’s own estimate of the output gap (Box A2.1).

This annex is aimed at improving our understanding of the UK’s SFB, notably by examining the role and effects of asset prices. This issue is of significant relevance in the current conjuncture—given the large fiscal deficits that the UK is currently faced with, it would be useful to understand how much of the deficit is structural. In this context, given the UK’s preeminent role as a global financial center, there is a compelling case for assessing the impact of asset price changes on the SFB, especially since the country has over the years experienced large swings in equity and residential house prices. Existing studies have found mixed results concerning the effects of asset price valuations on the underlying fiscal position.

The analysis focuses on the effects of the output gap and asset prices on revenue.² The relationship of the expenditure-to-GDP ratio to the output gap and asset prices is not newly examined, as both past studies by UK Treasury staff and the procedures for determining the main expenditure items suggest that the ratio is unlikely to have much of an automatic response to business or asset prices cycles beyond the denominator effect and the modest effects on social

¹ Prepared by Hajime Takizawa (EUR).

² The analysis follows an approach that is similar to the one used by the UK Treasury (Farrington and others, 2008). One key difference is that the tax revenue regression includes both the output gap and asset price gaps as explanatory variables, while Farrington and others (2008) look at the effect of asset price gaps on the variation of tax revenue that is not explained by the output gap. The former approach appropriately takes into account possible correlations between explanatory variables while the latter approach does not.

security and debt interest payments that are included in the “ready-reckoner”.³ Instead, the analysis focuses on how the output gap and temporary deviations of asset prices from their long-run values (as measured by standard valuation metrics) affects both aggregate revenue and individual revenue items.

Box A2.1. Ready Reckoner for Calculating the CAFB

The UK Treasury uses a ready reckoner formula to derive the CAFB.

The formula is based on (i) regressions of expenditure-to-GDP and tax revenue-to-GDP ratios on the output gap and (ii) results of supplemental regression analyses (Farrington and others, 2008).

Based on estimated regression coefficients, the cyclically-adjusted expenditure-to-GDP ratio and the cyclically-adjusted tax revenue-to-GDP ratio are calculated as

$$\text{Cyclically-adjusted expenditure } (t) = \text{expenditure } (t) + 0.4 * \text{output gap } (t) + 0.1 * \text{output gap } (t-1)$$

and

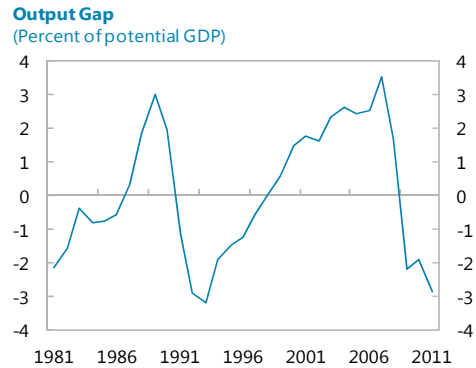
$$\text{Cyclically-adjusted revenue } (t) = \text{revenue } (t) - 0.1 * \text{output gap } (t) - 0.1 * \text{output gap } (t-1)$$

respectively. The expenditure coefficients mainly reflect denominator effects (i.e., the expenditure-to-GDP ratio goes up when GDP goes down), as well as results of supplementary regressions for cyclical social security payments and debt interest payments. The revenue coefficients reflect mild procyclicality of the revenue-to-GDP ratio.

Combined, these two formulae results in the following ready reckoner formula for the CAFB as a percent of GDP:

$$\text{Cyclically-adjusted fiscal balance } (t) = \text{fiscal balance } (t) - 0.5 * \text{output gap } (t) - 0.2 * \text{output gap } (t-1)$$

Staff calculation of the CAFB uses the same ready reckoner formula, but is based on staff’s own estimates of the output gap.



Source: IMF staff calculations.

B. Structural Revenue

The effects of the economic cycles and asset price valuations on tax revenue and social contributions can be estimated by regressing revenue-to-GDP ratios on the output gap and deviations of asset prices from their fundamental values. Asset price valuations are included

³ This finding is confirmed by independent regression analysis by staff, which is not shown in this annex to streamline the discussion.

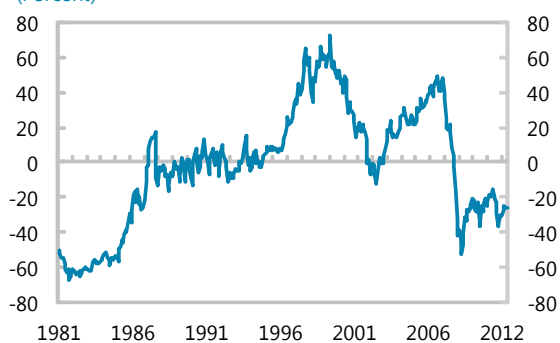
because they might have non-negligible effects on public finances in the UK, particularly since equities and housing constitute a large part of households' net wealth. Changes in net wealth owing to changes in asset prices could thus affect tax revenues, notably those levied on consumption and asset transactions.

The definition of asset price gaps is key to estimating the model. Existing studies largely define deviations of asset prices (in most cases normalized by some economic variables) from their long-term sample averages as "asset price gaps" and use them in regressions. An alternative approach, used here, is to construct a measure of deviations of asset prices from their "fundamental" values.⁴ The following measures of asset price gaps are used in the regressions:

- **The equity price gap** is calculated as the deviation of the Shiller Price Earnings Ratio (PER) for a UK equity price index from its average over the sample period 1981-2011, normalized by the latter. The Shiller PER is calculated as a ratio of the real equity price index to the ten-year trailing average of real earnings.
- **The house price gap** is calculated as the deviation of the price-to-rent ratio from the price-to-user cost of residential home ownership ratio. The price-to-rent ratio measures the price of real estate as an asset relative to its returns revealed as market rent. Residential home owners enjoy a flow of housing service from their house but also need to incur costs associated with ownership. The price-to-user cost of residential home ownership ratio measures house prices relative to the user costs. When the expected cost of owning a house is equal to the cost of renting, the housing market can be considered in equilibrium, and the house price gap measures the difference between the two.

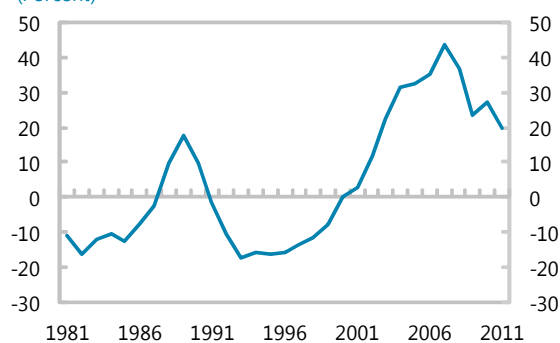
Figure A2.1. Equity and House Price Gaps

Equity Price Gap, January 1981–May 2012
(Percent)



Sources: Datastream; ONS; and IMF staff calculations.

House Price Gap, 1981–2011
(Percent)



Sources: OECD; ONS; and IMF staff calculations.

⁴ OECD (2005), Price and Dang (2011), and Igan and Loungani (forthcoming) provide good explanations about the house price gap that is used in this Annex. Igan and Loungani (forthcoming) also provide an overview of indicators that can be used to measure house valuations.

Such regressions should also control for changes in tax parameters if possible. One way to do this is to derive a “constant tax regime” series for revenue that corrects for the impact of tax measures on revenue collection. However, deriving such a series is not straightforward. An alternative approach is to include statutory tax rates, whenever time series data are available, as explanatory variables in the regression. This is the approach used in this annex.⁵ In particular, the following four measures of statutory tax rates are included: a simple average of personal income tax rates; the main corporation tax rate; the capital gains tax rate for individuals (a simple average of statutory income tax rates for 1988-2008, as income tax rates were applied to capital gains in these years); and the standard VAT rate.

Aggregate Revenue

Regression results suggest that both output and equity price gaps have significant effects on total revenue.

Table A2.1 shows the results of regressing the ratio of total tax revenue and social contributions-to-GDP on the output gap, asset price gaps, and key tax rates, using annual data for 1981-2011.⁶

Several findings are of note:

- The coefficient on the output gap (0.27) is statistically significant and similar to the ready-reckoner coefficient of 0.20 (adding together the contemporaneous and lagged effects in the ready-reckoner). The results thus broadly support continued use of the ready-reckoner’s adjustment for the output gap.
- The equity price gap also has a statistically significant effect. The magnitude is such that a 50 percent equity price overvaluation would temporarily boost revenue by 0.9 percent of GDP.
- The house price gap does not have a statistically significant effect. This could reflect the limited number of observations. However, the point estimate for the coefficient also implies modest effects, with a 50 percent overvaluation temporarily boosting revenue by 0.4 percent of GDP.

Table A2.1. Effects on the Tax Revenue and Social Contribution-to-GDP Ratio 1/

Regressors	Coefficients
Constant	26.711 ***
Output gap	0.268 **
Equity price gap	0.018 **
House price gap	0.008
Personal income tax rate	0.124 ***
Corporate tax rate	0.127 ***
Capital gains tax rate	-0.152 ***
VAT rate	0.239
<u>Memorandum</u>	
R ²	0.811
Sample period:	1981-2011

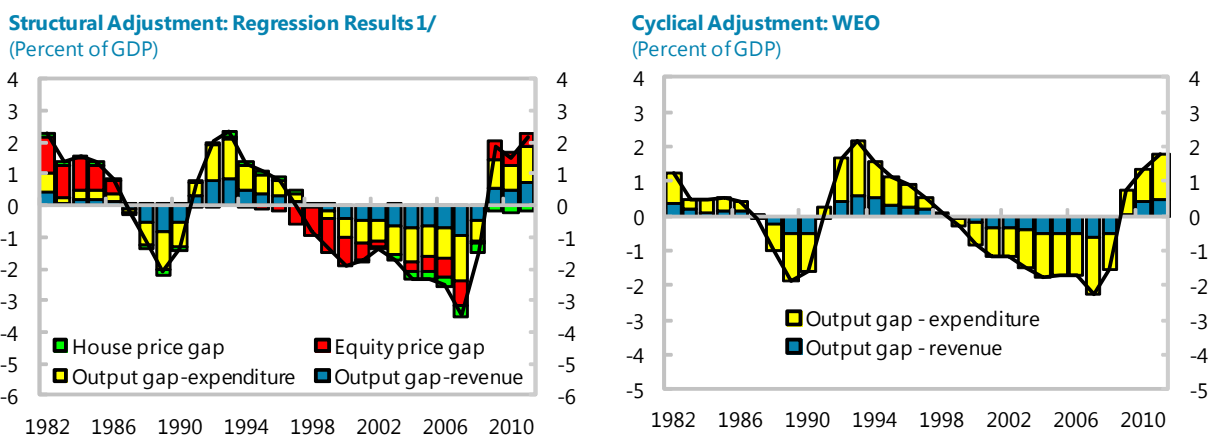
1/ *** represents a significance level of 1 percent; ** is for 5 percent; and * is for 10 percent.

⁵ Tax rates might not capture all of the effects of discretionary changes in tax policy. For example, changes in tax allowances are discretionary policy changes and affect tax revenue.

⁶ A regression was also run with lags of the output and asset prices gaps, as these may have some delayed effects on revenue; the results were broadly similar to those in Table A2.1.

The results suggest that large equity price gaps had a substantial impact on the fiscal balance in the past. The left panel of Figure A2.2 shows estimated structural adjustments to revenue using the coefficients in Table A2.1. The results imply that the fiscal balance was artificially boosted by the large positive equity price gap in the late '90s and the mid '00s (Figure A2.1). On the other hand, the early '80s saw a drag to tax revenue from the large negative equity price gap.

Figure A2.2. Structural Adjustment: Regression Results vs. WEO Adjustments

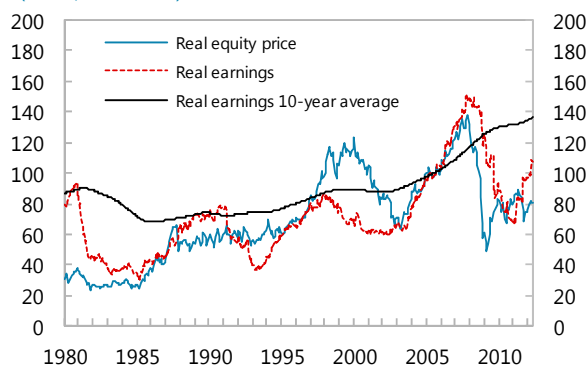


Source: IMF staff calculations.

1/ Effects of the output gap on expenditure are calculated using the ready-reckoner coefficient, as with the WEO estimates.

More recently, a negative equity price gap suggests a temporary negative effect on revenue, though interpretation of the gap is complicated by the unusual nature of pre-crisis financial conditions. The current negative equity price gap, as estimated using the Shiller P/E ratio, reflects historically high real earnings in the mid-2000s, with current earnings well below the mid-2000s level. Although a dip in earnings during downturns is typical—hence the rationale for the 10-year average—the unusually high level of pre-crisis real earnings suggests a risk that the 10-year average of earnings may fall substantially once the pre-crisis period falls out of the averaging window. In other words, there may be some question about whether the current level of the Shiller P/E remains a reliable indicator of a negative equity price gap at the moment or whether it instead is temporarily depressed due to an exceptional period of pre-crisis earnings that will not repeat.

Equity Price and Real Earnings, 1980–2012
(Index, 2005=100)



Sources: Datastream; ONS; and staff calculations.

Individual Revenue Items

Regression results for individual revenue items indicate some channels through which output and asset price gaps operate. Results for individual items are shown in Table A2.2.⁷ Most explanatory variables are not statistically significant. This may reflect an increased amount of noise in the data as revenue becomes more disaggregated. Nonetheless, a few results are of note:

- The output gap appears to have its largest effects on the revenue-to-GDP ratio through the corporation tax, which is quite procyclical.
- Equity prices may affect revenue in part by boosting consumption (and therefore VAT revenue) through wealth effects
- As one would expect, house and equity prices have non-negligible effects on stamp duties, which are transaction taxes on the value of various asset sales. This result gives some support for adjusting revenue for house price gaps even though the coefficient was not statistically significant in the aggregate revenue regression.
- The individual revenue items also yield some difficult-to-explain results, such as a negative coefficient of the equity price gap on social contribution revenue. However, in an estimation of more than 20 coefficients, one or two odd results are to be expected even if explanatory and dependent variables are unrelated.

