INTERNATIONAL MONETARY FUND

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UNITED KINGDOM

February 2018

2017 ARTICLE IV CONSULTATION—PRESS RELEASE; STAFF REPORT; AND STATEMENT BY THE EXECUTIVE DIRECTOR FOR THE UNITED KINGDOM

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 2017 Article IV consultation with the United Kingdom, the following documents have been released and are included in this package:

- A **Press Release** summarizing the views of the Executive Board as expressed during its February 12, 2018 consideration of the staff report that concluded the Article IV consultation with the United Kingdom.
- The **Staff Report** prepared by a staff team of the IMF for the Executive Board's consideration on February 12, 2018, following discussions that ended on December 20, 2017, 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 January 26, 2018.
- An **Informational Annex** prepared by the IMF staff.
- A **Statement by the Executive Director** for the United Kingdom.

The document listed below have been or will be separately released.

Selected Issues

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INTERNATIONAL MONETARY FUND

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FOR IMMEDIATE RELEASE
February 14, 2018

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Washington, D. C. 20431 USA

IMF Executive Board Concludes 2017 Article IV Consultation with the United Kingdom

On February 12, 2018, the Executive Board of the International Monetary Fund (IMF) concluded the Article IV consultation[1] with the United Kingdom.

Economic growth has moderated since the beginning of 2017, reflecting weakening domestic demand. The sharp depreciation of sterling following the referendum has raised consumer price inflation, squeezing household real income and consumption. Business investment has been constrained. In the medium term, growth is projected to remain at around 1.5 percent under the baseline assumption of continued progress in Brexit negotiations that lead to an understanding on a broad free trade agreement and on the transition process.

The baseline outlook is subject to a number of risks, including developments with Brexit negotiations; uncertainty about the recovery of productivity growth, which has been weak since the crisis; and the current account deficit, which reached a record high in 2016.

Monetary conditions were eased significantly following the June 2016 referendum, as the Bank of England reduced the policy rate and announced additional asset purchases as well as the introduction of a term funding scheme. The counter-cyclical capital buffer (CCyB, a kind of bank capital requirement) was also lowered to prevent a tightening of credit conditions. The government slowed its planned fiscal consolidation, and made a policy decision to increase public investment to support medium-term growth potential. A new set of fiscal targets was introduced in the 2016 Autumn Statement, providing room for policy flexibility in case of negative growth shocks. Structural reforms have aimed to boost productivity, for example by strengthening human capital, with the announcement of new T-level technical qualifications and the reforms to funding for apprenticeships.

Some of the monetary loosening has since been reversed. Bank Rate rose by 25 basis points in November 2017, while the CCyB has also been increased to a level consistent with a standard risk environment.

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[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.

Executive Board Assessment[2]

Executive Directors noted that output growth remains positive and labor market performance strong, notwithstanding the moderation in economic activity that reflects the impact of the exchange rate depreciation on consumption and the heightened uncertainty following the decision to leave the European Union (EU). This uncertainty will continue to weigh on growth, and the outlook depends crucially on the outcome of the negotiations with the EU. At the same time, significant risks remain, on both the domestic and external fronts. Directors agreed that policies should focus on maintaining stability and investor confidence, raising productivity growth and household saving, and reducing the current account deficit.

Directors welcomed the recent progress in negotiating the U.K. departure from the EU, which allowed discussion to move to issues related to a transition period and the framework for the future relationship. They encouraged both parties to continue their best efforts to reach the most beneficial outcome, limit disruptions and global spillovers, and more specifically, minimize barriers to trade, services, and labor flows.

Directors welcomed the authorities' plans to rebuild fiscal buffers in a gradual, growth-enhancing manner, alongside improvements in fiscal transparency practices. They noted that reforms on the revenue side would help create space and promote efficiency. With inflation above target, Directors supported the planned gradual withdrawal of monetary stimulus to bring inflation back to target over the medium term. They concurred that this balanced policy mix would also help the process of external rebalancing over time.

Directors appreciated the authorities' commitment to respond flexibly to shocks, with contingency planning in place for a range of outcomes. In the event of a disorderly EU exit, Directors encouraged the judicious use of flexibility embedded in the fiscal framework to support the economy, stressing that any easing of fiscal policy should be temporary, limited, and anchored by credible medium-term consolidation plans. Directors welcomed the monetary authorities' intention to stand ready to respond to developments as they unfold. They underscored that clear and timely communication will be particularly important in this regard.

Directors welcomed the resilience of the U.K. financial sector, owing in part to post-crisis regulatory reform. They encouraged the authorities to maintain robust prudential and supervisory standards, and continue monitoring consumer credit and bank risk weights. Directors commended the authorities for proactively helping financial institutions prepare for the exit, given the uncertainties regarding the future of financial service arrangements with the EU. They called on all parties involved to work together to mitigate transition risks related to changes in regulatory regimes and responsibilities. More generally, they underscored the importance of close cross-border cooperation in a potentially more fragmented European financial system.

Directors agreed that structural reforms should prioritize enhancing productivity, inclusiveness, and external competitiveness. They welcomed the planned increase in infrastructure investment

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[2] 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.

and the improved framework for selecting and implementing infrastructure projects. They encouraged sustained efforts to strengthen human capital and boost housing supply. Directors looked forward to further progress in enhancing AML/CFT supervision and information sharing, building on recent reforms to improve corporate transparency.

United Kingdom: Selected Economic Indicators, 2013–18

	2013	2014	2015	2016	2017	2018
					Projections	
Real Economy (change in percent)						
Real GDP 1/	2.1	3.1	2.3	1.9	1.8	1.6
Private final domestic demand	2.2	2.9	2.8	2.8	1.8	1.4
CPI, end-period	2.0	1.0	0.1	1.2	3.0	2.6
Unemployment rate (in percent) 2/	7.6	6.2	5.4	4.9	4.4	4.3
Gross national saving (percent of GDP)	10.5	11.8	11.8	11.1	12.2	12.7
Gross domestic investment (percent of GDP)	16.1	17.1	17.0	16.9	16.7	16.6
Public Finance (fiscal year, percent of GDP) 3/						
Public sector overall balance	-5.8	-5.1	-3.8	-2.3	-2.4	-1.6
Public sector cyclically adjusted primary balance (staff estimates) 4/	-2.5	-2.7	-1.9	-0.5	-0.5	0.0
Public sector net debt	80.6	82.8	82.7	85.5	85.9	85.2
Money and Credit (end-period, 12-month percent change)						
M4	0.2	-1.1	0.3	6.3	...	...
Net lending to private sector	0.9	1.5	2.8	3.8	3.6	3.3
Interest rates (percent; year average)						
Three-month interbank rate	0.5	0.5	0.6	0.5	...	...
Ten-year government bond yield	2.4	2.6	1.9	1.3	1.2	...
Balance of Payments (percent of GDP)						
Current account balance	-5.5	-5.3	-5.2	-5.8	-4.5	-3.8
Trade balance	-2.0	-2.0	-1.7	-2.1	-1.3	-1.0
Net exports of oil	-0.6	-0.5	-0.4	-0.3	-0.3	-0.4
Exports of goods and services (volume change in percent)	0.8	2.7	5.0	2.3	6.1	2.4
Imports of goods and services (volume change in percent)	3.1	4.5	5.1	4.8	3.1	1.3
Terms of trade (percent change)	2.2	1.5	0.9	1.4	0.0	-0.1
FDI net	-0.4	-5.8	-4.0	-8.2	2.2	2.3
Reserves (end of period, billions of US dollars)	108.8	109.1	130.5	136.6	158.6	...
Fund Position (as of May 31, 2016)						
Holdings of currency (in percent of quota)						82.5
Holdings of SDRs (in percent of allocation)						70.2
Quota (in millions of SDRs)						20,155
Exchange Rates						
Exchange rate regime						Floating
Bilateral rate (January 26, 2017)					US$1 = £0.7050	
Nominal effective rate (2010=100, year average)	101.0	107.2	114.2	101.8	95.9	...
Real effective rate (2010=100, year average)	104.1	110.9	117.7	104.9	99.8	...

Sources: Bank of England; IMF's Information Notice System; HM Treasury; Office for National Statistics; and IMF staff estimates.

1/ Based on ONS preliminary estimate of GDP for 2017Q4.

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

3/ 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. English housing associations are re-classified from the public to the private sector starting in FY2017.

4/ In percent of potential output.

INTERNATIONAL MONETARY FUND

UNITED KINGDOM

STAFF REPORT FOR THE 2017 ARTICLE IV CONSULTATION

January 26, 2018

KEY ISSUES

Context. Following a referendum in mid-2016, the UK government has started the process of exit from the European Union, aiming at broad agreement on the new economic relationship with the EU by March 2019. Sterling depreciated sharply after the referendum, pushing up inflation and depressing private consumption. Business investment growth has been constrained by continued uncertainty about the future trade regime. UK growth moderated in 2017 despite significant monetary policy accommodation and strong trading partner growth, and is expected to remain subdued in the near term. Over the medium term, growth prospects will depend on the extent of recovery of labor productivity, which has been very low since the financial crisis.

Recommendations. Policies should focus on maintaining macroeconomic and financial stability, and boosting productivity growth. The shape of the Brexit agreement will have an important bearing on economic prospects: an agreement that minimizes barriers to the cross-border flow of services, goods, and workers would best support growth. Early agreement on a transition period would avoid a cliff edge exit in March 2019 and reduce the uncertainty now facing firms and households. Continued steady fiscal consolidation, with an emphasis on pro-growth spending and tax reforms, remains critical to rebuild fiscal buffers and maintain investor confidence. The withdrawal of monetary stimulus should continue at a gradual pace, with policymakers responding flexibly to data developments. In the context of relatively easy financial conditions, maintaining prudent supervision and regulation will be important to limit excessive risk-taking. Close cross-border supervisory and regulatory cooperation will be essential to reduce financial stability risks, especially in the context of Brexit-related challenges. Structural reforms to boost productivity are crucial to achieve sustainable and more inclusive growth.

Approved By
Philip Gerson and Petya Koeva Brooks

Discussions took place in London during December 5–20, 2017. The staff team comprised P. Gerson (head), D. Iakova, N. Arregui, J. Chen, L. Gornicka (all EUR), and F. Vitek (MCM). J. Pampolina (LEG), O. Ftomova and R. Vega (both EUR) supported the mission from headquarters. The Managing Director met with the Chancellor and the Bank of England (BoE) Governor and held a press conference at the end of the mission.

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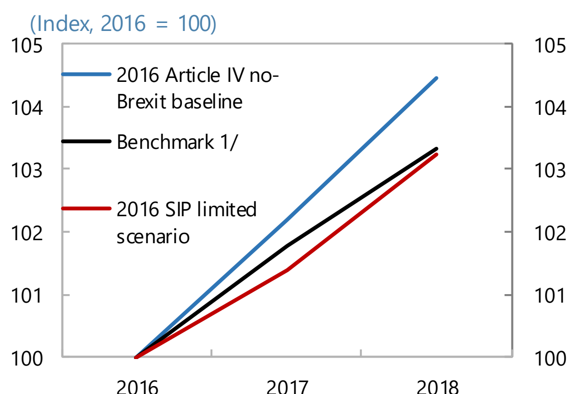
CONTEXT

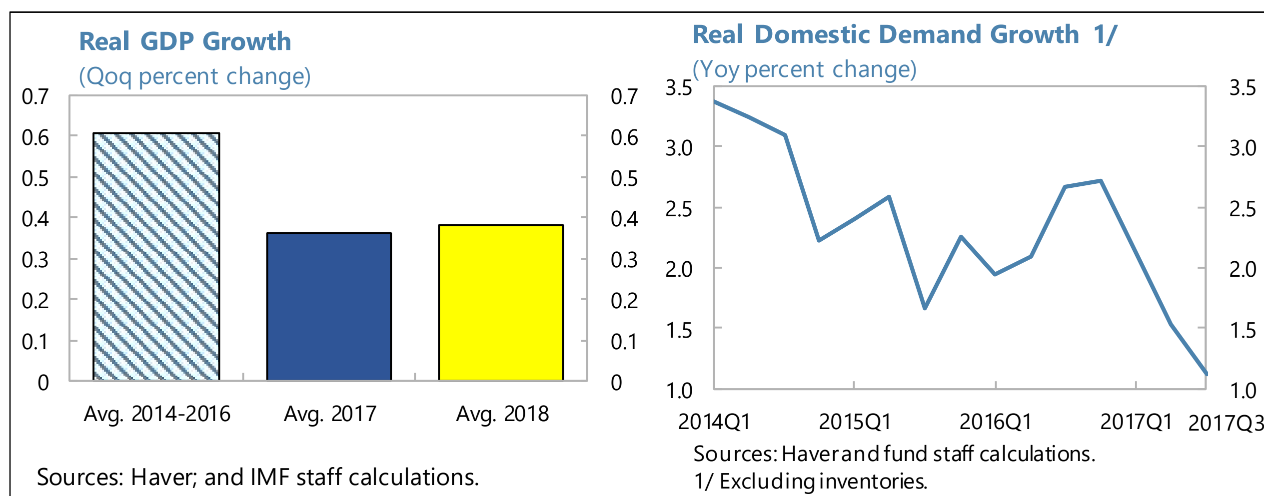
1. The United Kingdom is in the process of negotiating its exit from the European Union. A broad agreement on a new economic relationship with the EU—which will need to cover a range of trade, financial, legal, and institutional arrangements—must be achieved by March 2019. In December, agreement was reached in principle on the financial settlement, on protection of citizens' rights, and on Northern Ireland. Discussions are now moving to trade issues and a potential transitional period. The list of tasks that remains to be accomplished is very long. In addition to agreeing a trade deal with the EU, it includes negotiating new trade arrangements with around 60 countries to replace those to which the UK is currently party via its EU membership, bolstering human and IT resources in customs and other services, and translating many thousands of pages of EU law into UK domestic code.

RECENT DEVELOPMENTS AND OUTLOOK

2. Growth has moderated since the beginning of 2017. The employment rate has remained around record highs, but the sharp depreciation of sterling following the June 2016 Brexit referendum pushed up consumer price inflation, compressing household real income and consumption. Business investment growth has been lower than would be expected in the context of robust global growth and high levels of capacity utilization, owing to heightened uncertainty about economic prospects (Figure 1). The softening of domestic demand was partially offset by a rise in exports, supported by strong growth in trading partners and weaker sterling. Real GDP growth



Sources: Haver, OBR; Bank of England (BoE); Consensus Forecast and IMF staff calculations.
1/ Calculated using the average of BoE, OBR, and Consensus latest growth forecasts for 2018.

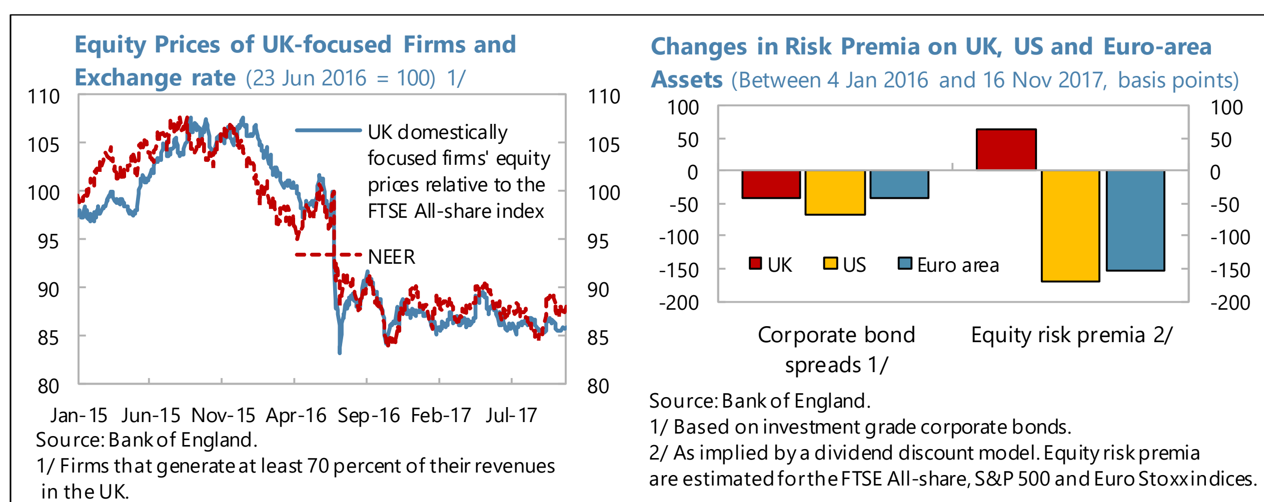


Sources: Haver; and IMF staff calculations.

Sources: Haver and fund staff calculations.
1/ Excluding inventories.

moderated to 1.8 percent in 2017 (1.5 percent y/y in Q4) from 1.9 percent in 2016. Inflation reached 3.0 percent y/y in 2017Q4 (with core inflation at 2.6 percent y/y), driven by currency depreciation and a recovery of energy prices (Figure 2). Economic performance has been broadly consistent with staff's analysis pre-referendum (see 2016 Article IV Selected Issues).

3. Equity prices of UK-focused companies have underperformed, but overall financing conditions remain favorable. Much of the rise in FTSE All-Share index since early 2016 appears primarily to have been driven by the sterling depreciation, leaving the equity risk premia broadly unchanged despite the large increase in risk tolerance for US and euro area assets. Consistent with that, equity prices of UK-focused companies have underperformed relative to the overall index and (by a wide margin) to US and European market averages. The risk premia on corporate bonds remains lower than in early 2016, reducing the cost of bond financing for companies.



Equity Prices of UK-focused Firms and Exchange rate (23 Jun 2016 = 100) 1/

Source: Bank of England.
1/ Firms that generate at least 70 percent of their revenues in the UK.

Changes in Risk Premia on UK, US and Euro-area Assets (Between 4 Jan 2016 and 16 Nov 2017, basis points)

Source: Bank of England.
1/ Based on investment grade corporate bonds.
2/ As implied by a dividend discount model. Equity risk premia are estimated for the FTSE All-share, S&P 500 and Euro Stoxx indices.

4. Macroeconomic policies have been supportive. Monetary conditions eased significantly after the referendum as the authorities reduced the policy rate and announced additional asset purchases as well as the introduction of a term funding scheme. The counter-cyclical capital buffer (CCyB) was also lowered to prevent a tightening of credit conditions. Aided by these policies, credit growth has remained broadly in line with income growth over the past year. The BoE increased the CCyB to 1 percent in November 2017, reflecting its assessment that—excluding the impact of Brexit—the risk environment is close to a standard level. Monetary conditions remain accommodative even after the BoE raised the policy rate by 25 basis points in November. The fiscal policy stance was broadly neutral in 2017, with consolidation expected to resume in 2018.

5. Output is close to potential. Despite slower growth, the output gap has continued to narrow and is now around zero, reflecting lower potential output growth. Net migration from the EU declined sharply in 2017, resulting in lower labor force and employment growth (Figure 3). The unemployment rate reached an historic low of 4.3 percent in 2017Q3, and more comprehensive

measures of underemployment also indicate a tight labor market.[1] Labor productivity and total factor productivity continue to grow more slowly than before the crisis.

A. Outlook

6. Growth is projected to remain moderate in the near term. Annual growth is projected to be around 1½ percent in the next two years, based on the assumption that the EU and the UK make smooth progress in negotiations that lead to an understanding on a broad free trade agreement and then transition smoothly to that new arrangement. Specifically, the baseline assumes that the UK exits the customs union and the single market, but tariffs on goods trade with the EU remain at zero, and non-tariff costs increase only moderately. With respect to the financial sector, the baseline assumption is that the UK reaches an agreement with the EU that allows firms to continue to provide most financial services on a cross-border basis. Finally, the two sides are assumed to reach timely agreements in a broad range of other areas, which would reduce uncertainty and prevent large economic disruptions.[2]

- **Household spending** will continue to be constrained by weak real disposable income growth. Inflation is expected to fall gradually but stay above the target of around 2 percent. Real income per capita has been broadly flat in the five quarters since the referendum, and is projected to increase only modestly in 2018.
- **Private investment.** Business investment is expected to continue to grow by less than would otherwise be expected given low borrowing costs and strong trading partner growth, until there is greater clarity on the UK's future trading relationship with the EU. Residential investment is projected to grow broadly in line with GDP.
- **External trade.** Net trade is projected to continue to make positive contributions to growth, supported by sterling depreciation and strong trading partner growth.

7. Brexit could reshape the structure of the UK economy. Its impact will depend on the nature of the final agreement, and may take many years to fully materialize. Agriculture, manufacturing and services would all be affected by changes in the trade framework, regulatory structure and labor markets. For example, the financial sector, which represents about 7 percent of GDP but accounts for around 10 percent of tax revenues and 14 percent of exports, may be particularly affected in the absence of an agreement that allows continued trade in financial services. Manufacturing firms with complex and lengthy international supply chains, such as in the automobile industry, could also face significant challenges. Agriculture, and tourism and other services, could be affected by limits on immigration from the EU. These developments could also have a significant impact on productivity growth.

[1] Selected Issues Paper "Drivers of UK Wage Growth."

[2] Note that these are conditioning assumptions for the projections and not an assessment of the most likely or desirable outcomes of the negotiations.

8. Productivity growth will be the primary determinant of UK living standards in the long run. Since the financial crisis, output growth has been underpinned by strong increases in employment, while productivity growth has been very weak. With the UK unemployment rate at a 42-year low and the annual net inflow of workers from the EU already declining, the scope for future employment gains is more limited. Therefore, economic performance will depend increasingly on the ability of firms to raise output per worker. The shape of the new agreement with the EU will affect productivity performance through its implications for trade, investment and migration. The higher are any new barriers to the cross-border flow of services, goods and workers, the more negative the impact would be.

B. Risks and Spillovers

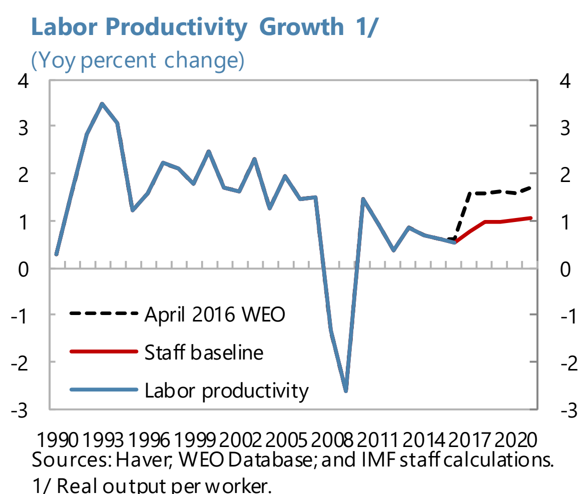
9. There is significant uncertainty around the baseline projection, and risks are mostly tilted to the downside. On the upside, reaching an agreement with the EU that minimizes tariff and non-tariff barriers beyond what is assumed in the baseline could buoy confidence and boost activity. On the downside, successor arrangements with higher trade barriers and significantly limited financial connections, even leaving the EU without an agreement, would reduce medium-term growth. A disorderly exit from the EU and sharp falls in asset prices is also a risk in downside exit scenarios. The longer term holds additional uncertainties. New trade arrangements with countries outside the EU could affect positively the level of potential output, although these are unlikely to materialize prior to the projection horizon.

10. Other risks, both domestic and external, could also affect the outlook (Annex I). Key *domestic risks* include a failure of productivity growth to increase, asset price corrections, and risks related to the financing of the current account deficit.

- The projected recovery of labor productivity growth over the medium term could fail to occur. Staff's baseline projection assumes that productivity growth will recover to about one percent, above the ½ percent post-crisis average but well below the pre-crisis norm. Investment in labor-saving technologies and the efficiency of labor utilization is assumed to increase with the economy at full employment; however, some factors could continue to depress productivity growth (see Box 1).

Labor Productivity Growth 1/

(Yoy percent change)



Sources: Haver, WEO Database; and IMF staff calculations.

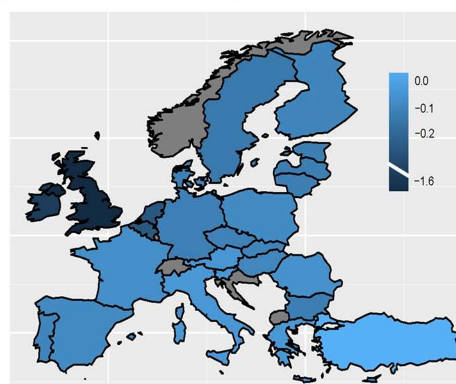
1/ Real output per worker.

- Compressed risk premia and a decline in liquidity in the UK corporate bond market, and still-high valuations of commercial real estate and to a lesser extent housing, are additional sources of risk to the outlook.

- The need to finance the large current account deficit makes the economy vulnerable to a shift in investors' expectations, which could trigger an abrupt reduction in net capital inflows that could in turn tighten domestic financial conditions, and adversely affect domestic demand.
- Private consumption growth has outpaced real income growth over the last year, resulting in a decline in the household saving rate. If households start to rebuild their savings, consumption growth would be affected.
- *External risks.* A tightening of global financial conditions could spill over to asset prices in the UK. A credit cycle downturn in China could affect UK banks.[3] On the positive side, stronger-than-expected global growth could continue to boost UK exports and investment. See Annex I for a description of other external risks.
- Non-economic factors, including political developments, geopolitical tensions, terrorism and cybersecurity issues, could also affect economic and financial stability.

11. A significant increase in trade barriers with the EU would have important spillover effects. Economies in the EU would be affected by reduced gains from trade, depending on the extent of their linkages with the UK. Staff estimates using a trade model suggest that a moderate increase in non-tariff trade costs would reduce EU output on average by about ¼ percent in the long run, with individual country effects broadly proportional to their share of trade with the UK. There would be additional losses for both the UK and the EU if higher trade barriers increased the cost of financial and other services, and resulted in lower foreign direct investment in some economies.

Estimated Long-run Impact on GDP from Higher Trade Costs 1/ (Percent of GDP)



Source: IMF staff calcutions.
1/ Countries not included in the model are shaded in grey. The estimate assumes an average of 8 percent increase in tariff equivalent non-tariff trade costs across 31 sectors and is calculated from a model based on Costinot and Rodriguez-Clare (2013).

Authorities' Views

12. The authorities broadly shared staff's view on the cyclical position of the economy, the growth outlook, and risks. The Office of Budget Responsibility (OBR) projects 1.4 percent growth for 2018, while the BoE forecasts 1.6 percent, with limited spare capacity. They agreed that the medium-term outlook would depend on the outcome of the Brexit negotiations and the recovery of productivity growth. In November 2017, the OBR revised down its medium-term growth

UK: Growth and Output Gap Projections
(Percent)

	Growth		2017 Output
	2017	2018	Gap
Consensus forecast (December 2017)	1.6	1.5	...
OBR (November 2017)	1.5	1.4	-0.2
BoE November 2017 Inflation Report	1.6	1.6	...
IMF staff baseline 1/	1.8	1.6	0

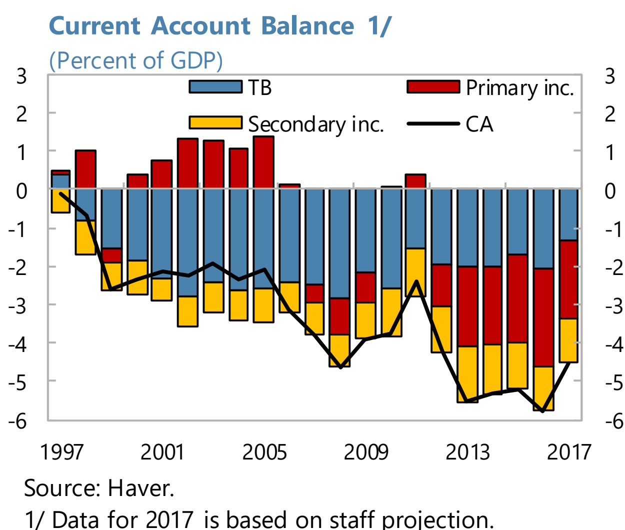
Sources: OBR; Bank of England (BoE); and IMF staff calculations.
1/ Based on ONS preliminary estimate of GDP for 2017Q4.

[3] On average, ten percent of UK banks' assets are in emerging markets (for some banks the exposure is higher).

forecast to 1.6 percent—in line with staff's projection—assuming a more modest increase in productivity growth than in their previous projections. The authorities also shared staff's view on the key domestic and global risks to the outlook.

