EXECUTIVE BOARD MEETING

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To: Members of the Executive Board

From: The Secretary

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***Unless an objection from the authorities is received prior to the conclusion of the Board's consideration, the document will be published.**

INTERNATIONAL MONETARY FUND

UNITED KINGDOM

STAFF REPORT FOR THE 2018 ARTICLE IV CONSULTATION

October 25, 2018

KEY ISSUES

Context and Outlook. The United Kingdom is set to exit the European Union in March 2019. It is now in the process of negotiating its future relationship with the EU. Once an agreement is reached, there will be an implementation period through the end of 2020. Complex issues still remain to be resolved, including the future status of the land border with Ireland. Growth over the past year has been moderate. The post-referendum depreciation caused an increase in inflation, depressing private consumption. Business investment growth has been constrained by protracted uncertainty about the future trade regime and potential increases in trading costs. Nonetheless, slack in the economy is limited as weaker demand is matched by slower supply growth. Growth is expected to continue at a moderate pace, conditional on a smooth Brexit transition and some recovery in labor productivity. A key downside risk is an exit without an agreement with the EU, accompanied by disruptive asset price movements.

Policies. While a disorderly Brexit remains the largest risk to the economy, the UK faces a raft of issues that predate the referendum, including relatively large public debt and current account deficit, and low productivity growth. Sustained fiscal consolidation would help restore fiscal buffers and prepare public finances for the expected increase in demographic-related spending. The pace of further tightening of the monetary policy stance should be gradual and data-dependent given high uncertainty about the future macroeconomic environment. Structural reforms to boost productivity and facilitate reallocation of resources post-Brexit would help promote inclusive and sustainable growth. Continued focus on strict prudential supervision is warranted in the context of relatively easy financial conditions and Brexit-related risks. Close collaboration with the EU prudential authorities will be essential to maintain a smooth functioning of the financial system and minimize risks.

Approved By
Philip Gerson (EUR) and Petya Koeva Brooks (EUR)

Discussions took place in London during September 3–17, 2018. The staff team comprised P. Gerson (head), D. Iakova, N. Arregui, J. Chen, R. Espinoza (all EUR), and T. Gudmundsson (MCM). J. Pampolina, C. El Khoury (both LEG), L. Gornicka, O. Ftomova and R. Vega (all EUR) supported the mission from headquarters. The Managing Director met with the Chancellor and the Bank of England Governor and held a press conference at the end of the mission.

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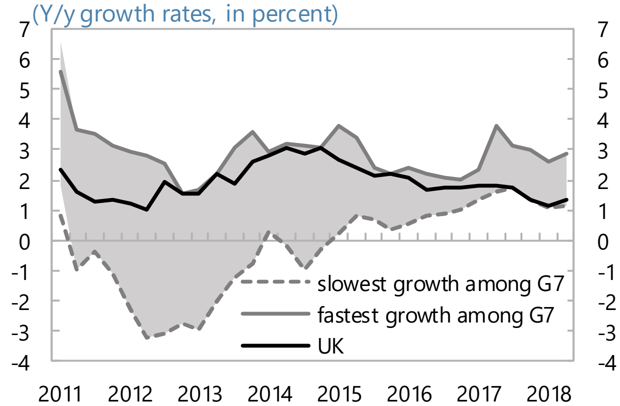
RECENT DEVELOPMENTS

1. **The United Kingdom is set to exit the European Union in March 2019.** The two sides have agreed to a 21-month implementation period—during which the UK will remain in the single market and the customs union, and abide by all existing EU rules—but this is contingent on ratifying a withdrawal agreement and agreeing on a framework for the future relationship by March. Difficult and complex issues are still to be resolved, including the nature of the land border with Ireland, and the outline of the trade, legal, and institutional relations after Brexit.

2. **Output growth has been moderate in the two years since the referendum.** Private consumption has been constrained by slow real income growth (Figure 2). At the same time, business investment remains lower than would be expected in the context of robust global growth and favorable financing conditions. Staff analysis suggests that uncertainty about the future relationship and expectations of higher trade costs after Brexit have contributed to this (Box 1). The softening of domestic demand was partially offset by a higher contribution from net exports in 2017, supported by weaker sterling and strong external demand.