C. Conclusions

The analysis in this annex suggests that the effects of asset price gaps—especially equity price gaps—on fiscal balances in the UK warrant closer monitoring going forward. The analysis finds that equity price gaps have significant effects on revenue.⁸ House price gaps may have additional (but smaller) effects, especially on stamp duties. At the moment, offsetting effects from estimated house price overvaluation and equity price undervaluation (Figure A2.1) imply that the net effect of asset price gaps on the fiscal balance may be modest (less than 0.3 percent of GDP; Figure A2.2). Uncertainty regarding the magnitude of asset price gaps also warrants some caution in their use. Given these considerations, the continued use of the ready-reckoner in staff's estimates of the structural balance seems broadly appropriate for now. However, if asset price gaps appear to widen, it may eventually become necessary to incorporate them more explicitly into estimates of fiscal structural balances.

⁷ The tax revenue classification follows the 1993 SNA. Trends are included for VAT and Other Nonoil Taxes, as these are apparent in the data,

⁸ The key results continue to hold in some robustness checks. Specifically, the signs, sizes, and statistical significance of the coefficients remain largely unchanged even when the equity price gap is replaced by deviations of the PER from its long-term average and when the house price gap is replaced by deviations of the price-to-rent ratio or price-to-income ratio from their long-term averages.

Table A2.2. Individual Tax Revenues and Output and Asset Price Gaps: Full Estimation 1/ 2/

Regressors	Personal	Nonoil	Capital Gains	VAT	Stamp Duty	Capital Taxes	Mandatory	Other Nonoil
	Income Tax	Corporation Tax	Tax		(SD)		Social Contributions	Taxes
Constant	10.088 ***	2.710 ***	0.274	-0.031	0.475 ***	0.224 ***	6.316 ***	9.317 ***
Trend				0.058 ***				-0.047 **
Output gap	-0.048	0.147 *	0.029	-0.010	0.018	0.011 ***	0.010	0.079
Equity price gap	-0.001	0.007	-0.001	0.004 *	0.002 ***	0.000 *	-0.005 ***	-0.012 ***
House price gap	0.004	-0.008	0.002	-0.003	0.007 ***	0.000	0.010 ***	-0.011
Personal income tax rate	0.000							
Corporation tax rate		-0.005						
Capital gains tax rate			0.003					
VAT rate				0.283 ***				
<u>Memorandum</u>								
R ²	0.034	0.483	0.317	0.906	0.755	0.306	0.554	0.835
Sample period	1981-2010	1981-2010	1981-2010	1981-2011	1981-2011	1981-2011	1981-2011	1981-2010

1/ Based on annual data.

2/ *** represents a significance level of 1 percent; ** is for 5 percent; and * is for 10 percent.

References

- Farrington, S., et al, 2008, "Public finances and the cycle," *Treasury Economic Working Paper No.5*, HM Treasury.
- Igan, D., and P. Loungani, forthcoming, "Global Housing Cycles."
- OECD, 2005, *Economic Outlook*, 78.
- Price, R., and T. Dang, 2011, "Adjusting Fiscal Balances for Asset Price Cycles," *OECD Economics Department Working Papers No.868*.

Appendix: Data Sources and Construction of Variables

Output gap: The WEO database.

House price gap: The house price-to-rent ratio that is provided by the OECD is re-calculated as the deviation from the 2000 level. The house price-to-user cost of housing is calculated as $1/(i + \tau + f - \pi)$ where i is the cost of the foregone interest rate that the homeowner could have earned on an alternative investment, τ is the property tax rate on owner-occupied houses, f is the recurring holding costs consisting of depreciation, maintenance, and the risk premium on residential property, and π is the expected capital gains rate. i is approximated by long-term government bond yields (IFS); τ is derived by dividing recurrent taxes on household immovable property (OECD) by the household holdings of real estate (Office for National Statistics; and NiGEM) and calculating a trailing five-year average; f is assumed to be 4 percent, following Price and Dang (2011); and π is a trailing five-year average of CPI and RPI inflation (Office for National Statistics).

Equity Price gap: Real earning and real price indices are constructing using MSCI UK USD data (Datastream) and CPI and RPI inflation (Office for National Statistics).

Total Managed Expenditures: Public Finance Statistics Supplementary Tables (Office for National Statistics).

Tax Revenues and Social Contributions: Main national accounts tax aggregates (Eurostat); Public Finance Statistics Supplementary Tables (Office for National Statistics); Tax Receipts and Taxpayers (UK HMRC); and Public Sector Statistics (Office for National Statistics).

Main corporation tax rate: Rates of Corporation Tax (UK HMRC).

Personal income statutory tax rates: Taxation of Wage Income (OECD); and Rates of Income Tax (UK HMRC).

Capital gains tax rate for individuals: Rates of Capital Gains Tax (UK HMRC).

VAT rates: VAT/GST rates in OECD member countries (OECD); and Value Added Tax (VAT) Bulletin (UK HMRC).

Annex 3. Alternative Fiscal Scenarios: Effects of Delaying Consolidation in the Presence of Hysteresis¹

This annex assesses possible gains from delaying fiscal consolidation in the presence of hysteresis by simulating an alternative fiscal scenario that involves near-term fiscal easing, followed by additional consolidation in the medium term (relative to a baseline based on current fiscal plans) to return debt and deficit ratios back to baseline levels by 2025. The scenarios find no gains (in terms of cumulative GDP) from delaying consolidation if multipliers are constant across time, even if hysteresis effects are substantial. Gains from delaying consolidation can be achieved if multipliers are asymmetric across the cycle. However, gains can also be negative, especially if multipliers vary with growth, growth is expected to be stable in the absence of consolidation, and delaying consolidation makes the adjustment path more uneven. If multipliers vary with growth, gains from delaying consolidation will rise significantly if growth turns decisively negative.

A. An Alternative Fiscal Scenario

Staff has simulated an alternative fiscal scenario to better assess the potential impact of delaying consolidation in the UK. Some analysts suggest that delaying consolidation could increase the present discounted value of GDP by reducing adverse hysteresis effects now. To better assess such effects, this annex simulates how GDP between now and 2025 would be affected by an alternative scenario of delayed consolidation.

This alternative scenario assumes the following:

- New fiscal stimulus is undertaken in FY12/13, such that the cyclically-adjusted primary balance (CAPB) deteriorates by 1 percent of GDP relative to the previous year. This level of the CAPB is then maintained in FY13/14. As a result, cumulative fiscal stimulus of about 4¼ percent of GDP is provided in these two years relative to the baseline in which the government maintains its current consolidation plans.
- Enough fiscal consolidation then occurs, starting in FY14/15, to gradually return both the debt and deficit back to baseline levels by 2025.

Restoring the debt-to-GDP ratio to the baseline level by 2025 is a key element of this analysis that differentiates it from related work by DeLong and Summers (2012). They instead assess the merit of fiscal stimulus by only requiring the government to pay growth-adjusted interest rates on the debt issued to finance the stimulus, thus allowing for a permanently higher debt-to-GDP

¹ Prepared by Kevin Fletcher and Damiano Sandri (EUR). This analysis is based on a forthcoming IMF working paper by the same authors.

ratio. Given that permanently higher debt ratios may entail some costs,² a more equivalent comparison of scenarios may be one in which debt in both cases converges to the same level. Another difference with DeLong and Summers is that this analysis allows for some gradual closing of the output gap even in the absence of stimulus.

Both the baseline and alternative scenario incorporate substantial hysteresis effects.

Specifically, both scenarios assume that each 1 percent output gap reduces potential GDP by 0.1 percent annually (Annex 1). This is the same central hysteresis parameter used by DeLong and Summers (2012). However, there is substantial uncertainty concerning the magnitude of such effects.

Other macroeconomic dynamics are broadly consistent with staff's central scenario. The baseline is calibrated to closely mimic staff's current central scenario. In the alternative scenario, growth deviates from the baseline in line with changes to the fiscal stance and with multiplier assumptions; fiscal balances then respond to growth in line with automatic stabilizer assumptions used by HM Treasury and staff. In the absence of shocks, the output gap is assumed to close by half each year. For example, if, in a certain year, potential growth is 1.7 percent, the output gap is -2 percent, and there is a headwind from fiscal consolidation of 0.4 percent, growth would be 2.3 percent ($1.7 + 2 \times .5 - .4 = 2.3$).

B. Results

Symmetric multipliers

A key finding of these simulations is that delaying consolidation yields essentially no permanent gains if multipliers and hysteresis effects are symmetric over the business cycle.

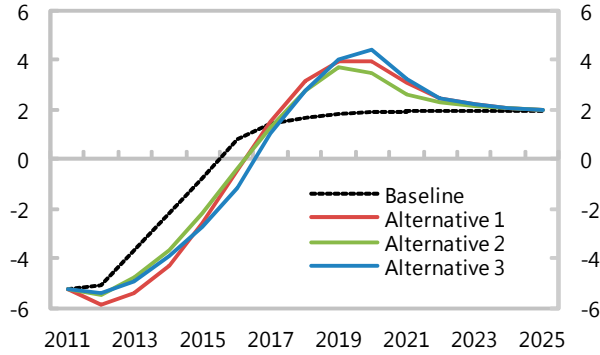
Alternative 1 in Figure A3.1 shows the delayed consolidation scenario in the case in which multipliers are constant at 0.8. In this case, there is no benefit to delaying consolidation: potential GDP in 2025 and cumulative discounted GDP during 2011-25 are no better than in the baseline.

This finding goes against the view that hysteresis effects and substantial multipliers alone justify fiscal stimulus. The intuition behind the result in Alternative 1 is that, although hysteresis effects are unfortunate, they cannot be avoided if structural fiscal adjustment is required to stabilize debt and if multipliers and hysteresis effects are symmetric over the business cycle. This is because the powerfulness of large hysteresis effects and multipliers during the stimulus phase go fully into reverse during the unavoidable consolidation phase (excluding the unlikely event that stimulus permanently lowers the debt-to-GDP ratio, such that fiscal adjustment is never needed). This is a key aspect of the analysis that is not incorporated into DeLong and Summers, as they do not require consolidation to return debt-to-GDP to its baseline level.

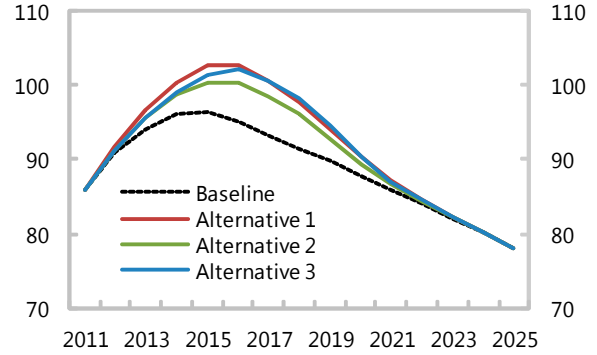
² DeLong and Summers include the distortionary costs of taxation from paying the growth-adjusted interest on the higher debt. However, there may be a number of other costs to permanently higher debt levels (higher risk premia, lower capital stock, debt overhang effects, etc.)

Figure A3.1. Baseline vs. Delayed Consolidation 1/

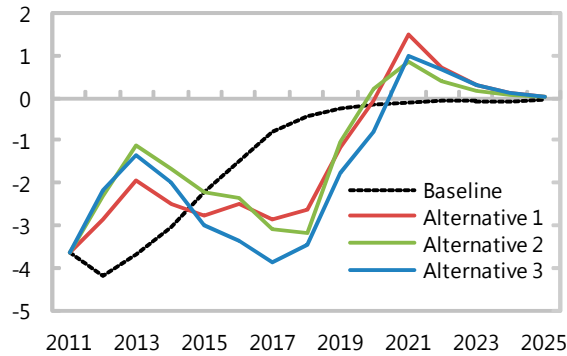
Primary balance
(Percent of potential GDP)



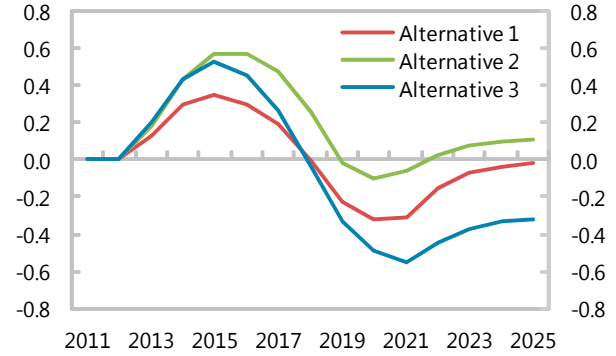
Government debt
(Percent of potential GDP)



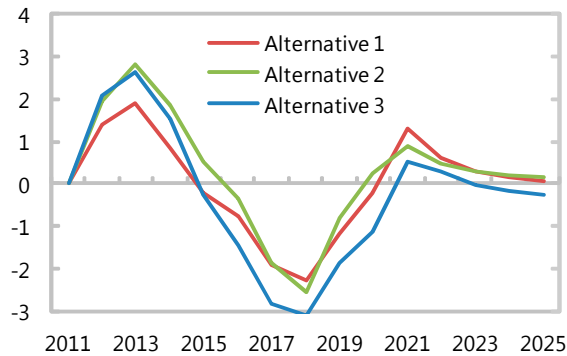
Output gap
(Percent)



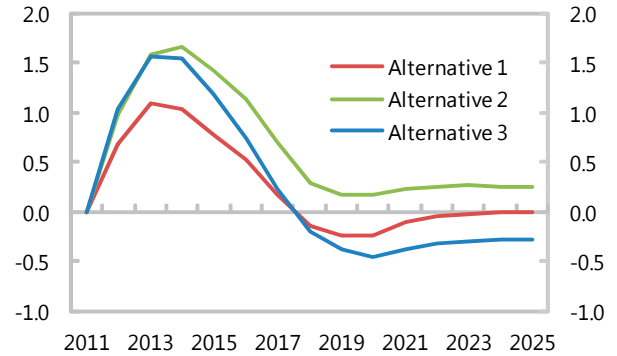
Potential GDP in the alternative scenarios
(Percentage deviation from baseline scenario)



GDP in the alternative scenarios
(Percentage deviation from baseline scenario)



Cumulative discounted GDP in the alternative scenarios
(Percentage deviation from baseline scenario)



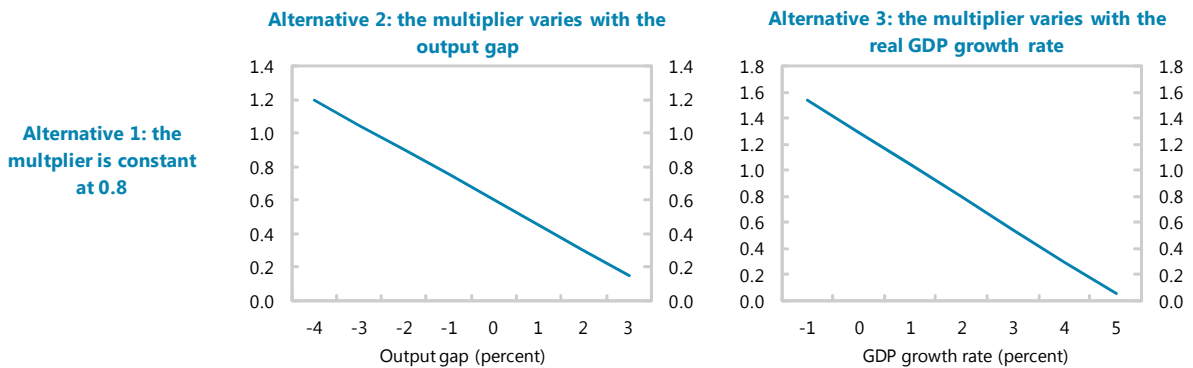
Source: IMF staff calculations.