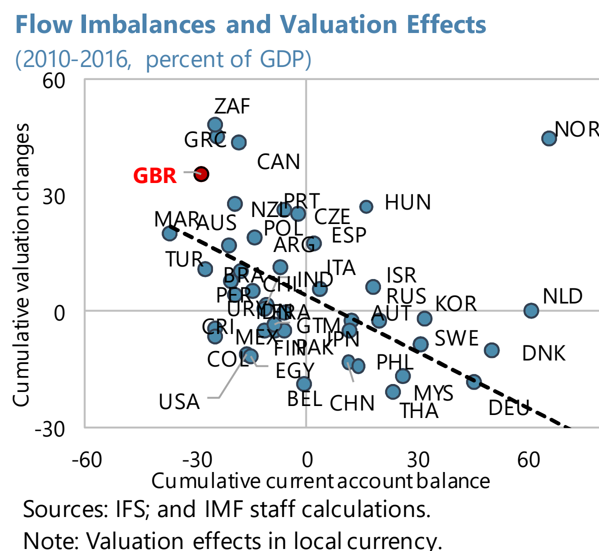
C. External Assessment

13. The current account deficit has widened significantly over the last decade, reaching nearly 6 percent in 2016. This has been driven by lower net income flows, reflecting weak earnings on foreign investments. The trade deficit has been broadly stable at about 2 percent of GDP (Figure 4). From a savings-investment perspective, the deterioration reflected a decline in private sector savings, which more than offset the gradual reduction of public sector deficits. The current account deficit is projected to narrow to 4.5 percent of GDP in 2017 and to 3 percent over the medium term, as trade and income balances improve due to strong global growth and sterling depreciation.[4]



Source: Haver.
1/ Data for 2017 is based on staff projection.

14. Persistent positive valuation effects have played a stabilizing role, offsetting cumulative current account imbalances. High current account deficits create vulnerabilities to a change in investors' preferences for UK assets. A shift in capital flows could be triggered by global factors or by concerns about the UK's long-term growth prospects. A decline in net capital inflows would raise funding costs, reduce asset prices, and trigger a downward adjustment in domestic demand. However, the currency composition of the UK's international investment position (IIP) mitigates to some extent these risks. The UK's external assets have a higher foreign currency component than its external liabilities. Therefore, sterling depreciation increases the net IIP balance and improves net income (in the absence of offsetting changes in gross investment flows). For example, the UK's net IIP improved by



Sources: IFS; and IMF staff calculations.
Note: Valuation effects in local currency.

[4] Staff estimates suggest that a 10 percent depreciation of the nominal effective exchange rate raises net income inflows by about ½ percentage point of GDP.

14 percentage points of GDP in 2016—while the current account deteriorated sharply—due to valuation effects. More generally, persistent positive valuation effects, reflecting an increase in the value of UK investors' holdings abroad, have helped stabilize the UK's net IIP over the last 20 years despite large cumulative current account deficits.[5]

15. The current account was wider than justified by fundamentals in 2017 (Annex II). The external balance assessment's current account model suggests the current account gap was between 1.5 and 4.5 percentage points of GDP in 2017. The real exchange rate models suggest that the exchange rate was in line with its equilibrium level. The depreciation of sterling after the referendum has helped improve net trade and should continue to support exports going forward. In addition, some of the post-crisis deterioration of returns on overseas investment is expected to be reversed as global growth recovers, which should lead to further improvement in income flows over the medium term. Staff's assessment is that the real exchange rate overvaluation in 2017 was in the range of 0 to 15 percent, although there is substantial uncertainty around this assessment related to uncertainty about UK's future trade arrangements. Should Brexit lead to a significant increase in trade barriers, the equilibrium exchange rate could be more depreciated than suggested here.

Authorities' Views

16. The authorities agreed that large current account deficits increase vulnerabilities to a reversal of capital flows, and that it would be important to pursue policies that would help reduce external imbalances. They noted that currency composition of external asset and liabilities and the tendency for persistent positive valuation gains have helped stabilize the net IIP position in the past, and that the strong institutional framework would help maintain investors' confidence. They also noted that the current policy mix of still-accommodative monetary policy and gradual deficit reduction should contribute to a stronger current account position going forward. Their view is that there is a large degree of uncertainty around assessments of the equilibrium exchange rate given the wide range of possible future trade arrangements with the EU and other trading partners.

POLICY DISCUSSIONS

17. Macroeconomic policies should focus on supporting stability and growth. In the context of limited economic slack, a gradual fiscal consolidation and withdrawal of monetary stimulus would be appropriate to keep growth in line with potential and bring inflation down to the 2 percent target over the medium term. A steady reduction in public sector deficits and debt would also help maintain investor confidence and lower the current account deficit. Policy initiatives should focus on raising competitiveness and potential growth over the medium term. In the financial sector, continued prudent oversight would help prevent a relaxation of credit standards. While negotiations

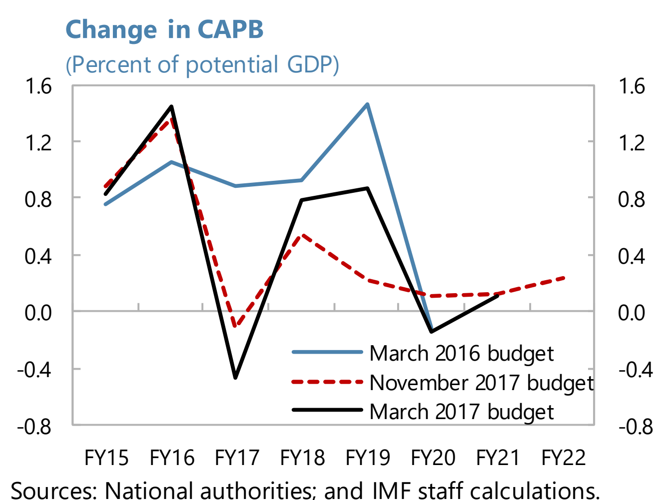
[5] The official NIIP data, which are based on historical values of FDI stocks, might understate the market value of the net position. BoE estimates suggest that the NIIP based on market valuation was close to 80 percent of GDP in mid-2017 (November 2017 Inflation Report). The estimates assume that the values of FDI assets move in line with equity market indices in the UK and abroad.

on a post-Brexit trade relationship are ongoing, the authorities will also need to continue preparations for the tasks they will need to assume or expand (for example, in customs and potentially regulatory matters currently handled by EU agencies) and to consider contingency plans in case negotiations break down.

A. Fiscal Policy

18. Since the last Article IV consultation, the authorities have introduced greater flexibility in the fiscal framework and eased the pace of fiscal consolidation.

- **New fiscal framework.** A new set of fiscal targets was introduced in the 2016 Autumn Statement. The new fiscal mandate targets as medium-term objectives cyclically-adjusted public sector net borrowing below 2 percent of GDP by 2020/21 and declining public debt as a share of GDP in 2020/21.[6] The government has a longer-term goal to achieve a balanced budget by the mid-2020s.[7] The net borrowing ceiling exceeds the current medium-term deficit projections by about 0.9 percentage point of GDP, providing room for policy flexibility in case of negative growth shocks.
- **Pace of consolidation.** The smoothing of the consolidation path reflects a weaker growth forecast and a policy decision to increase public investment to support potential growth, while continuing to make progress towards the framework's objectives. The public-sector deficit is projected to be around 2.4 percent of GDP in 2017/18, broadly unchanged from 2016/17. The cyclically-adjusted fiscal balance is expected to improve by a cumulative ¾ percentage point of GDP over the next three years.[8]



Sources: National authorities; and IMF staff calculations.

19. Steady fiscal consolidation remains critical to set the public debt ratio on a downward path and rebuild buffers against future shocks. Sustained consolidation has substantially reduced

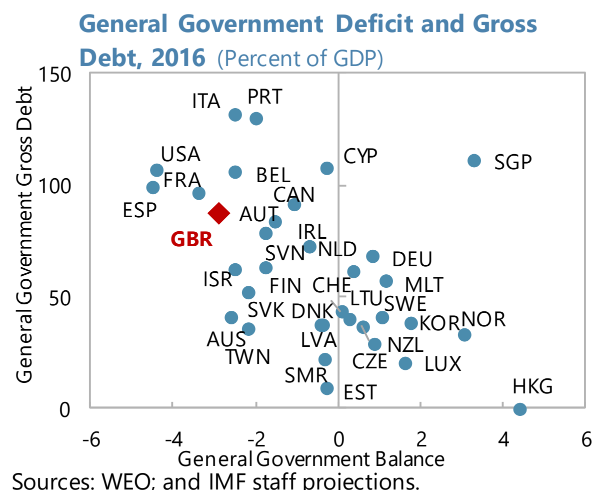
[6] Starting in November 2017, the English housing associations (accounting for 0.2 and 3.3 percent of GDP of public sector net borrowing and net debt, respectively) are re-classified from the public to the private sector. While this accounting change expands the headroom against the unchanged ceiling of 2 percent in FY2020, it has no effect on the underlying health of public finances.

[7] A welfare cap (a cap on annual social security spending excluding spending on state pensions and benefits related to the economic cycle such as jobseekers' allowances) introduced by the previous government remains in place. Compliance with this rule would be tested every five years, with the first test coming in FY2021–22.

[8] The projected consolidation includes a reduction in welfare spending (driven largely by the cash freeze applied to most working age benefit and tax credit awards up to 2019–20) and cuts in current spending (the budget envisages cuts in real terms across the board, except in defense, health and education), which have a relatively high multiplier.

the deficit since the height of the global financial crisis. Nevertheless, at 87 percent of GDP, the public debt ratio remains high by international standards (see Figure 5).[9] The three main credit rating agencies—Fitch, S&P, and Moody's—have downgraded UK's sovereign credit rating by one or two notches since the referendum, pointing to rising fiscal pressures, an erosion of medium-term economic prospects, and risks to the financing of the current account deficit. Both staff's debt sustainability analysis (Annex III) and a fiscal stress test recently released by the OBR show that the fiscal position remains highly sensitive to macroeconomic shocks, reinforcing the need for continued rebuilding of fiscal buffers. Gradual tightening of fiscal policy between now and mid 2020s will also help bring the current account closer to fundamentals.

General Government Deficit and Gross Debt, 2016 (Percent of GDP)



Sources: WEO; and IMF staff projections.

20. Over the longer term, population aging will put further pressure on the public finances, while productivity developments and Brexit-related effects may make consolidation more challenging. Annual spending on healthcare, long-term care and pensions is projected to rise by 1 percentage point of GDP between 2020 and 2025, and to increase further after that. Lower output associated with Brexit, or a failure of productivity growth to recover more generally, would shrink the revenue base from which to meet these demands: each percentage point decline in the level of nominal GDP reduces the fiscal balance by about 0.4 percent of GDP, everything else equal, more than offsetting any savings from lower net contributions to the EU budget post-Brexit. In addition, if Brexit leads to a relocation of some high-value-added activities outside the UK, tax revenue could fall even faster. On the spending side, Brexit-related work by the government (such as establishing and running UK-specific regulators) would increase spending pressures, as would any efforts to provide support for industries or regions particularly affected by the withdrawal from the EU.[10] Therefore, the UK may in the future face difficult decisions about the desired size of the public sector, as well as the mode of delivery and financing of public services.

21. Under these circumstances, additional revenue measures may be needed over the medium term to balance the budget by the mid-2020s. Deficit reduction since the financial crisis has relied mostly on spending measures. Spending restraint also accounts for the bulk of planned consolidation over the next three years. By 2020, most categories of public spending as a ratio to GDP will be at or below their levels prior to the crisis (except for demographic-driven increases in

[9] Net public debt has continued to increase over the last two years, partly due to quantitative easing operations conducted by the BoE since August 2016. Loans under the new Term Funding Scheme are classified as illiquid assets and therefore included in net public debt. The facility would be available until February 2018. Since the loans have a 4-year term, the unwinding of the scheme would reduce debt starting in FY2020. Net public debt excluding assets held by the BoE was 81 percent of GDP at end-2016.

[10] The government has set aside a budgetary allocation of £3 billion to support Brexit preparations.

health and pension spending). While the government should continue to seek the best value for money in public spending, identifying further efficiency gains without reducing the quality of services could become more difficult, highlighting the need for revenue measures in the next phase of the fiscal consolidation.

22. Tax reforms can reduce economic distortions and increase the room for growth-enhancing infrastructure spending.

- Scaling back distortionary tax expenditures (such as removing preferential VAT rates on some goods) could improve efficiency, increase tax neutrality, and reduce pressure to cut more productive public spending.[11]
- Reducing the tax code's bias toward debt, for example by adopting a tax allowance for corporate equity, could promote financial stability.
- Rebalancing property taxation away from transactions and toward values could boost labor mobility and encourage more efficient use of the housing stock.
- Moving towards a more equal tax treatment of employees, the self-employed, and corporations would improve fairness and reduce incentives to switch to a different legal form of work for tax reasons (any differences in tax treatment should be aligned with differences in benefit entitlements). It would also bring the tax system in line with evolving employment practices.[12]
- *On the spending side*, removing the "triple lock" guarantee on state pensions would help contain rising demographics-related spending. Staff simulations suggest that moving to CPI indexation could save over 0.5 percent of GDP by the end of a 10-year horizon.

23. The UK continues to set international standards with respect to fiscal transparency (Box 2)**.** The OBR released its first Fiscal Risk Report in mid-2017, assessing the vulnerability of public finances to a wide range of risks. The authorities have already addressed some of the identified risks, for example by improving the oversight process for assuming contingent liabilities, and will provide a full response to the report by the summer. Starting with the Autumn 2017 budget, major tax and spending decisions have been unified into a single fiscal event well ahead the start of the financial year, as recommended in the 2016 IMF Fiscal Transparency Report. This allows more time for parliamentary and public scrutiny of fiscal measures while increasing certainty for households and firms.

Authorities' Views

24. The authorities underscored their commitment to responsible fiscal policy, with an emphasis on pro-growth measures. They highlighted their efforts to expand infrastructure investment substantially despite continued reductions in current spending: the government has committed to consistently spend 1–1.2 percent of GDP on public investment in economic

[11] Tax relief on value added taxes represents the largest category by tax expenditures cost (2.6 percent of GDP), with the main contribution given by the zero percent VAT rate on most foods (0.9 percent of GDP).

[12] The share of self-employed in the workforce has increased from 13 to 15 percent over the last ten years.

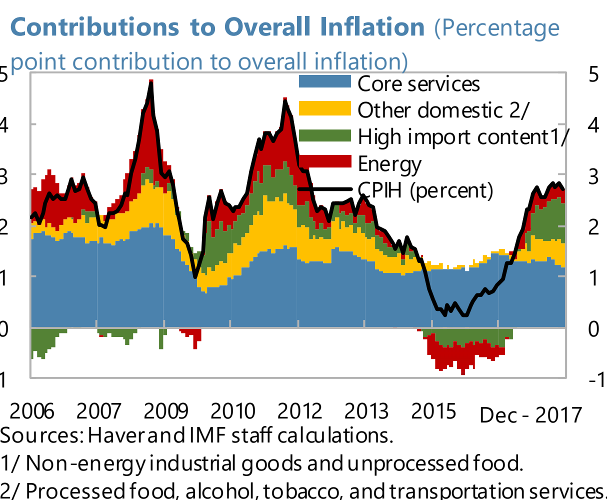
infrastructure from 2020/21. At the same time, the authorities remain committed to continued steady deficit reduction in the context of a credible fiscal framework. They are mindful of the challenge posed by an aging society for public finances, and noted that they will set out proposals to build a more sustainable care and support system by summer 2018. The authorities intend to continue to rely on expenditure restraint to reduce deficits in the near term, while prioritizing spending in key areas such as health, science, education, and infrastructure. The room for further expenditure efficiency gains will be reassessed in the forthcoming Spending Review.

B. Monetary Policy

25. Monetary policy remains accommodative.[13] The BoE cut the policy rate by 25 basis points in August 2016 to ¼ percent. At the same time, a new Term Funding Scheme (TFS) was introduced to strengthen the pass-through from the policy rate to lending rates. Under the scheme, banks can borrow central bank reserves in exchange for eligible collateral (including eligible loans and investment-grade bonds). The BoE also announced the purchase of an additional GBP 60bn of UK government bonds, bringing its total holdings to GBP 435bn (about 25 percent of all outstanding gilts). These measures were supplemented by a corporate bond purchase program of GBP 10bn. As slack in the labor market continued to diminish over the past year, the BoE started to unwind some of the exceptional stimulus, raising the policy rate by 25 basis points in November 2017. In addition, the authorities confirmed that the drawdown period for the TFS will close in February 2018.

26. Above-target inflation over the last year reflects mostly pass-through from exchange rate changes. The nominal effective exchange rate has depreciated by about 10 percent since 2016Q2, pushing import prices up, and energy prices have increased.[14] Domestic inflation—proxied by core services inflation—remains low, and wage growth has been subdued. Average unit labor cost growth in recent years has been below the pre-crisis average. Inflation expectations remain well-anchored, close to their historical averages.

Contributions to Overall Inflation (Percentage point contribution to overall inflation)



Sources: Haver and IMF staff calculations.
1/ Non-energy industrial goods and unprocessed food.
2/ Processed food, alcohol, tobacco, and transportation services.

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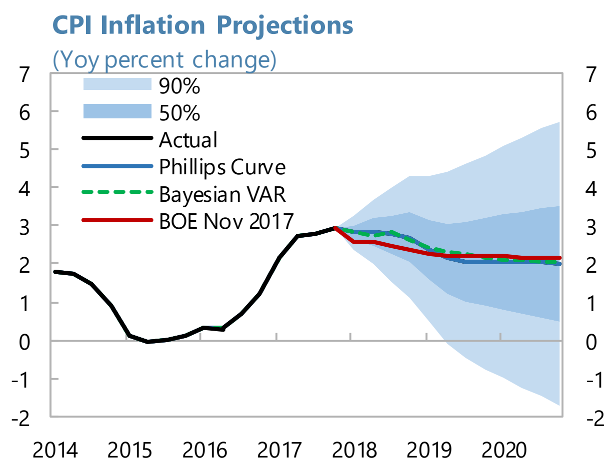
[13] Staff estimates from a model based on Pescatori and Turunen (2015) suggest that the nominal neutral rate is at around 1 percent (with a standard error of about 0.8 percent) in 2017Q3, compared to an estimated nominal shadow rate of -0.4 percent (Krippner, 2016). The nominal yield of the 30-year government bond was 1.8 percent in early October, also indicating a low level of the neutral rate.

[14] Staff estimates suggest that the depreciation accounted for about 1 percentage point of the increase in consumer prices since 2016Q2.

27. Inflation is expected decline gradually toward the target over the next two years as import price pressures dissipate. At the same time, labor market tightness is expected to translate into some recovery of pay growth going forward, which would help raise domestic inflation to a level consistent with the inflation target. Based on staff estimates, inflation will converge to the target by end-2019 conditional on the baseline growth projections and market-implied interest rates.



Sources: Bank of England; Haver; and IMF staff calculations.

28. The withdrawal of stimulus should proceed at a gradual pace, and policymakers should stand ready to respond flexibly to changing conditions in an environment of greater-than-usual uncertainty. Continued monetary accommodation in the near term would help offset the effects of fiscal consolidation and support domestic demand in the context of Brexit-related uncertainty.[15] However, a more accelerated pace of interest rate increases would be warranted if inflation expectations become unmoored or domestic cost pressures increase faster than expected. On the other hand, should negative surprises from the Brexit negotiations further depress domestic demand and affect firms' willingness to raise wage growth, further rate hikes could be delayed and monetary policy could be made more expansionary if needed. Transparent and timely communication will remain critical to guide market expectations in an environment of heightened uncertainty. The withdrawal of monetary stimulus should initially take place through an increase in interest rates as they offer greater flexibility and the transmission mechanism is well understood. The eventual unwinding of the BoE's balance sheet should be based on a preannounced, transparent strategy aimed at preventing market disruption.

Authorities' Views

29. The authorities noted that future increases in Bank Rate needed to bring inflation to the target would be expected to occur at a gradual pace and to a limited extent. They shared staff's view that the move of inflation above the target over the past year is mostly due to pass-through from sterling depreciation. There was also agreement that domestic inflationary pressures were expected to pick up gradually as remaining spare capacity was absorbed and wage growth recovered, which would justify a gradual withdrawal of stimulus to ensure a sustainable return of inflation to target. The authorities maintained their view that asset sales should commence only once Bank Rate has reached a level from which it can be cut materially in the response to a negative shock. The MPC has emphasized the uncertainty around the economic outlook and stands ready to adjust policy flexibly in response to changes in the outlook for activity and inflation.

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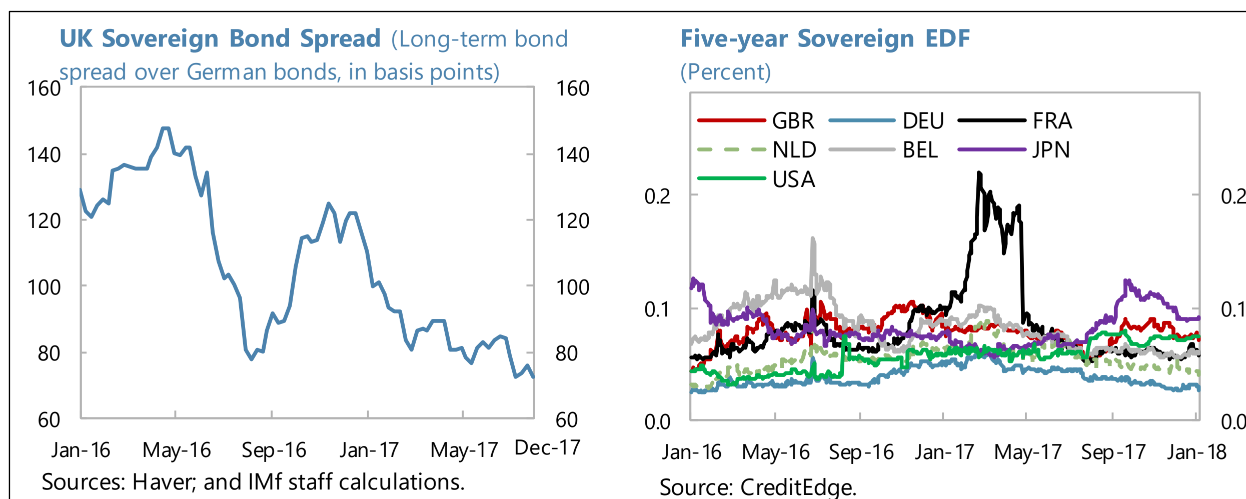
[15] The estimated drag on output due to fiscal consolidation is 0.3 in FY2018 and 0.18 in FY2019–20 (based on OBR's estimate of a public spending multiplier of 0.6).

C. Contingency Plans

30. Under a tail risk scenario of a breakdown in the negotiations followed by disorderly Brexit, policies should be geared toward supporting macroeconomic and financial stability. Such an event could trigger an abrupt adverse market reaction, with possible capital outflows and sharp declines in asset prices. In the event of disruptions in financial markets, the BoE will need to ensure that the financial system has adequate liquidity, including by relying on swap facilities with other major central banks. In addition, the FPC could release the CCyB, supporting bank credit supply. Any relaxation of the CCyB would need to maintain confidence in the financial system and ensure an appropriate degree of resilience against future shocks.

31. Monetary policymakers may face a trade-off between inflation and output stabilization. Consumer prices are likely to increase as trade costs go up and sterling depreciates. Output would decline, while at the same time structural unemployment may increase as firms reorient their activities to adjust to a much more restrictive trade regime. The appropriate monetary policy response would depend on the relative shifts of supply and demand, the change in the exchange rate, as well as the stability of inflation expectations, and could involve tightening or loosening.

32. There is some fiscal space to help smooth the adjustment. The UK faces limited financing risks in the near term despite a relatively high debt burden. Gross financing needs over the forecast horizon are contained both under the baseline and under stress simulations, and the expected medium and long-term adjustment appears manageable. Sovereign bond spreads have remained exceptionally low following last year's referendum. The automatic stabilizers should be allowed to operate freely to help cushion the shock. Some additional expenditure on labor market policies could also be warranted: retraining workers and supporting their relocation across firms or sectors would help mitigate the shock to potential output. However, a permanent decline in the level of output would require an eventual fiscal adjustment to maintain sustainability. Moreover, fiscal space may become more restricted in practice if the shock affects confidence and raises risk premia. Therefore, any policy easing should be limited, temporary and anchored by credible medium-term fiscal consolidation plans.



Sources: Haver; and IMf staff calculations.

Source: CreditEdge.

Authorities' Views

33. The authorities are prepared to respond to a wide range of shocks. The fiscal framework allows flexibility to provide temporary support in the case of large negative output shocks, and £15 billion headroom is forecast against the 2 percent cyclically-adjusted deficit rule in the target year of 2020/21. The authorities agreed that policy space should be used judiciously, and that a permanent decline in potential output would require an eventual adjustment of revenues or spending. They likewise agreed that the monetary policy response could not be predetermined and would depend on the size of the supply, demand and exchange rate shocks, among other factors.

D. Financial Sector Policies

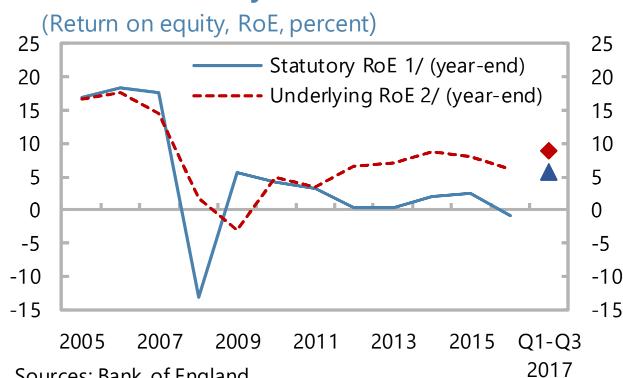
34. Private sector balance sheets have strengthened. In aggregate, the major UK banks are well capitalized and satisfy the Basel III Liquidity Coverage Ratio and Net Stable Funding Ratio requirements. However, strong regulatory capital ratios benefited from declining risk weights on mortgages and consumer loans, in part reflecting benign cyclical conditions and declining non-performing loans. Non-financial corporate balance sheets have also strengthened: debt ratios declined over the last decade, while profitability and interest coverage ratios increased (Figure 6). The 2017 annual stress test done by the BoE suggests that the UK banking system is resilient to deep simultaneous recessions in the UK and global economies, large falls in asset prices, and a separate stress of misconduct costs. The strengthening of the bank resolution framework is on track: large core retail banking operations will be ringfenced by 2019, banks are raising their total loss-absorbing capacity and satisfying resolution planning requirements.

Financial Soundness Indicators for Major UK Banks 1/
(Percent)

	2000-06	2011	2012	2013	2014	2015	2016	2017H1
Capital adequacy								
Basel III common equity Tier 1 capital ratio	...	7.2	8.4	10.0	11.4	12.6	13.4	14.3
Simple leverage ratio	4.8	5.1	5.1	5.5	5.9	6.6	6.6	6.7
Basel III leverage ratio (2014 proposal)	...	...	...	...	4.4	4.9	4.9	5.0
Asset quality 1/								
Non-performing loans net of provisions to capital	...	16.1	13.9	9.5	5.4	3.9	3.4	...
Non-performing loans to total gross loans	...	4.0	3.6	3.1	1.7	1.0	0.9	...
Profitability								
Return on assets before tax	1.1	0.4	0.2	0.3	0.5	0.4	0.3	0.3
Price-to-book ratio	224.3	57.8	81.8	107.4	98.1	88.4	80.9	88.9
Liquidity								
Loan-to-deposit ratio	113.1	108.9	103.1	99.1	95.9	97.1	93.5	94.6
Short-term wholesale funding ratio	...	19.1	16.7	14.7	13.6	10.5	10.1	...
Average senior CDS spread	...	2.7	1.5	1.0	0.6	0.8	0.9	0.4

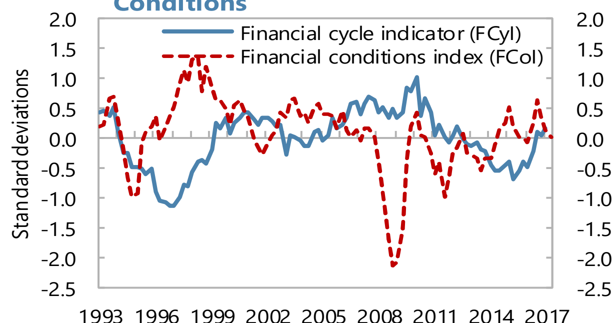
Sources: Bank of England FPC Core Indicators; IMF Financial Soundness Indicators.
1/ The coverage of banks is as defined in the Bank of England's November Financial Stability Report, except for asset quality indicators, for which the coverage is as defined in the IMF's Financial Soundness Indicators.

35. Nevertheless, bank profitability remains lackluster, reflecting low investment banking returns and legacy misconduct charges. Persistently low profitability hinders banks' ability to accumulate capital from retained earnings following an adverse shock. The BoE's 2017 biennial exploratory scenario examined how the major UK banks would adapt under a secular stagnation scenario, featuring an extended period of low output growth and interest rates, as well as increasing competitive pressures from FinTech. It concluded that while banks could cope with these sustained headwinds to profitability, they would have to make substantial further cuts to their operating costs.



Sources: Bank of England.
1/ Statutory RoE is defined as net income attributable to shareholders divided by average shareholders' equity.
2/ Underlying RoE strips out misconduct costs as well as one-time charges such as restructiring costs.