Growth Performance of G7 Countries

(Y/y growth rates, in percent)



Sources: Haver Analytics; and IMF staff estimates.

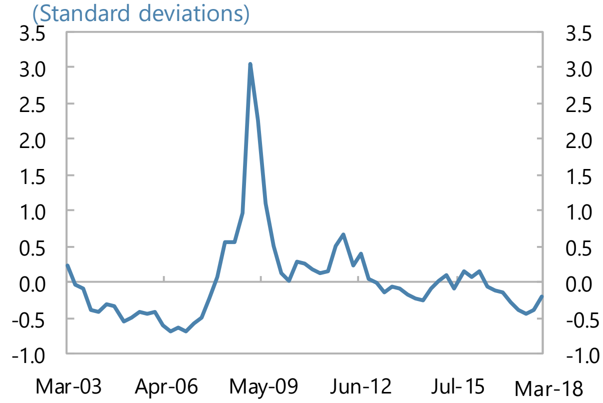
3. **Despite limited slack in the economy, inflation has moderated as the effects from the past sterling depreciation are fading.** Potential growth has slowed in the last two years as productivity remains subdued and labor force growth diminished, partly due to a decline in net migration inflows from the EU (Figure 11). As a result, slack in the economy has diminished despite weak demand. The unemployment rate fell to 4 percent in mid-2018 despite a record high labor force participation rate, and wage growth has started to firm (Figures 2 and 3). Headline CPI inflation declined to 2.7 percent in August from 3.0 percent in January, while core inflation fell to 2.1 percent, as import price pressures have diminished.

4. **The macroeconomic policy mix is mildly accommodative.** After a moderate fiscal consolidation in 2017, the fiscal stance in 2018 is projected to be broadly neutral, although ex-post revisions to fiscal and GDP data make it difficult to do a precise assessment of the fiscal stance in real time. Continued gradual consolidation is envisaged over the next three years. Monetary conditions are still accommodative, with the policy rate at 0.75 percent, below staff's estimate of the neutral rate (about 1½ percent).

5. **Total credit is growing in line with GDP, although consumer credit continues to expand faster.** At 8.1 percent yoy in August, consumer credit growth remains high relative to income growth. Mortgage rates are at record low levels in part due to intense bank competition. Corporate lending rates have inched up—reflecting some widening of bank funding spreads and global factors, such as monetary policy normalization in the US (Figure 8).

Financial Conditions Index

(Standard deviations)



Source: IMF staff calculations.
Note: Higher values of the index denote tighter conditions. Computed based on various measures of risk pricing, leverage, and external conditions (see IMF GFSR October 2017 Annex 3.2 for details).

OUTLOOK

6. **The outlook is subject to significant risks, primarily reflecting uncertainty about the outcome of the Brexit negotiations.** The baseline scenario—which should not be construed as a projection about the most likely outcome of the current negotiations—assumes that Brexit negotiations conclude on schedule, culminating in a free trade agreement for goods, a moderate increase in non-tariff barriers for services, and a smooth transition to the new equilibrium. It also assumes a tighter migration regime over the medium term (see Box 2 for a detailed description of the assumptions). In this central scenario, growth would remain modest around 1½ percent.

- **Export growth** should be supported by steady global demand. With UK growth underperforming the rest of the world, imports are expected to remain subdued and net exports should continue to make a small positive contribution to growth.

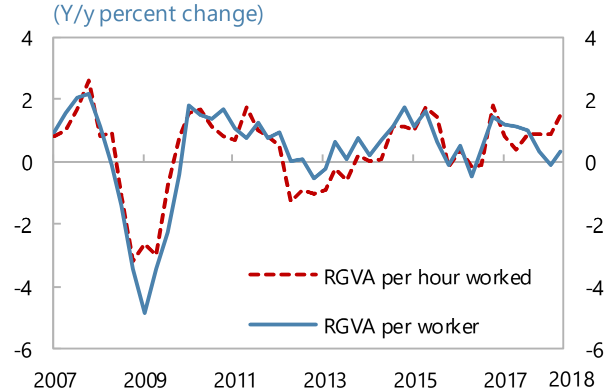
- **Household consumption** is expected to grow at a moderate pace, broadly in line with real disposable income growth. Inflation is projected to decline gradually toward the target over the next year.