1/ Alternative 1: constant multiplier. Alternative 2: the multiplier is decreasing in the output gap. Alternative 3: the multiplier is decreasing in the GDP growth rate.

Asymmetric multipliers

Permanent gains from delaying consolidation can be generated in some cases if hysteresis effects are significant and multipliers are asymmetric over the business cycle. Alternative 2 in Figure A3.1 shows the case in which the multiplier rises linearly from 0.15 when the output gap is +3 percent to 1.2 when the output gap is -4 percent (Figure A3.2).³ In this case, cumulative discounted GDP during 2011-25 under delayed consolidation is 0.25 percent higher than under the baseline.⁴

Figure A3.2. Multiplier Assumptions in Alternative Scenarios



Source: IMF staff calculations.

However, gains from delayed consolidation may be more difficult to capture if multipliers vary more closely with growth than with the output gap. [Auerbach and Gorodnichenko \(2012\)](#) find some empirical support for the view that multipliers more closely vary with growth than with the output gap. Given this, Alternative 3 in Figure A3.1 shows the effects of delayed consolidation under the case in which multipliers vary with growth, rising linearly from zero when growth is +5 percent to 1.5 when growth is -1 percent. In this case, the gains from delaying consolidation are actually negative (-0.25 percent of cumulative discounted GDP during 2011-25). This result reflects two factors:

- Growth is projected to be moderately positive over the next few years in the baseline and accelerate only modestly over the medium term. With multipliers varying with growth, broadly constant growth over the medium term implies broadly constant multipliers in the baseline and hence limited scope for gains from delaying consolidation.

³ In all three alternatives, the multipliers are calibrated so that they are 0.8 on average during the projection period.

⁴ Asymmetry of hysteresis effects across the cycle would further increase gains from delaying consolidation. However, it is unclear that the adverse effects of downturns on potential GDP do not have opposite positive effects during booms. For example, Clark and Summers (1982) find evidence of positive hysteresis during World War II, as more employment of women led to sustained increases in their labor force participation rates. Annex 1 also finds little evidence of nonlinear hysteresis effects.

- Moreover, with the baseline consolidation already slightly backloaded going forward, further delay in consolidation makes the consolidation path even more uneven (i.e., adjustment during the consolidation phase of the alternative scenarios is steeper than at any point under the baseline). This steeper path of adjustment in the alternative scenarios results in larger fiscal headwinds and therefore lower growth during the consolidation phase of Alternative 3 than under the baseline. This low growth in turn increases fiscal multipliers, further depressing growth and further raising multipliers in the consolidation phase of Alternative 3. A key implication of this result is that, if the growth path is constant in the absence of fiscal consolidation and if multipliers vary with growth, then GDP losses are minimized by a constant rate of adjustment, even if hysteresis is significant.

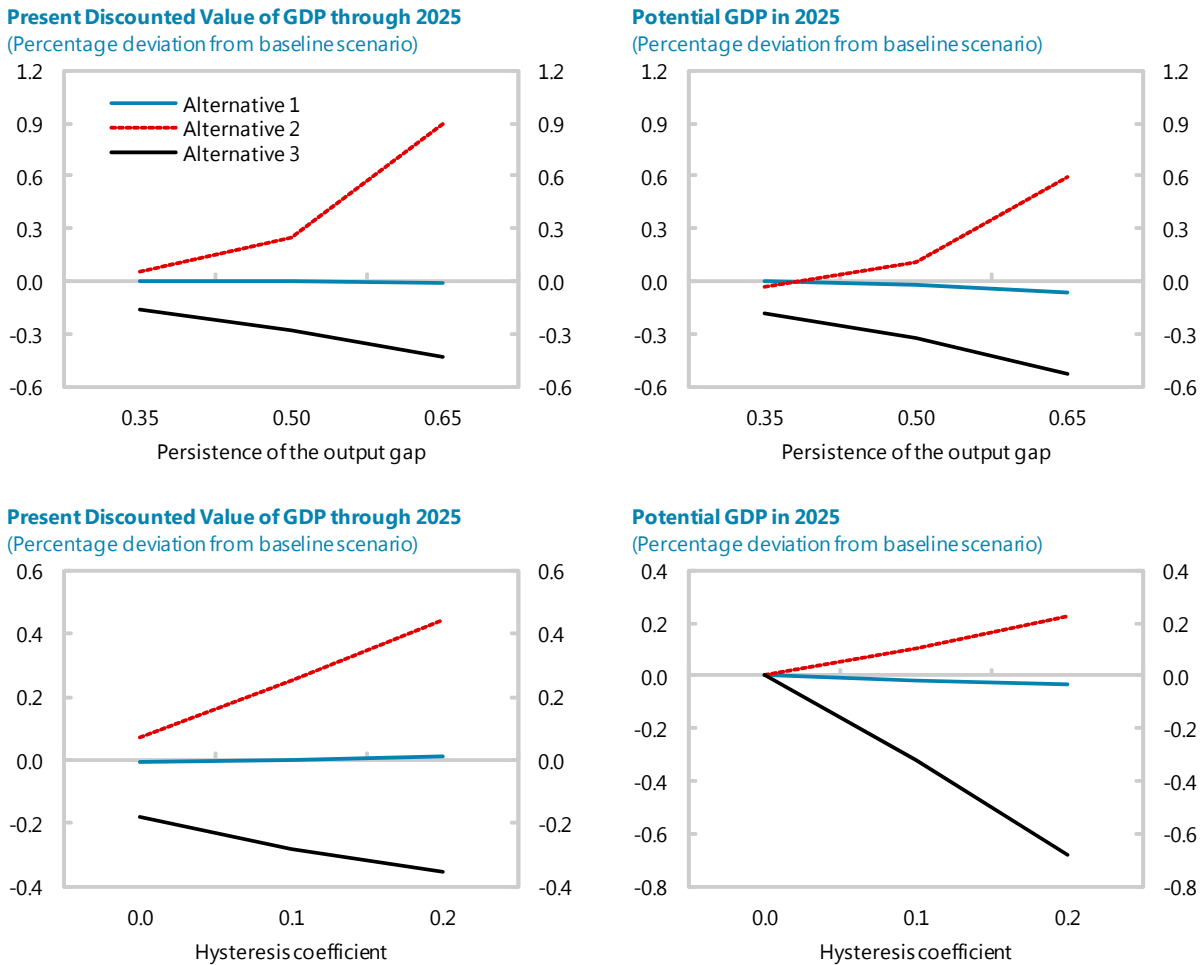
However, if multipliers vary with growth, the case for delayed consolidation would strengthen considerably in a downturn, as multipliers would spike. Under such a scenario, simulations suggest that permanent gains from fiscal stimulus could exceed 1 percent of potential GDP.

Sensitivity tests

Sensitivity tests examine how the results are affected by alternative assumptions regarding the magnitude of hysteresis and the persistence of output gaps. These results are shown in Figure A3.3. In each graph, the assumption in the simulations in Figure A3.1 is the central point (0.1 for hysteresis effects and 0.5 for output gap persistence). Effects of increasing and decreasing each variable are shown. The results suggest several points:

- Essentially no gains occur under symmetric multipliers (Alternative 1), even under large hysteresis effects or highly persistent output gaps.
- Larger hysteresis effects and slow “natural” closing of output gaps (i.e., slow price and wage adjustment to return the economy to full employment) amplify potential gains of delaying consolidation when multipliers are significantly asymmetric and vary with the output gap (Alternative 2).
- Conversely, large hysteresis effects and persistent output gaps magnify the losses in the case where multipliers vary with growth (Alternative 3). It should be emphasized that this result partly relates to the specific scenario studied (the baseline scenario), in which growth is positive and relatively stable.

Figure A3.3. Sensitivity of Key Results to Alternative Assumptions Regarding Hysteresis and the Persistence of the Output Gap



Source: IMF staff calculations.

Comparing gains with costs

Against possible gains from consolidation, one must weigh various costs to delayed consolidation that are not modeled in the scenarios. During the phase in which delayed consolidation entails temporarily higher debt and deficits, costs could include higher risk premia and crowding out effects on capital accumulation. However, these effects may not be large in the UK at the moment, at least if changes to the debt path are moderate. Other risks include reduced buffers to deal with unexpected adverse shocks and political economy risks that delayed consolidation may never be delivered. These risks could be substantial, but are hard to quantify.

The degree to which multipliers are currently asymmetric in the UK is uncertain. The [Spring 2012 Fiscal Monitor](#) found little multiplier asymmetry in the UK across the output gap. Auerbach and Gorodnichenko (2012) also find that both positive multipliers and multiplier asymmetry vanishes as

debt approaches 100 percent of GDP—a debt level the UK is quickly approaching. However, it is also unclear to what degree econometric studies across a range of periods can be applied to the UK's current circumstances, especially the unusual ones of today in which short-term policy rates are near the lower bound. In particular, a key factor affecting asymmetry is the degree to which monetary policy can offset fiscal decisions. There are good reasons to think that, if not artificially limited to a small number of instruments, that UK monetary policy can still be quite effective (section on Monetary and Credit Easing Policies in main text), implying relatively low and symmetric fiscal multipliers once the monetary policy reaction is taken into account. However, if strong and broad-based monetary and credit easing do not improve growth, this may indicate more asymmetry of fiscal multipliers related to the zero lower bound (or elevated levels of uncertainty and risk aversion) than currently assumed, which could in turn strengthen the case for slowing fiscal tightening plans. To preserve credibility, reconsidering the path of consolidation should be in the context of a multi-year plan focused on further reducing the UK's large structural fiscal deficit when the economy is stronger and taking into account considerations such as risks to sovereign borrowing costs, as discussed above.

References

- Auerbach, A. and Y. Gorodnichenko (2012), "Fiscal Multipliers in Recession and Expansion," paper presented at NBER conference, *Fiscal Policy after the Financial Crisis* (Milan, Dec. 2011).
- DeLong, B. and L. Summers (2012), "Fiscal Policy in a Depressed Economy," *Brookings Papers on Economic Activity*, Spring 2012.

Annex 4. FSAP Update: Status of Main Recommendations¹

The authorities have made progress in implementing the recommendations of the 2011 FSAP Update, which emphasized the need to intensify supervision and provide it with sufficient resources. Specifically, the new regulatory architecture announced in late 2010 is now taking shape, with operational separation of the Financial Services Authority (FSA) into the Prudential Regulation Authority (PRA) and Financial Conduct Authority (FCA) already underway. The transition to the new structure and the revision of the supervisory program are major undertakings, and many of the FSAP recommendations will be addressed when this work is finalized. The successful implementation of the recommendations will require significant staff resources for both new authorities. Other priorities include granting the PRA broader authority over financial holding companies and increasing the supervisory focus on small investment firms.

Recommendations and Authority Responsible for Implementation	Priority	Timeframe ^{1/}	Status
Overall Financial Sector Oversight			
Revise the legal framework to clarify mandates and include a specific financial stability mandate for the prudential authorities (Tripartite).	High	Immediate	<p>The reorganization of the regulatory architecture remains a work in progress. Substantial progress has been made in laying out the mandates of the two new agencies. The PRA will be a subsidiary of the BoE. According to the Financial Services Bill the PRA, the new agency will be responsible for prudential supervision of commercial banks, building societies, and insurance companies, as well as investment firms deemed systemically important. The PRA will have two objectives: promoting the safety and soundness of regulated firms; and policyholder protection. This clarity of mandate would address concerns set out in the FSAP.</p> <p>The FCA will be responsible for prudential regulation of around 25,000 firms not prudentially regulated by the PRA, including several thousand investment firms (fund managers, brokerage firms, and dealers). The Financial Services Bill sets out the FCA's single strategic objective of protecting and enhancing confidence in the UK's financial system and indicates three operational objectives: (i) securing an appropriate degree of protection for consumers; (ii) promoting efficiency and choice in the market of financial services; and (iii) protecting and enhancing the integrity of the UK financial system. However, these objectives are not explicitly linked to financial stability. In discussion surrounding the FCA and in the FSA literature, the FCA is discussed primarily as having a consumer protection function, with a market integrity function less emphasized. The FCA chair does participate in the Financial Policy Committee (FPC) and clearly the FCA has prudential responsibilities. However, the concerns expressed in the FSAP—namely the lack of priority around financial stability responsibilities—are not yet fully addressed.</p>
Amend legislation to allow for regulatory power over holding companies of regulated entities (Her Majesty's Treasury (HMT)).	High	Near term	A draft Financial Services Bill currently before Parliament contains provisions (section 192) that improve on the current restrictions on the regulator's powers over holding companies. However, these powers are limited to the "power of direction," which can be used when specific conditions are met, as set out in the draft Bill, and do not extend to full and necessary authority over a holding company. Both the BoE and FSA expressed concern that

¹ Prepared by Jennifer Elliot (MCM).