36. Total credit is growing broadly in line with GDP, but the more rapid growth of consumer credit is posing some risks (Figure 7). While mortgage and corporate lending are growing at a moderate pace, consumer credit has expanded at about 8 percent annual rate (including non-bank consumer loans). Although consumer credit accounts for only 7 percent of UK bank's loans, impairments on these loans accounted for 40 percent of potential losses in the 2017 annual cyclical stress test, reflecting high default rate sensitivity to income and interest rate shocks. The authorities have directed banks to strengthen underwriting standards for consumer loans. Staff analysis suggests that the UK is close to the middle of the financial cycle, which is consistent with BoE's decision to raise the countercyclical buffer to 1 percent. The authorities' strategy is to set the countercyclical capital buffer rate at one percent in "a standard risk environment", when risks are neither subdued nor elevated.[16]



Source: IMF staff calculations.
Note: FCyI: average of standardized credit-to-GDP, equity price-to-GDP and house price-to-income gaps. FCoI: standardized approximate real annual return on a market capitalization weighted portfolio of domestic bonds, stocks, and housing.

37. Household debt has increased relative to income, but the share of highly indebted households remains low. House price growth has eased since mid-2016, especially in London which had steep price increases in recent years (Figure 8). Nonetheless, house prices remain high relative to income and rents, reflecting supply constraints and narrowing spreads on mortgages in

[16] The knock-on effects on credit conditions of small and gradual increases in the CCyB are relatively small. Studies suggests that a 1 percentage point increase in the buffer increases lending spreads by 1–25 basis points.

part driven by the increasing competition in the banking sector. The ratio of household debt to income has started to increase again following a period of deleveraging after the financial crisis. The ratio of new mortgage loans at relatively high loan-to-income (LTI) ratios has been increasing, although it remains below the regulatory limit (up to 15 percent of loans can have LTI ratios at or above 4.5). BoE stress tests suggest the banking sector is resilient to large house price declines and to a rise in unemployment. At the same time, prudential and tax policies have helped stabilize the growth of buy-to-let mortgage debt, which is much more sensitive to changes in economic conditions than owner-occupied mortgages.[17] Since early 2017, the FPC has powers of direction over bank lending to the BTL market, although it is not using them actively at present.

38. As the financial cycle matures, it will be important to maintain a prudent approach to bank supervision and regulation. Supervisors should continue to evaluate carefully banks' internal models to ensure that they appropriately reflect risk exposures and are not excessively procyclical, adjusting PRA capital buffers where necessary.[18] Adopting the Basel III final agreement in due time would help reduce excess variability in risk weights across banks using internal models. Consumer credit developments should be monitored closely to assess the effectiveness of actions taken to strengthen loan underwriting standards. Further measures may be warranted if rapid consumer credit growth persists, including additional targeted increases in bank-specific capital buffers, the imposition of sectoral capital requirements, and enhancing the oversight of non-bank financial institutions. The CCyB rate should be kept under review to ensure it continues to evolve in line with the overall risk level. The authorities should consider conducting a system-wide liquidity stress test of the major UK banks in a future biennial exploratory scenario.

39. Market-based finance is an increasingly important part of the UK financial system, accounting for about half its assets. Since the global financial crisis, capital markets have provided the bulk of net financing to UK nonfinancial corporates. Stable liquidity conditions are important for the smooth functioning of capital markets. Compressed term and credit risk premia in the UK corporate bond market, together with relatively low liquidity, makes this market susceptible to disruption. Following the recommendations of the 2016 FSAP, the BoE is developing a financial system-wide simulation to model the dynamic interaction of insurers, funds and dealers under stress (Annex IV). The results from system-wide stress simulation could help inform the understanding and management of systemic risk originating in or propagated by the nonbank financial sector.

The Implications of Brexit for the Financial Sector

40. Brexit presents major challenges to the UK financial sector. Its impact will depend on the arrangement for financial services trade that is ultimately agreed between the UK and EU. While

[17] Measures included a tax surcharge on second residential properties introduced in April 2016, a reduction of the tax relief on mortgage interest for landlords starting in April 2017, and the publication in September 2016 of supervisory expectations for stricter underwriting standards for BTL mortgage contracts, including a requirement of an affordability assessment under stressed interest rates.

[18] The PRA has directed banks using internal models for the calculation of residential mortgage risk weights to move to hybrid models (instead of using exclusively through-the-cycle or point-in-time calibration of default probabilities), which should reduce the dispersion of risk weights across banks and procyclicality for those firms using point-in-time calibration.

there is a wide range of possible outcomes, it is likely that UK financial institutions' ability to provide services to EU clients will be curtailed to some degree, and that some operations will relocate to the EU (Box 3). The BoE's 2017 annual cyclical stress test suggests that the major UK banks are sufficiently well-capitalized to withstand a disorderly Brexit. However, even an orderly Brexit could pose significant business continuity challenges.

41. UK prudential and conduct supervisors are proactively helping regulated financial institutions prepare for Brexit. Financial institutions have been asked to develop comprehensive contingency plans in consultation with the BoE. Based on a review of these plans, the authorities have identified two key issues that would be difficult for financial firms to address unilaterally and could best be handled through bilateral agreements between the UK and EU: the continuity of outstanding cross-border over-the-counter derivative and insurance contracts, and continued cross border sharing of personal data within institutions. The authorities are making progress in translating EU financial regulation into UK law, and where necessary replicating EU institutional capacity. Given the complexity of the necessary preparations, timely agreement on an implementation period would be needed to reduce risks to financial stability in the EU and the UK.

42. Assessing and managing risks in a more fragmented European financial system will require continued close cross-border regulatory and supervisory cooperation. UK and EU financial institutions may have to adopt more complex business models post-Brexit to continue to provide cross-border services, reducing their capital and liquidity management efficiency. A significant expansion of the size and complexity of the EU financial system could strain the current supervisory capacity in some countries. Regulation and oversight arrangements for euro-denominated derivatives clearing on UK-based central counterparties (CCPs) will require careful design. The potential loss of euro-denominated derivatives clearing permissions for EU banks on UK-based CCPs could generate transitional financial stability risks related to the continuity of existing contracts, as well as permanent netting efficiency losses arising from the geographical fragmentation of derivatives clearing.

Authorities' Views

43. The authorities emphasized that they will remain committed to implementing robust prudential regulatory and supervisory standards in the UK, irrespective of the post-Brexit arrangement for financial services trade. They intend to maintain a level of resilience exceeding that required by international baseline standards. The authorities noted that the resilience of the UK financial system also depends on prudential standards applied in other jurisdictions. They emphasized that continued close cross-border regulatory and supervisory cooperation is essential to preserve hard-won financial stability gains.

E. Structural Reforms: Raising Productivity

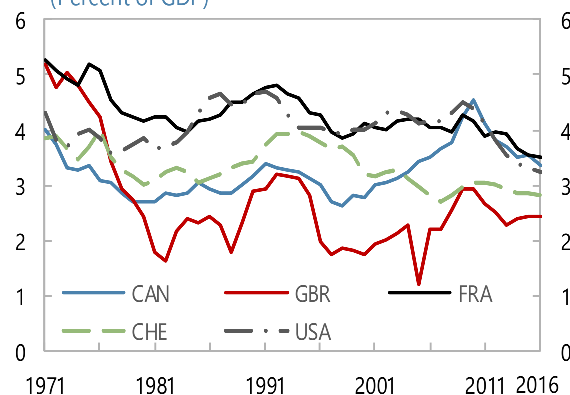
44. Sustained policy focus on raising productivity will be important to increase living standards and make growth more inclusive. Productivity performance in the UK has been weak in several dimensions: productivity levels are much lower than in peer economies, productivity growth

since the financial crisis has been exceptionally low, and the distribution of output per hour across regions in the UK is highly uneven (Box 4). Exiting the EU is likely to depress trend productivity further through reduced foreign investment, trade, and immigration. Moreover, relatively low-income regions could be exposed to a loss of funding from the EU structural funds and the European Investment Bank. In addition, rising trade barriers with the EU are likely to affect some sectors and regions more than others. Inequality post taxes and transfers rose sharply from the late 1970s to the early 1990s, but has actually declined somewhat since the financial crisis. However, inequality remains high relative to that in other advanced economies, and intergenerational income mobility is low (Figure 9). Both at the regional and at the household levels, the progressive tax and welfare systems help reduce income inequality relative to pre-tax and benefits rates.

45. While UK goods and labor markets are already very flexible by international standards, further reforms can support growth, improve competitiveness, and help reduce income inequality and regional disparities.

- ***Housing supply.*** Efforts should continue to boost housing supply, including by easing planning restrictions and reforming property taxes to encourage more efficient use of the housing stock. Increasing supply would support near-term growth, facilitate labor mobility across regions, support financial stability by making homes more affordable, and promote social cohesion by reducing wealth inequality.
- ***Infrastructure.*** The perceived quality of UK infrastructure and public spending on infrastructure is lower than in other advanced economies (OECD 2015 and 2017). According to the OECD (2015), transport bottlenecks constrain regional development and external trade. In response to these concerns, the authorities have increased public investment in infrastructure in recent years, particularly in transport, and plan to increase it further over the medium term. In addition, the institutional framework for selection and oversight of infrastructure projects has been strengthened significantly. Improving infrastructure and connectivity would also help reduce regional disparities.

Gross Government Investment 1/
(Percent of GDP)



Source: OECD.
1/ Gross government fixed capital formation.

- ***Human capital.*** UK students rank low on tests of basic numeracy and literacy despite relatively high average education spending in percent of GDP as well as per pupil.[19] Low educational achievement hurts the labor market prospects of young people: unemployment rates are the lowest among those with higher education. Labor shortages are most acute for skilled labor,

[19] At every level of educational attainment, the percentage of young adults with low basic skills in the UK is larger than the OECD average, as measured by the Survey of Adult Skills of the OECD Programme for the International Assessment of Adult Competencies (OECD 2017).

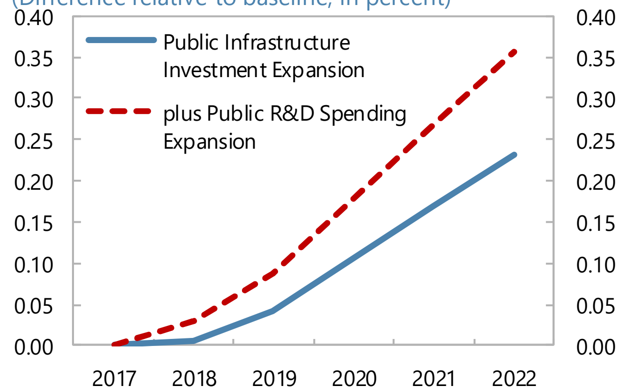
including for technical skills. The recent announcement of new T-level technical qualifications and the reforms to funding for apprenticeships should help reduce the skills gap. It will be important to monitor and evaluate the effectiveness of these programs, and of recent initiatives to increase the basic skills of high-school graduates, once they have been in place for some time.[20] Strengthening basic skills could also help further reduce income inequality and foster social mobility.

- ***Active labor market policies.*** Some industries are likely to be more affected by higher trade barriers with the EU than others, resulting in a reallocation of resources across sectors post-Brexit. Active labor market policies, including training and job-search support, could facilitate the adjustment for low-skilled or highly-specialized workers.
- ***Increase investment in research and development*.** While the R&D tax regime is internationally competitive, public and private spending on research and development in the UK is relatively low compared to the OECD average. The government's pledge to increase public investment in R&D programs is a step in the right direction. The government could also encourage greater collaboration between businesses and universities by building on existing initiatives, such as the Higher Education Innovation Fund and the Catapult centers (OECD 2017).
- ***Continued decentralization of governance arrangements.*** A greater role for local decision-making has the potential to better tailor policies to local economic conditions, if equalization mechanisms are in place to ensure that the subnational governments have adequate resources to meet the responsibilities devolved to them.
- ***On a regional level, reform priorities differ based on local needs:*** addressing congestion and housing restrictions are important for more successful regions; other regions should aim to increase human capital and improve transport connectivity to achieve agglomeration effects.[21]

Estimating the quantitative impact of structural reforms is inherently difficult, and for many reforms the positive effects would materialize only over the long term: gestation lags in education, for example, can last decades. Focusing on reforms that are likely to have a more immediate impact, staff simulations suggest that a permanent, balanced-budget increase in public infrastructure spending of 0.35 percent of GDP and public R&D spending of 0.15 percent of GDP (which would bring public investment to the OECD average in the medium term), funded by an elimination of some of the preferential VAT rates, would raise the level of both actual and potential output by 0.35 percent after five years.

Structural Reform Simulation: Potential Output

(Difference relative to baseline; in percent)



Sources: G20MOD (Andrle and others 2015); *World Economic Outlook* database; and IMF staff calculations.

[20] Measures include the reform to the national curriculum to place higher emphasis on basic core literacy and numeracy.

[21] Selected Issues Paper "Regional Disparities in Labor Productivity in the UK."

Corporate Transparency

46. The government has adopted further measures to enhance the transparency of companies and trusts. The 2017 Money Laundering Regulations and the Criminal Finances Act have been adopted. A publicly accessible register of persons with significant control of companies was established in 2016. A private register of trusts with tax consequences was also established in 2017, accessible by law enforcement authorities upon request. The accuracy of these registers could be improved by strengthening the mechanisms for verifying ownership information. Trust and company service providers (TCSPs) are subject to AML/CFT obligations, but UK trusts can be established without their involvement. Supervision over TCSPs is fragmented among several agencies, which presents risks of uneven monitoring. The government has legislated to establish a new unit in the Financial Conduct Authority to oversee AML/CFT supervisors of legal and accountancy firms including those who carry out TCSP activity in order to help ensure consistent enforcement and compliance in the sector.

47. Continued engagement with Crown Dependencies (CDs) and British Overseas Territories (BOTs) on the exchange of information on companies and trusts will be important. The establishment of central company registers by the CDs and BOTs is ongoing. In 2016, agreements were reached allowing tax and law enforcement officials to exchange rapidly companies' ownership information.[22] However, the agreements do not cover trusts. Continued engagement by the UK authorities with the CDs and BOTs is critical to ensuring timely access to accurate beneficial ownership information of companies and trusts registered in these jurisdictions.

Authorities' Views

48. The authorities shared staff's view on the key structural reform priorities. Significant progress has been made in several areas over the last two years. The government has prioritized capital spending and created a National Productivity Investment Fund, targeting investments in transport, housing, digital and R&D. The National Infrastructure Commission, tasked with independently assessing long-term priorities, will release its first National Infrastructure Assessment in mid-2018. The authorities noted that the expansion of infrastructure spending would be done at a gradual pace to contain any cost inflation and get the best value for money. The new system for funding apprenticeships and the recently announced reforms to technical education should increase students' skills and facilitate job matching. The recently published industrial strategy focuses on further initiatives to support skills, innovation, and infrastructure. The authorities agreed with staff that any sectoral interventions under the industrial strategy should be designed to avoid picking winners. The authorities highlighted the progress made on decentralizing governance through devolution in recent years. On corporate transparency, the authorities noted that the beneficial owners' registry is part of a wider AML/CFT regime for ascertaining ownership and is complemented by customer due diligence measures by regulated entities.

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[22] The UK government has agreements with Alderney, Jersey, Guernsey, Isle of Man, Anguilla, Bermuda, Gibraltar, British Virgin Islands, Cayman Islands and Turks and Caicos Islands.

STAFF APPRAISAL

49. Economic activity moderated in 2017. Inflation increased following the post-referendum depreciation of sterling, squeezing household real incomes and consumption, while business investment was affected by Brexit-related uncertainty. Net exports have been a relative bright spot, supported by strong external demand. Despite the slowdown in growth, the employment rate has risen to a record high and slack in the economy is limited.

50. Growth is expected to remain moderate in the coming years, with inflation gradually returning to target. Under the baseline, growth is expected to be around 1½ percent over the next few years. The projection assumes that the UK reaches a free trade agreement with the EU with zero tariffs and a moderate increase in non-tariff costs, and transitions smoothly to the new trade arrangements. Inflation is expected to return gradually to the 2 percent target as the effects of the depreciation fade and tighter policies keep output in line with diminished potential.

51. This baseline forecast is subject to significant risks. In the near term, a tail risk is a breakdown of the negotiations and a disorderly exit from the EU, affecting investor and consumer confidence. Early agreement on a transition period would help eliminate this risk and reduce the uncertainty already facing firms and households. In the medium term, the key risk is a lack of recovery of domestic productivity growth. The shape of the Brexit agreement will affect economic prospects materially: the higher are any new restrictions to the cross-border flow of goods, services, and labor, the more negative the impact is likely to be. External risks include two-sided risks to global growth, possible tightening of global financial conditions, and a decompression of risk premia.

52. Macroeconomic policies should focus on reducing vulnerabilities and supporting sustainable growth. With a closed output gap, a gradual fiscal consolidation and withdrawal of monetary stimulus would help keep growth in line with potential and bring inflation down. A faster pace of monetary policy rate increases would be warranted if labor costs increase more than expected or inflation expectations shift up. Continued fiscal restraint is necessary to set the public debt ratio on a downward path. In the financial sector, continued prudent oversight would help prevent an excessive easing of financial conditions.

53. Sustained fiscal consolidation is critical to rebuild buffers against future shocks and will help to reduce the current account deficit. The fiscal framework appropriately aims to reduce the deficit below 2 percent of GDP by 2020/21 and balance the budget in the medium term. Achieving these objectives will be challenging in an environment of low productivity growth and a rise in demographic-related spending pressures. Growth-friendly tax reforms—such as scaling back preferential VAT rates, aligning the tax treatment of employees and self-employed, reforming property taxes, and reducing the corporate tax code's bias towards debt—could help increase revenues as well as promote efficiency. Removing the triple lock on pensions would align the system with international practices and help contain demographic spending over the long term.

54. Continued improvements in fiscal transparency practices are welcome. The Fiscal Risks Report published by OBR is at the forefront of international standards for transparency in fiscal risk assessments. Progress towards the remaining recommendations from the IMF fiscal transparency evaluation would further strengthen the institutional framework.

55. The withdrawal of monetary stimulus should continue at a gradual pace. With the slack in the labor market largely eroded and inflation above the target, a withdrawal of the monetary stimulus is appropriate. Given planned fiscal consolidation and the drag on domestic demand from Brexit related uncertainties, the pace of this withdraw should be gradual and policy makers need to stand ready to respond flexibly to changing conditions.

56. Maintaining a prudent approach to financial supervision is critical as the financial cycle matures, especially in view of Brexit-related risks. The recent increase in the countercyclical capital buffer was appropriate for the current stage of the financial cycle. Consumer credit developments need to continue to be monitored carefully. Bank risk weights should remain under scrutiny to ensure that they reflect the underlying risks appropriately, and capital buffers should continue to be adjusted to address pockets of vulnerabilities. The authorities should consider conducting system-wide liquidity stress test in a future exploratory scenario. Close cross-border regulatory and supervisory cooperation remains essential to assess risks and vulnerabilities, especially with a potentially more complex and fragmented post-Brexit European financial system. The UK and EU authorities are encouraged to act in a timely manner to mitigate transition risks related to Brexit, such as ensuring the continuity of long-dated contracts and data sharing.

57. Under a tail risk scenario of a disorderly Brexit, policies should be geared toward supporting macroeconomic and financial stability. In the event of an adverse market reaction, with sharp declines in a range of asset prices, the BoE will need to ensure that the financial system has adequate liquidity. The implications of Brexit for monetary policy are uncertain, with the appropriate response depending on the relative shifts of supply, demand and the exchange rate. The authorities could use the flexibility contained in the fiscal framework to provide support to the economy. However, a permanent shock to output would require an eventual budget adjustment, therefore any easing of fiscal policy should be temporary, limited and anchored by credible medium-term fiscal consolidation plans. The countercyclical capital buffer could be released to allow banks to continue to provide credit to the economy.

58. Raising productivity will be key to increase living standards and make growth more inclusive. The planned increase in infrastructure investment and the significant strengthening of the institutional framework for selection and implementation of infrastructure projects is welcome. Continued focus on policies to increase human capital is also critical. Sustained efforts are needed to boost housing supply, including easing planning restrictions and reforming property taxes to address chronic shortages and increase worker mobility. Structural reform priorities may differ on a regional level: addressing congestion and housing restrictions is most important for more successful regions, while other regions should focus on increasing human capital and improving transport

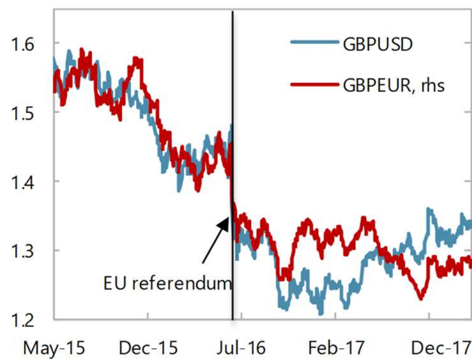
connectivity. Effective AML/CFT supervision (especially of TCSPs) and information sharing with BOTs and CDs will advance efforts to ensure corporate transparency and combat financial crimes.

59. It is recommended that the next Article IV consultation be held on the standard 12-month cycle.

Figure 1. United Kingdom: Recent Macroeconomic Developments

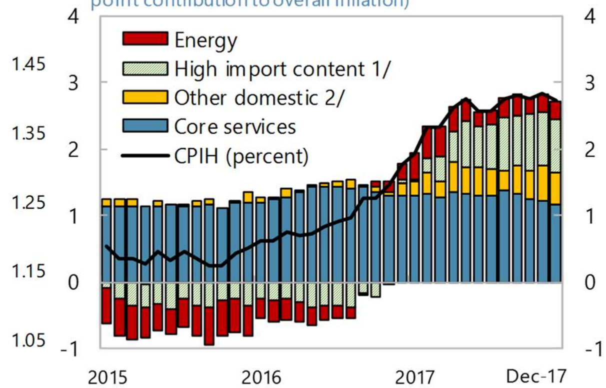
The 2016 sterling depreciation…

Exchange Rates



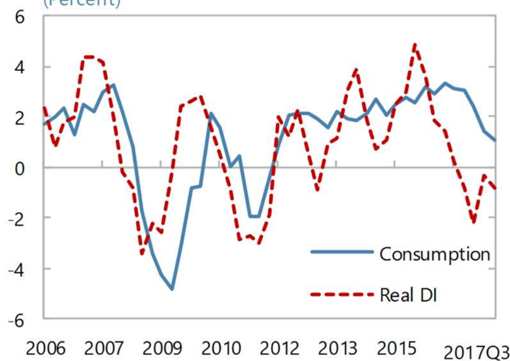
… has pushed up inflation,

Contributions to CPIH Inflation (Percentage point contribution to overall inflation)



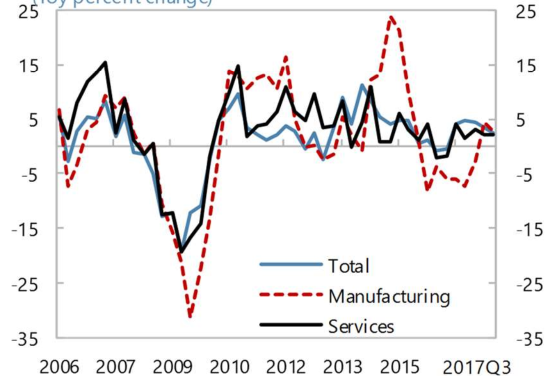
… reducing real disposable income and consumption growth.

Real Income and Consumption Growth
(Percent)



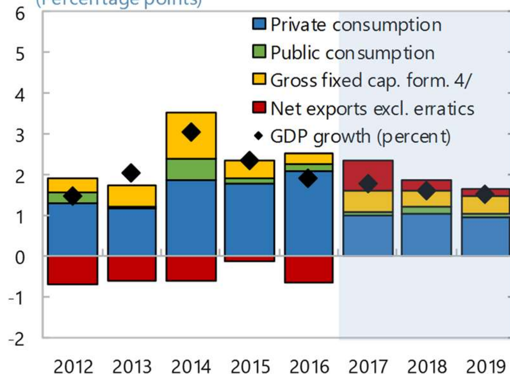
Investment growth remains subdued owing to hightened uncertainty.

Investment Growth
(Yoy percent change)



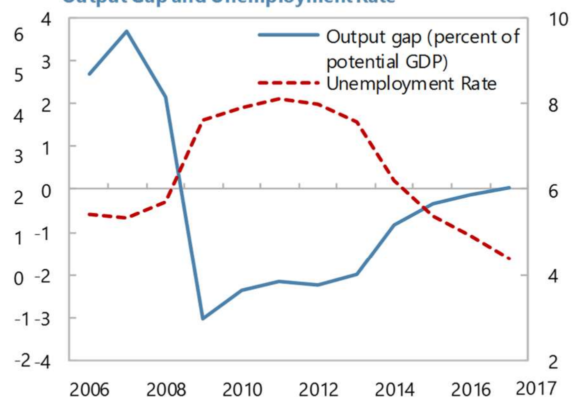
Despite the slowdown in growth …

Contribution to Growth 3/
(Percentage points)



… slack in the economy is limited.

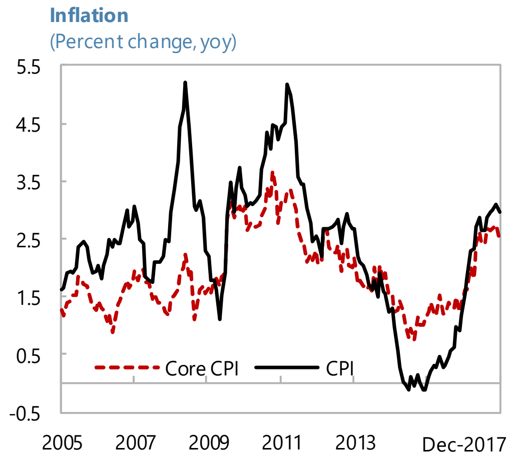
Output Gap and Unemployment Rate



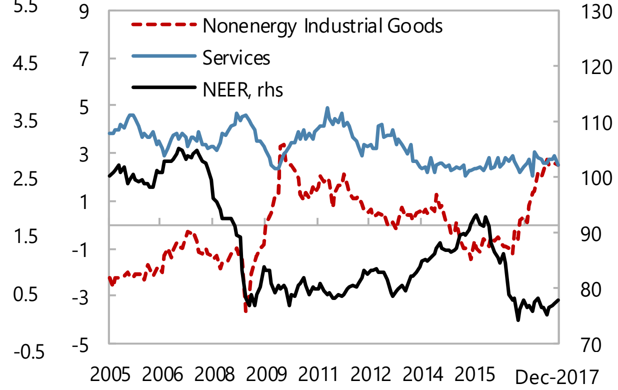
Source: Haver; and IMF staff calculations.
1/ Non-energy industrial goods, and unprocessed food.
2/ Processed food, alcohol, tobacco, and transportation services.
3/ Based on ONS preliminary estimate of GDP for 2017Q4.
4/ Excluding inventories.

Figure 2. United Kingdom: Inflation

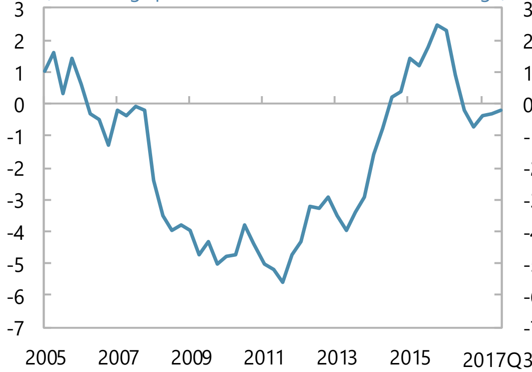
Inflation has picked up ...



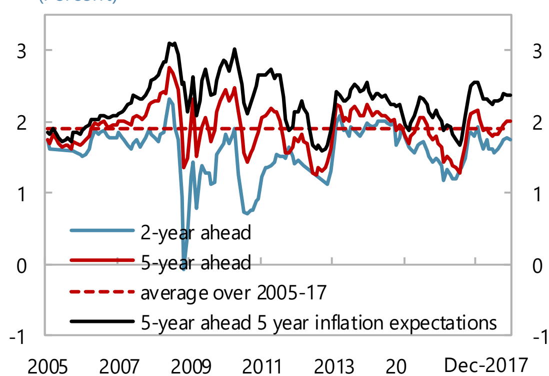
... driven by the past sterling depreciation.