- **Business investment** should be supported in the near term by export demand and favorable financing conditions. However, uncertainty will continue to constrain investment growth until there is greater clarity on post-Brexit trading arrangements.

- **Labor productivity is projected to recover somewhat.** Over the medium term, GDP growth is expected to average around 1½ percent, consistent with a projected modest strengthening of trend labor

Labor Productivity Growth

(Y/y percent change)



Sources: Haver Analytics; and IMF staff calculations.

productivity growth to about 1 percent (still well below pre-crisis levels). Some of the negative factors affecting productivity growth after the crisis, such as bank deleveraging and labor hoarding, have faded, which should support productivity growth. Investment in labor-saving technologies and the efficiency of labor utilization should also increase with the economy at full employment.[1]

RISKS AND SPILLOVERS

7. An exit from the EU without an agreement on the future relations is the most significant risk to the outlook.

- Leaving the EU without an economic agreement, even in an orderly manner, or reaching an agreement with high barriers to trade in goods and services would lead to lower-than-projected medium-term growth. A scenario in which future trade between the UK and the EU is governed by WTO rules is estimated to bring about output losses of around 5 to 8 percent compared to a no-Brexit scenario in the long run.[2]

- A worst-case scenario would be a disorderly exit from the EU without an implementation period. In such a scenario, a sudden shift in investors' preference for UK assets could lead to a sharp fall in asset prices and a hit to consumer and business confidence, which in turn would have adverse impact on the balance sheets of households, firms and financial intermediaries. Sterling would depreciate further, raising domestic prices and affecting households' real income and consumption. A disorderly exit is likely to lead to widespread disruptions in production and services. External trade would be affected as the UK would start trading immediately on WTO terms, while the needed customs infrastructure may not be fully in place on both sides of the border, causing significant delays. In addition, without continued mutual recognition of existing product standards, approvals for exports could become much more cumbersome. Services trade would be severely restricted by the loss of market access, including passport rights. While it is difficult to calibrate precisely the likely economic impact of this scenario, the magnitude of the disruptions and the loss of output would be more severe than in an orderly exit on WTO terms with a transition period.

- On the upside, an agreement featuring fewer impediments to trade than assumed in the baseline could buoy confidence, activity, and asset prices. New trade arrangements with countries outside the EU could offset some of losses on trade with the EU over the long run.

[1] See Box 1 in the 2017 UK Article IV.

[2] This quantitative assessment is broadly in line with other estimates in the literature. See Box 2 and chapter 1 of the Selected Issues paper for more details.

8. Other external or domestic risks could also affect the outlook (Annex II)**.**

- The projected sustained strengthening of labor productivity growth could fail to materialize. Weaker-than-projected investment growth and a decline in the number of skilled migrants may depress productivity growth.

- The need to finance the large current account deficit makes the economy vulnerable to shifts in investors' preferences for UK assets. An abrupt reduction in net capital inflows would lead to tighter domestic financial conditions, raising refinancing risks for leveraged firms and households. Foreign investors have a large presence in some riskier UK assets, such as commercial real estate (CRE) and leveraged loans. Shifts in inflows could be triggered by concerns over UK prospects or by changes in global financial conditions.

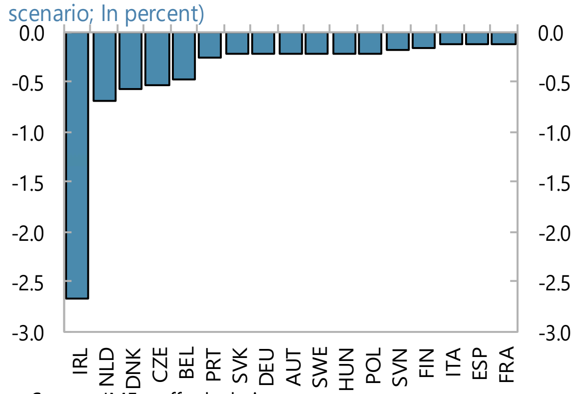
- Still-high valuations of CRE, and to a lesser extent housing, are additional sources of risk to the outlook. CRE is widely used as collateral for corporate borrowing, so a sharp adjustment in CRE prices could limit companies' access to credit and new investments.