Recommendations and Authority Responsible for Implementation	Priority	Timeframe ^{1/}	Status
			the Bill does not give the PRA sufficient power. HMT has indicated that the issue will be revisited in the context of future work at the European level (conglomerates directive, etc.).
Enhance resources for supervision of banks, insurers, and securities firms based on the agreed-upon supervisory operating model and the new macro-prudential overlay (Tripartite).	High	Near term	There are no plans to increase personnel resources for the PRA/FCA from the present FSA level. Both agencies are under pressure not to expand budgets and, as a consequence, will not allocate greater resources to the new structure over those already allocated under the FSA. Given the significant challenges facing both agencies, the concern regarding sufficiency of resources remains. There will be an upcoming statement on PRA recruitment and strategy.
Establish a forum for ensuring good governance and coordination among organizations in the new regulatory structure (HMT).	High	Near term	<p>The draft Financial Services Bill focuses on coordination between agencies and government, in normal times and during a crisis. The draft Bill requires the PRA and FCA to enter into a memorandum of understanding (MoU) setting out a high-level framework for how the two regulators will work together within the new regulatory system. A draft MoU has been produced by the BoE and FSA. The FSA has put in place an "internal twin peaks model" as of April 2012, in which the future FCA and future PRA are separated within the FSA. This is allowing the two new agencies to begin working separately, while coordinating through this framework.</p> <p>The two authorities will coordinate activities in some areas and cooperate in others. The MoU requires each regulator to appoint a senior executive responsible for the coordination; these appointees will meet quarterly to review the effectiveness and efficiency of coordination and cooperation. For the first year, this will be the respective CEOs.</p> <p>The Boards of each regulator will review the effectiveness of the MoU on an annual basis. Each agency's annual report must contain an account of their cooperation.</p> <p>The MoU between the PRA and FCA is a good first step toward forging a cooperative arrangement between the two agencies. The real operational effect of arrangements will not be known until the agencies legally and physically separate and fully embrace their new mandates and operations.</p> <p>The Financial Services Bill also creates an additional framework for financial stability and crisis coordination. Under the Bill, the PRA will have the authority to veto decisions of the FCA where there is a financial stability issue at stake. Both the PRA and FCA will be represented at the FPC.</p> <p>In a crisis situation, the BoE is subject to additional reporting to HMT. When certain criteria are met (an institution of systemic importance in distress and likely need for an outlay of public funds), the Bill gives HMT the ability to direct some of the BoE's operations. It is unclear what the impact would be on the PRA, as it appears that HMT's powers in these cases would be limited to liquidity operations and resolution authority of the BoE rather than the supervisory operations of the PRA, the BoE subsidiary.</p> <p>The Financial Services Bill is still a draft bill and subject to change. Further, it will take time and experience to understand its impact. The Bill aims to clarify responsibilities, but seems to impose a rather complex set of checks and balances that may be difficult in practice.</p>

Recommendations and Authority Responsible for Implementation	Priority	Timeframe ^{1/}	Status
Enforce public disclosure by banks and insurance and securities firms, including prudential returns as appropriate (FSA).	High	Near term	The authorities indicated that the PRA will give priority to strengthening disclosure to enhance market discipline. The future PRA staff are currently engaged in a project to identify data needs. Once the data set is established, disclosure requirements will be revised, and the PRA will seek to ensure comparability of disclosures across firms and through time. As part of its commitment to make market discipline effective, the PRA will seek to publish some regulatory returns. This project is still in its early stages. Outcomes of the project will need to be judged against the FSAP recommendations in the future.
Amend risk-based assessment methodologies to ensure adequate assessment of AML/CFT risk (FSA).	High	Near term	The revision of the risk-based assessment methodology is ongoing and not yet complete.
Banking Oversight			
Enhance supervision by (i) conducting detailed reviews of credit and market risk assessment by banks, (ii) conducting verification and selected model replication reviews on a proactive basis, (iii) better integrating specialist work into the supervision program, and (iv) enhancing peer analysis (FSA).	High	Near term	<p>The future PRA is currently developing a high-level supervisory model that it feels will broadly address these points. The supervisory model designates firms Category 1-4, according to their size, level of complexity, and the impact their failure would have on the system. The supervisory assessment framework for the largest banks (Category 1) would be systematic, proactive, and multi-year, which should lead to a more continuous regime of onsite assurance that is intended to be more judgment-based and forward-looking than the current regime. The PRA has indicated it is committed to much more senior management involvement in direct supervision and interactions with institutions.</p> <p>The supervisory assessment framework sets out how supervisors would be expected to construct a multi-year plan to assess the different areas of risk across individual firms/groups. This will include testing of credit and market risk as necessary. However, at this stage it is too early to assert exactly how frequent and “deep” the PRA will be able to go in each of the risk areas outlined in the new supervisory model. This is dependent on further detailed design of the framework and associated resource allocations, which are works in progress.</p> <p>Supervisions staff and specialist staff were formerly separated in the FSA model, and this raised concerns in the FSAP. In the new model, specialists and supervisors are better integrated.</p> <p>Also, the supervisory assessment framework aims to better link capital and liquidity assessments to the overall assessment of a bank. The different elements of capital analysis will be brought together under one overall approach. Note that, while the PRA will not replicate any internal models, the outputs of the more important models will be subject to regular review and supported by Hypothetical Portfolio Exercises.</p> <p>Interaction with banks at the Board level will be more frequent and led by the Director (or above). It will focus on the key messages and ensure the firm understands the PRA’s concerns and is fully engaged with addressing them.</p> <p>Completing and operationalizing the supervisory approach will take place over the next several years.</p>
Adopt a proactive intervention framework through triggers for contacts and coordination actions	Medium	Medium term	The future PRA has indicated it will establish a Proactive Intervention Framework (PIF) to encompass all institutions it regulates. This framework will support early identification of risks

Recommendations and Authority Responsible for Implementation	Priority	Timeframe ^{1/}	Status
with other authorities and amend legislation as needed (FSA).			<p>to a firm's viability and ensure that firms take appropriate remedial action to reduce the probability of failure. It will also flag actions that the authorities will need to take in advance to prepare for the failure and resolution of a firm, in coordination with the SRU and FSCS as resolution authority and operator of the deposit guarantee scheme, respectively. To highlight regulatory forbearance, where actions expected in a particular stage had not been taken, supervisors would report to PRA senior management.</p> <p>The PIF is expected to have five clearly demarcated stages. The judgment on where to place a firm within a particular stage will be based on an assessment of the firm's viability in both current and future states of the world. There will not be a mechanical reliance on backward-looking indicators.</p> <p>The assessment of where a firm sits in the PIF will be undertaken as part of the ongoing supervisory process and will reflect, among other things, a firm's expected financial strength in stressed circumstances. It will be revisited in response to specific concerns arising in the external environment in which a firm operates — for example, in response to a sectoral risk identified by the FPC.</p> <p>If the PRA judges risks to a firm's viability to be low, the firm will be in Stage 1 of the PIF. This implies a normal level of supervisory monitoring and actions. As a firm moves through each stage of the PIF, the intensity of supervisory monitoring and the intrusiveness of supervisory actions will increase, and contingency planning by the SRU and the FSCS will be stepped up.</p> <p>Again, the PIF is currently being planned and will not be fully operationalized for some time.</p>
Develop a comprehensive plan to enhance prudential reporting and conduct a review to deliver a more systematic approach to data quality (FSA).	High	Near term	The FSA and BoE have initiated a project to review and establish what the PRA data requirements will be in the steady-state across the whole risk assessment model from potential impact analysis (which determines the supervisory category) to resolution. The current plan is to store, classify, and quality-assure this data in the statistics division of the BoE. Requirements will also be compared and reconciled with European requirements (e.g., COREP). An initial consultation document will be published in September.
Insurance Sector Oversight			
Extend the new intrusive risk-based approach to supervision to a wider range of insurers (FSA).	High	Near term	The redesignation of firms under the new model (Categories 1-5) means that the number of insurers subject to more intensive supervision (Category 1 and 2) is likely to be greater than the number of insurers covered in the current program. Once the PRA supervisory model is in place, it may address the FSAP's concerns that insurers just below the current CPP(I) threshold are insufficiently supervised.
Increase the frequency and number of randomly conducted "transaction examinations" for both the largest and some smaller insurers (FSA).	Medium	Medium term	The PRA supervisory design has not yet reached this level of detail.
Securities Markets Oversight			
Clarify in legislation that the remit of the conduct authority includes market integrity and transparency to ensure adequate emphasis on issues other than consumer	High	Immediate	The launch documents suggest that the FCA mandate includes a clear responsibility for market integrity and transparency, as well as consumer protection. As noted above, concern remains that the FCA mandate does not contain sufficient emphasis on prudential responsibilities.

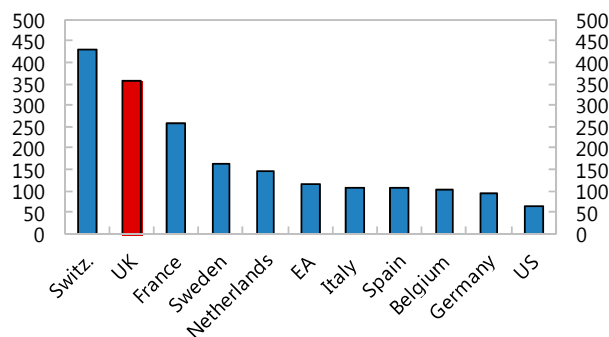
Recommendations and Authority Responsible for Implementation	Priority	Timeframe^{1/}	Status
protection (HMT).			
Increase intensity of supervision with greater use of “bottom up” analysis of firm operations using on-site examinations, including thematic work, to supplement the “top down” risk analysis (FSA).	High	Medium term	The FCA is still designing its supervisory model. From early discussion it appears that because of the large number of firms and its resource constraints, the FCA will not expand its “bottom up” analysis of small firms. It will expand its thematic reviews and is revising its data reporting. However, there will still be a very large range of firms with low contact.
Payments and Securities Systems Oversight			
Ensure that sufficient and reliable funding options are in place for central counterparties (CCPs), including committed credit lines subject only to presentment (Bank of England (BoE), FSA).	High	Near term	The FSA is undertaking a review of liquidity standards at CCPs and has instituted a liquidity stress testing program and monthly liquidity reporting. Rather than requiring committed credit lines from banks (which may be counterproductive in a distressed situation) they have elected to require CCPs to hold additional highly liquid collateral. This is in keeping with recent changes to CPSS/IOSCO standards. The FSA (with input from the BoE) is currently conducting more detailed examinations of the CCPs’ liquidity risk management. The supervision of CCPs will pass to the BoE at the end of the transition.
Develop contingency plans to deal with a potential failure of a CCP (BoE, FSA).	High	Near term	Contingency planning is still ongoing. The authorities are actively involved in the EU and FSB work on these issues. CCPs are developing loss allocation rules that would be used when the CCP faces a loss greater than its standard default protections. Some CCPs have already introduced loss allocation rules for certain services. The FSA expects European-level legislation on resolution of CCPs to be adopted, and CPSS/IOSCO is currently working on the issues.
Offer central bank settlement to CCPs that have been classified as systemic institutions (BoE).	Medium	Medium term	The BoE indicates it is ready to offer sterling concentration facilities to systemic CCPs and is currently reviewing the policy framework governing provision of services to CCPs more generally.
Establish close monitoring of concentration of banks’ payment and settlements activities (BoE, FSA).	Medium	Near term	The BoE will become the sole overseer of payment and settlement activities under the new regulatory architecture. The BoE has developed indicators to monitor concentration of banks’ payment and settlement activities. The BoE shares data on tiering with the FSA. CHAPS Co has introduced rules and criteria that give it power to preclude indirect relationships that present unacceptable systemic risk and will undertake its assessment against the criteria by September. EUI has begun analyzing data on tiering and will make recommendations to mitigate the risks. Both CHAPS Co and EUI are in discussing membership with several major banks.
Undertake a unified assessment of the real time gross settlement (RTGS) infrastructure, including an assessment of the finality of transactions (BoE).	High	Medium term	This assessment has not yet been undertaken. The BoE will conduct such assessments under its own risk framework.
Crisis Management			
Establish appropriate resolution tools and framework for potentially systemically important nonbank firms that are not covered by the Special Resolution Regime (Tripartite).	Medium	Medium term	Revisions to the resolution framework are ongoing. The recommendations of the Independent Commission on Banking will require ring-fencing of retail deposit business in large banks and will require additional loss-absorbency for systemically important institutions. The recommendations are being considered for legislation that is planned for 2015. The bail-in aspects of the report may fold into work being done on the EU resolution framework. In the meantime, large UK banks are in the final stages of completing resolution and recovery plans.

1/ “Immediate” is within one year; “near term” is 1–3 years; and “medium term” is 3–5 years.

Annex 5. Spillovers: Financial Contagion Through G-SIBs¹

The key takeaways from last year's [Spillover Report](#) were that spillovers emanating from the UK are almost entirely financial and that UK financial stability is a global public good, requiring the highest quality supervision and regulation. Given the centrality and size of the UK banking sector, this annex assesses the role of its global systemically important banks (G-SIBs) as sources and propagators of shocks. The analysis identifies two UK G-SIBs as having great capacity to generate spillovers. UK banks are also found to be very vulnerable to funding shocks. Therefore, an intensification of the euro area crisis, which affects bank funding, is likely to have large amplifying effects via UK G-SIBs.

G-SIBs Total Assets 1/
(Percent of GDP)



Sources: Annual Reports; Bankscope; and IMF's World Economic Outlook.
1/ G-SIBs total assets by country, except Italy where Unicredit, Intesa San Paolo and Banca Monte dei Paschi di Siena are included. Assets are not adjusted for accounting differences in derivatives.

UK G-SIBs have grown in size and importance over the last decade and are highly interconnected with the rest of the global financial system. Therefore, spillovers from European shocks transmitted through UK G-SIBs could potentially be very large.