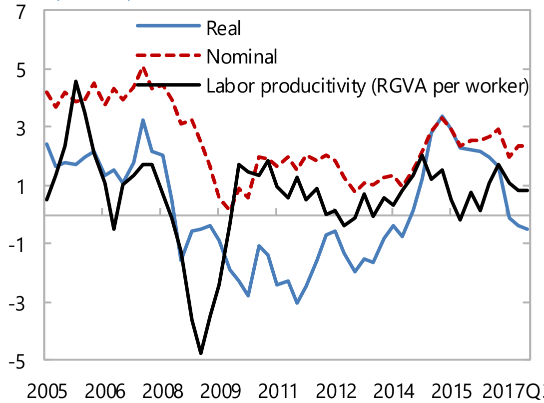
So far, firms have absorbed part of the increase in import costs in their margins



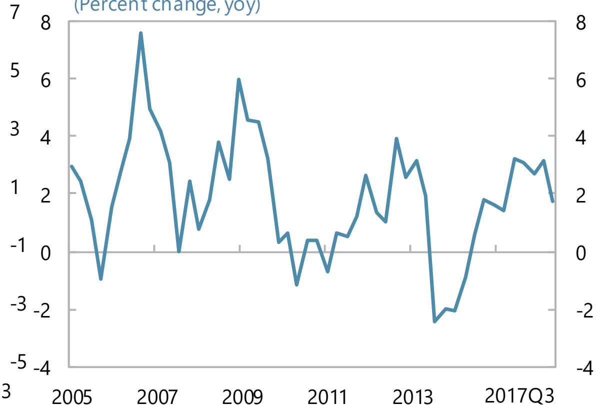
Inflation expectations remain in line with the target.



Wage growth remains subdued ...



... and labor cost growth is below pre-crisis levels.

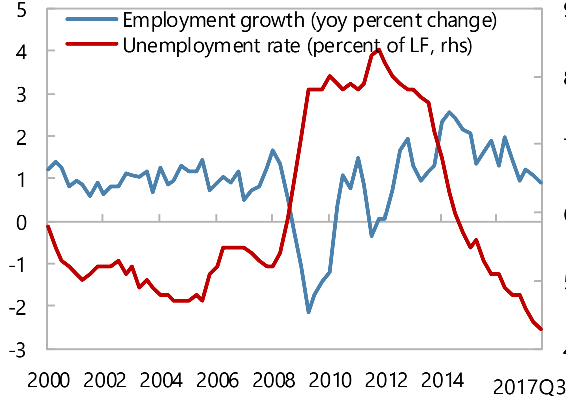


Sources: Haver; Bank of England; IMF WEO database; and IMF staff calculations.

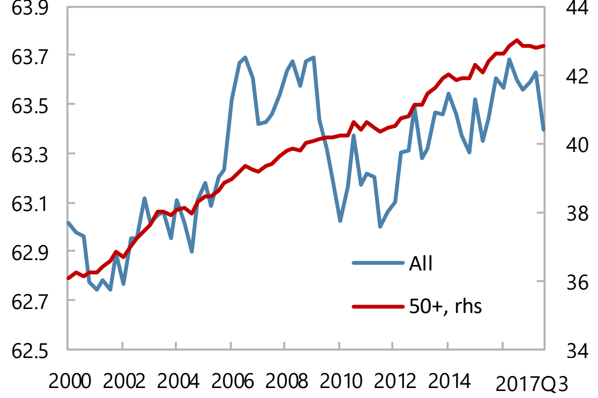
1/ Derived from government securities, assuming RPI inflation exceeds CPI inflation by 1 percentage point.

Figure 3. United Kingdom: Labor Market Developments

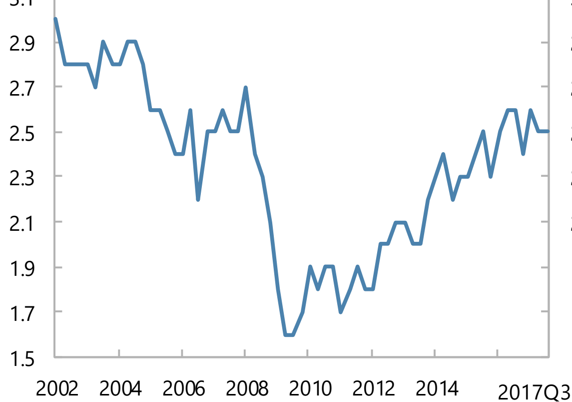
Steady employment growth has brought the unemployment rate to a historic low level …



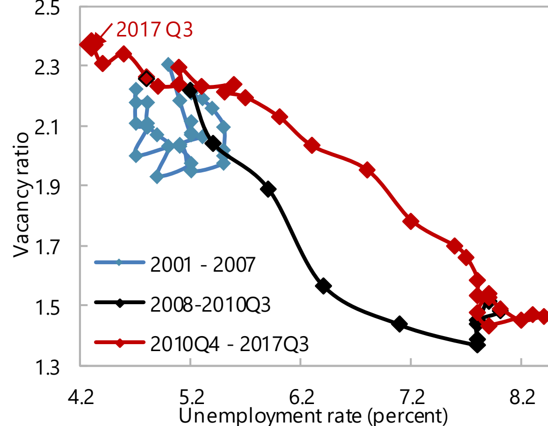
… despite high levels of labor force participation rate.



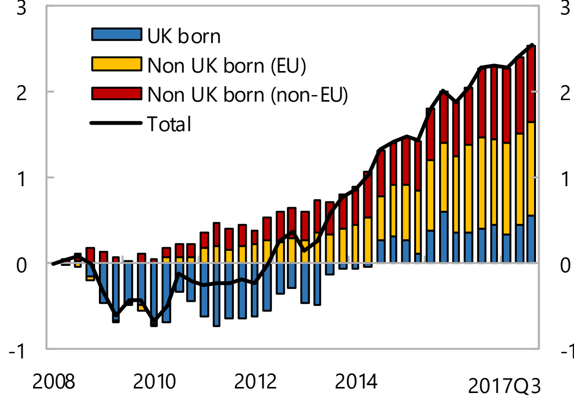
Job finding rate has recovered to pre-crisis levels …



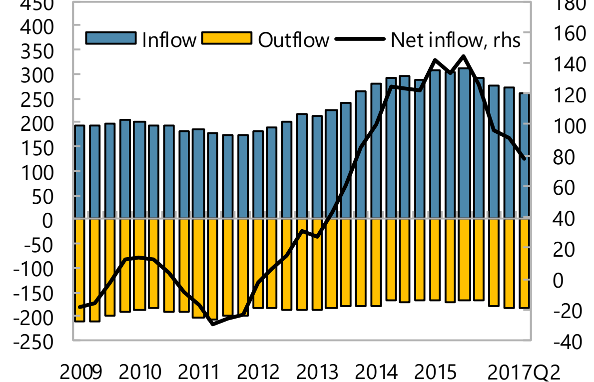
… and the vacancy ratio has increased.



Past growth in the labor force and employment was driven mostly by foreign born workers.



The growth of the labor force is slowing: net work-related migration has declined in recent quarters.

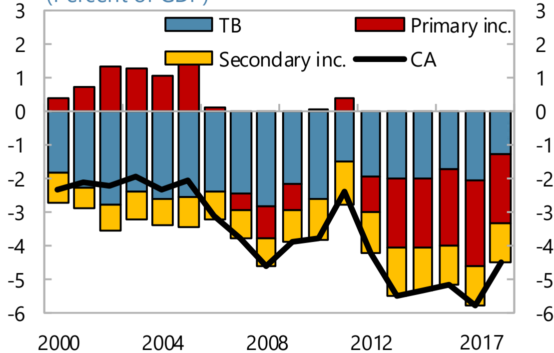


Sources: Haver; ONS; and IMF staff calculations.

Figure 4. United Kingdom: External Sector

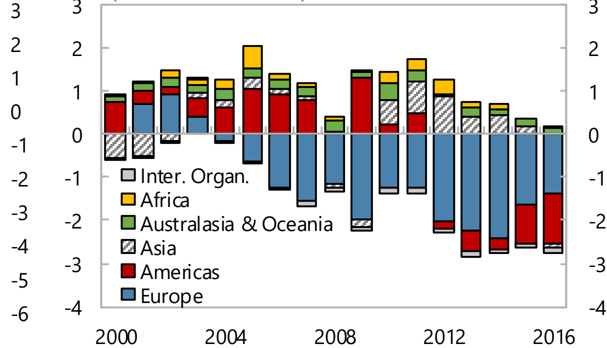
The current account deterioration was driven by falling primary income balance ...

Current Account Balance
(Percent of GDP)



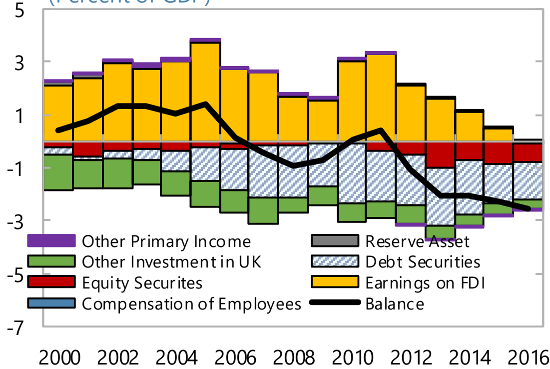
... reflecting low retruns from investments in Europe and the Americas ...

Primary Income Balance
(Percent of UK GDP)



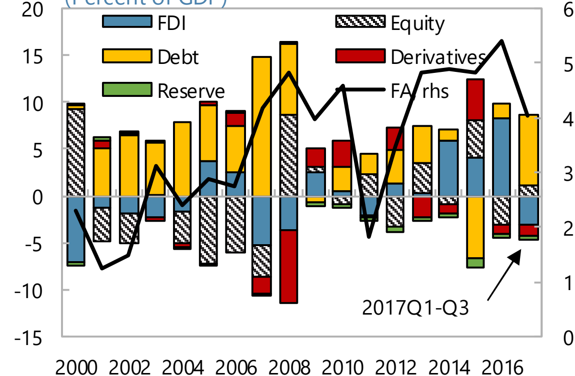
... especially on foreign direct investment.

Net Primary Income Balance
(Percent of GDP)



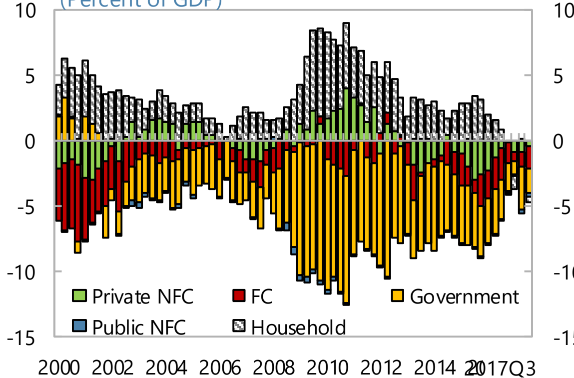
The current account deficit has been financed by debt inflows since the beginning of 2017.

Financing the Current Account
(Percent of GDP)



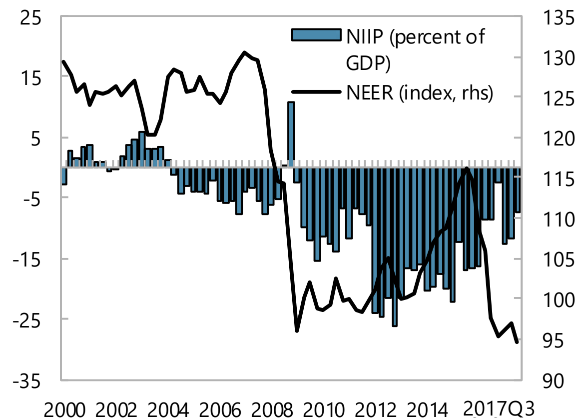
From S-I persepctive, the current account deterioration was driven by declining private sector savings.

Saving-Investment Balance, by Sectors
(Percent of GDP)



The recent sterling depreciation helped improve UK's net international investment position (NIIP).

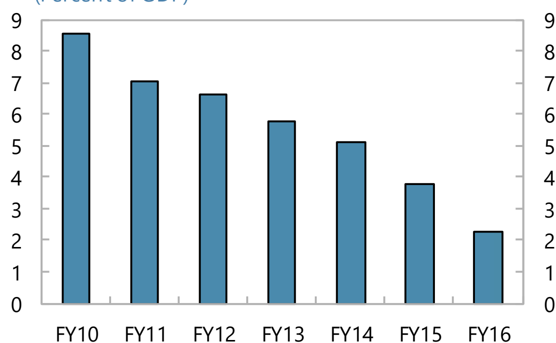
NIIP and NEER



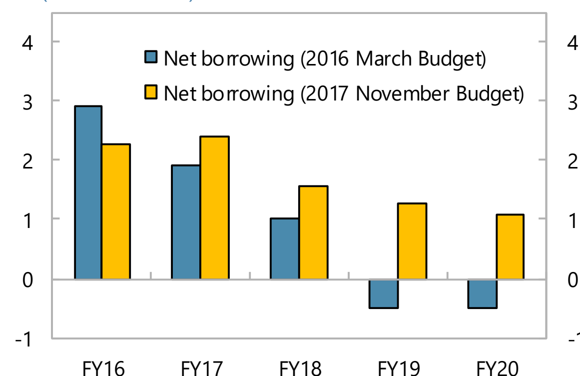
Sources: Haver; and IMF staff calculations.

Figure 5. United Kingdom: Fiscal Developments

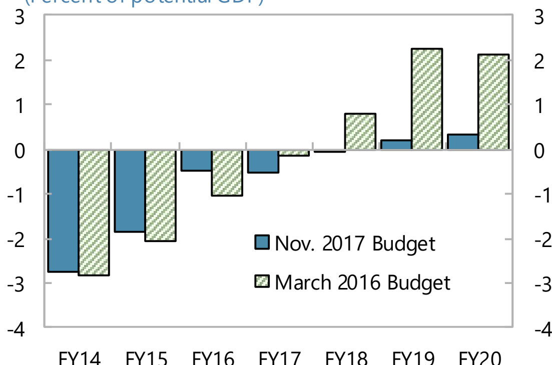
Fiscal consolidation has continued, with the deficit falling below 3 percent of GDP in FY16.



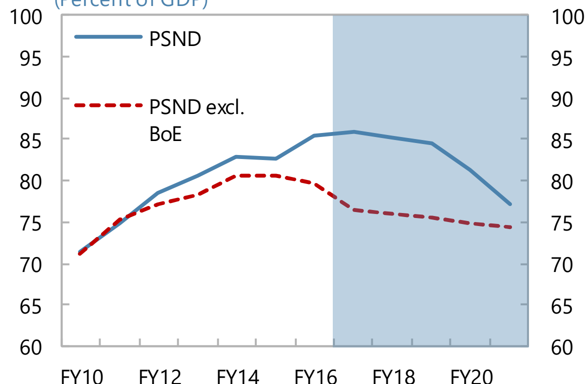
Authorities envisage a slower pace of consolidation ahead, due to weaker growth prospects…



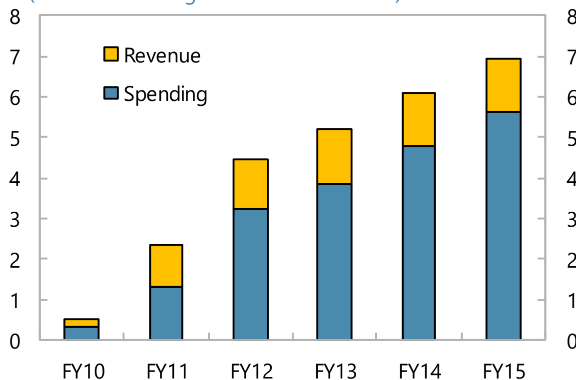
… and more gradual structural adjustment.



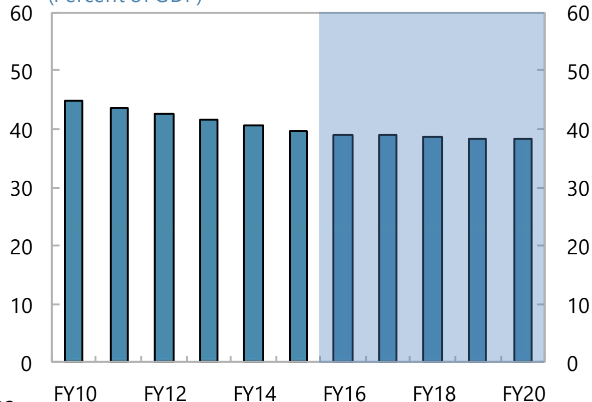
The debt ratio is expected to start falling after FY17.



The consolidation so far has been mainly driven by expenditure measures…



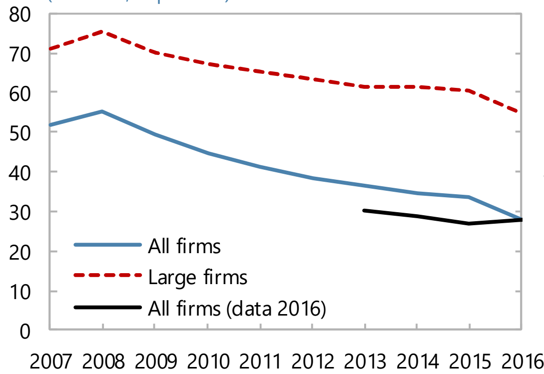
… and more spending cuts are planned ahead.

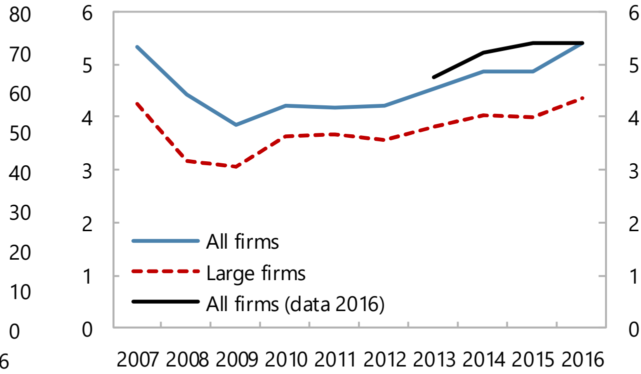


Sources: National authorities; and IMF staff calculations.
Note: English housing associations are re-classified from the public to the private sector starting in FY2017. They contribute 0.2 and 3.3 percent of GDP to net borrowing and net debt, respectively.

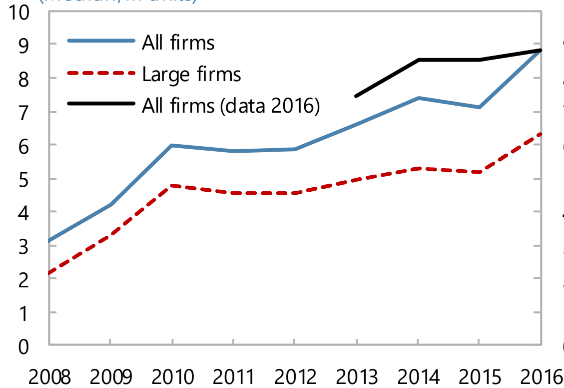
Figure 6. United Kingdom: Non-Financial Corporate Health

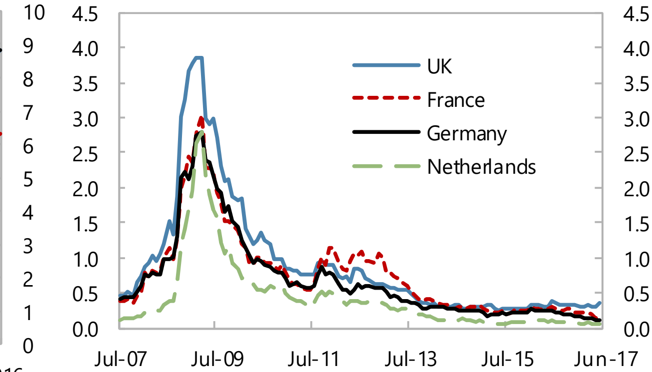
UK NFC health indicators have improved since the crisis. Low leverage, and higher profitability…



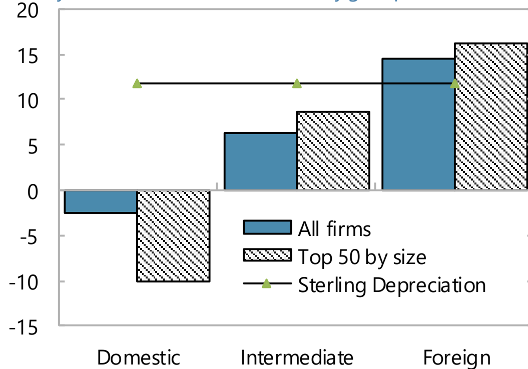


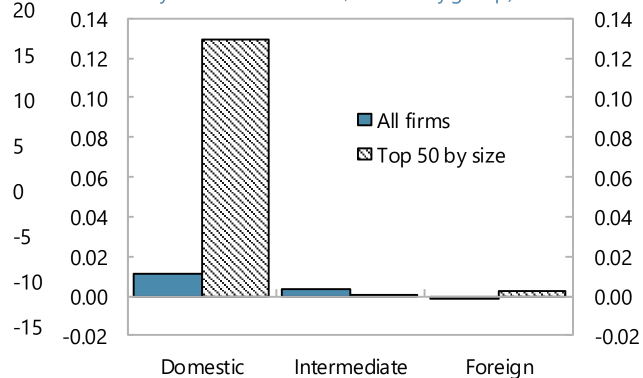
…and interest coverage ratios have brought down price-implied probabilities of default.





The sterling depreciation in 2016 had a limited impact on price-implied default probabilities, even for firms with a domestic focus, suggesting a matching in firms' assets and liabilities currency denomination.

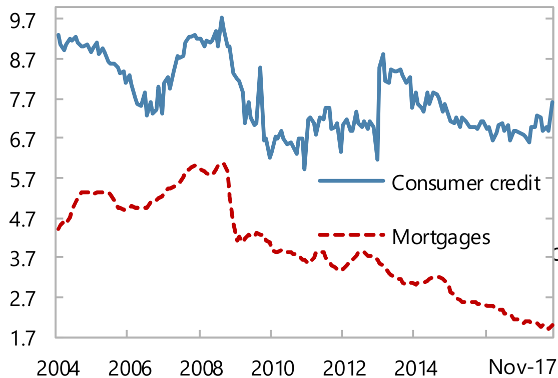




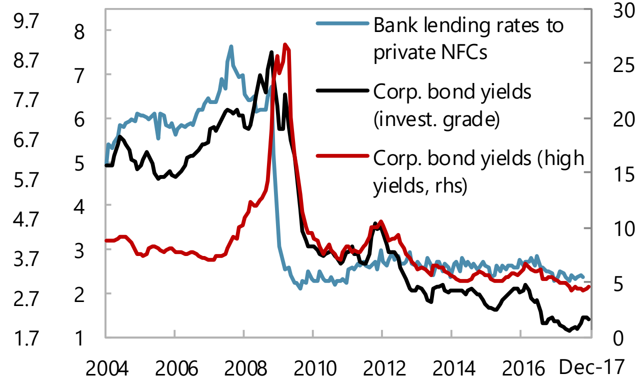
Source: Haver Analytics; Moody's KMV; Orbis; Wroldscope; and IMF staff calculations.
Note: Firm focus is defined based on the ratio of foreign sales to total sales: 0-30 (domestic), 30-70 (intermediate), 70-100 (foreign).

Figure 7. United Kingdom: Credit Market Developments

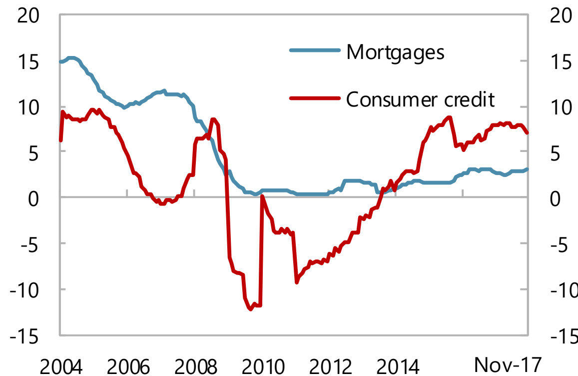
Mortgage lending rates have continued to fall.



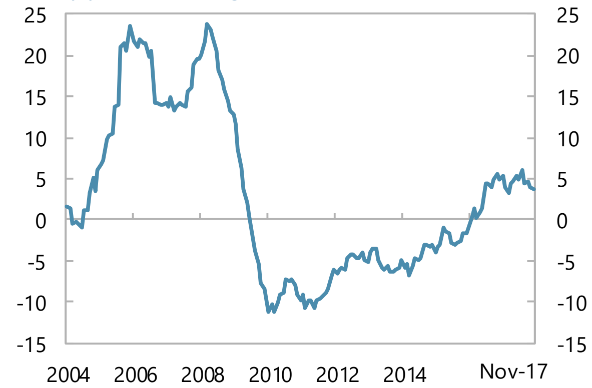
The borrowing costs of non-financial corporates (NFCs) have also declined.



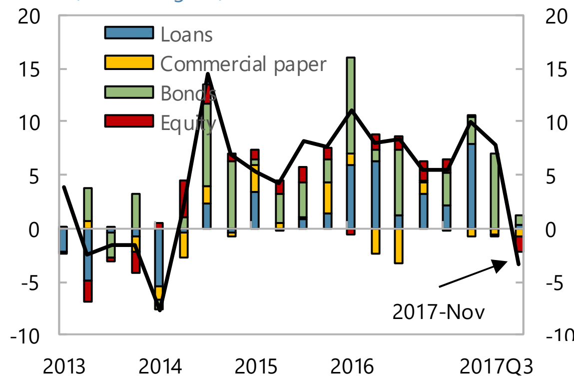
Mortgage credit is growing in line with income, while consumer credit has increased more rapidly.



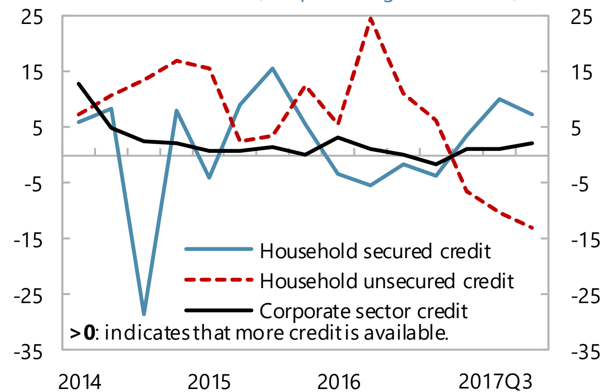
Bank credit growth to NFCs turned positive in 2016...



... and market funding remained strong.



Credit conditions remain broadly supportive, despite some recent tightening of consumer credit conditions.

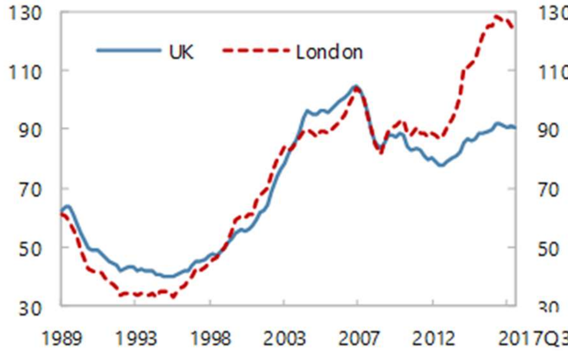


Sources: Bank of England; BIS; Council of Mortgage Lender; Haver; Bloomberg Finance L.P.; and IMF staff calculations.

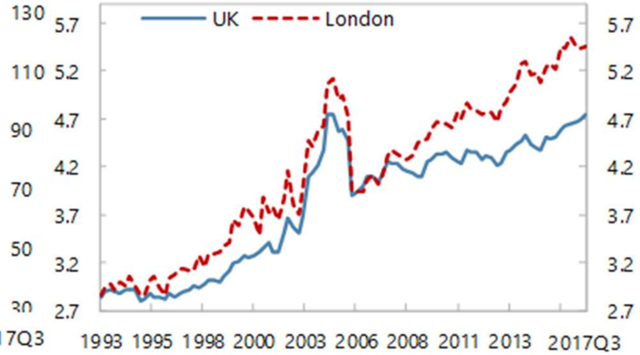
1/ Calculated by weighting the responses of lenders' responses.

Figure 8. United Kingdom: Housing Market Developments

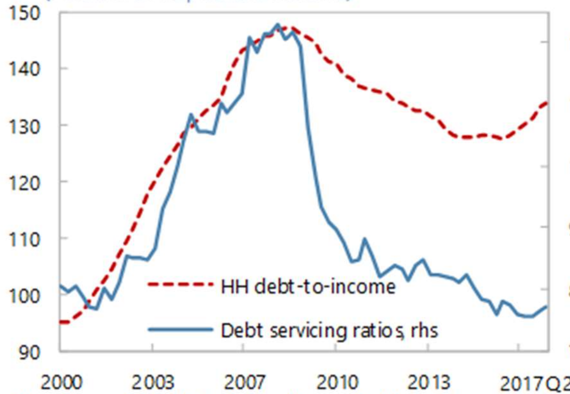
House prices have moderated in recent months, especially in London.



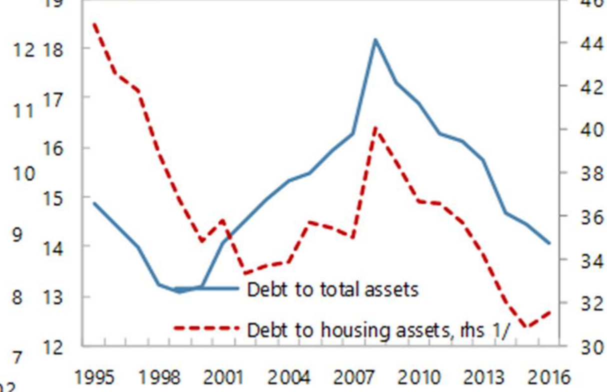
Prices remain high relative to income, reflecting supply constraints.