- Households have reduced their savings since the referendum vote, smoothing consumption as real incomes declined. A faster rebuilding of savings would help improve the external accounts but would also depress consumption growth.

- **External risks**. A deceleration of global growth would hurt UK's economic performance. Moreover, a global retreat from economic integration would affect UK exports and deter investment. A credit downturn in China or stress in the euro area could impact globally-exposed UK banks. While global financial conditions remain very accommodative, market sentiment could change rapidly, raising global risk aversion.

9. A rise in trade barriers between the UK and the EU would imply losses for both sides. The integration of economies within the EU has increased over time. As the UK leaves the block, the remaining countries would be affected by reduced gains from trade, capital and labor mobility. The spillover effects will differ among countries depending on the strength of their linkages with the UK. In a Free Trade agreement (FTA) scenario, the impact would range from nearly zero for the least affected economies to almost 3 percent of GDP for Ireland.

Long-Term Impact of Brexit: FTA scenario
(Decline in the level of output compared to a no-Brexit scenario; In percent)



Source: IMF staff calculations.

Authorities' Views

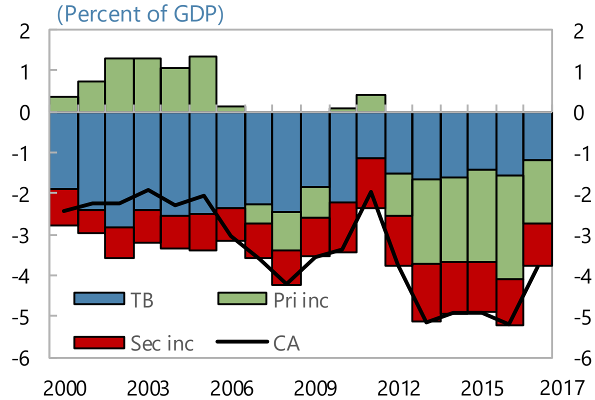
10. The authorities shared a similar view on the baseline growth outlook and risks. Conditional on a relatively smooth Brexit process, the Office for Budget Responsibility and the Bank of England project growth to remain modest by historical standards. They noted that spare capacity in the economy is currently limited, and that potential supply growth in the future was likely to be lower relative to past averages, in part as a result of reduced net migration and subdued investment growth. A disorderly no-deal exit from the EU in March 2019 is the main downside risk to the outlook. Beyond Brexit, the authorities shared staff's view on the key domestic and global risks. The medium-term growth outlook would depend on the outcome of the Brexit negotiations and the recovery of productivity growth.

EXTERNAL ASSESSMENT

11. The current account balance has narrowed significantly but the deficit still exceeds its average historical values. The current account deficit shrank to 3.9 percent of GDP in 2017 (Figure 5). The improvement in trade and primary income balances was driven by the post-referendum currency depreciation and a stronger global economy, which boosted UK exports and returns on the UK's foreign currency-denominated assets. From a savings perspective, the improvement reflects significant increases in savings by the government and private corporations, only partly offset by net dissaving by the household sector. From a financing perspective, the share of debt inflows—which may be more vulnerable to refinancing risks—has increased. The current account deficit is projected to narrow further to about 3 percent over the medium term as import growth decelerates in line with subdued domestic demand.