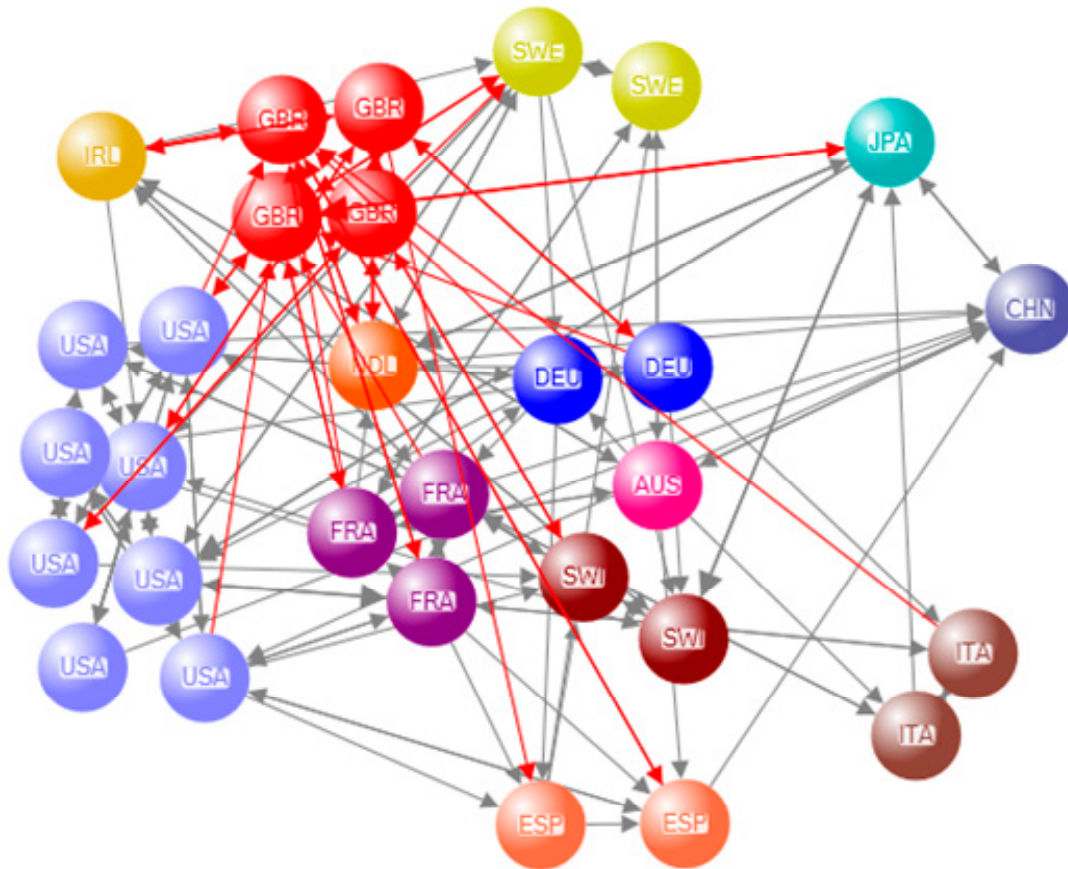
Banks with high spillover potential

To infer interconnectedness among G-SIBs and gauge the scope for financial contagion, two sets of metrics are constructed using banks' balance sheet and market price data for a sample of 32 SIBs.² These include: (i) directional correlations of market prices, measuring an institution's contribution to the variance of other institutions' equity returns or its contribution to systemic risk (both in normal times and during high stress episodes), and (ii) banks' balance sheet indicators of interconnectedness, based on the size of securities holdings and wholesale funding liabilities, and of vulnerability to a number of risk factors (Figure A5.1). The analysis identifies two UK G-SIBs, along with four euro area and four US G-SIBs, as having high potential to generate spillovers. These UK institutions are also among the most susceptible to spillovers from others, but are more likely to be affected mainly during times of market stress, including dislocations in funding markets or a generalized sell-off in broader asset markets.

¹ Prepared by Marta Ruiz-Arranz (EUR). For further explanation of this analysis, see the forthcoming *2012 Spillover Report: Background Paper*.

² The sample includes 27 G-SIBs and 5 European SIBs that are considered likely to contribute to spillovers within Europe.

Figure A5.1. UK SIBs: Spillovers under Extreme Market Stress 1/
(Red arrows indicate spillovers between the UK SIBs and other SIBs)



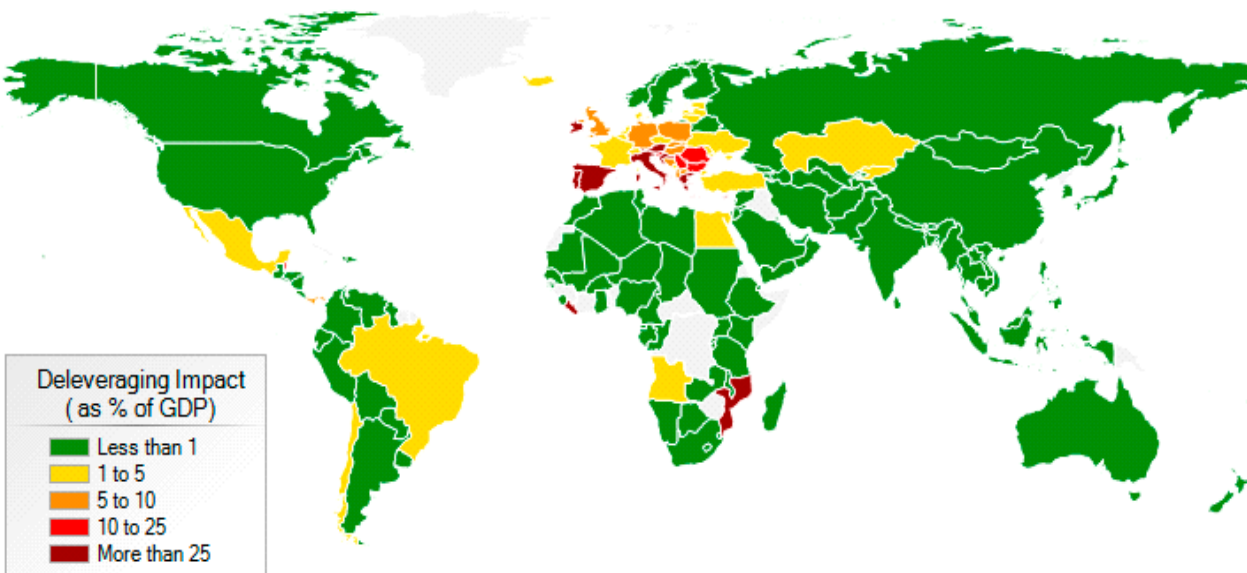
Sources: Bloomberg; and staff calculations.
1/ The individual banks are labeled using their home country names.

Deleveraging due to funding and sovereign stress

To examine the channels of transmission of adverse shocks to European G-SIBs and evaluate their impact within and outside Europe, contagion effects of sovereign and funding shocks are simulated. A freeze of wholesale funding markets would hit UK banks particularly hard, exacerbating UK banks' deleveraging both in the UK and outside. In contrast, a sovereign shock would affect the UK indirectly through stress and deleveraging of foreign banks.

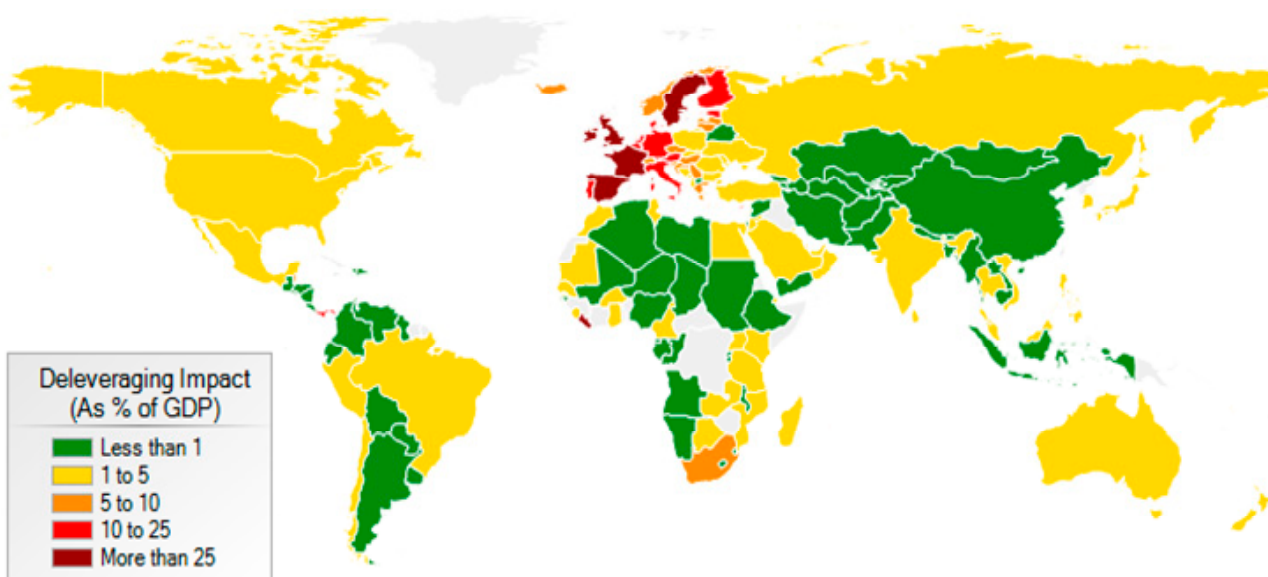
- *Sovereign shock.* This scenario assumes a permanent decline in sovereign bond prices in Italy and Spain equal to the difference between prices in December 2011 and March 2012. Several G-SIBs in the euro area core plus banks in the periphery incur large losses. Deleveraging is largest in the periphery, followed by Germany and the UK. The impact outside of Europe is, however, relatively modest (for more details see forthcoming *2012 Spillover Report: Background Paper*).

Deleveraging Impact of Sovereign Stress



- Funding shock.* The shock comprises a sharp increase in LIBOR-OIS spreads, calibrated to the Lehman stress episode, and a reduction in the value of derivatives market funding. Bank losses are largest in France, Germany, and the UK. The ensuing deleveraging exceeds 10 percent of GDP in these countries as well as in emerging Europe. Deleveraging outside Europe is more modest, but still large in the US, Japan, Australia, and several emerging market economies.

Deleveraging Impact of Funding Shock



Annex 6. Fiscal Debt Sustainability Analysis

Under staff's central macroeconomic scenario and the government's fiscal plans (Table A6.1):

- The general government primary deficit is expected to continue improving to a surplus of 2¼ percent of GDP by FY17/18. As a result, the debt ratio will be on a downward path after FY15/16.
- General government gross debt is projected to reach a peak of about 96 percent of GDP before declining to 92½ percent of GDP by FY17/18.

Alternative scenarios and bound tests highlight the uncertainties surrounding the projected debt path (Figure A6.1). Different policy paths or growth scenarios would significantly affect debt outcomes:

- Debt would increase continuously in the absence of fiscal consolidation. In a scenario with a constant primary balance (in percent of GDP) over FY12/13-17/18, debt would increase to 115 percent of GDP by FY17/18 and be on a firm upward path.
- Medium-term debt dynamics are not highly sensitive to interest rate shocks given the long average maturity (14 years) of UK government debt.
- If medium-term growth rates are persistently lower than anticipated, stabilizing the debt ratio would require further adjustment. Assuming expenditure plans remain unchanged, the debt-to-GDP ratio could reach 105 percent of GDP by FY17/18 should growth be 1.3 percentage points (½ a standard deviation) lower each year than in the central scenario.

Table A6.1. United Kingdom: Public Sector Debt Sustainability Framework, 2007-2017
(Fiscal year basis; percent of GDP, unless otherwise indicated) 1/

	Actual										Projections					Debt-stabilizing primary balance 9/
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2017				
Baseline: General government consolidated gross debt o/w foreign-currency denominated	42.9	56.0	71.3	76.6	84.3	89.7	93.8	95.8	96.0	94.8	92.5	92.5	-1.2			
Change in public sector debt	105.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
Identified debt-creating flows (4+7+12)	0.4	13.1	15.3	5.3	7.7	5.4	4.1	2.0	0.2	-1.2	-2.3	-2.3	-2.3			
Primary deficit	-2.9	12.5	14.4	5.9	6.3	5.3	3.1	0.7	-1.1	-2.5	-3.4	-3.4	-3.4			
Revenue and grants	0.7	4.7	9.3	6.5	5.2	5.1	3.8	2.1	0.5	-1.2	-2.2	-2.2	-2.2			
Primary (noninterest) expenditure	37.8	37.6	36.0	36.7	37.2	37.2	37.2	37.3	37.2	37.5	37.5	37.5	37.5			
Automatic debt dynamics 2/	38.5	42.3	45.3	43.2	42.4	42.4	41.0	39.4	37.7	36.3	35.3	35.3	35.3			
Contribution from interest rate/growth differential 3/	-3.6	2.5	2.5	-0.5	1.3	0.3	-0.5	-1.2	-1.3	-1.1	-1.2	-1.2	-1.2			
Of which contribution from real interest rate	-0.3	2.5	2.5	-0.5	1.3	0.3	-0.5	-1.2	-1.3	-1.1	-1.2	-1.2	-1.2			
Of which contribution from real GDP growth	1.2	0.9	1.2	1.0	1.5	0.7	0.7	1.0	1.1	1.2	1.2	1.2	1.2			
Contribution from exchange rate depreciation 4/	-1.5	1.5	1.3	-1.5	-0.2	-0.5	-1.3	-2.2	-2.4	-2.3	-2.4	-2.4	-2.4			
Other identified debt-creating flows	-3.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
Privatization receipts (negative)	0.0	5.3	2.6	-0.1	-0.2	-0.1	-0.1	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2			
Recognition of implicit or contingent liabilities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
Other (bank recapitalization and other financial interventions)	0.0	5.3	2.6	-0.1	-0.2	-0.1	-0.1	-0.1	-0.2	-0.2	-0.2	-0.2	-0.2			
Residual, including asset changes (2-3) 5/	3.4	0.6	0.9	-0.6	1.4	0.1	1.0	1.3	1.3	1.3	1.1	1.1	1.1			
General government debt-to-revenue ratio	113.6	149.0	198.2	208.5	226.4	240.8	251.8	256.8	257.7	253.0	246.7	246.7	246.7			
Gross financing need 6/ in billions of U.S. dollars	3.9	8.1	14.5	13.6	15.8	15.9	14.2	13.9	12.5	10.9	9.6	9.6	9.6			
Average nominal interest rate on public debt (in percent) 8/	112.7	213.6	320.1	311.8	382.8	392.1	364.1	375.8	354.9	326.3	303.4	303.4	303.4			
Average real interest rate (nominal rate minus change in GDP deflator, in percent)	3.6	-3.6	-2.4	2.2	0.2	0.6	1.5	2.4	2.6	2.6	2.7	2.7	2.7			
Nominal appreciation (increase in US dollar value of local currency, in percent)	5.4	5.0	3.8	4.3	4.3	3.6	3.5	3.7	3.7	3.9	4.0	4.0	4.0			
Inflation rate (GDP deflator, in percent)	3.1	2.0	2.0	1.6	2.0	0.9	0.9	1.2	1.2	1.4	1.4	1.4	1.4			
Growth of real primary spending (deflated by GDP deflator, in percent)	3.1	-26.5	9.2	-3.8	-0.1	...	...	...	...	...	...	...	...
Primary deficit	2.3	3.0	1.8	2.7	2.3	2.7	2.6	2.5	2.5	2.5	2.5	2.5	2.5			
	3.5	6.0	4.4	-2.4	-1.7	0.5	-1.7	-1.5	-1.9	-1.3	-0.1	-0.1	-0.1			
	0.7	4.7	9.3	6.5	5.2	5.1	3.8	2.1	0.5	-1.2	-2.2	-2.2	-2.2			

1/ Data are for general government and on a fiscal year basis (which starts in April).