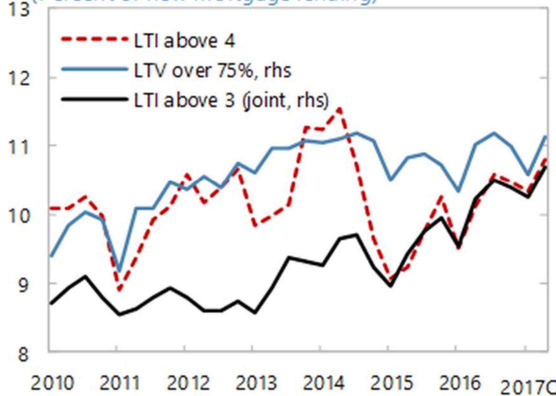
The low interest rates have kept mortgage payments affordable. However, household debt is starting to rise...



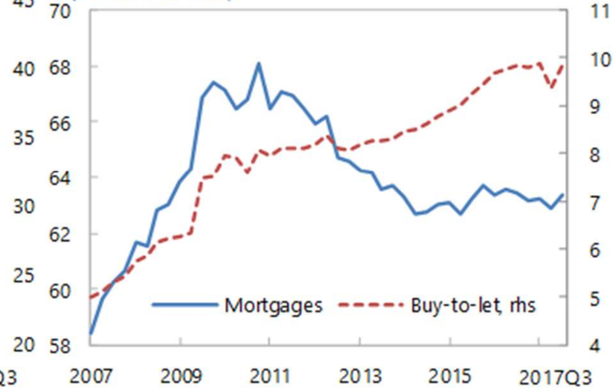
... after a period of deleveraging.



The share of highly indebted households is rising, though from a low level.



Lending to the buy-to-let market has slowed following tax changes in April 2016

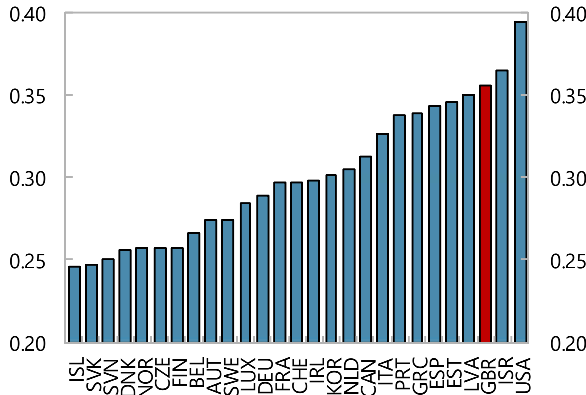


Sources: Bank of England; BIS; ONS; Haver; and IMF staff calculations.
1/ Housing asset for 2016 is derivated using house prices.

Figure 9. United Kingdom: Inequality

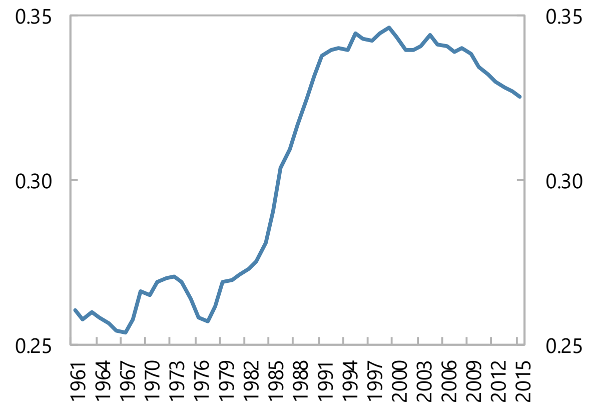
UK income inequality is high relative to other advanced economies…

Net Gini Index (2014) 1/



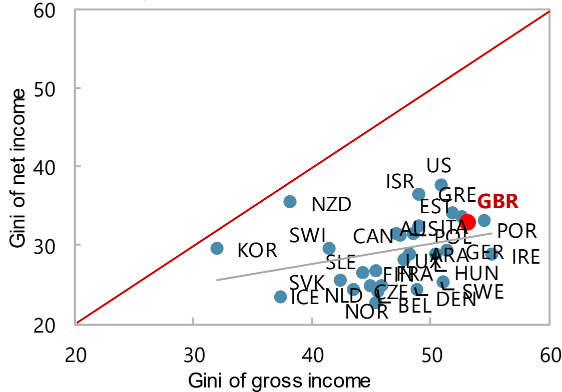
… although it has declined since the crisis.

UK Net Gini Index 2/



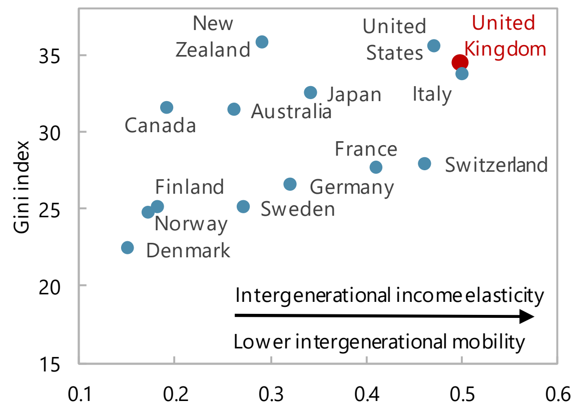
The progressive tax system helps reduce inequality…

Market and Net Inequality by Country
(0-100 scale)



… however, intergenerational income elasticity is low.

Inequality and Intergenerational Income Elasticity 3/



Sources: OECD; SWIID; Corak (2015); and IMF staff calculations.

1/ Based on OECD data.

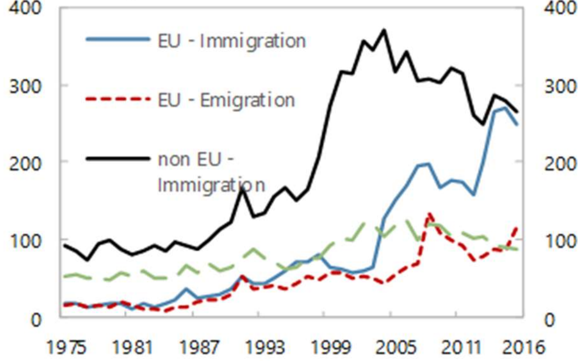
2/ Based on the Standardized World Income Inequality Database (SWIID).

3/ Intergenerational income elasticity is defined as the percentage difference in the adult earnings of a son/daughter for each one percentage point increase in the parents' earnings.

Figure 10. United Kingdom: Migration

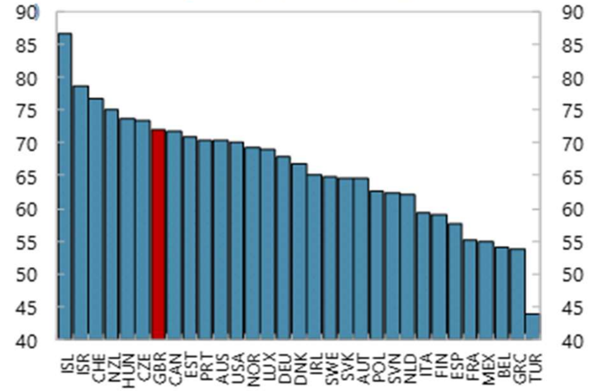
Both EU and non-EU migration have declined since the referendum.

Long-Term International Migration into and out of the UK
(Thousands)



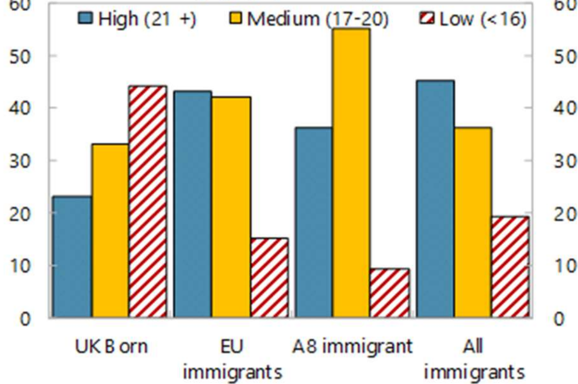
The employment rate of foreign-born residents is high in the UK relative to other OECD countries …

Foreign-born Employment
(Percent of foreign-born population, 2016)



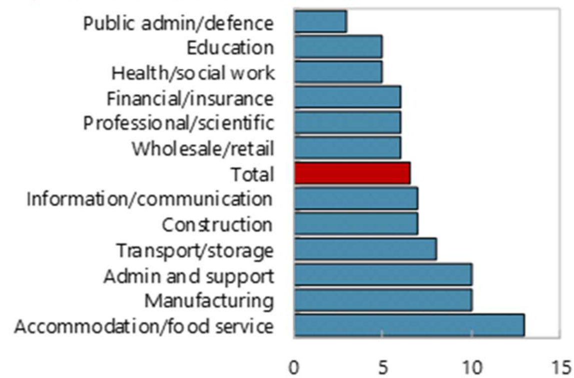
… in part due to their high education level.

Education Status
(Percent of working age population, age finished, 2015)



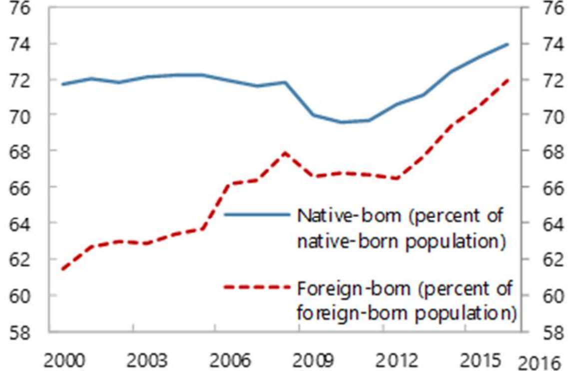
Some sectors rely heavily on EU workers.

Share of Workers in Industry Who Were Born in EU 1/
(Percent of sector's workforce, 2015)



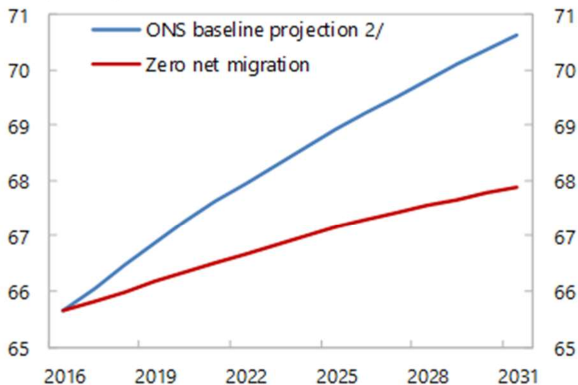
There is no evidence of employment displacement of native-borns.

Employment Rate
(Percent)



Net migration is projected to remain a key contributor to the future growth of UK's working-age population.

Population Projection
(million)



Sources: ONS: Long-Term International Migration, National Population Projections; OECD; LSE CEP Labor force survey; Migration Observatory analysis of Labour Force Survey; and IMF staff calculations.
1/ Weighted average of four quarters 2015 and excludes industries with fewer than 5,000 EU-born workers.
2/ Baseline on ONS National Population Projections: 2016-based projections (staff's baseline).

Table 1. United Kingdom: Selected Economic Indicators, 2013–18

	2013	2014	2015	2016	2017	2018
					Projections	
Real Economy (change in percent)						
Real GDP 1/	2.1	3.1	2.3	1.9	1.8	1.6
Private final domestic demand	2.2	2.9	2.8	2.8	1.8	1.4
CPI, end-period	2.0	1.0	0.1	1.2	3.0	2.6
Unemployment rate (in percent) 2/	7.6	6.2	5.4	4.9	4.4	4.3
Gross national saving (percent of GDP)	10.5	11.8	11.8	11.1	12.2	12.7
Gross domestic investment (percent of GDP)	16.1	17.1	17.0	16.9	16.7	16.6
Public Finance (fiscal year, percent of GDP) 3/						
Public sector overall balance	-5.8	-5.1	-3.8	-2.3	-2.4	-1.6
Public sector cyclically adjusted primary balance (staff estimates) 4/	-2.5	-2.7	-1.9	-0.5	-0.5	0.0
Public sector net debt	80.6	82.8	82.7	85.5	85.9	85.2
Money and Credit (end-period, 12-month percent change)						
M4	0.2	-1.1	0.3	6.3	…	…
Net lending to private sector	0.9	1.5	2.8	3.8	3.6	3.3
Interest rates (percent; year average)						
Three-month interbank rate	0.5	0.5	0.6	0.5	…	…
Ten-year government bond yield	2.4	2.6	1.9	1.3	1.2	…
Balance of Payments (percent of GDP)						
Current account balance	-5.5	-5.3	-5.2	-5.8	-4.5	-3.8
Trade balance	-2.0	-2.0	-1.7	-2.1	-1.3	-1.0
Net exports of oil	-0.6	-0.5	-0.4	-0.3	-0.3	-0.4
Exports of goods and services (volume change in percent)	0.8	2.7	5.0	2.3	6.1	2.4
Imports of goods and services (volume change in percent)	3.1	4.5	5.1	4.8	3.1	1.3
Terms of trade (percent change)	2.2	1.5	0.9	1.4	0.0	-0.1
FDI net	-0.4	-5.8	-4.0	-8.2	2.2	2.3
Reserves (end of period, billions of US dollars)	108.8	109.1	130.5	136.6	158.6	…
Fund Position (as of May 31, 2016)						
Holdings of currency (in percent of quota)						82.5
Holdings of SDRs (in percent of allocation)						70.2
Quota (in millions of SDRs)						20,155
Exchange Rates						
Exchange rate regime						Floating
Bilateral rate (January 26, 2017)						US$1 = £0.7050
Nominal effective rate (2010=100, year average)	101.0	107.2	114.2	101.8	95.9	…
Real effective rate (2010=100, year average)	104.1	110.9	117.7	104.9	99.8	…

Sources: Bank of England; IMF's Information Notice System; HM Treasury; Office for National Statistics; and IMF staff estimates.

1/ Based on ONS preliminary estimate of GDP for 2017Q4.

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

3/ 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. English housing associations are re-classified from the public to the private sector starting in FY2017.

4/ In percent of potential output.

Table 2. United Kingdom: Medium-Term Scenario, 2013–23
(Percentage change, unless otherwise indicated)

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
					Projections						
Real GDP	2.1	3.1	2.3	1.9	1.8	1.6	1.5	1.5	1.6	1.6	1.6
Q4/Q4 1/	2.6	3.3	2.1	2.0	1.5	1.5	1.5	1.5	1.6	1.6	1.6
Real domestic demand	1.9	3.1	2.3	2.2	1.1	1.3	1.3	1.5	1.5	1.6	1.6
Private consumption	1.7	2.1	2.6	2.9	1.4	1.3	1.2	1.3	1.4	1.4	1.5
Government consumption	0.2	2.5	0.6	0.8	0.3	1.1	0.7	0.5	1.0	1.0	1.0
Fixed investment	3.4	7.1	2.8	1.8	3.2	2.2	2.4	3.1	2.4	2.5	2.5
Public	-3.5	8.6	-2.8	1.3	1.9	1.5	2.3	6.2	1.1	0.9	0.9
Residential	8.6	8.4	6.7	6.9	7.0	1.8	1.6	2.5	2.7	2.8	2.8
Business	3.0	5.1	3.7	-0.5	2.5	3.0	2.6	2.6	2.7	2.8	2.8
Stocks 2/	0.1	0.2	0.1	-0.2	-0.4	-0.1	0.0	0.0	0.0	0.0	0.0
Gross national saving (percent of GDP)	10.5	11.8	11.8	11.1	12.2	12.7	13.2	13.5	13.7	13.8	14.1
Gross domestic investment (percent of GDP)	16.1	17.1	17.0	16.9	16.7	16.6	16.7	16.9	17.0	17.0	17.2
External balance 2/	-0.6	-0.5	-0.1	-0.8	0.8	0.3	0.2	0.0	0.0	0.0	0.0
Exports of Goods and Services	0.8	2.7	5.0	2.3	6.1	2.4	1.2	0.3	0.4	0.4	0.4
Imports of Goods and Services	3.1	4.5	5.1	4.8	3.1	1.3	0.6	0.1	0.3	0.2	0.3
Current account 3/	-5.5	-5.3	-5.2	-5.8	-4.5	-3.8	-3.5	-3.4	-3.3	-3.2	-3.0
CPI Inflation, period average	2.6	1.5	0.0	0.7	2.7	2.6	2.2	2.0	2.0	2.0	2.0
CPI Inflation, end period	2.0	1.0	0.1	1.2	3.0	2.6	2.0	2.0	2.0	2.0	2.0
GDP deflator, period average	1.9	1.7	0.5	2.0	1.8	1.7	1.46	1.5	1.7	1.7	1.8
Output gap 4/	-2.0	-0.8	-0.3	-0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Potential output	1.8	1.9	1.8	1.7	1.7	1.6	1.5	1.5	1.6	1.6	1.6
Employment and productivity											
Employment	1.2	2.4	1.7	1.4	1.0	0.6	0.5	0.5	0.5	0.5	0.5
Unemployment rate 5/	7.6	6.2	5.4	4.9	4.4	4.3	4.4	4.5	4.5	4.5	4.5
Productivity 6/	0.2	0.3	0.8	0.6	0.4	0.9	1.1	1.1	1.1	1.1	1.1
Memorandum items:											
Private final domestic demand	2.2	2.9	2.8	2.8	1.8	1.4	1.4	1.5	1.6	1.7	1.7
Household saving rate 7/	8.7	8.4	9.2	7.1	5.2	5.0	4.9	4.7	4.5	4.4	4.3
Private saving rate	13.2	14.4	13.0	11.5	11.2	11.2	11.3	11.3	11.4	11.3	11.5
Credit to the private sector	0.9	1.5	2.8	3.8	3.6	3.3	3.0	3.1	3.3	3.4	3.4
Population growth	0.6	0.8	0.8	0.8	0.6	0.6	0.6	0.5	0.4	0.4	0.4
GDP per capita growth	1.4	2.3	1.5	1.1	1.2	1.0	0.9	1.0	1.1	1.2	1.2

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 hour worked.
7/ In percent of total household available resources.

Table 3. United Kingdom: Statement of Public Sector Operations, 2010/11–22/23 1/

(Percent of GDP, unless otherwise indicated)

	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23
								2017 November Budget					
Revenue	36.2	36.6	35.9	35.8	35.5	35.8	36.7	36.5	36.6	36.7	36.7	36.6	36.7
Taxes	27.2	27.4	26.6	26.7	26.5	26.9	27.3	27.3	27.6	27.6	27.6	27.4	27.5
Social contributions	6.1	6.2	6.1	6.1	6.0	6.0	6.4	6.4	6.4	6.4	6.4	6.4	6.4
Other revenue	2.9	3.0	3.1	3.0	3.0	3.0	3.0	2.8	2.7	2.7	2.7	2.7	2.8
Of which: Interest income	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.5	0.5
Expenditure	44.7	43.6	42.5	41.6	40.6	39.6	39.0	38.9	38.5	38.3	38.2	37.9	37.7
Expense	42.7	42.1	40.8	40.2	39.2	38.5	37.6	37.5	37.5	37.2	36.9	36.7	36.5
Consumption of fixed capital	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	2.0	2.0	2.0	2.0
Interest	2.7	2.7	2.4	2.3	2.0	2.0	2.0	2.2	2.0	1.9	1.9	1.9	1.9
Others	38.0	37.2	36.3	35.8	35.1	34.5	33.6	33.4	33.6	33.3	33.0	32.8	32.6
Net acquisition of nonfinancial assets	2.1	1.5	1.7	1.3	1.4	1.0	1.3	1.4	1.0	1.2	1.4	1.3	1.2
Gross operating balance	-6.5	-5.5	-5.0	-4.4	-3.7	-2.7	-1.0	-1.1	-0.9	-0.4	-0.1	-0.1	0.2
Net lending/borrowing (overall balance)	-8.5	-7.1	-6.6	-5.8	-5.1	-3.8	-2.3	-2.4	-1.9	-1.6	-1.5	-1.3	-1.1
Primary balance	-6.3	-4.7	-4.6	-3.8	-3.4	-2.1	-0.6	-0.6	-0.3	-0.1	0.0	0.1	0.3
Cyclically adjusted overall balance	-6.5	-5.2	-4.6	-4.2	-4.3	-3.5	-2.1	-2.3	-1.8	-1.5	-1.3	-1.2	-1.1
Cyclically adjusted primary balance (CAPB)	-4.2	-2.8	-2.6	-2.3	-2.7	-1.9	-0.4	-0.5	-0.2	0.0	0.1	0.2	0.4
General government gross debt 2/	76.0	82.2	83.8	85.9	86.6	86.7	86.8	87.0	87.3	87.4	87.0	86.8	86.3
Public sector net debt 3/	71.3	75.0	78.5	80.6	82.8	82.7	85.8	86.5	86.4	86.1	83.1	79.3	79.1
Memorandum items:													
Output gap (percent of potential)	-2.6	-2.8	-2.9	-2.0	-0.7	-0.2	-0.3	-0.1	-0.1	-0.2	-0.2	-0.1	0.0
Real GDP growth (percent)	2.0	1.3	1.5	2.4	3.0	2.1	1.8	1.5	1.4	1.3	1.3	1.5	1.5
Nominal GDP (in billions of pounds)	1,598	1,642	1,702	1,772	1,852	1,905	1,981	2,043	2,100	2,158	2,224	2,299	2,376
Potential GDP growth (percent)	1.1	1.5	1.7	1.5	1.7	1.6	1.8	1.3	1.4	1.3	1.4	1.4	1.5
English HA Net Balance (percent) 4/								-0.1	-0.2	-0.2	-0.2	-0.2	-0.2
English HA Net Debt (percent) 4/								3.2	3.3	3.4	3.4	3.4	3.4
								Staff projections					
Revenue	36.2	36.6	35.9	35.8	35.5	35.8	36.6	36.4	36.6	36.6	36.7	36.6	36.6
Taxes	27.2	27.4	26.6	26.7	26.5	26.8	27.3	27.2	27.5	27.6	27.6	27.4	27.4
Social contributions	6.1	6.2	6.1	6.1	6.0	6.0	6.3	6.4	6.4	6.4	6.4	6.4	6.4
Other revenue	2.9	3.0	3.1	3.0	3.0	3.0	2.9	2.8	2.7	2.7	2.7	2.7	2.8
Of which: Interest income	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.5	0.5
Expenditure	44.7	43.6	42.5	41.6	40.6	39.6	38.8	38.8	38.2	37.9	37.8	37.5	37.3
Expense	42.7	42.1	40.8	40.2	39.2	38.5	37.5	37.5	37.2	36.8	36.4	36.3	36.1
Consumption of fixed capital	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	1.9	1.9	2.0	1.9	1.9
Interest	2.7	2.7	2.4	2.3	2.0	2.0	2.0	2.2	1.9	1.9	1.9	1.9	1.9
Other	38.0	37.2	36.3	35.8	35.1	34.5	33.5	33.3	33.3	32.9	32.6	32.4	32.2
Net acquisition of nonfinancial assets	2.1	1.5	1.7	1.3	1.4	1.0	1.3	1.4	1.0	1.2	1.3	1.2	1.2
Gross operating balance	-6.5	-5.5	-5.0	-4.4	-3.7	-2.8	-1.0	-1.0	-0.6	-0.1	0.3	0.3	0.5
Net lending/borrowing (overall balance)	-8.5	-7.1	-6.6	-5.8	-5.1	-3.8	-2.3	-2.4	-1.6	-1.3	-1.1	-0.9	-0.7
Primary balance	-6.3	-4.7	-4.6	-3.8	-3.4	-2.1	-0.6	-0.6	0.0	0.2	0.3	0.5	0.7
Cyclically adjusted overall balance	-6.8	-5.5	-5.1	-4.4	-4.4	-3.5	-2.2	-2.4	-1.6	-1.3	-1.1	-1.0	-0.7
Cyclically adjusted primary balance (CAPB)	-4.6	-3.2	-3.0	-2.5	-2.8	-1.9	-0.5	-0.5	0.0	0.2	0.3	0.5	0.7
CAPB (percent of potential GDP)	-4.5	-3.1	-3.0	-2.5	-2.7	-1.9	-0.5	-0.5	0.0	0.2	0.3	0.5	0.7
General government gross debt 2/	76.0	82.2	83.8	85.9	86.6	86.7	86.7	86.8	86.1	85.8	85.0	84.6	83.8
Public sector net debt 3/	71.3	75.0	78.5	80.6	82.8	82.7	85.5	85.9	85.2	84.5	81.2	77.1	76.5
Memorandum items:													
Output gap (percent of potential)	-2.2	-2.2	-2.3	-1.8	-0.6	-0.3	-0.1	0.0	0.0	0.0	0.0	0.0	0.0
Real GDP growth (percent)	2.0	1.3	1.5	2.4	3.0	2.1	2.0	1.7	1.6	1.5	1.5	1.6	1.6
Nominal GDP (in billions of pounds)	1,598	1,642	1,702	1,772	1,852	1,905	1,985	2,048	2,120	2,181	2,250	2,324	2,403
Potential GDP growth (percent)	1.1	1.3	1.6	1.8	1.9	1.8	1.7	1.6	1.5	1.5	1.5	1.6	1.6
English HA Net Balance (percent) 4/								-0.1	-0.2	-0.2	-0.2	-0.2	-0.2
English HA Net Debt (percent) 4/								3.2	3.3	3.3	3.3	3.4	3.4

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

1/ Excludes the temporary effects of financial sector interventions, 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/ On a Maastricht treaty basis. Includes temporary effects of financial sector intervention.

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

4/ English housing associations are re-classified from the public to the private sector starting in FY2017.

Table 4. United Kingdom: Balance of Payments, 2013–23

(Percent of GDP)

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
					Projections						
Current account	-5.5	-5.3	-5.2	-5.8	-4.5	-3.8	-3.5	-3.4	-3.3	-3.2	-3.0
Balance on goods and services	-2.0	-2.0	-1.7	-2.1	-1.3	-1.0	-0.9	-0.8	-0.7	-0.7	-0.6
Trade in goods	-6.8	-6.7	-6.3	-6.9	-6.6	-6.6	-6.5	-6.3	-6.2	-6.0	-5.8
Exports	17.2	16.2	15.3	15.4	16.9	17.0	16.9	16.6	16.4	16.0	15.7
Imports	-24.1	-22.9	-21.6	-22.3	-23.5	-23.6	-23.4	-22.9	-22.5	-22.0	-21.4
Trade in services	4.8	4.7	4.6	4.8	5.3	5.6	5.6	5.5	5.4	5.3	5.2
Exports	12.4	12.1	12.1	12.9	13.7	13.9	13.9	13.6	13.4	13.0	12.7
Imports	-7.6	-7.4	-7.5	-8.0	-8.4	-8.3	-8.3	-8.1	-8.0	-7.8	-7.5
Primary income balance	-2.1	-2.1	-2.3	-2.6	-2.1	-1.7	-1.5	-1.4	-1.4	-1.4	-1.3
Secondary income balance	-1.4	-1.3	-1.2	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1	-1.1
Capital and financial account	-4.8	-4.8	-4.7	-5.3	-4.5	-3.8	-3.5	-3.4	-3.3	-3.2	-3.0
Capital account	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
Financial account	-4.8	-4.9	-4.8	-5.4	-4.6	-3.9	-3.6	-3.4	-3.4	-3.3	-3.1
Direct investment	-0.4	-5.8	-4.0	-8.2	2.2	2.3	1.9	1.5	1.0	0.8	0.8
Abroad	1.6	-3.8	-2.0	1.9	3.2	3.5	3.3	3.1	3.0	3.0	4.0
Domestic	2.0	2.0	2.0	10.1	1.0	1.2	1.4	1.6	2.0	2.2	3.2
Portfolio investment	-10.4	0.7	-7.4	-7.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Financial derivatives	2.3	1.0	-4.5	1.1	-0.4	-0.1	-0.5	-0.8	-0.2	-0.4	-0.3
Other investment	3.3	-1.2	9.9	8.7	-6.8	-6.6	-5.5	-4.7	-4.6	-4.2	-4.0
Change in reserve assets	0.3	0.4	1.1	0.3	0.5	0.5	0.5	0.5	0.4	0.4	0.4
Net errors and omissions	0.8	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Terms of trade (y/y percent change)	2.2	1.5	0.9	1.4	0.0	-0.1	-0.1	-0.1	0.0	0.0	0.0

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

Table 5. United Kingdom: Net Investment Position, 2013–23 1/

(Percent of GDP)

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
					Projections						
Net investment position	-18.5	-22.3	-18.4	-4.4	-8.8	-12.5	-15.7	-18.7	-21.5	-24.1	-26.4
Assets	550.0	556.2	507.6	558.5	547.0	535.9	528.2	521.1	513.5	506.1	499.2
Liabilities	568.5	578.5	526.0	562.9	555.9	548.4	543.9	539.8	535.0	530.1	525.6
Net direct investment	9.8	3.5	5.3	0.7	2.9	5.1	6.8	8.1	8.9	9.4	9.9
Direct investment abroad	82.0	75.5	72.9	79.7	80.1	81.0	82.0	82.6	83.0	83.3	84.6
Direct investment in the UK	72.2	72.1	67.5	79.0	77.3	76.0	75.2	74.5	74.2	73.9	74.7
Net Portfolio investment	-39.0	-35.6	-38.8	-34.5	-33.3	-32.2	-31.3	-30.3	-29.4	-28.4	-27.5
Portfolio investment abroad	117.5	121.2	118.2	125.2	123.6	122.1	120.6	119.0	117.2	114.8	111.9
Portfolio investment in the UK	156.4	156.8	157.0	159.7	156.8	154.3	151.8	149.3	146.6	143.2	139.4
Net financial derivatives	6.2	5.7	1.0	2.2	1.7	1.5	0.9	0.1	0.0	-0.4	-0.7
Assets	141.8	158.5	127.6	135.0	135.0	135.0	135.0	135.0	135.0	135.0	135.0
Liabilities	135.6	152.8	126.6	132.8	133.3	133.5	134.0	134.8	135.0	135.3	135.7
Net other investment	0.9	0.4	9.4	21.6	14.0	7.0	1.3	-3.4	-7.9	-11.9	-15.5
Other investment abroad	205.3	197.3	184.3	213.0	202.5	191.6	184.2	177.7	171.3	165.8	160.3
Other investment in the UK	204.3	196.9	174.9	191.4	188.5	184.6	182.9	181.1	179.3	177.6	175.8
Reserve assets	3.5	3.7	4.6	5.6	5.9	6.1	6.5	6.8	7.0	7.2	7.4
Memorandum items:											
Change in the net investment position	9.3	-4.6	3.3	13.3	-4.6	-3.9	-3.6	-3.4	-3.4	-3.3	-3.1
Current account balance	-5.5	-5.3	-5.2	-5.8	-4.5	-3.8	-3.5	-3.4	-3.3	-3.2	-3.0

Source: Office for National Statistics.