Current Account Balance

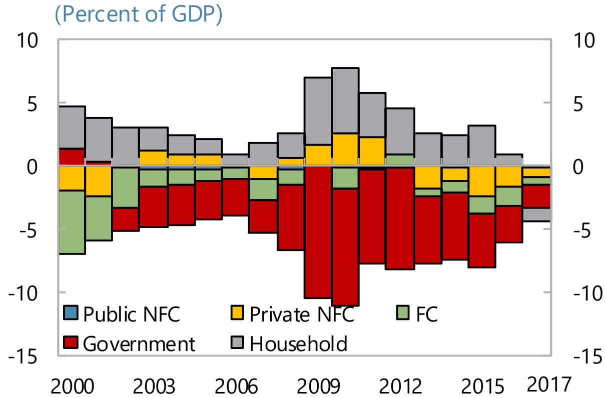
(Percent of GDP)



Sources: Haver Analytics; and IMF staff calculations.

Saving - Investment Balance, by Sectors

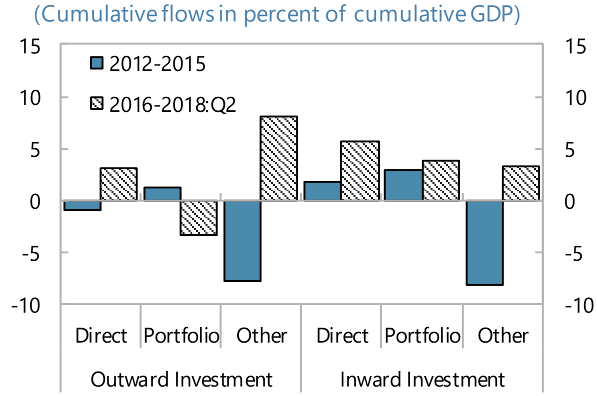
(Percent of GDP)



Sources: Haver Analytics; and IMF staff calculations.

Capital Flows

(Cumulative flows in percent of cumulative GDP)



Sources: Haver Analytics; and IMF staff calculations.

12. Risks to the UK's external position have been partly mitigated by the stabilizing role of persistent positive valuation effects. High current account deficits leave the economy vulnerable to a reduction in foreign investors' appetite for UK assets. 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 do 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). Persistent positive valuation effects, reflecting an increase in the value of UK investors' holdings abroad, have helped stabilize UK's net IIP over the last 20 years despite large cumulative current account deficits.[3]

13. The external position remains weaker than justified by fundamentals. The external balance assessment suggests that the current account gap was between 1 and 5 percentage points of GDP in 2017 (Annex I), and preliminary data suggests the assessment will be broadly unchanged for 2018. The depreciation of sterling after the referendum has helped improve net trade and should continue to support exports somewhat going forward. Moreover, some of the post-crisis deterioration of net returns on overseas investment is expected to be reversed as UK growth lags trading partners' growth. 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 as the UK's future trade arrangements remain unknown. Should Brexit lead to a significant increase in trade barriers, the equilibrium exchange rate could be lower. Thus far in 2018 sterling has been broadly unchanged in real terms.

Authorities' Views

14. The authorities agreed that the large current account deficit creates vulnerability to a reversal of capital flows. However, they noted the recent narrowing of the deficit, and stressed that the strong macroeconomic policy framework and the healthy capital and liquidity positions of UK banks should help maintain investors' confidence in UK assets. The Bank of England also noted that persistently positive valuation gains have helped stabilize the net IIP position in the past. There is greater uncertainty than usual around assessments of the sustainable current account and the equilibrium exchange rate given the wide range of possible future trade arrangements with the EU.

POLICY DISCUSSIONS

15. Policies should focus on maintaining macroeconomic stability and boosting productivity. The envisioned gradual steady reduction in public sector deficits and debt would help rebuild buffers, maintain investor confidence, and lower the current account deficit. The pace of tightening of monetary policy should be gradual and data-dependent in the context of the high

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

degree of uncertainty about the future macroeconomic environment. Structural policies should continue to focus on raising competitiveness and potential growth over the medium term. Brexit will lead to important shifts in the structure of the UK economy, and policies could facilitate the transition. In doing so, however, measures should seek to support workers and not particular jobs or sectors. In the financial sector, continued prudent oversight would be necessary to ensure resilience to risks and to prevent a relaxation of credit standards. Across the full policy-making spectrum, it is important to have in place contingency plans to maintain economic and financial stability in case of a disorderly exit from the EU.