2/ Derived as $(r - p(1+g) - g + ae(1+r))/(1+g+p+gp)$ times previous period debt ratio, with r = interest rate; p = growth rate of GDP deflator; g = real GDP growth rate; a = share of foreign-currency denominated debt; and e = nominal exchange rate depreciation (measured by increase in local currency value of U.S. dollar).3/ The real interest rate contribution is derived from the denominator in footnote 2/ as $r - \pi(1+g)$ and the real growth contribution as $-g$.4/ The exchange rate contribution is derived from the numerator in footnote 2/ as $ae(1+r)$.

5/ For projections, this line includes exchange rate changes.

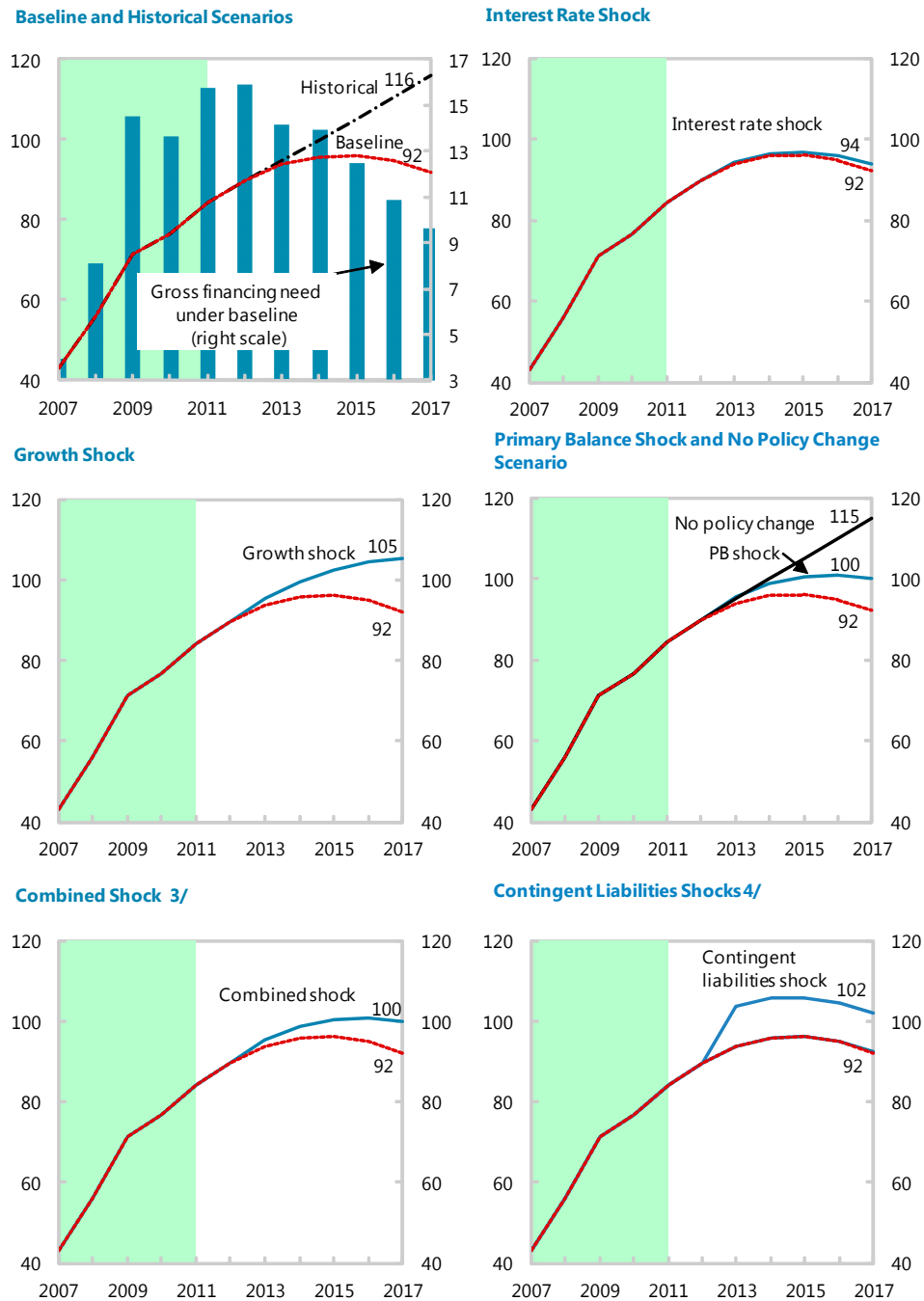
6/ Defined as general government deficit, plus amortization of medium and long-term general government debt, plus short-term debt at end of previous period.

7/ The key variables include real GDP growth, real interest rate, and primary balance in percent of GDP.

8/ Derived as nominal interest expenditure divided by previous period debt stock.

9/ Assumes that key variables (real GDP growth, real interest rate, and other identified debt-creating flows) remain at the level of the last projection year.

Figure A6.1. Public Debt Sustainability: Bound Tests 1/ 2/
(General government gross debt in percent of GDP)



Source: IMF staff estimates. Data for fiscal years.
 1/ Shaded areas represent actual data. Individual shocks are permanent one-half standard deviation shocks. Figures in the boxes represent average projections for the respective variables in the baseline and scenario being presented. Ten-year historical average for the variable is also shown.
 2/ For historical scenarios, the historical averages are calculated over the ten-year period, and the information is used to project debt dynamics five years ahead.
 3/ Permanent 1/4 standard deviation shocks applied to real interest rate, growth rate, and primary balance.
 4/ A 10 percent of GDP shock to contingent liabilities occurs in 2013.



UNITED KINGDOM

STAFF REPORT FOR THE 2012 ARTICLE IV CONSULTATION—INFORMATIONAL ANNEX

July 2, 2012

Prepared By

Staff Representatives for the 2012 Consultation with the
United Kingdom (In consultation with other departments)

CONTENTS

I.	Fund Relations	2
II.	Statistical Issues	4

FUND RELATIONS

(Data as of May 31, 2012)

I. **Membership Status:** Joined December 27, 1945; accepted Article VIII.

II. General Resources Account:	SDR Million	Percent Quota
Quota	10,738.50	100.00
Fund holdings of currency	6,955.84	64.77
Reserve Tranche Position	3,782.86	35.23
Lending to the Fund		
New Arrangement to Borrow	2,098.44	

III. SDR Department:	SDR Million	Percent Allocation
Net cumulative allocation	10,134.20	100.00
Holdings	9,561.66	94.35
Designation Plan	0.00	

IV. **Outstanding Purchases and Loans:** None

V. **Financial Arrangements:** None

VI. **Projected Payments to Fund:**^{1/} (SDR million; based on present holdings of SDRs):

Forthcoming

	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>
Principal					
Charges/Interest	0.38	0.86	0.86	0.86	0.86
Total	0.38	0.86	0.86	0.86	0.86

^{1/} When a member has overdue financial obligations outstanding for more than three months, the amount of such arrears will be shown in this section.

VII. **Exchange Rate Arrangement:**

The UK authorities maintain a free floating regime. As of June 8, 2012 the exchange rate for sterling was \$1.56. In accordance with UN resolutions and EU restrictive measures, the United Kingdom applies targeted financial sanctions under legislation relating to Al-Qaeda and Taliban, and individuals, groups, and organizations associated with terrorism; and certain persons associated with: the former Government of Iraq, the former Government of Liberia, the current Government of Burma (aka Myanmar), the former Government of the Republic of Yugoslavia and International Criminal Tribunal Indictées, the current Government of Zimbabwe, the current government of Belarus, the current government of North Korea; the current government of Iran and persons considered to be a threat to peace and reconciliation in Sudan, Cote d'Ivoire, and Democratic Republic of Congo; and persons considered by the UN to have been involved in the assassination of former Lebanese Prime Minister Rafik Hariri. These restrictions have been notified to the Fund under Decision 144–(52/51).

VIII. Article IV Consultation:

Discussions for the 2012 Article IV consultation were conducted in London during May 9–22, 2012. The Staff Report (IMF Country Report) was considered by the Executive Board on [July 16, 2012].

IX. FSAP

The FSAP update was completed at the time of the 2011 Article IV Consultation.

X. **Technical Assistance:** None

XI. **Resident Representative:** None

STATISTICAL ISSUES

Economic and financial data provided to the Fund are considered adequate for surveillance purposes. The United Kingdom subscribes to the Special Data Dissemination Standard (SDDS) and meets the SDDS specifications for the coverage, periodicity, and timeliness of data. SDDS metadata are posted on the Dissemination Standard Bulletin Board (DSBB).

TABLE OF COMMON INDICATORS REQUIRED FOR SURVEILLANCE

(As of June 6, 2012)

	Date of latest observation	Date received	Frequency of Data ⁷	Frequency of Reporting ⁷	Frequency of Publication ⁷
Exchange Rates	05/06/2012	06/06/2011	D	D	D
International Reserve Assets and Reserve Liabilities of the Monetary Authorities ¹	May 2012	06/06/2011	M	M	M
Reserve/Base Money	30/05/2012	06/06/2012	W	M	M
Broad Money	April 2012	30/05/2012	M	M	M
Central Bank Balance Sheet	30/05/2012	06/06/2012	W	W	W
Consolidated Balance Sheet of the Banking System	April 2012	30/05/2012	M	M	M
Interest Rates ²	05/06/2011	06/06/2012	D	D	D
Consumer Price Index	April 2012	22/05/2012	M	M	M
Revenue, Expenditure, Balance and Composition of Financing ³ – General Government ⁴	Q4 2011	23/05/2012	Q	Q	Q
Revenue, Expenditure, Balance and Composition of Financing ³ – Central Government	April 2012	22/05/2012	M	M	M
Stocks of Central Government and Central Government-Guaranteed Debt ⁵	April 2012	23/05/2012	M	M	M
External Current Account Balance	Q4 2011	28/03/2012	Q	Q	Q
Exports and Imports of Goods and Services	March 2012	15/05/2012	M	M	M
GDP/GNP	Q1 2012	24/05/2012	Q	Q	Q
Gross External Debt	Q4 2011	28/03/2012	Q	Q	Q
International Investment Position ⁶	Q4 2011	28/03/2012	Q	Q	Q

¹ Includes reserve assets pledged or otherwise encumbered as well as net derivative positions.

² Both market-based and officially-determined, including discount rates, money market rates, rates on treasury bills, notes and bonds.

³ Foreign, domestic bank, and domestic nonbank financing.

⁴ The general government consists of the central government (budgetary funds, extra budgetary funds, and social security funds) and state and local governments.

⁵ Including currency and maturity composition.

⁶ Includes external gross financial asset and liability positions vis-à-vis nonresidents.

⁷ Daily (D); weekly (W); monthly (M); quarterly (Q); annually (A); irregular (I); and not available (NA).



UNITED KINGDOM

STAFF REPORT FOR THE 2012 ARTICLE IV CONSULTATION—SUPPLEMENTARY INFORMATION

July 10, 2012

Approved By

Reza Moghadam and David Marston

This supplement provides an update on notable developments that occurred after the staff report was finalized. Key policy steps are in line with recommendations in the staff appraisal.

Financial Stability Report and Financial Policy Committee meeting

1. The Bank of England (BoE) published its semi-annual Financial Stability Report (FSR) on June 29. The report's analysis is broadly consistent with the assessment of financial sector conditions in the staff report. Specifically, the FSR notes that efforts by UK banks over the last few years to strengthen their capital and funding resilience have helped insulate them from economic weakness and intensified euro area stress during the last few months. Nonetheless, these forces have caused the outlook for financial stability to deteriorate since end-2011, with both funding costs and risks of severe downside scenarios on the rise. The FSR and latest credit survey also find that credit growth remains weak and that credit supply has tightened further in recent months in the face of these pressures.

2. Against this background and consistent with staff recommendations (paragraphs 49–51 of the staff report), the Interim Financial Policy Committee (FPC) recommended that the Financial Services Authority (FSA) should

- make clearer to banks that liquidity buffers should be used in times of stress to avoid excessive credit contraction;¹
- review banks' liquidity guidelines to account for the availability of BoE liquidity insurance;
- continue its existing practice of encouraging banks to bolster capital buffers via methods that do not curtail lending to the real economy (the minutes of the FPC

¹ Many banks are currently maintaining levels of liquidity in excess of regulatory minima, reflecting in part conservative risk management.