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

Annex I. Risk Assessment Matrix[1]

Source of Risks and Relative Likelihood	Expected Impact of Risk	Policy Recommendations
Low **Leaving the EU with no deal**	High A significant increase in trade barriers will lead to lower production, investment and exports. On impact, there could be wide-spread disruptions of production and services in various sectors. A sharp decline in confidence could also trigger elevated financial volatility and asset prices declines. There is a risk of a period of stagflation. Higher import tariffs and further sterling depreciation would depress households' real incomes and consumption. A decline in asset prices, including real estate prices, would affect the balance sheets of financial and non-financial corporations and households, reducing further investment and consumption. Negative economic consequences in the rest of the EU—due to higher trade barriers and a possible increase in the cost and availability of financial services—would have spillback effects to the UK. Over the medium term, the supply capacity of the economy would fall due to lower domestic and foreign investment, less competition, and lower benefits of economic integration.	• Close collaboration to ensure a smooth and predictable transition to a new economic relationship with the EU • Contingency planning for risks that may arise in the event of heightened market volatility, including liquidity support. • Let automatic fiscal stabilizers operate fully. A temporary slowing of the structural fiscal consolidation could be considered in the event of a sharp growth slowdown. The scope for monetary stimulus will depend on an assessment of slack in the economy and the extent to which longer-run inflation expectations remain well-anchored. • Implement structural policies to boost productivity and competitiveness over the medium term.

[1] The Risk Assessment Matrix (RAM) shows events that could materially alter the baseline path (the scenario most likely to materialize in the view of IMF staff). The relative likelihood is the staff's subjective assessment of the risks surrounding the baseline ("low" is meant to indicate a probability below 10 percent, "medium" a probability between 10 and 30 percent, and "high" a probability between 30 and 50 percent). The RAM reflects staff views on the source of risks and overall level of concern as of the time of discussions with the authorities. Non-mutually exclusive risks may interact and materialize jointly.

Source of Risks and Relative Likelihood	Expected Impact of Risk	Policy Recommendations
Medium **Cyber-attacks** on interconnected financial system and broader private and public institutions.	**Medium** A successful cyber-attack on one or more systemically important financial institutions or market infrastructure (payment, clearing, and settlement payments) causes delay, disruption or loss of services, affecting many institutions that reply on the attached hub. This could also lead to a loss of confidence in the functioning of the financial system.	• Preemptively, carry out regular testing of the resilience of computer systems to cyberattacks and address vulnerabilities.
Financial conditions: • **Tighter global financial conditions.** Fed normalization and tapering by ECB increase global rates and term premia, strengthen the U.S. dollar and the euro vis-à-vis the other currencies, and correct market valuations. Adjustments could be disruptive if there are policy surprises. (**High**) • **Decompression of risk premia** in UK corporate bond markets could also be triggered by domestic concerns. (**Medium**) • **European bank distress:** Strained bank balance sheets amid a weak profitability outlook could lead to financial distress in one or more major banks with possible knock-on effects on the broader financial sector and for sovereign yields in vulnerable economies. (**Medium**)	**Medium** A decompression of global term premia and tighter financial conditions could affect the balance sheets of financial and non-financial corporations and lead to tighter local credit conditions and higher funding costs. Negative spillovers to economic activity from weaker external demand.	• Maintain strong balance sheets and high capital buffers in the financial sector. • Domestic financial conditions could be controlled to some extent through monetary and macroprudential policies. • Clear and timely communication of changes in the assessment of economic developments that could affect the optimal path of the policy rate or the yield curve more generally would reduce the risk of domestically-generated policy surprises.

Source of Risks and Relative Likelihood	Expected Impact of Risk	Policy Recommendations
Weaker-than-expected global growth: • **Significant China slowdown and its spillovers:** Efforts to rein in financial sector risks, though desirable, expose vulnerabilities of indebted entities and reduce near-term growth. Over the medium term, overly ambitious growth targets lead to unsustainable policies, reducing fiscal space, and further increasing financial imbalances. Should a sharp adjustment occur, this would entail weak domestic demand, which in turn would lower commodity prices, roil global financial markets, and reduce global growth (**Medium**). • **Structurally weak growth in key advanced economies (High). Significant slowdown in large EMs** (**Medium**).	**Medium / High** Slowdown in exports and GDP growth. China accounts for only 3½ percent of UK exports, so spillovers through trade would be limited. However, financial sector linkages are significant: system-wide exposures to China and Hong Kong SAR equal to about 189 percent of system-wide CET1. Bank of England's November 2017 stress tests indicate that the UK banking system can withstand a severe downturn in China and EMs along with lower growth in the euro area, while preserving its ability to provide credit to the domestic economy.	• Allow automatic fiscal stabilizers to operate; could temporarily ease macroeconomic policies if growth slows sharply. • Implement structural policies to boost investment, productivity and competitiveness.
High **Protracted period of low productivity domestically** • Failure of productivity growth to recover due to higher trade barriers, reduced FDI inflows and more restrictive immigration policies.	**High** Decline in actual and potential GDP growth. Loss of competitiveness. Possible pressure on unit labor costs and prices.	• Implement productivity-enhancing structural reforms. • Tighten monetary policy if earnings growth outpace productivity, increasing price pressures.
High **A significant decline in house and commercial real estate prices**	**High** High household leverage exposes banks and households to adverse shocks to house prices. Even if debtors continue to service their mortgages, consumption would be affected through wealth effects	• Preemptively, maintain prudent lending standards. • In case of significant negative macroeconomic effects, consider easing monetary policy.

Source of Risks and Relative Likelihood	Expected Impact of Risk	Policy Recommendations
	and greater borrowing constraints. Similarly, a sharp and sustained decline in CRE prices would reduce the value of collateral against which SMEs could borrow, which would affect investment. Price adjustments can be amplified if they trigger sales by leveraged investors and open-ended funds.	
Medium **Sharp reduction in investors' appetite for UK assets, resulting in a drop in external financing.** Capital inflows could decelerate driven by global factors or by UK-specific concerns.	**Medium** Large current account deficits create vulnerabilities to an abrupt reduction in net capital inflows. Consequences include a sharp depreciation, tightening of liquidity conditions, and a compression of domestic demand.	• Improve competitiveness through structural reforms. • Increasing public sector savings through tight fiscal policy would reduce external imbalances. • Strict macroprudential policies help limit leverage and support private sector savings.

Annex II. External Sector Assessment

	United Kingdom	Overall Assessment
Foreign asset and liability position and trajectory	**Background.** The net international investment position (NIIP) strengthened by 14 percentage points in 2016 to -4.4 percent of GDP (mostly due to sterling depreciation) and is projected to decline to -9 percent of GDP in 2017. 1/ Staff projections for the current account suggest that NIIP is expected to weaken over the medium term, although the importance of valuation effects implies significant uncertainty around these estimates. **Assessment**. The sustainability of NIIP is not a concern. UK's external assets have a higher foreign-currency component than its external liabilities, so the NIIP improves with sterling depreciation. However, fluctuations in the underlying gross positions are a potential source of vulnerability (both gross assets and liabilities amount to over 500 percent of GDP).	**Overall Assessment:** The external position in 2017 was weaker than implied by medium-term fundamentals and desirable policy settings, similar to that reported in 2016. Although improving, the current account deficit remained high in 2017, reflecting low public and private savings. Over the medium term, the deficit is set to narrow helped by the recent sterling depreciation and ongoing fiscal consolidation. The uncertainty around this assessment is significant, reflecting uncertainty about the future trade arrangement with the EU and its possible effect on growth and trade flows.
Current account	**Background.** The CA balance is projected to improve to -4.5 percent of GDP in 2017 (from -5.8 in 2016), remaining significantly below its average historical values. The wider CA deficits since global financial crisis reflect mostly weaker income balance, due in part to lower earnings on the UK's foreign direct investment abroad (especially in the euro area). By contrast, the trade balance has been stable at around -2 percent of GDP through 2016, and increased to -1¼ percent in 2017. The CA improvement in 2017 is partly driven by the positive valuation effect from sterling depreciation on net income inflows (0.5 percent of GDP). From a savings-investment perspective, the current account deficit reflects a still elevated general government deficit (2.4 percent of GDP in 2017) and a decline in private sector savings. **Assessment.** The EBA CA regression approach estimates a CA gap of -4.3 percent of GDP for 2017 (a 2017 cyclically adjusted CA balance of -4.4 percent of GDP compared with a CA norm of -0.1 percent of GDP). However, the cyclical current account could be overstated due to measurement issues in the income balance, which are consistent with observed persistent valuation effects that have kept the NIIP broadly stable since the 1980s. Looking ahead, the recovery of global growth relative to UK growth should translate into higher net income inflows over time. Overall, staff assesses the 2017 cyclically-adjusted CA balance to be 1.5 to 4.5 percent of GDP weaker than the current account norm, with a mid-point of 3 percent of GDP.	
Real exchange rate	**Background.** Sterling depreciated by 10 percent in 2016 in real effective terms relative to its average level in 2015. Moreover, as of October 2017, the REER depreciated by additional five percent relative to its 2016 average. The depreciation may reflect in part an unwinding of past overvaluation, and in part market expectations of more restrictive access to the EU market in the future. **Assessment.** EBA estimates using the REER level and index approaches suggest a gap of -3.8 and 0.2 percent, respectively, for 2017. In comparison to previous years, the REER assessment is subject to a greater margin of uncertainty due to uncertainty about the UK's new trading relationship with the EU and its effects on the equilibrium level of REER. Overall, staff assesses the REER to be between 0 and 15 percent above the level consistent with fundamentals and desirable policy settings. This range takes into account the CA assessment above.	

	United Kingdom	Overall Assessment
Capital and financial accounts	**Background.** Given the UK's role as an international financial center, portfolio investment and other investment are the key components of the financial account. **Assessment.** Large fluctuations in capital flows are inherent to financial transactions in countries with a large financial sector. This volatility is a potential source of vulnerability, although it is mitigated by sound financial regulation and supervision and a strong financial sector. An additional risk is that FDI and portfolio investment inflows may decelerate driven by concerns about the UK's future trade relations with the EU.	**Potential policy responses:** The current fiscal consolidation plan implemented within a medium-term framework will continue to support the external rebalancing. Further structural reforms focused on broadening the skill base and investing in public infrastructure should boost productivity, improving the competitiveness of the economy. Maintaining financial stability through macroprudential policies should also support private-sector saving. These efforts are particularly important in light of expectations that access to the EU market will become more restrictive.
FX intervention and reserves level	**Background**. The pound has the status of a global reserve currency. **Assessment**. Reserves held by the UK are typically low relative to standard metrics, and the currency is free floating.	
Technical Background Notes	The Office for National Statistics introduced in 2017 methodological changes that affect the historical series for the CA and the NIIP. Revisions to the CA are negative in most years and stem mainly from revisions to the primary income balance. 1/ The official NIIP data might understate the true position—estimates of FDI stocks at market values imply a much higher NIIP. Bank of England estimates suggest that the NIIP based on market values was close to 80 percent of GDP in mid-2017 (November 2017 Inflation Report). Market value estimates of FDI assets assume that values move in line with equity market indices in the UK and abroad. These estimates are uncertain, as actual FDI market values could evolve differently from equity markets.	

Annex III. Debt Sustainability Analysis[1]

Public sector gross debt stands at about 97 percent of GDP in FY17 and is projected to start falling next fiscal year, reaching around 86 percent of GDP by FY22. Fiscal consolidation will need to continue in the medium term to ensure the debt ratio stays on a downward path and to rebuild buffers. All debt profile vulnerabilities are below early warning benchmarks, but the initial level of debt is high and the projected debt trajectory is susceptible to various shocks (especially a negative real GDP growth shock).

Baseline and Realism of Projections

- **Macroeconomic assumptions**. Real GDP growth is projected to slow between FY17 and FY19, as private domestic demand weakens. In subsequent years, growth is projected to stabilize around 1.6 percent. CPI inflation is projected to peak in 2017 and decline gradually thereafter toward the target of around 2 percent. Short-term interest rates are projected to rise gradually by a cumulative total of 100 basis points by FY22.

- **Fiscal adjustment**. The authorities have slowed the pace of fiscal consolidation. In staff's baseline projections, the primary deficit does not turn to surplus until FY19. Gross debt dynamics are heavily influenced by the monetary stimulus conducted by the Bank of England since August 2016. Loans under the Term Funding Scheme are classified as illiquid assets and therefore included in net public debt. The facility extends until February 2018. Since the loans have a 4-year term, the unwinding of the scheme then has a significant downward effect on debt in FY20 and FY21.

- **Heat map and debt profile vulnerabilities.** Risks from the debt level are deemed high by DSA standards, as the level of debt exceeds the benchmark of 85 percent of GDP under the baseline and stress scenarios. However, gross financing needs—around 10 percent of GDP in FY17—remain comfortably below the benchmark of 20 percent, and debt profile vulnerability indicators are below early warning thresholds.[2] Interest rates and CDS spreads also suggest that markets view debt vulnerabilities as low.

- **Realism of baseline assumptions.** The median forecast errors for real GDP growth and inflation (actual minus projection) during FY08–FY16 are around -0.5 and -0.4 percent. This suggests a slight upward bias in staff's historical inflation projections. The median forecast error for the primary balance is -0.36 percent of GDP, suggesting that staff projections have

[1] The data are presented on fiscal year (April–March) basis with ratios calculated using fiscal year GDP (not centered-fiscal year GDP). Public sector gross debt is defined as net debt plus liquid assets held by general government and non-financial public corporations. Public debt series include housing associations starting from FY08/09. English housing associations were re-classified from the public to the private sector starting in November 2017.

[2] Gross financing needs are defined as overall new borrowing requirement plus debt maturing during the year (including short-term debt).

been slightly optimistic. The cross-country experience suggests that the envisaged CAPB adjustment of about 1 percentage point of GDP in FY17–FY22 appears manageable.

Shocks and Stress Tests

The DSA suggests that medium-term debt dynamics remain highly sensitive to shocks to economic growth. Public finances are more sensitive now than pre-crisis to unexpected increases in interest rates or retail price inflation, reflecting the rise in the debt stock and changes to its composition.

- **Growth shock.** In this scenario, real output growth rates are lowered by one standard deviation in FY18 and FY19 (the cumulative growth shock is 4 percent of GDP). Under these assumptions, the debt-to-GDP ratio rises to about 102 percent of GDP by FY19 and declines below 95 percent by FY21. Gross financing needs rise slightly to about 13 percent of GDP by FY19 and decline gradually thereafter.

- **Primary balance shock.** This scenario assumes a deterioration in the primary balance of 1.2 percentage points both for FY17 and FY18. The debt-to GDP ratio peaks at around 97 percent of GDP in FY19 and drops below 90 percent by FY21. Gross financing needs also rise to around 12 percent of GDP by FY19.

- **Interest rate shock.** In this scenario, a 238 basis point increase in interest rates is assumed from FY18 on. The effective interest rate edges up to 2.6 percentage points by FY22/23, but is only 0.5 percentage points higher than the baseline. The impacts on debt and gross financing needs are expected to be mild in the medium-term, given the long average maturity of government debt. While the "de jure" average maturity of public debt is highest amongst OECD countries, the "de facto" maturity has declined, given the increase in the BoE's gilt holdings financed at Bank Rate by the creation of reserves (OBR Fiscal Risk Report 2017). This is not captured in the exercise.

- **Exchange rate shock.** A shock to the exchange rate operates via its pass-through to inflation, as debt is denominated in local currency. A depreciation of 37 percent is assumed for FY18, which reduces the debt ratio as the denominator effect of higher nominal GDP is only partially offset by the debt impact of higher spending on inflation-linked payments. The scenario abstracts from the impact of inflation on other expenditures and revenues (CPI is used to uprate many direct tax thresholds, some benefits and public service pensions). The increase in the stock of index-linked gilts to nearly 20 percent of GDP has increased the sensitivity to changes in RPI inflation (OBR Fiscal Risk Report 2017).

- **Combined macro-fiscal scenario.** This scenario aggregates shocks to real growth, the interest rate, and the primary balance. Under these assumptions, the debt-to-GDP ratio reaches nearly 103 percent of GDP in FY19 and declines to around 95 percent of GDP by FY21. Gross financing needs would rise to 12 percent by FY19.

- **Contingent fiscal shock.** This scenario assumes that a banking crisis leads to a one-time bail out of the financial sector, raising non-interest expenditure by 3 percent of banking sector assets in FY18. Real GDP is also reduced by one standard deviation for two years. Under this scenario, the debt-to-GDP ratio would rise to 112 percent of GDP in FY19, and gross financing needs would peak at 20 percent of GDP.

Figure 1. United Kingdom: Public Sector Debt Sustainability Analysis (DSA)—Baseline Scenario

(In percent of GDP unless otherwise indicated)

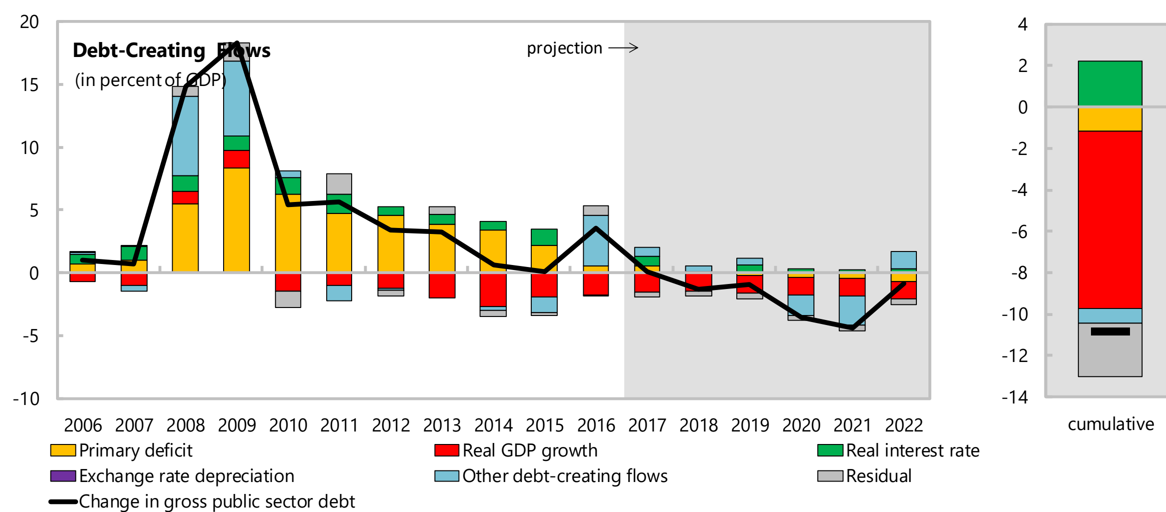
Debt, Economic and Market Indicators [1]

	Actual			Projections					
	2006-2014 [2]	2015	2016	2017	2018	2019	2020	2021	2022
Nominal gross public debt	72.4	92.9	96.4	96.5	95.3	94.3	90.8	86.4	85.6
Public gross financing needs	10.9	10.4	9.1	10.1	8.3	9.7	10.2	8.7	7.5
Real GDP growth (in percent)	1.1	2.1	2.0	1.7	1.6	1.5	1.5	1.6	1.6
Inflation (GDP deflator, in percent)	2.0	0.7	2.2	1.5	1.9	1.3	1.6	1.7	1.7
Nominal GDP growth (in percent)	3.1	2.8	4.2	3.2	3.5	2.8	3.2	3.3	3.4
Effective interest rate (in percent) [4]	3.8	2.2	2.2	2.3	2.0	2.0	1.9	2.0	2.1

As of October 24, 2017		
Sovereign Spreads		
EMBIG (bp) 3/		92
5Y CDS (bp)		25
Ratings	Foreign	Local
Moody's	Aa2	Aa2
S&Ps	AA	AA
Fitch	AA+	AA

Contribution to Changes in Public Debt

	Actual			Projections							
	2006-2014	2015	2016	2017	2018	2019	2020	2021	2022	cumulative	debt-stabilizing primary balance [9]
Change in gross public sector debt	5.9	0.1	3.6	0.1	-1.3	-0.9	-3.5	-4.4	-0.8	-10.8	
Identified debt-creating flows	5.7	0.3	2.8	0.5	-0.9	-0.5	-3.1	-3.9	-0.3	-8.2	
Primary deficit	4.3	2.1	0.6	0.6	0.0	-0.2	-0.3	-0.5	-0.7	-1.2	0.4
Primary (noninterest) revenue and gra	35.6	35.6	36.4	36.2	36.3	36.3	36.3	36.2	36.2	217.5	
Primary (noninterest) expenditure	39.9	37.7	36.9	36.7	36.3	36.1	36.0	35.7	35.5	216.3	
Automatic debt dynamics [5]	0.2	-0.6	-1.8	-0.8	-1.4	-0.8	-1.1	-1.2	-1.1	-6.4	
Interest rate/growth differential [6]	0.2	-0.6	-1.8	-0.8	-1.4	-0.8	-1.1	-1.2	-1.1	-6.4	
Of which: real interest rate	1.0	1.3	0.0	0.7	0.1	0.6	0.3	0.2	0.3	2.2	
Of which: real GDP growth	-0.8	-1.9	-1.8	-1.6	-1.5	-1.4	-1.4	-1.4	-1.3	-8.6	
Exchange rate depreciation [7]	0.0	0.0	0.0	…	…	…	…	…	…	…	
Other identified debt-creating flows	1.2	-1.3	4.0	0.7	0.5	0.5	-1.6	-2.3	1.4	-0.7	
Cash req. adjustments. incl. privatizat	1.2	-1.3	4.0	0.7	0.5	0.5	-1.6	-2.3	1.4	-0.7	
Contingent liabilities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Please specify (2) (e.g., ESM and Euro	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Residual, including asset changes [8]	0.3	-0.2	0.8	-0.3	-0.4	-0.4	-0.4	-0.5	-0.5	-2.6	



Source: IMF staff.

1/ Public sector is defined as consolidated public sector.

2/ Based on available data.

3/ Long-term bond spread over German bonds.

4/ Defined as interest payments divided by debt stock (excluding guarantees) at the end of previous year.

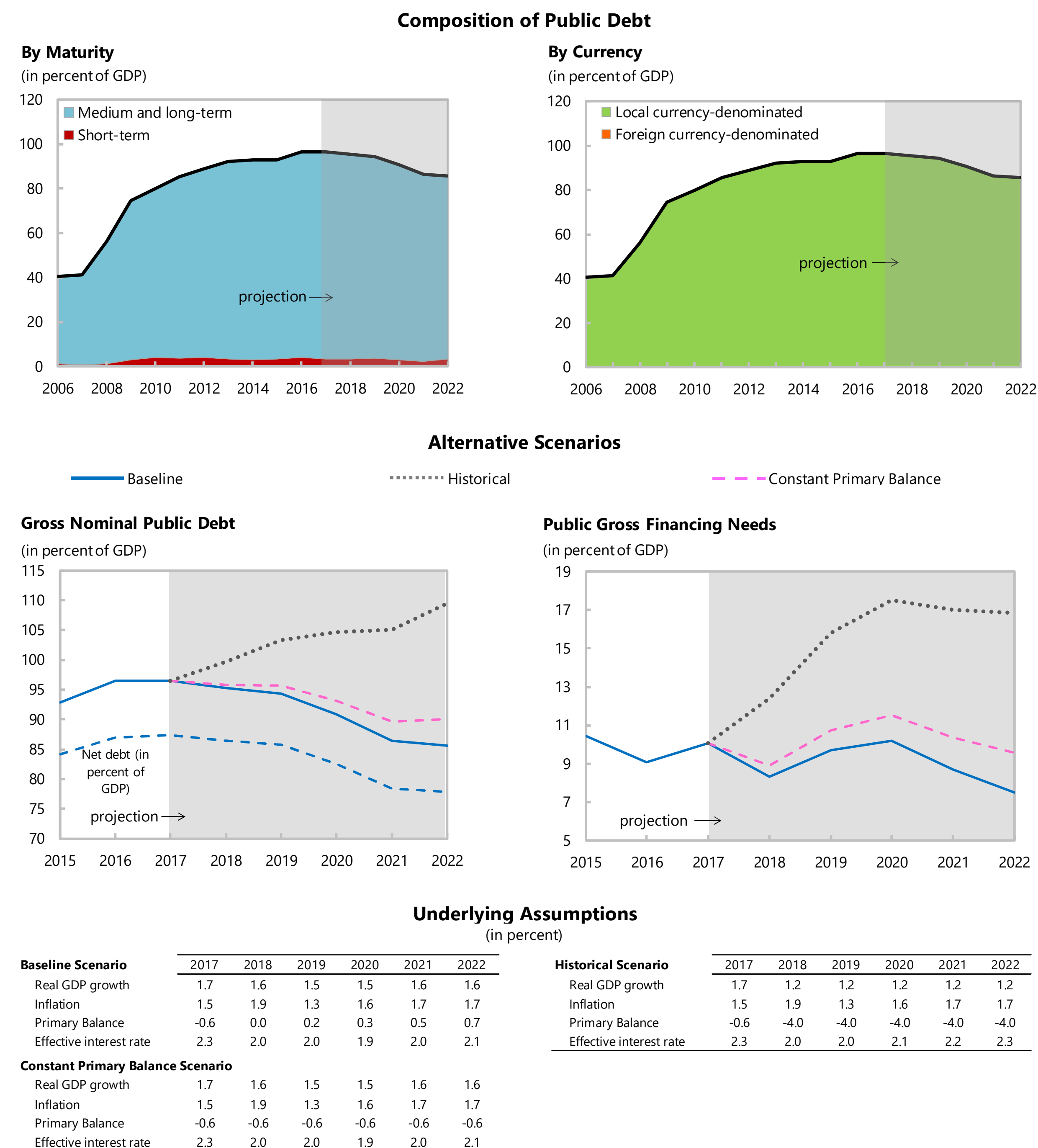
5/ Derived as $[(r - \pi(1+g) - g + ae(1+r)]/(1+g+\pi+g\pi))$ times previous period debt ratio, with r = interest rate; π = growth rate of GDP deflator; g = real GDP growth rate; a = share of foreign-currency denominated debt; and e = nominal exchange rate depreciation (measured by increase in local currency value of U.S. dollar).

6/ The real interest rate contribution is derived from the numerator in footnote 5 as $r - \pi (1+g)$ and the real growth contribution as -g.

7/ The exchange rate contribution is derived from the numerator in footnote 5 as ae(1+r).

8/ Includes asset changes and interest revenues (if any). For projections, includes exchange rate changes during the projection period.

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.