16. **The UK government has taken a number of steps to prepare for the administrative and legislative changes that Brexit will require.** Parliament is in the process of transposing into UK law the legislative framework currently encompassed in EU laws. The government has guaranteed EU program funding committed to projects in the UK before the end of 2020 and is working to ensure that the UK maintains access to critical items like medicines. A budgetary allocation of £3 billion has been established to help fund the costs of Brexit preparation, and thousands of civil servants have been hired to help shoulder the workload. The government has begun publishing technical notices setting out information to allow private stakeholders to understand what they would need to do in a no deal scenario, so they can make informed plans and preparations. The government has also committed to providing temporary permissions for EU financial institutions to continue to operate in the UK to provide continuity at the moment of departure from the EU.

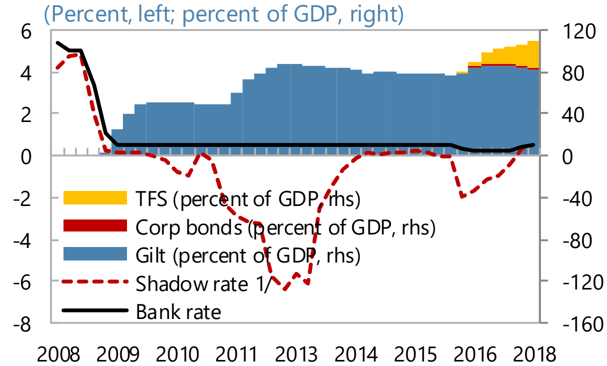
17. **Nevertheless, the range of remaining issues to prepare for Brexit is large, underscoring the importance of securing an implementation period.** The UK will have to bolster human, physical, and IT resources in customs and other services, and establish domestic agencies to operate in place of EU ones. In addition, the government will need to renegotiate the hundreds of bilateral and multilateral international agreements to which it is now party via its EU membership. Many of the required tasks cannot be initiated until there is greater clarity on the future trade relationship with the EU. There are, accordingly, risks of serious disruptions without an implementation period in place. Irrespective of the shape of the new economic relationship post Brexit, continued close cooperation between the UK and the EU authorities in different policy areas would be mutually beneficial.

A. Monetary Policy

18. **Monetary policy remains accommodative, despite a cumulative 50 basis point increase in the Bank rate over the last 12 months.** The Bank of England raised the policy rate by 25 basis point to 0.75 percent in August, citing limited slack in the economy as unemployment rates fell to historical lows, productivity performance remained lackluster, and net migration flows slowed down. The

Monetary Instruments

(Percent, left; percent of GDP, right)



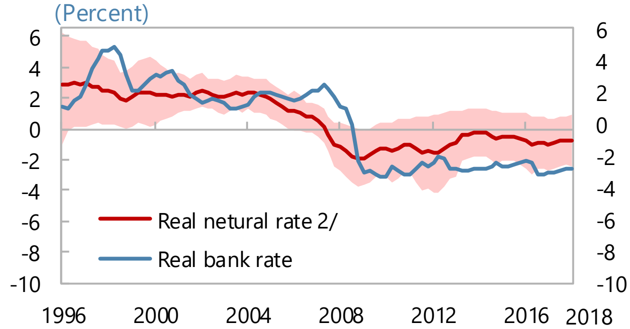
Sources: Haver Analytics; and IMF staff calculations.
1/ Based on Krippner (2011-2015).

nominal policy rate is still below the estimated neutral rate of about 1½ percent.[4] The Monetary Policy Committee (MPC) also voted to continue to re-invest maturing gilts and corporate bonds on its balance sheet. A Term Funding Scheme for banks was closed at the end of February 2018 (a total of £127 billion was drawn and banks must repay the funds within four years).

19. While import price pressures are easing, domestic labor costs are on the rise. Import price inflation has declined in recent months as the impact of past sterling depreciation on prices is fading. At the same time, the unemployment rate is historically low despite a record high labor force participation rate. Private sector pay growth has strengthened in the context of a tight labor market, while productivity growth remains modest. Unit labor costs increased by about 2½ percent yoy in the first half of 2018 and are projected to remain relatively high in the near term, which would push up domestic cost pressures further. High energy prices are expected to keep headline inflation above 2 percent for the rest of 2018, with a gradual convergence to target projected next year.