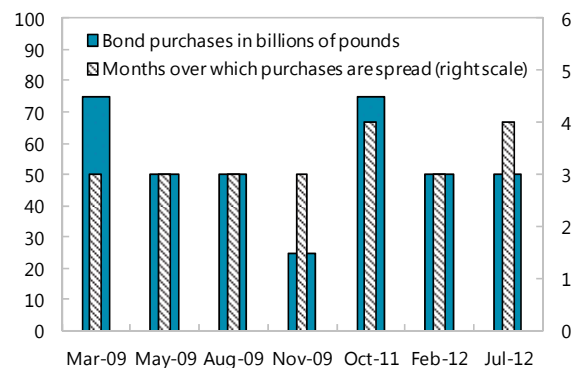
meeting are explicit that banks should not be “constrained by regulatory capital requirements from expanding lending”); such methods include equity issuance, debt-for-equity swaps, and restraint of dividends and remuneration; the FPC expected that part of additional capital should be used to increase capital ratios to insure against heightened risks and reduce funding costs and that part could be used to expand lending; and

- the FPC also clarified that such higher capital levels above the official Basel III transition path were a temporary response to heightened risks and that banks could revert to the original transition path once such risks materialize or dissipate.

Monetary Policy Committee meeting

3. On July 5, the Monetary Policy Committee (MPC) voted to raise its purchases of government bonds by £50 billion to a total of £375 billion. Purchases will be spread evenly over the next four months and be distributed across maturities in the same manner as the last round of purchases. The MPC stated that such easing was necessary to keep inflation from undershooting the target in the medium term, given “continuing tight credit conditions and fiscal consolidation,” as well as “increased drag from the heightened tensions within the euro area.” Staff welcomes this easing, as called for in the staff report (paragraphs 27–28). The forthcoming Funding for Lending program should help further support the outlook. It will be difficult to assess the adequacy of the total package of measures until the Funding for Lending program goes into effect. The announcement of additional QE was anticipated by markets, and hence their reaction was muted.

QE Announcements by the Bank of England



Source: Bank of England.

GDP and fiscal data releases

4. Recent data releases include revisions to historical GDP data and fiscal outturns for FY11/12. The main changes arising from these releases are that

- the 2008–09 recession is now moderately more shallow than previously estimated, with the peak-to-trough decline falling from 7 percent to 6¾ percent and
- the overall fiscal deficit for FY11/12 is now estimated at 8.4 percent of GDP, slightly higher than staff’s previous estimate of 8.2 percent of GDP (staff report Table 3) due to modest deviations on both revenue and expenditure.

These data revisions do not significantly alter staff’s projections, analysis, or views in the staff report.

Attempted manipulation of LIBOR and EURIBOR

5. Following an investigation, UK and US regulators recently fined Barclays for attempting to manipulate LIBOR and EURIBOR interest rates and for false reporting.² The investigation concluded that Barclays misconduct included

- making submissions which formed part of the LIBOR and EURIBOR setting process that took into account requests from Barclays' interest rate derivatives traders; these traders were motivated by profit and sought to benefit Barclays' trading positions;
- seeking to influence the EURIBOR submissions of other banks contributing to the rate setting process; and
- reducing its LIBOR submissions during the financial turmoil of 2007-09 as a result of senior management's concerns over negative media comment.

Barclays' top executives have resigned, reportedly at the behest of regulators. Media reports indicate that around 20 other banks, including major US and European banks, are under investigation for similar practices. The collaboration of US and UK regulators in the investigation is welcome, and further international cooperation along these lines is encouraged.

6. The findings of the investigation are disturbing and may have spillovers.³ With an enormous volume of derivatives and loans linked to benchmarks such as LIBOR and EURIBOR, it is essential that their determination be accurate to ensure faith in their integrity. Otherwise, use of such benchmarks, which facilitate automatic adjustment of contracts to changing conditions, will be lessened and their usefulness degraded. In the near term, such revelations could add to deleveraging pressures, as uncertainty about potential losses from forthcoming regulatory penalties and potential lawsuits may increase bank borrowing costs. Another risk is that uncertainty about key benchmarks could increase some spreads and volatility in related contracts. Such pressures may in turn have unwelcome adverse effects on credit conditions, both in the UK and abroad, especially given the relatively rapid diffusion of shocks originating on the UK's platform, as discussed in the *2012 Spillover Report*. Hence it is appropriate that reforms to ensure the integrity of interest rate determination are being contemplated.

7. That said, a complete assessment of the implications should await the conclusion of ongoing investigations and the release of all facts. In this connection,

² More information can be found in the [FSA press release](#) and the press release by the [US Commodity Futures Trading Commission](#).

³ Concerns about possible downward biases in LIBOR submissions due to reputational considerations during periods of acute market stress are not entirely new. Such concerns were raised, for example, in Box 2.2 of the October 2008 [Global Financial Stability Report](#).

Chancellor Osborne has announced an inquiry to examine whether the setting of LIBOR should become a regulated activity and whether actual trade data could be used to set the benchmark, as advocated by Governor King for some time. This inquiry should be completed by September so that proposals can be incorporated into the final Financial Services Bill.⁴ There is also a parliamentary investigation into the attempted manipulation; this investigation will feed into legislation to implement reforms proposed by the Independent Commission on Banking.⁵

⁴ See paragraphs 52–54 of the staff report for more on this legislation.

⁵ See paragraph 56 of the staff report for more on this legislation.

**Statement by the Staff Representative on the United Kingdom
July 16, 2012**

This note reports on information that has become available since the staff report (SM/12/168) and staff supplement were issued and does not alter the thrust of the staff appraisal.

The Bank of England and UK Treasury announced details of the Funding for Lending Scheme (FLS) on July 13, 2012.¹ The FLS is designed to reduce funding costs for banks and building societies so that they can make loans cheaper and more easily available. Access to the scheme will be directly linked to how much each bank and building society lends to the real economy. Those that increase lending will be able to borrow more in the scheme and do so at a much lower cost than those that scale back their loans.

Terms of the Scheme: Under the scheme, from August 1 (and for 18 months thereafter), UK banks will be able to swap up to 5 percent of their existing stock of loans to the non-financial sector as at end-June 2012 (amounting to around £80bn) for T-bills. In addition, banks will also be able to swap unlimited amounts for new lending.

- The funding will be provided against a wide range of collateral, with haircuts applied on the same terms as the BoE's existing Sterling Monetary Framework. The swap will be for a fixed term of four years, and the fee will depend on banks' lending behavior during a reference period of end-June 2012 through the end of 2013.
- For banks maintaining or expanding their lending over that period, the fee will be 0.25 percent per year on the amount borrowed. For banks whose lending declines, the fee will increase linearly up to a maximum fee of 1.5 percent of the amount borrowed. With banks being able to use T-bills to borrow money at rates close to the expected path of the policy rate (now at 0.5 percent), the total cost of obtaining cash under the scheme will vary between 0.75 and 2 percent.
- The BoE will publish participants' outstanding drawings under the scheme on a quarterly basis.

The FLS could be more successful in boosting bank lending than previous measures. An important innovation of this scheme is that the pricing is designed to encourage an expansion of net lending, consistent with staff advice during the consultation discussions. Importantly, if banks maintain or expand their lending, the lower fee of 0.25 percent will apply to all of the funding they obtain through the scheme and not just on the incremental funding they receive to engage in new lending. Therefore, banks will have a strong incentive to maintain or increase market lending, or else suffer the penalty of an increase in their overall funding costs. Moreover, the FLS loans are for a period of four years, longer than the terms of the other facilities available, including the ECTR, which provides 6-month funding. Although it is unclear what final effect the FLS will have on demand and growth, it should help keep funding costs low for the target market.

¹ Full details are available at <http://www.bankofengland.co.uk/markets/Pages/FLS/default.aspx>.



INTERNATIONAL MONETARY FUND

Public Information Notice

EXTERNAL
RELATIONS
DEPARTMENT

Public Information Notice (PIN) No. 12/81
FOR IMMEDIATE RELEASE
July 19, 2012

International Monetary Fund
700 19th Street, NW
Washington, D. C. 20431 USA

IMF Executive Board Concludes 2012 Article IV Consultation with the United Kingdom

On July 16, 2012 the Executive Board of the International Monetary Fund (IMF) concluded the Article IV consultation with the United Kingdom.¹

Background

The UK's economic recovery has been sluggish, as the needed hand-off from public to private demand-led growth has not fully materialized. Economic activity is projected to gain modest momentum going forward, but the pace of expansion is expected to be weak relative to the scale of underutilized resources. As a result, the output gap is projected to remain sizeable for an extended period, keeping unemployment (currently over 8 percent) elevated and raising the risk that sustained cyclical weakness reduces the economy's productive capacity. Inflation has been on a downward trend since peaking in September 2011 and is expected to decline below the 2 percent target over the medium term, as the large output gap exerts disinflationary pressure. Risks to this central scenario are large and predominantly to the downside, including from further setbacks to the euro area crisis and larger-than-expected headwinds from public and private sector deleveraging.

Current policies aim to assist economic rebalancing and financial sector healing. Substantial progress has been made toward achieving a more sustainable budgetary position and reducing fiscal risks, with structural fiscal adjustment of about 4¾ percent of GDP over the last two years. The pace of consolidation is expected to ease to

¹ Under Article IV of the IMF's Articles of Agreement, the IMF holds bilateral discussions with members, usually every year. A staff team visits the country, collects economic and financial information, and discusses with officials the country's economic developments and policies. On return to headquarters, the staff prepares a report, which forms the basis for discussion by the Executive Board. At the conclusion of the discussion, the Managing Director, as Chairman of the Board, summarizes the views of Executive Directors, and this summary is transmitted to the country's authorities. An explanation of any qualifiers used in summings up can be found here: <http://www.imf.org/external/np/sec/misc/qualifiers.htm>.

½ percent of GDP in FY2012/13, reflecting the authorities' decision not to undertake additional discretionary tightening in the short term in response to substantial downward revisions to potential GDP. Under current fiscal plans, the pace of consolidation is expected to accelerate next year to around 1½ percent of GDP.

Bold monetary stimulus has been provided to help counteract the weak economy and rising risks of undershooting the inflation target. Specifically, the Bank of England resumed its purchases of government bonds (quantitative easing) in late 2011, with additional purchases announced in February and July 2012. Despite this monetary easing, credit conditions remain tight due to elevated risk aversion, an incomplete process of financial repair, and rising bank funding costs associated with intensified stress in the euro area. More recently, the authorities announced credit easing measures to more directly lower private-sector borrowing costs, including through broader provision of bank funding and liquidity.

The financial regulatory structure is also being revamped. A Financial Services Bill to provide a permanent legal basis for the new regulatory framework is expected to come into force in early 2013, and a White Paper on Banking Reform has been published with proposals for additional loss absorbency capacity and ringfencing of retail operations.

Executive Board Assessment

Executive Directors welcomed the authorities' efforts aimed at economic rebalancing, including bold monetary stimulus, financial sector policies to build buffers and strengthen oversight, and major progress toward a more sustainable fiscal position. However, they cautioned that a stalling recovery, high unemployment, and uncertain external conditions continue to present significant challenges.

Directors welcomed recent announcements to implement additional monetary stimulus via further quantitative easing, and most Directors believed that further easing may be needed, including consideration of a cut in the policy rate. However, a number of Directors cautioned that scope to provide more stimulus through rate cuts and standard quantitative easing may be limited, given that interest rates on government debt are already very low. Noting that elevated bank funding costs have limited lending to the private sector, Directors welcomed recent measures aimed at lowering private-sector borrowing costs through broader provision of bank funding against collateral. They considered that, depending on the use and performance of these new programs, further credit easing measures may be needed. Directors underscored that such measures should be complemented with regulatory policies to ensure that banks do not become dependent on such facilities.

Directors considered that deeper budget-neutral reallocations could also support recovery, including greater investment spending funded by property tax reform or spending cuts on items with low multipliers. They emphasized that automatic stabilizers

should continue to operate freely, and underscored the need for shielding the poorest from the impact of consolidation.

Looking ahead, Directors commended the authorities for their strong commitment to achieve fiscal sustainability over the medium term. Many Directors supported the authorities' prudent approach toward further fiscal easing, emphasizing the importance of not undermining fiscal sustainability and hard-won credibility, and noting the potential negative feedback loops between public finances and the financial sector. Many Directors also noted the difficulty of setting a specific timetable for potential future fiscal policy actions in the current uncertain environment. However, a number of other Directors considered that fiscal consolidation should not be accelerated as planned if growth does not build momentum even after further monetary and credit easing measures, noting that persistent weak growth that hinders achievement of fiscal targets might also pose risks to credibility. These Directors noted that any adjustment to the path of consolidation should be in the context of a multi-year plan and ideally accompanied by deeper long-run entitlement reform to help preserve credibility.

Directors stressed the importance of continuing with efforts to bolster financial stability to anchor a strong and durable recovery, reduce the risk to taxpayers, and limit spillovers from shocks that are transmitted through the UK's financial system. They emphasized that policies should focus on strengthening bank balance sheets by building capital rather than reducing assets to balance stability and growth considerations. Directors also welcomed the review of banks' liquidity guidelines to account for the availability of Bank of England liquidity insurance.

Directors emphasized the need to address expeditiously the issue of "too big to fail." They welcomed the progress in developing a more flexible resolution framework, "living wills" for major institutions, and reform proposals by the Independent Commission on Banking. Directors also agreed that a broader macroprudential toolkit for the Financial Policy Committee is desirable, including powers to limit loan-to-value and loan-to-income ratios.

Directors supported efforts to intensify supervision and stressed that provision of adequate resources will be key to achieving this objective. They also considered that greater authority over financial holding companies than currently envisaged in the draft Financial Services Bill will be essential for the future Prudential Regulatory Authority. They emphasized that international collaboration on key regulatory and supervisory issues will further support financial stability, and they encouraged the authorities to continue their vital and constructive role in this regard.