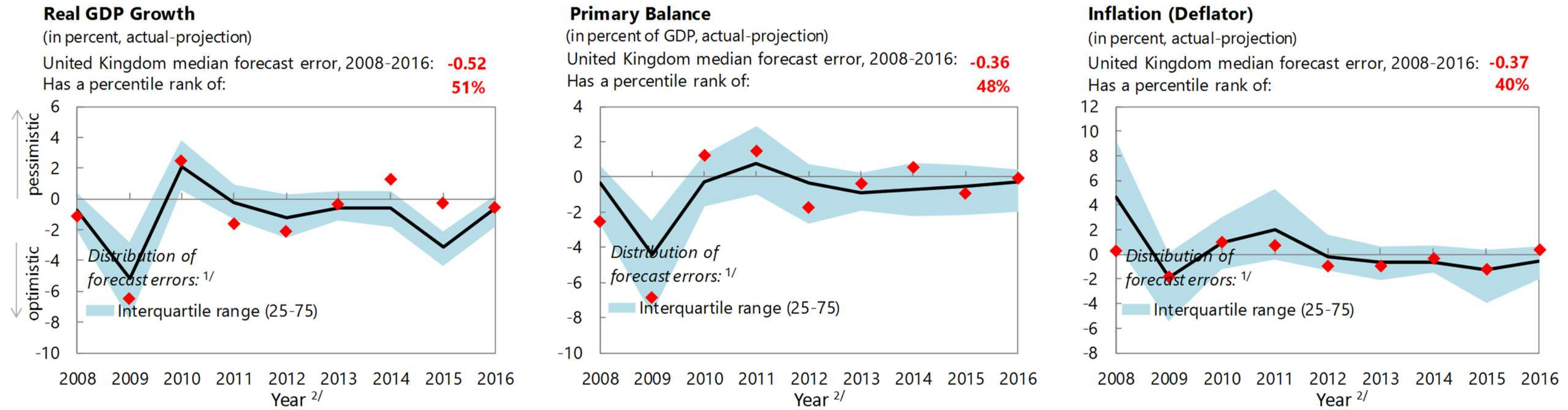
Baseline Scenario	2017	2018	2019	2020	2021	2022
Real GDP growth	1.7	1.6	1.5	1.5	1.6	1.6
Inflation	1.5	1.9	1.3	1.6	1.7	1.7
Primary Balance	-0.6	0.0	0.2	0.3	0.5	0.7
Effective interest rate	2.3	2.0	2.0	1.9	2.0	2.1
Constant Primary Balance Scenario						
Real GDP growth	1.7	1.6	1.5	1.5	1.6	1.6
Inflation	1.5	1.9	1.3	1.6	1.7	1.7
Primary Balance	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6
Effective interest rate	2.3	2.0	2.0	1.9	2.0	2.1

Historical Scenario	2017	2018	2019	2020	2021	2022
Real GDP growth	1.7	1.2	1.2	1.2	1.2	1.2
Inflation	1.5	1.9	1.3	1.6	1.7	1.7
Primary Balance	-0.6	-4.0	-4.0	-4.0	-4.0	-4.0
Effective interest rate	2.3	2.0	2.0	2.1	2.2	2.3

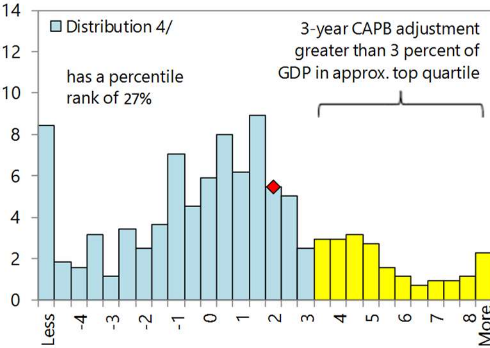
Source: IMF staff.

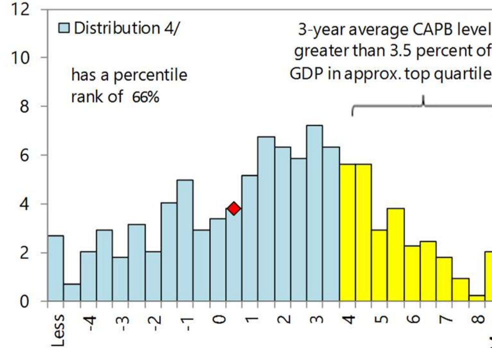
Figure 3. United Kingdom: Public DSA—Realism of Baseline Assumptions

Forecast Track Record, versus surveillance countries

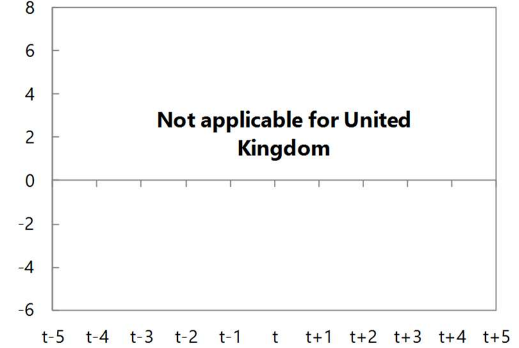


Assessing the Realism of Projected Fiscal Adjustment





Boom-Bust Analysis 3/



Source : IMF Staff.

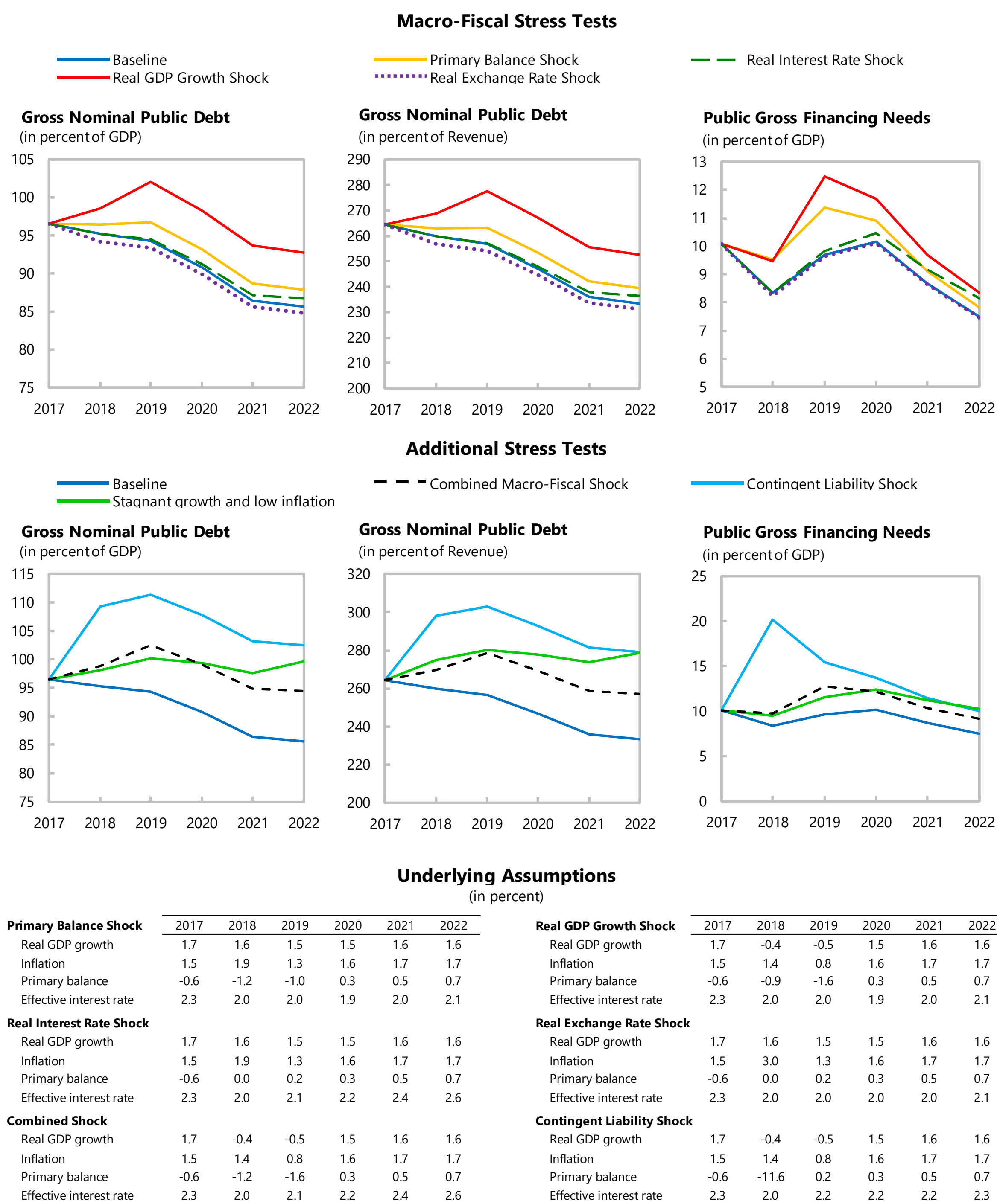
1/ Plotted distribution includes surveillance countries, percentile rank refers to all countries.

2/ Projections made in the spring WEO vintage of the preceding year.

3/ Not applicable for United Kingdom, as it meets neither the positive output gap criterion nor the private credit growth criterion.

4/ Data cover annual obervations from 1990 to 2011 for advanced and emerging economies with debt greater than 60 percent of GDP. Percent of sample on vertical axis.

Figure 4. United Kingdom: Public DSA—Stress Tests



Underlying Assumptions
(in percent)

Primary Balance Shock	2017	2018	2019	2020	2021	2022
Real GDP growth	1.7	1.6	1.5	1.5	1.6	1.6
Inflation	1.5	1.9	1.3	1.6	1.7	1.7
Primary balance	-0.6	-1.2	-1.0	0.3	0.5	0.7
Effective interest rate	2.3	2.0	2.0	1.9	2.0	2.1
Real Interest Rate Shock						
Real GDP growth	1.7	1.6	1.5	1.5	1.6	1.6
Inflation	1.5	1.9	1.3	1.6	1.7	1.7
Primary balance	-0.6	0.0	0.2	0.3	0.5	0.7
Effective interest rate	2.3	2.0	2.1	2.2	2.4	2.6
Combined Shock						
Real GDP growth	1.7	-0.4	-0.5	1.5	1.6	1.6
Inflation	1.5	1.4	0.8	1.6	1.7	1.7
Primary balance	-0.6	-1.2	-1.6	0.3	0.5	0.7
Effective interest rate	2.3	2.0	2.1	2.2	2.4	2.6

Real GDP Growth Shock	2017	2018	2019	2020	2021	2022
Real GDP growth	1.7	-0.4	-0.5	1.5	1.6	1.6
Inflation	1.5	1.4	0.8	1.6	1.7	1.7
Primary balance	-0.6	-0.9	-1.6	0.3	0.5	0.7
Effective interest rate	2.3	2.0	2.0	1.9	2.0	2.1
Real Exchange Rate Shock						
Real GDP growth	1.7	1.6	1.5	1.5	1.6	1.6
Inflation	1.5	3.0	1.3	1.6	1.7	1.7
Primary balance	-0.6	0.0	0.2	0.3	0.5	0.7
Effective interest rate	2.3	2.0	2.0	2.0	2.0	2.1
Contingent Liability Shock						
Real GDP growth	1.7	-0.4	-0.5	1.5	1.6	1.6
Inflation	1.5	1.4	0.8	1.6	1.7	1.7
Primary balance	-0.6	-11.6	0.2	0.3	0.5	0.7
Effective interest rate	2.3	2.0	2.2	2.2	2.2	2.3

Source: IMF staff.

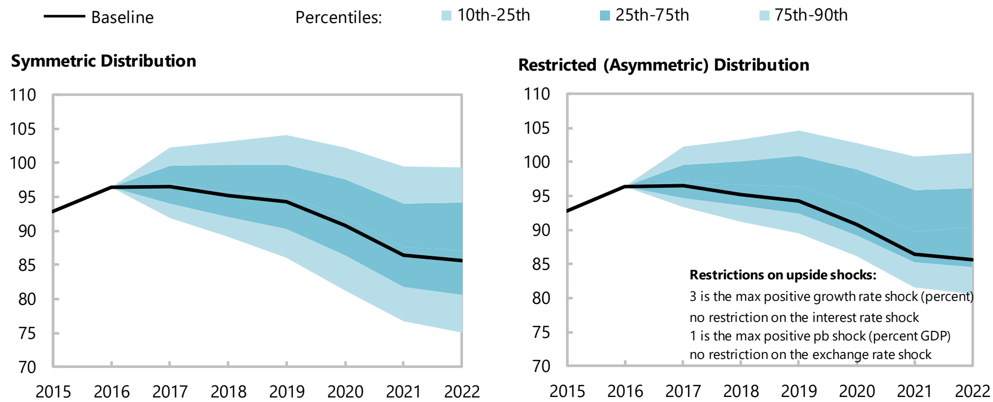
Figure 5. United Kingdom: Public DSA Risk Assessment

Heat Map

Debt level 1/	Real GDP Growth Shock	Primary Balance Shock	Real Interest Rate Shock	Exchange Rate Shock	Contingent Liability shock
Gross financing needs 2/	Real GDP Growth Shock	Primary Balance Shock	Real Interest Rate Shock	Exchange Rate Shock	Contingent Liability Shock
Debt profile 3/	Market Perception	External Financing Requirements	Change in the Share of Short-Term Debt	Public Debt Held by Non-Residents	Foreign Currency Debt

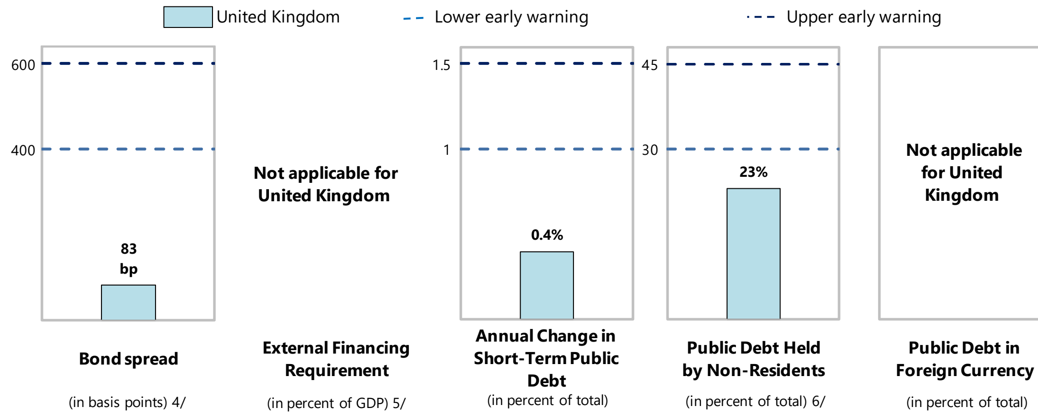
Evolution of Predictive Densities of Gross Nominal Public Debt

(in percent of GDP)



Debt Profile Vulnerabilities

(Indicators vis-à-vis risk assessment benchmarks, in 2016)



Source: IMF staff.

1/ The cell is highlighted in green if debt burden benchmark of 85% is not exceeded under the specific shock or baseline, yellow if exceeded under specific shock but not baseline, red if benchmark is exceeded under baseline, white if stress test is not relevant.

2/ The cell is highlighted in green if gross financing needs benchmark of 20% is not exceeded under the specific shock or baseline, yellow if exceeded under specific shock but not baseline, red if benchmark is exceeded under baseline, white if stress test is not relevant.

3/ The cell is highlighted in green if country value is less than the lower risk-assessment benchmark, red if country value exceeds the upper risk-assessment benchmark, yellow if country value is between the lower and upper risk-assessment benchmarks. If data are unavailable or indicator is not relevant, cell is white.
Lower and upper risk-assessment benchmarks are:

400 and 600 basis points for bond spreads; 17 and 25 percent of GDP for external financing requirement; 1 and 1.5 percent for change in the share of short-term debt; 30 and 45 percent for the public debt held by non-residents.

4/ Long-term bond spread over German bonds, an average over the last 3 months, 26-Jul-17 through 24-Oct-17.

5/ External financing requirement is defined as the sum of current account deficit, amortization of medium and long-term total external debt, and short-term total external debt at the end of previous period.

6/ Overseas holdings of gilts.

Annex IV. Implementation of Past Fund Advice

Economic policy over the last year has been broadly in line with Fund advice. The authorities eased monetary policy and provided extra liquidity to help restore confidence and support growth in the period following the referendum. They also announced additional infrastructure spending to boost productivity over the medium term.

Progress has been made on several of the 2016 FSAP recommendations (see table below). The government gave the Financial Policy Committee powers of direction over the buy-to-let market, which would strengthen its ability to guard financial stability. The authorities are also enhancing data collection on interconnectedness for banks and insurers. The Bank of England is in the process of developing a system-wide stress test to assess the resilience of a wide range of interconnected financial institutions. In line with the findings of the FSAP, the FPC has concluded that there are structural deficiencies in the delivery model for the UK High-Value Payment System (HPVS), and the BoE commenced with a direct delivery model by end-2017. The BoE is now the HVPS scheme operator (currently CHAPS Co), alongside the BoE's existing responsibilities for operating the RTGS infrastructure.

United Kingdom: Update on Progress on FSAP's Key Recommendations

Recommendations	Update on Progress
Financial Stability Policy Framework	
Extend the Financial Policy Committee's (FPC) powers of direction to the buy-to-let market.	**Implemented.** Legislation came into force in early 2017.
Extend perimeter of concurrent stress tests to cover large foreign subsidiaries.	**Not implemented.** The BoE has decided not to include these banks in the concurrent stress test at this time, as a stress test of the UK entity alone is likely to be less informative than a group-level test and could provide false comfort if the legal entity is able to survive the stress test but the group would not be able to survive a comparable stress event. The Bank will publish an update to its position as part of the 2018 stress testing approach document.
Complete core data template and enhance analytical infrastructure for concurrent stress tests.	**Implemented/In progress.** The BoE published its first set of core data templates for use in the 2017 Concurrent Stress Test. The core data set is expected to continue to increase over time. The core data set has been fully integrated with associated definitions and data quality rules, supporting firms' decisions to invest in the infrastructure required to submit, collect and validate data. Planned further investment in analytical infrastructure will raise the bar on firms' data quality.

United Kingdom: Update on Progress on FSAP's Key Recommendations	
Recommendations	**Update on Progress**
	As part of its investment in model development to capture system-wide dynamics, the BoE will utilize four new system-wide models in the 2017 Annual Cyclical Stress Test Scenario: Aggregate mortgage loss, Aggregate unsecured loss, Owner-occupier stock and Net Interest Income deposit supply. It has introduced the first amplifications/spillover models in the areas of Wholesale funding costs; Network losses via revaluation of interbank claims; Common exposures and fire sale losses. Further models in these areas are in development for use in 2018.
Develop a set of cross-sector interconnectedness indicators using flow of funds data, cross sector exposures, market based indicators, and information produced by thematic analyses.	**In progress.** On systemic interconnectedness, the BoE is collecting granular data on interbank exposures and on asset holdings from banks that are involved in the annual concurrent stress test. Solvency II regulatory reporting provides insight into the connections between regulated insurers and the wider financial system.
Financial Sector Oversight	
Increase the supervisory intensity on less systemically important banks, for example through more frequent onsite inspections and greater scrutiny of asset classification and provisioning.	**In progress.** The BoE is reviewing its overall supervisory approach to less systemically important new banks. Since the FSAP, the BoE has also instigated an annual targeted concurrent stress test on a sample of smaller firms most at risk. It is theme-dependent, based on the industry sector with greatest concern.
Extend, if legally possible, the scope of transparency reporting under the Alternative Investment Fund Managers Directive (AIFMD) to cover non-European Economic Area (EEA) managers and funds, where relevant for systemic risk monitoring, and strive for enhanced international exchange of information.	**In progress.** Starting July 2017, the FCA has implemented two new reporting requirements; 1. Required non-EEA AIFMs to report on their non-EEA master funds if the corresponding feeder fund is marketed in the UK. 2. Required UK AIFMs to provide enhanced reporting for non-EEA funds not marketed in the EEA.
Ensure that Broker Crossing Networks' (BCNs) activities are sufficiently supervised and monitored.	**In progress.** The FCA's review of Broker Crossing Networks was completed and published in 2016. As part of the FCA's work to assess the preparedness of firms for MiFID 2, it has also engaged with a range of BCN operators to understand and (where appropriate) to challenge their analysis of the impact of MIFID 2 on those systems and the responses they plan to put in place. Following MiFID 2 implementation, it will consider appropriate cross-

United Kingdom: Update on Progress on FSAP's Key Recommendations	
Recommendations	**Update on Progress**
	firm work in relation to the effects of changes to equity market structure. The FCA also monitors completion of action points in firm feedback letters for BCNs.
Broaden the review of bank internal models to cover a greater sample of less material models and models of smaller banks.	**Implemented.** Since the 2016 FSAP, a program has been implemented to enhance the coverage of firms' internal models, seeking to review at least 60% of firm's modelled credit risk RWAs. The program coverage was initially agreed by the PRA Board in May 2016 and was completed by the end of 2017. This coverage is being met by a program of both new model reviews and thematic reviews of existing models. This was extended to all IRB firms, including smaller banks. Additionally, the risk appetite for reviewing model change permissions has been changed to enhance the coverage of less material models. UK firms have participated in the EBA Article 78 RWA benchmarking exercises in 2015 for low default portfolios, and in 2016 for high default portfolios. This has enabled the PRA to enhance peer comparison and identification of outliers.
Introduce agreements similar to those under the European Insurance and Occupational Pensions Authority (EIOPA) requirements for colleges for insurers with significant business outside the EEA.	**In progress.** The PRA participates in international colleges on a regular basis. The Insurance Directorate either hosts or participates in international colleges for all Cat. 1 insurers with foreign presence. The FCA participates in colleges from a pure conduct of business perspective, and in ensuring that the impacts of prudential regulation on outcomes for consumers and the avoidance of harm are considered.
Financial Markets Infrastructure	
Consider alternative structures for the oversight and management of risk within the U.K. High Value Payments system (HVPS) and finalize the self-assessment of the Real Time Gross Settlement System (RTGS) infrastructure against the Principles for Financial Markets Infrastructures.	**Implemented.** In April 2017, the FPC agreed that there were financial stability risks arising from the current structure for delivery of the UK High-Value Payment System (HVPS) and welcomed the BoE's proposed move to a direct delivery model for operating the HVPS. In November, the BoE completed the transfer to direct delivery, becoming the HVPS scheme operator (previously CHAPS Co), alongside the Bank's existing responsibilities for operating the RTGS infrastructure. Direct delivery will enable a single entity to manage risks right across the system.

United Kingdom: Update on Progress on FSAP's Key Recommendations	
Recommendations	**Update on Progress**
	The self-assessment of the Real Time Gross Settlement System (RTGS) infrastructure against the Principles for Financial Markets Infrastructures has been completed and published.
Continue with the de-tiering project for payment systems and EUI and consider, as part of the RTGS review, increasing settlement in central bank money for CCP-embedded payment system transactions by increasing the number of CCP members that are also members of the HVPS.	**In progress.** Firm-specific actions related to promoting de-tiering include Societe Generale and Northern Trust having joined CHAPS with ING scheduled to join in May 2018. In terms of EUI, BNP Paribas, Northern Trust and BNY Mellon have become CREST settlement banks. As part of the RTGS review the Bank has also engaged individually with CCPs and their clearing members for further discussions on whether direct membership of CHAPS would be beneficial. Further work on de-tiering is now likely to be a medium-term deliverable given RTGS rebuild and new policy challenges.
Crisis Management and Resolution	
Build on current arrangements to develop operating principles for funding of firms in resolution.	**Implemented.** Available public backstops in the UK for firms in resolution include SMF and the Resolution Liquidity Framework. Authorities are mindful of the FSB guidance on funding in resolution and have worked towards compatibility with the FSB's principles, putting in place a flexible liquidity provision approach. The FSB published in August 2016 its guiding principles on the temporary funding needed to support the orderly resolution of a global systemically important bank (G-SIB).
Work with international partners to develop an effective resolution regime for insurance firms that could be systemically significant at the point of failure.	**In progress.** Following the publication of EIOPA's Opinion on the Harmonization of the Recovery and Resolution Framework for (Re)Insurers, work continues to engage in international forums to discuss the practical challenges of developing an insurer resolution regime. The Bank was closely involved in developing the EIOPA Opinion, which calls for a minimum harmonized and comprehensive recovery and resolution framework for (re)insurers to deliver increased policyholder protection and financial stability in the European Union. The BoE engaged closely with the FSB in 2016 to finalize guidance on 'Developing effective resolution strategies and plans for systemically important insurers' and will be working with systemically important insurers to implement the guidance. The Bank has also been closely involved in the FSB work on developing a Key Attributes Assessment.

United Kingdom: Update on Progress on FSAP's Key Recommendations	
Recommendations	**Update on Progress**
	Methodology for the insurance sector. In March 2017, the IAIS published for consultation a revised version of ICP12 (Exit from the market and resolution), which is relevant to all insurers. ICP12 also includes the ComFrame material on resolution, which is relevant to Internationally Active Insurance Groups (IAIGs). The consultation closed in June 2017 and the Bank will continue to work with the IAIS to finalize guidance in this area.
Establish an approach for engaging with countries that are not members of CMGs but where U.K. banks and CCPs have a systemic presence.	**In progress.** The UK has established CMGs for its two CCPs (LCH Ltd. and ICE Clear Europe) that have been identified as systemic in more than one jurisdiction. In line with the FSB *Key Attributes* and implementation guidance, the composition of both CMGs is broad and should capture many of the jurisdictions where the CCP has a systemic presence. Work in both CMGs is at an early stage and does not engage other countries where participants are domiciled that rely on the UK CCPs for clearing. Resolution planning for individual CMGs is not sufficiently advanced to identify any other jurisdictions not involved in the CMG where the CCP may be domestically systemic. However, the proposed resolution strategies for CCPs would follow the rules of the CCP when allocating losses. To this extent, the impact of resolution on participants' exposures should be predictable and transparent. In due course, that strategy and its implications will be communicated to relevant jurisdictions. Arrangements are in place with non-CMG members via "regional CMGs" for one of the UK G-SIB. For UK banks which have a presence in the European Union, resolution colleges have been put in place with local regulatory authorities in line with the BRRD. In addition, the Bank organized resolution presentations with non-CMG members at the margins of regional CMGs and supervisory Global Colleges over the past two years. In 2016, the Bank held a training course for the Centre for Central Banking Studies (CBCS) targeted at non-CMG hosts. The scope of non-CMG host authorities is shrinking as some UK G-SIBs restructure their operations. As a result, most of the focus of the BoE's engagement with non-CMG host authorities has been in relation to HSBC and Standard Chartered.

Box 1. Productivity Developments and Potential Output Growth

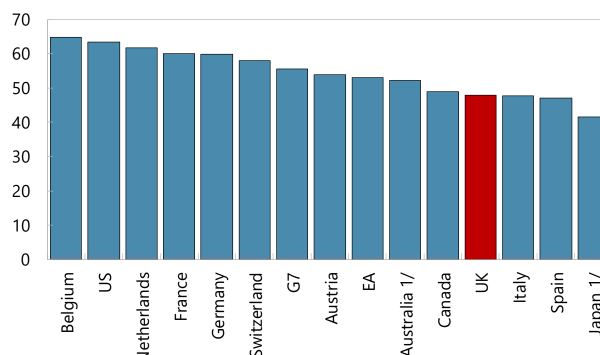
Labor productivity in the United Kingdom is low relative to that in peer economies. UK GDP per hour worked in 2016 was 20 to 25 percent lower than in the United States, France and Germany. Analysis of the UK productivity underperformance has attributed it to underinvestment in infrastructure and innovation, and shortfalls in human capital (HMT 2000, MacDonald and Salt 2004, LSE Growth Commission 2013).

Labor productivity growth has been particularly weak since the global financial crisis. It declined from 2.1 percent during 2000–07 to 0.5 percent during 2010–16; this latter figure is very low even in the context of subdued post-crisis global productivity. In contrast to other advanced economies, employment growth accounted for most of the recovery in the UK since the crisis. The weakness in productivity has been broad-based, with most sectors experiencing stagnation or slow growth. The literature has identified a range of explanatory factors: labor hoarding, credit rationing and misallocation of capital in the aftermath of the crisis, measurement issues (which are more severe in economies with large service sectors), low interest rates preventing creative destruction, weak investment, and slower rates of diffusion of innovation from frontier to laggard firms.[1] Shifts in the composition of the labor force, including an increase in the labor force participation rate of older workers, could also have played a role.

Potential output growth is projected to average around 1½ percent annually over the next five years (Table 2). However, this projection depends heavily on the degree of recovery of labor productivity, as well as on any changes in immigration policies that affect the labor supply. Labor force growth is likely to slow going forward, and with unemployment at an historically low level, employment will grow broadly in line with the labor force (about 0.5 percent annually). Migrants have accounted

GDP per Hour Worked - 2016

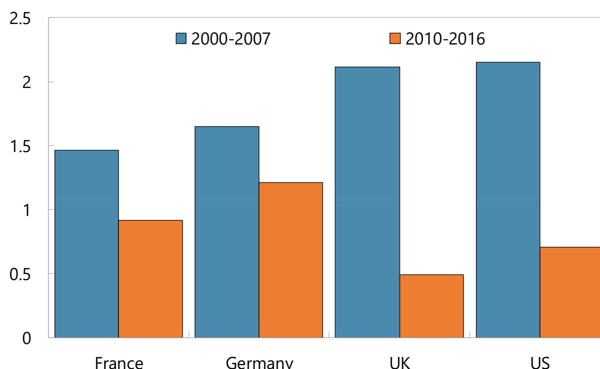
(USD, constant prices, 2010 PPPs)



Sources: OECD.
1/ Estimated values

Productivity Growth in Selected Major Economies

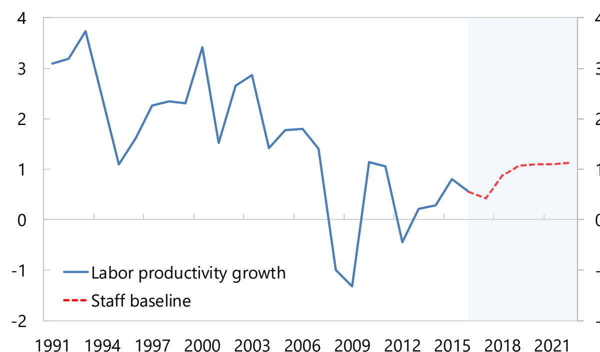
(Average annual percent growth in RGDP per hour)



Sources: OECD.

Labor Productivity Growth 1/

(Y/y percent change)



Sources: Office for National Statistics and Fund staff calculations.
1/ Real output per hour worked.

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[1] See, for instance, Adler et al (2017), Barnett et al (2014), Bean (2016), Haldane (2017), OBR (2017), Andrews et al (2015).

Box 1. Productivity Developments and Potential Output Growth (concluded)

about half of the increase in the labor force in recent years. They have employment rates similar to those of the native-born population and higher average educational attainment (see Figure 10). Changes in policies that restrict migration from the EU would reduce labor force growth.

The current projections assume a recovery of labor productivity growth to just above one percent in the medium term, midway between the current low values and the pre-crisis growth levels. However, the magnitude of any recovery is highly uncertain.

- On the positive side, some temporary negative factors have faded. The post-crisis bank deleveraging is no longer depressing credit availability to productive enterprises. Labor market efficiency, measured by job finding rate, has improved to pre-crisis levels, indicating the negative effect from labor hoarding has diminished. With the economy at full employment, the efficiency of labor utilization and investment in labor-saving technologies is likely to increase going forward—as projected in the baseline.
- On the negative side, productivity growth may continue to be constrained by subdued business investment. In addition, some of the drivers of low productivity growth could be structural, such as the aging of the labor force. The increase in the share of self-employed in the labor force could also have negative effect on productivity if self-employed workers get less on-the-job training. Finally, part of the decline in productivity growth can reflects permanent structural factors that are not well understood, such as changes in the nature of technological progress and/or increased difficulties in measuring it.
- Changes in trade arrangements with the EU and other countries is likely to affect all sectors in the economy, yet the effects would differ depending on the size of trade barriers and how sensitive of that sector is to any increase in trade barriers. This could result in a relocation of resources across sector—as resources flow from more to less affected sectors—and temporarily reduce productivity growth due to skill mismatches. A decline in migration could also have a negative impact on output per worker due to less efficient matching of jobs to workers.[2] If the new arrangements result in substantially higher barriers to trade, the result could be lower foreign direct investment, competition, innovation and technology diffusion. These effects would be accentuated if high-productivity sectors are affected disproportionally by the changes.

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[2] Empirical estimates of the elasticity of productivity growth to changes in the share of immigrants in the labor force are usually positive. Using the typical range of estimates found in the literature, a decline of the share of migrants in the labor force of 0.2 could reduce labor productivity levels between 0.2 and 0.4 percent (Portes and Forte 2017).

Box 2. Fiscal Transparency

The IMF 2016 Fiscal Transparency Evaluation (FTE) concluded that UK's fiscal transparency practices are very strong. The evaluation provided several recommendations to align practices fully with the IMF's Fiscal Transparency Code. The authorities have already followed up on most of the recommendations. The UK was one of the first countries to publish a comprehensive Fiscal Risks Report, which assesses the vulnerability of public finances to a broad range of risks, including balance sheet shocks. Consistent with staff's assessment, the long-term growth of the economy emerges as the most important determinant of the health of public finances. Public finances are more sensitive now than before the financial crisis to unexpected increases in interest rates or retail price inflation, reflecting the rise in the debt stock and changes to its composition.[1]

Several other FTE recommendations have also been implemented. The coverage of stocks in the Public Sector Finances statistics has been expanded by the introduction of a new fiscal aggregate (Net Financial Liabilities), which goes beyond the concept of net debt to capture all financial assets and liabilities. In addition, all major tax and spending decisions have been unified into a single annual fiscal event.

Progress towards the remaining recommendations could further strengthen the framework. For instance, the audited Whole of Government Accounts have consistently been released more than a year after the end of the fiscal year. The authorities should strive to improve their timeliness, which would increase their usefulness as an input to policy making. There is no control on, or budgetary objectives for, the size of tax expenditures, which are relatively high by international standards. Transparency would be enhanced if tax expenditures were embedded in decisions on the overall spending envelope, making it easier to compare policy instruments.

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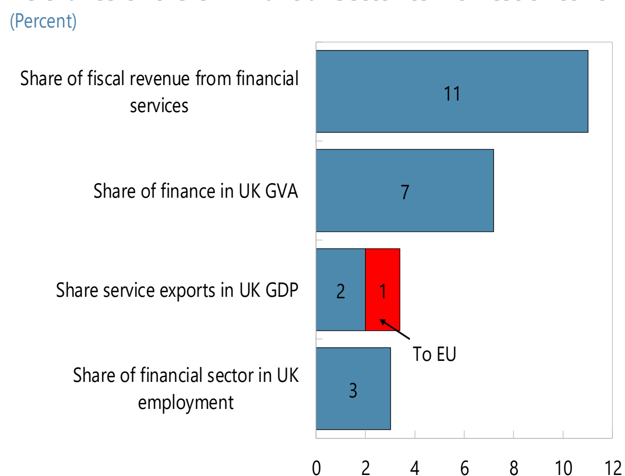
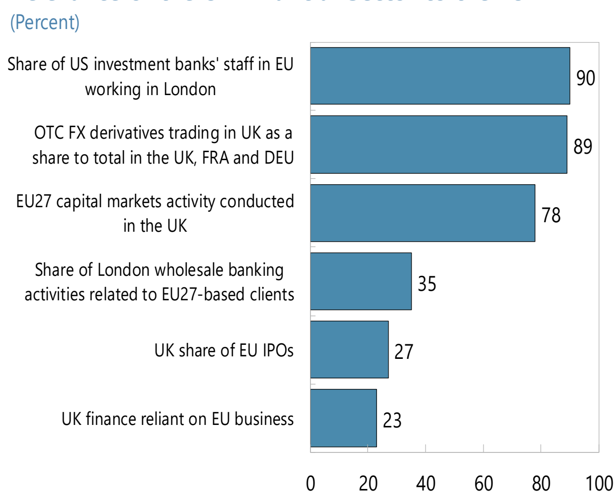
[1] While the "de jure" average maturity of public debt is highest among OECD countries, the "de facto" maturity has declined, given the increase in the BoE's gilt holdings financed at Bank Rate. In addition, the increase in the stock of index-linked gilts to nearly 20 percent of GDP has raised sensitivity to changes in RPI inflation.

Box 3. Brexit and the Financial Sector

Financial services make an important contribution to the UK economy. They account for 7 percent of gross value added, an estimated 11 percent of tax revenues, and 3 percent of employment (plus another 3 percent of employment in related professional services). The UK runs a substantial services trade surplus, which partly offsets its goods trade deficit. Exports of financial services amounted to 2¾ percent of GDP in 2015, nearly half of which were to the EU. About half of financial services are related to the domestic economy, a quarter to EU-related business, and another quarter to non-UK, non-EU business (source: Oliver Wyman).



Sources: Bruegel, City of London, ONS, Oliver Wyman and Fund staff calculations.



Sources: Bruegel, City of London, ONS, Oliver Wyman and Fund staff calculations.

Exit from the Single Market would imply that UK-based institutions lose their passporting rights. These rights enable them to provide financial services throughout the EU on a cross-border basis or through branches without additional local authorization, and without having to set up EU subsidiaries to continue serving their European clients. An alternative could be to reach equivalence agreements, which allow non-EEA financial institutions to provide specific services if their home country regulatory regime is deemed to be equivalent to EU standards. Existing equivalence agreements with non-EEA countries do not cover all services (for example lending, deposit-taking, custody and payment services, and trade finance are excluded). In addition, equivalence must be requested and approved, and can be revoked at any time if the regulatory regimes are no longer deemed to be aligned. For asset managers, it will be critical to retain the ability to delegate portfolio management to the location of their choice. In addition, bilateral arrangements with EU member states might be needed to retain market access. UK central counterparties (CCPs) will need recognition from the EU regulatory bodies to continue providing clearing and settlement services to EU institutions. Otherwise, UK-based euro denominated derivatives clearing and settlement activity may have to relocate.

Given the uncertainties involved, firms have started planning for possible relocation of some operations to the EU to avoid service disruptions (see April 2017 GFSR, Box 1.3). The fragmentation of the financial service industry could reduce the agglomeration benefits provided by the City of London, and may lead to further relocation of activity to other global financial centers in the long run.

Box 3. Brexit and the Financial Sector (concluded)

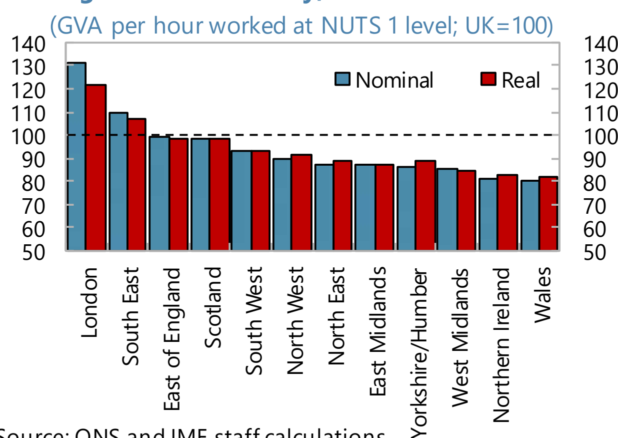
The transition to new arrangements will need to be managed carefully to minimize service disruptions. A significant financial sector restructuring would pose a number of challenges. Some of them are immediate operational challenges, such ensuring the continuity of cross-border financial contracts once the legal and regulatory environment changes. Setting up new legal entities in different jurisdictions requires obtaining numerous regulatory approvals, including of banks' internal risk weight models, which could stretch existing regulatory capacity. Supervising and regulating more complex institutional structures would require close cross-border collaboration among the relevant agencies. New data sharing agreements between the UK and EU will be needed to facilitate continued cross-border financial risk assessments. Banks could face higher costs from having to replicate some operational functions across jurisdictions. Early decisions on the future relationship between the UK and EU, including any transitional arrangements, will help reduce costs and the risk of disruptions.

Box 4. Regional Disparities in Labor Productivity

There are large and long-standing disparities in labor productivity across UK regions. Regional disparities are large compared to other advanced economies. London and the South East have very high levels of productivity, while productivity levels elsewhere are low—indeed, lower than in some of the least productive regions in other advanced economies Wealthier regions have higher productivity across most industry sectors, suggesting that their comparative advantage is not due to a particular type of economic activity but rather to other, cross-cutting regional characteristics.

Staff's analysis suggests that differences in human capital levels and agglomeration effects are key drivers of regional disparities (see Selected Issues Paper). Major infrastructure projects like the Northern Powerhouse Rail and the Midlands Rail Hub are aimed at increasing connectivity to achieve agglomeration effects in areas outside London and the South East. Housing prices and regulatory constraints have an impact on internal migration, possibly reducing the effectiveness of relocation of labor as a regional convergence mechanism. Investment in research and development in the UK lags that of peers and is uneven across regions. Improving the ability of under-performing regions and localities to adopt innovations is crucial to enable them to catch up. While government spending per capita does not differ systematically across regions, fiscal centralization is high in the UK relative to other countries. Continued de-centralization of governance arrangements could improve the responsiveness of policy to local economic conditions.

Regional Productivity, 2015



Source: ONS and IMF staff calculations.
Note: Real productivity estimated by deflating nominal values by the latest available regional price index (2010) computed by ONS. Numbers should be taken only as indicative as regional prices are experimental data (i.e. not national statistics).

INTERNATIONAL MONETARY FUND

UNITED KINGDOM

STAFF REPORT FOR THE 2017 ARTICLE IV CONSULTATION—INFORMATIONAL ANNEX

January 26, 2018

Prepared By European Department

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FUND RELATIONS

(Data as of December 31, 2017)

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

General Resources Account:

	SDR Million	Percent Quota
Quota	20,155.1	100.00
Fund holdings of currency	17,023.09	84.46
Reserve position in Fund	3,132.18	15.54
New arrangement to borrow	1,048.05	

SDR Department:

	SDR Million	Percent Allocation
Net cumulative allocations	10,134.20	100.00
Holdings	8,097.44	79.9

Outstanding Purchases and Loans: None

Financial Arrangements: None

Projected Payments to Fund (SDR million; based on present holdings of SDRs)**:**

	Forthcoming				
	2018	2019	2020	2021	2022
Principal					
Charges/Interest	15.10	15.37	15.38	15.37	15.37
Total	15.10	15.37	15.38	15.37	15.37

Exchange Rate Arrangement:

The UK authorities maintain a free floating regime.

The UK accepted the obligations of Article VIII, Sections 2, 3, and 4 on February 15, 1961. It maintains an exchange system free of multiple currency practices and restrictions on payments and transfer for current international transactions, except for exchange restrictions imposed solely for the preservation of national or international security. The UK notifies the Fund of the maintenance of measures imposed solely for the preservation of national and international security under Executive Board Decision No. 144–(52/51). The last of these notifications was made on January 9, 2012 (EBD/12/2).

Article IV Consultation:

The last Article IV consultation was concluded on June 15, 2016. The UK is on the standard 12-month consultation cycle.

FSAP:

The FSAP update was completed at the time of the 2011 Article IV consultation. A mandatory FSAP has also been conducted in time for the 2016 Article IV consultation, in line with the five-year cycle for members or members' territories with financial sectors that are determined to be systemically important pursuant to Decision No. 15495-(13/111), adopted December 6, 2013.

Technical Assistance: None

Resident Representatives: None

STATISTICAL ISSUES

(As of January 2018)

I. Assessment of Data Adequacy for Surveillance
General: Data provision is broadly adequate for surveillance.
National Accounts: In 2014, the Office of National Statistics (ONS) moved from ESA 95 to the European System of Accounts 2010: ESA 2010. Data are disseminated in three main formats: the "Four Week" estimate; the "Eight Week" estimate; and the "Twelve Week Estimate." The last two meet the SDDS requirements and publish current and constant price data in millions of pounds sterling. GDP volume measures use a fixed base year, which changes every year through annual chain linking. The current base year is 2011. For the estimate of the GDP, the UK uses income, production and expenditure data.
Price Statistics: The official monthly consumer price index (CPI), a composite of urban and rural price data, is available on a timely basis. The reference year of the CPI is 2015=100. For the PPI, the product weights are updated annually, index weights are updated every five years. The last update to index weights was in 2013, in respect of 2010.
Government Finance Statistics: Annual GFS data are reported for publication in the Government Finance Statistics Yearbook (GFSY). The fiscal data for the Article IV consultations missions cover public sector operations and the general government and public sector boundary is in line with ESA 2010/GFSM 2014. The GFS data are compiled on an accrued basis. The UK participates in the Eurostat GFS convergence project with the IMF and thus, GFS data for general government, including government balance sheet data, are submitted in line with GFSM 2014 presentation on a quarterly and annual basis. The UK publishes detailed information on public sector finances for the entire public sector on a monthly basis, and also compiles comprehensive annual financial statements for the public sector including a full balance sheet in the Whole of Government Accounts publication. From 2010, Northern Rock Asset Management and Bradford and Bingley, formerly classified as financial corporations, are included within central government. Government revenue in 2012 is affected by the substantial one off receipt of £28 bn from the transfer from the Royal Mail Pension Fund.
Monetary and Financial Statistics: The Bank of England (BoE) has not yet reported monetary statistics using the Standardized Report Forms (SRFs) for publication in International Financial Statistics (IFS). Data published in IFS are reported by the BOE using the old forms (forms 10R and 20R) with supplementary breakdowns by currency and by type of financial instruments for some accounts in the central bank data retrieved from the BoE's website. The IMF's Statistics Department received a draft SRF 2SR for other depository corporations from the BoE in early 2014 and provided suggestions for improvement regarding sectorization. The BoE indicated that it will address the data gaps and advance the SRFs compilation.

Financial Sector Surveillance: The BoE reports all 12 core FSIs, 11 of the 13 encouraged FSIs for deposit takers, and 8 of the other encouraged FSIs—three FSIs for nonfinancial corporations, one FSI for households, and four FSIs for real estate markets. Data frequency has improved from semi-annual to quarterly frequency since 2015. However, timeliness needs improvement as some FSIs, such as residential and commercial real estate prices are available only through the second quarter of 2014. The FSI data and metadata for the UK are posted on the IMF's FSI website.
External Sector Statistics: The ONS compiles and disseminates detailed quarterly balance of payments and International Investment Position. BPM6 was implemented in the UK's balance of payments accounts and IIP in September 2014. The impact on the UK's balance of payments and IIP as a result of the introduction of BPM6 for the period 1997 to 2013 was published as annex to the UK's balance of payments, Q2 2014 edition. The UK's balance of payments statistics is compiled at the same time as the national accounts. A Balance of Payments statistical bulletin and time series dataset is published quarterly on the ONS website, 90 days after the end of the period to which the data relate to. There are several different sources used in the production of BoP statistics, some of which are collected in the ONS's surveys and some of which are provided by external partners such as the BoE and HM Revenue and Customs (HMRC). The country also participates in the CPIS with data reported for 2003 onwards and recently joined the CDIS.
II. Data Standards and Quality
The country subscribes to SDDS and is working towards the eventual subscription of SDDS plus.

United Kingdom: Table of Common Indicators Required for Surveillance

(As of January 9, 2018)

	Date of latest observation	Date received	Frequency of Data[7]	Frequency of Reporting[7]	Frequency of Publication[7]
Exchange Rates	Same day	Same day	D	D	D
International Reserve Assets and Reserve Liabilities of the Monetary Authorities[1]	December 2018	01/04/2018	M	M	M
Reserve/Base Money	December 2018	01/04/2018	M	M	M
Broad Money	November 2017	01/04/2018	M	M	M
Central Bank Balance Sheet	January 03, 2018	01/04/2018	W	W	W
Consolidated Balance Sheet of the Banking System	October 2017	12/20/2017	M	M	M
Interest Rates[2]	Same day	Same day	D	D	D
Consumer Price Index	November 2017	12/12/2017	M	M	M
Revenue, Expenditure, Balance and Composition of Financing[3] – General Government[4]	Q2 2017	11/15/2017	Q	Q	Q
Revenue, Expenditure, Balance and Composition of Financing[3] – Central Government	November 2017	12/21/2017	M	M	M
Stocks of Central Government and Central Government-Guaranteed Debt[5]	November 2017	12/21/2017	M	M	M
External Current Account Balance	Q3 2017	12/22/2017	Q	Q	Q
International Investment Position[6]	Q3 2017	12/22/2017	Q	Q	Q
Exports and Imports of Goods and Services	October 2017	12/08/2017	M	M	M
GDP/GNP	Q3 2017	12/22/2017	Q	Q	Q
Gross External Debt	Q3 2017	12/22/2017	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).

Statement by Steve Field, Executive Director for the United Kingdom
February 12, 2018

I thank staff for their cooperation and engagement on this Article IV. My authorities note staff's view that the overall policy mix is appropriate and, notwithstanding the steady growth the UK has experienced, agree with staff that they should continue to take action to ensure the economy remains resilient to ongoing domestic and external challenges.

Since the 2016 Article IV, the British people have voted to leave the EU. The economic outlook has become more uncertain, but the fundamental strengths of the UK economy will support growth in the long term, as the UK forges a new relationship with the EU. The government has set out policies to support the economy during this transition, prioritising investment to improve productivity and ultimately living standards.

The government and the European Commission are in the process of negotiating the UK's departure from the EU. On 8 December 2017, both parties reached agreement in principle across the areas under consideration in the first phase of negotiations, namely: protecting the rights of EU citizens in the UK and UK citizens in the EU; the framework for addressing the unique circumstances in Northern Ireland; and the financial settlement. Progress was also made in achieving agreement on aspects of other separation issues and the European Council subsequently agreed to move to the second phase of negotiations related to transition and the framework for the future relationship. The PM has said that the UK will approach our future discussions with the EU with ambition and creativity, and wants a deep and special partnership that spans a new economic relationship.

Economic context and outlook

The UK economy has demonstrated its resilience over the past 18 months. Growth has remained solid, extending the period of continuous growth to 20 quarters. Employment has risen by 3 million since 2010 and is at record highs, and over the past year, higher employment has reflected rising full-time work. The increase in employment has supported prosperity across the country and income inequality is at its lowest level in 30 years. The level of female employment is close to a record high at 15 million. The unemployment rate, which now stands at 4.3%, is at its lowest rate since 1975.

As the staff report notes, over the past year, higher inflation has weighed on household income, business investment has been affected by uncertainty, and productivity remained subdued. Productivity growth has slowed across all advanced economies since the financial crisis, but it has slowed more in the UK than elsewhere. If the UK can unlock productivity growth, there is an opportunity to increase growth, wages and living standards over the long term. In the near term, the government has pursued policies that provide support for

households and businesses. Over the medium term, the government has set in train a plan to address the UK's productivity challenge, by cutting taxes to support business investment, improving skills and investing in high-value infrastructure.

The staff forecasts are in line with those of the authorities. In November, the independent Office of Budget Responsibility (OBR) revised down its forecast for GDP growth in 2017 to 1.5%, reflecting slower-than-expected growth at the start of the year and revisions to recorded growth in 2016. Growth this year is expected to be 1.4%, with growth of 1.3% in 2019 and 1.3% in 2020, driven by a more cautious assumption for trend productivity. From 2020, growth is forecast to pick up and GDP growth rises to 1.6% at the end of the OBR's forecast horizon in 2022.

Public finances

The government has made significant progress since 2010 in restoring the public finances to health. The deficit has been reduced by three quarters from a post-war high of 9.9% of GDP in 2009-10 to 2.3% in 2016-17, its lowest level since before the financial crisis.

The staff report notes the public debt ratio remains high by international standards. The OBR forecasts debt will peak at 86.5 % of GDP in 2017-18, its highest level for 50 years. The government agrees with staff that borrowing needs to be reduced further to maintain the UK's economic resilience, improve fiscal sustainability, and lessen the burden on future generations.

The fiscal rules approved by Parliament in January 2017 commit the government to reducing the cyclically-adjusted deficit to below 2% of GDP by 2020-21 and having debt as a share of GDP falling in 2020-21.[1] The rules enable the government to take a balanced approach: returning the public finances to a sustainable position while helping households and businesses, supporting public services, and investing in Britain's future. These rules will also guide the UK towards a balanced budget by the middle of the next decade. The OBR forecasts that the government will meet both its fiscal targets. By 2022-23, borrowing is expected to be at its lowest level since 2001-02 and debt as a share of GDP is forecast to fall next year and in every year of the forecast.

The government welcomes recognition in the staff report that the UK continues to set international standards with respect to fiscal transparency. In July 2017, the OBR published its first 'Fiscal Risks Report' (FRR), which provides a comprehensive assessment of risks to the public finances over the medium-to-long term. It also illustrates the potential fiscal impact of a number of these risks materialising at the same time through a fiscal stress test based on the Bank of England's annual cyclical scenario (ACS). The publication of the FRR

[1] 'Charter for Budget Responsibility: autumn 2016 update', HM Treasury, January 2017.

builds on the steps that the government has taken to improve fiscal transparency, including the creation of the OBR itself. The government's response to the FRR will be published this summer.

Monetary policy

Following the vote to leave the EU, on 4 August 2016 the Bank of England's Monetary Policy Committee (MPC) announced a monetary stimulus package to support economic growth and achieve a sustainable return of inflation to target. The MPC cut the Bank of England's base interest rate from 0.5% to 0.25%, extended the quantitative easing programme, and introduced a new Term Funding Scheme to enable banks to pass on the Bank Rate cut to businesses and households.

The steady erosion of slack over the subsequent year reduced the degree to which it was appropriate for the MPC to accommodate an extended period of inflation above the target. Consequently, at its November 2017 meeting, the MPC judged it appropriate to tighten modestly the stance of monetary policy in order to return inflation sustainably to target. As the staff report notes, notwithstanding this tightening, monetary policy remains accommodative and continues to provide significant support to jobs and activity. At the most recent meeting, in December, the MPC voted unanimously to maintain the current monetary stance.

Consistent with the staff assessment, the MPC remains of the view that, were the economy to follow the path expected, further modest increases in Bank Rate would be warranted over the next few years. Any future increases in Bank Rate are expected to be at a gradual pace and to a limited extent. The MPC will monitor closely the incoming evidence on the evolving economic outlook, including the impact of the increase in Bank Rate, and stands ready to respond to developments as they unfold to ensure a sustainable return of inflation to the 2% target.

Financial sector risk overview

In its most recent decision, the Bank of England's Financial Policy Committee (FPC) judged that, apart from those related to leaving the EU, domestic risks were at a standard level overall. In line with their published strategy, they agreed to raise the UK countercyclical capital buffer (CCyB) rate from 0.5% to 1%, with binding effect from 28 November 2018. The FPC will reconsider the adequacy of a 1% UK CCyB rate in light of the evolution of the overall risk environment.

The FPC has been monitoring the risks highlighted in the staff report and has already taken action, for example, to guard against a loosening of underwriting standards in the owner-

occupied mortgage market and in relation to the rapid growth of consumer credit. The Committee has also judged risks from global debt levels and asset valuations and risks from misconduct costs to be material.

The ACS results gave the FPC an updated indication of the risks to banks' capital from this overall risk environment. The UK economic shock in the scenario, in aggregate, reduces banks' capital by around 3.5% of their relevant UK risk-weighted assets. Based on a fully-phased-in capital conservation buffer of 2.5%, this suggests that a UK CCyB rate in the region of 1% would deliver a sufficient regulatory buffer for the banking system to absorb a domestic stress of the severity embodied in the test.

Raising productivity

Staff identify the need for sustained policy focus on raising productivity in order to increase living standards. Average output per hour growth between 2008 and 2016 was 0.1%, well below its pre-crisis trend of 2.1% in the decade before. Evidence suggests the UK should prioritise upgrading infrastructure, improving skills, helping businesses to invest, and reforming the housing and planning systems.

The government has already made significant progress in these areas and has announced reforms to go further. The National Productivity Investment Fund (NPIF), announced at Autumn Statement 2016 and extended at Autumn Budget 2017, targets investment at areas crucial for improving productivity, namely housing, R&D and infrastructure. Tax cuts will support business investment and the government is improving skills through a significant increase in apprenticeships and the introduction of "T level" qualifications, to transform technical education. Delivering high value infrastructure projects like the Mersey Gateway Bridge, the Northern Hub in Manchester and Crossrail will also support productivity.

The government's plans mean that by the end of this Parliament public investment in economic infrastructure will have doubled in a decade, from £12 billion in 2012-13 to at least £24 billion in 2022-23, in real terms an increase of more than 60%. This includes a 50% increase in transport investment, funding the biggest road investment programme in a generation, and the biggest rail transformation in modern times.

Productivity is a long-term issue and these reforms will take time to have an impact. However, taken together, the government believes the action it is taking represents a significant step towards improving the UK's productivity, in order to boost wages and enhance people's living standards.

Impact of the UK's decision to leave the EU

As the staff report highlights, developments regarding the UK's withdrawal from the EU and the reactions of households, businesses and asset prices remain the most significant influence on the economic outlook and a continued source of uncertainty.

The government is approaching the EU exit negotiations anticipating success. It does not want or expect to leave without a deal, but while it seeks a new partnership, it is planning for a range of outcomes, as it is the responsible thing to do. To support the preparations, nearly £700 million of additional funding has been provided to date and the 2017 Autumn Budget set aside a further £3 billion spread evenly over the next two years to ensure that the government can continue to prepare effectively for EU exit.

The authorities are also cognisant of the risks. For example, the FPC assessed the resilience of major banks to a highly unlikely combination of severe risks in its annual stress test, judging that the extent of the stress test scenario meant that it encompassed a wide range of macroeconomic risks that could be associated with leaving the EU. Furthermore, on the basis of the results of the ACS, the FPC judged that the UK banking system could continue to support the real economy even in the unlikely event of a disorderly exit.