Public Information Notices (PINs) form part of the IMF's efforts to promote transparency of the IMF's views and analysis of economic developments and policies. With the consent of the country (or countries) concerned, PINs are issued after Executive Board discussions of Article IV consultations with member countries, of its surveillance of developments at the regional level, of post-program monitoring, and of ex post assessments of member countries with longer-term program engagements. PINs are also issued after Executive Board discussions of general policy matters, unless otherwise decided by the Executive Board in a particular case. The [staff report](#) (use the free [Adobe Acrobat Reader](#) to view this pdf file) for the 2012 Article IV Consultation with the United Kingdom is also available.

United Kingdom: Selected Economic and Social Indicators, 2008–13 1/

	2008	2009	2010	2011	2012	2013
					Proj.	Proj.
Real Economy						
Real GDP (change in percent)	-1.1	-4.4	2.1	0.7	0.2	1.4
Domestic demand (change in percent)	-1.8	-5.4	2.9	-0.8	-0.1	0.6
CPI (change in percent, period average)	3.6	2.1	3.3	4.5	2.6	1.9
Unemployment rate (percent) 2/	5.6	7.5	7.9	8.0	8.3	8.3
Gross national saving (percent of GDP)	15.6	12.7	12.1	12.9	11.6	12.6
Gross domestic investment (percent of GDP)	17.0	14.2	15.4	14.8	14.2	14.4
Public Finance 3/						
General government balance	-6.9	-11.4	-9.4	-8.4	-8.1	-6.8
Public sector balance	-6.9	-11.1	-9.3	-8.2	-8.0	-6.7
Cyclically adjusted balance (staff estimates)	-7.8	-10.1	-7.8	-6.2	-5.4	-3.9
Public sector net debt	43.5	52.6	60.5	66.6	71.9	76.4
Money and Credit (end-period, 12-month percent change) 4/						
M4	15.5	6.7	-1.5	-2.5	-3.8	...
Net lending to the private sector	5.0	0.5	-0.4	-0.2	-0.4	...
Interest rates (year average) 4/						
Three-month interbank rate	5.8	1.2	0.7	0.9	1.1	...
Ten-year government bond yield	4.7	3.6	3.6	3.1	2.2	...
Balance of Payments						
Trade balance (percent of GDP)	-2.7	-1.8	-2.5	-1.8	-1.8	-0.9
Current account balance (percent of GDP)	-1.4	-1.5	-3.3	-1.9	-2.6	-1.8
Exports (percent of GDP)	29.5	28.4	30.1	32.3	32.0	31.8
Export volume (change in percent)	1.3	-9.5	7.4	4.6	1.6	3.8
Imports (percent of GDP)	32.2	30.2	32.6	34.2	33.7	32.8
Import volume (change in percent)	-1.2	-12.2	8.6	1.2	1.3	1.3
Net exports of oil (billions of US dollars)	-12.0	-5.4	-7.3	-17.9	-15.9	-15.1
Reserves (end of period, billions of US dollars)	53.9	66.4	78.8	93.9	...	...
Fund Position (as of May 31, 2012)						
Holdings of currency (percent of quota)						64.8
Holdings of SDRs (percent of allocation)						94.4
Quota (millions of SDRs)						10,738.5
Exchange Rates						
Exchange rate regime						Floating
Bilateral rate (June 13, 2012)						US\$1 = £0.6417
Nominal effective rate (2005=100) 4/ 5/	89.3	78.8	79.3	78.7	80.6	...
Real effective rate (2005=100) 4/ 5/ 6/	92.1	80.8	83.7	84.9	87.4	...
Social Indicators (reference year):						
Income per capita (in US dollars, 2010) : 36,416; Income distribution (ratio of income received by top and bottom quintiles, 2009): 5.2;						
Life expectancy at birth (2009): 78.1 (male) and 82.1 (female); Automobile ownership (2009): 459 per thousand;						
CO2 emissions (ton per capita, 2007): 8.84; Population density (2009) 256 inhabitants per sq. km.						

Sources: Office for National Statistics; HM Treasury; Bank of England; International Financial Statistics; INS; World Development Indicators; Eurostat, and IMF staff estimates.

1/ Based on available data as of June 25, 2012.

2/ ILO unemployment; based on Labor Force Survey data.

3/ Data are for the fiscal year, which begins in April. For example, fiscal balance data for 2009 refer to FY09/10. Debt stock data refer to the end of the fiscal year using centered-GDP as a denominator. Excludes temporary effects of financial sector interventions, as well as the one-off effect on public sector net investment in FY12/13 of transferring assets from the Royal Mail Pension Plan to the public sector.

4/ 2012: actual data through April.

5/ Average. An increase denotes an appreciation.

6/ Based on relative consumer prices.

**Statement by Alex Gibbs, Executive Director for the United Kingdom
July 16, 2012**

I thank staff for a very good and detailed report which reflects a productive mission. My authorities agree with much of the analysis and advice. However, they caution against setting a timetable for potential future fiscal policy actions. The uncertainty of the policy environment, the risks attached to discretionary fiscal easing and the need to calibrate any response to the circumstances – as stressed in the 2011 staff report – means any such timetable is unlikely to prove a useful guide to policy.

Economic Outlook

The UK is estimated to have contracted by 0.3 per cent in each of the last two quarters, meaning that growth over the past 18 months has been broadly flat. This largely reflects the impact of external factors, including the earlier rise in commodity price-driven inflation that hit real incomes and the ongoing euro-area debt crisis, which continues to undermine confidence and investment. Despite these difficult conditions, in the three months to April unemployment fell by 51,000 to 8.2 per cent and 166,000 new jobs were created.

Growth is expected to remain uneven and choppy through the rest of 2012 as public holidays and the Olympic Games have an impact on output, but the central case is still for a gradual recovery. In March the independent Office for Budget Responsibility (OBR) forecast subdued but positive growth of 0.8 per cent for 2012, 2.0 per cent in 2013 and then 2.7 per cent in 2014 as the recovery gains traction. A rebalancing from consumption and government expenditure to net exports and investment was still expected.

CPI inflation fell to 2.8 per cent in May from the peak of 5.2 per cent in September 2011 as the effects of the earlier rise in energy prices and VAT fell away, making space for monetary policy action. Against the background of continuing tight credit conditions, fiscal consolidation and increased drag from the heightened tensions within the euro area, the MPC judged that, without additional monetary stimulus, inflation was more likely than not to undershoot the 2 per cent target in the medium term.

My authorities agree with staff that the exceptional economic environment warrants a supportive macroeconomic policy stance. A number of steps have already been taken to achieve this, consistent with the Government's well-established economic strategy based on: fiscal consolidation; monetary activism; financial sector reform; and growth-friendly microeconomic reform.

Fiscal Policy

The UK Government has made a strong commitment to fiscal consolidation. It set out a clear and credible plan to put the public finances back on a sustainable path and created the independent Office for Budget Responsibility (OBR) to monitor it. Despite difficult

conditions, fiscal consolidation, which staff have judged to be essential, remains on track. The deficit in the cyclically adjusted primary balance has been halved over the last two years (from -7.0 per cent of GDP in 2009-10 to -3.4 per cent of GDP in 2011-12) and by the end of 2011-12 almost 40 per cent of the annual consolidation planned for the 2010 Spending Review period has been achieved.

The Government reacted to the structural deterioration in the OBR's forecasts in the Autumn Statement of October 2011. Although the Government continued to implement their detailed consolidation plans, the flexibility built into the fiscal framework allowed for the pace of structural adjustment to slow in the near term, letting the automatic stabilizers operate freely. At the same time, to restore the public finances to a sustainable path the period of planned consolidation was extended by a further two years (2015-16 and 2016-17). My authorities welcome the staff view that this approach has been appropriate.

Consolidation plans are still focused on expenditure-based measures, consistent with IMF advice. Around 80 per cent of the total consolidation in 2016-17 will be delivered by lower spending. Further steps have also been taken to improve the composition of consolidation. In the Autumn Statement, savings from current spending (generated over the Spending Review 2010 period), including from public sector pay restraint, were used to create room for one-off increases in high-quality, growth-enhancing capital spending. These changes complement the progress made with the UK's Growth Review, including the *Plan for Growth* and *National Infrastructure Plan*. This programme of over 250 reforms and infrastructure investments includes plans to: cut the main rate of corporation tax by six per cent; save businesses over £3 billion through deregulation; invest over £1 billion in road infrastructure; and create 450,000 apprenticeships. A further implementation update will be published later this year.

Staff have highlighted the potential for further budget-neutral reallocations from low- to high-multiplier items and further structural reforms. They also raise the case for discretionary fiscal easing in the event that the recovery fails to take off. The Government is already looking to see if further support for growth can be provided using the credibility of its balance sheet to boost credit for business, housing and infrastructure. As noted above, consideration of any further policy response would need to take account of the specific circumstances at the time and the scope to use other policy levers. The potential benefits of a fiscal response would need to be weighed against the risks of losing fiscal credibility, including the potential for negative feedback loops between weak public finances and the UK's large and systemically important financial sector. In an environment of ongoing financial market stress, this risk would be particularly relevant.

Fiscal credibility is hard won and easily lost. The costs of losing fiscal credibility would be damaging for both the UK, but also for the wider global economy given the potential for financial spillovers. As staff highlight in their spillover analysis, UK financial stability is a global public good.

Monetary Policy

Having judged risks to have shifted to the downside and, in the absence of additional monetary stimulus, that inflation was more likely than not to undershoot the target in the medium term, the MPC recently voted to increase the size of its programme of asset purchases by £50 billion to a total of £375 billion. The MPC continues to view asset purchases as an effective tool for lowering interest rates, supporting asset prices and therefore nominal demand.

Staff have raised the question of whether the Bank could purchase private sector assets. The MPC continues to see limited scope for this given the relatively small size of the UK market and as a rule would seek to avoid becoming the market maker of last resort in situations where it was not completely necessary.

Although the MPC voted to maintain Bank Rate at 0.5 per cent, it has recently considered the merits of further reductions. Given the potential to squeeze some lenders' interest margins and their ability to lend, as well as the risks of impairing the functioning of money markets, the MPC judged that further reductions could be counterproductive and would not have any advantages over further asset purchases. However, this position will be kept under review.

Credit Easing and Bank Liquidity Funding Schemes

As euro area concerns have intensified, the UK authorities have focused on developing targeted policy responses to counter the tightening of financial conditions and the increase in bank funding costs. In the spring, the Government launched the National Loans Guarantee Scheme to boost lending to small and medium sized businesses. This credit easing scheme aims to provide £20 billion of government guarantees over two years to enable banks to attract funding at more favourable rates so that the benefits can be passed on to SMEs.

More recently, the Government and the Bank of England have launched two new schemes in response to a continued lack of credit availability for businesses and households: the Extended Collateral Term Repo Facility (ECTR) to address market-wide shortages of short-term sterling liquidity; and the "Funding for lending" (FLS) scheme to allow high-street banks to temporarily swap illiquid assets for more liquid ones in return for sustained or increased lending to the real economy. The ECTR is already up and running and the details of the funding for lending scheme are being finalised. These schemes respond directly to recommendations made during the Article IV mission and have been welcomed by staff.

Financial Sector

As staff note, UK banks have made valuable progress in rebuilding capital and liquidity buffers in recent years and this has ensured that they remain relatively resilient in the face of ongoing, elevated financial market stress. However, more still needs to be done to ensure that

they are in the best possible shape to weather the current, and any future, financial storms. It is vital that they are able to absorb potential losses and maintain lending to the real economy.

To this end, the interim Financial Policy Committee (FPC) has recently recommended that the Financial Services Authority (FSA) encourage UK banks to build capital buffers without exacerbating market fragility or reducing lending to the real economy. The FPC has also recommended that the FSA makes it clearer to banks that they are free to use their regulatory liquid asset buffers in the event of a liquidity stress. It also recommended the FSA to review its liquidity guidance, taking into account that additional liquidity insurance is more readily available from the Bank of England. These recommendations are consistent with staff advice.

Broader reform of regulatory and supervisory structures is continuing against the challenging background of ongoing financial market stress and the international and European reform agenda. As staff note, progress has been made in implementing most of the related FSAP recommendations. The Financial Services Bill was introduced in January 2012 and is expected to come into force in early 2013. The move towards the new model is now well underway, with the FSA trial running the new Prudential Regulation Authority (PRA) and Financial Conduct Authority (FCA) structures within the existing system. This is already facilitating an intensification of supervision and a focus on the 'safety' of the system – both key FSAP recommendations.

The FSAP raised concerns about the lack of clarity with the mandates of these new institutions. My authorities believe that the legislation addresses these concerns. The PRA will have the general objective of promoting the safety and soundness of regulated firms, complemented by an additional objective of policyholder protection which will only apply when regulating insurers. The FCA will have an overarching objective to make markets function well, but this will include an explicit responsibility to protect and enhance the soundness, stability and resilience of the financial system. In addition, the FPC will be given a secondary objective to support the Government's economic policy, consistent with the aim of balancing economic growth with financial stability.

The Government has pushed ahead with efforts to address the risks associated with systemically important financial institutions (SIFIs). A recent White Paper sets out detailed plans to implement the recommendations of the Independent Commission on Banking, including: proposals for retail deposits to be ring-fenced from international wholesale and investment banking; and an additional 3 per cent of equity in addition to the Basel III minimum standards for the largest UK ring-fenced banks. The paper also supports the Basel proposal for a binding 3 per cent minimum leverage ratio for all banks and as staff suggest, the UK will continue to press for this in EU discussions. My authorities welcome the staff conclusion that these plans will help limit the frequency and severity of banking crises and strengthen the resilience of the UK financial system.

Improving the disclosure of financial sector data to enhance market discipline continues to be a priority for my authorities. The PRA intends to publish some regulatory returns and this will be developed in earnest with the implementation of harmonized reporting under CRDIV in the EU. The FPC has recognised the potential role of disclosure in fostering financial stability and outlined when it will intervene on specific disclosure and transparency issues. Most recently, it recommended that UK banks work with the FSA and the British Bankers' Association to ensure greater consistency and comparability of existing Basel II Pillar 3 (Market Discipline) disclosures, beginning with the accounts for the current year.

Domestic financial sector reform needs to be complemented by a stronger EU and international regulatory and supervisory framework. I welcome staff's call for international collaboration and continued UK leadership and can confirm that the UK remains fully committed to the global reform agenda, including the full and faithful implementation of the agreed Basel III standards.