Monetary Policy Stance 1/

(Percent)



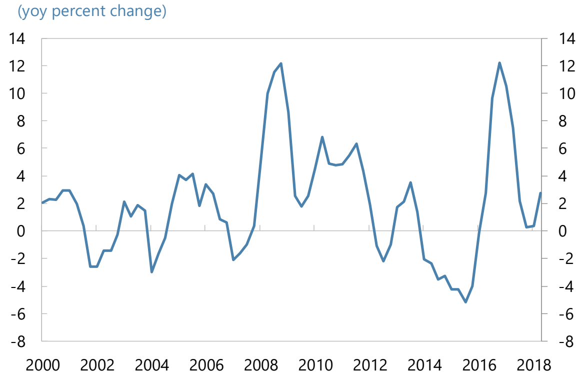
Source: IMF staff calculations.

1/ Real rates are calculated using market based inflation expectations.

2/ Based on Pescatori and Turunen (2015).

Import Price Inflation

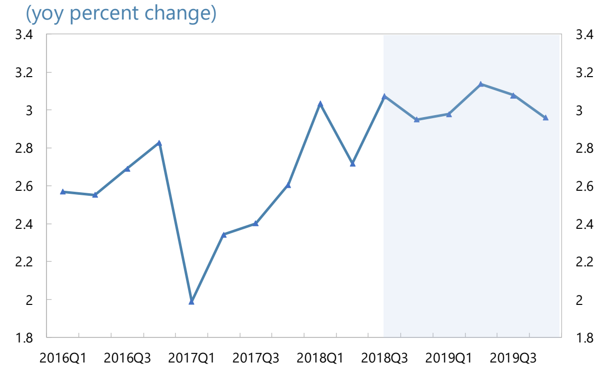
(yoy percent change)



Sources: Haver.

Estimated Nominal Wage Growth

(yoy percent change)



Sources: ONS and IMF staff calculations.

20. A modest further tightening of monetary policy over the next two years would likely be needed to ensure that inflation converges sustainably to the target. Domestic inflation is expected to continue to firm as labor supply remains constrained by falling migration and wage growth exceeds productivity growth. If excess demand pressures persist after domestic inflation has reached a level consistent with the 2-percent target, further gradual tightening of monetary policy would be needed to help keep inflation close to the target and inflation expectations anchored.

[4] Staff estimates are from a model based on Pescatori and Turunen (2015).

However, policymakers should stand ready to respond flexibly to data developments in an environment of greater-than-usual uncertainty about the outlook. If negative surprises related to the Brexit negotiations depress domestic demand further, accommodative conditions should be maintained for longer. Transparent and timely communication will remain important to guide market expectations.

21. The Bank of England's strategy for reducing its balance sheet in the future is appropriate. The Bank intends to continue to use the Bank Rate as the main policy instrument. The MPC announced that it will start reducing the Bank balance sheet once the Bank Rate reaches around 1.5 percent, a level from which it could be cut materially if needed to react to shocks.[5] Staff agreed with this strategy. There was also an agreement that once this threshold is reached, the Bank should start reducing its balance sheet in a gradual and predictable manner. In a recently published paper, the Bank announced that it expects to continue to use a floor system to control short-term interest rates, meeting fully banks' demand for reserves at the Bank Rate. This system implies that in the long run the size of the central bank balance sheet will depend on the demand for reserves and would likely be higher than pre-crisis due to changes in liquidity regulations. Staff noted that asset sales may have to be coordinated with the UK debt management office to minimize the impact on market liquidity conditions. The Bank will need to monitor short term money markets to determine the equilibrium value of the balance sheet. A clear communication of the Bank's approach to asset sales and the indicators that it will use to determine the end-point for normalization would help guide the market.

22. The revised Bank of England capital framework should reinforce the Bank's independence and policy credibility. The new arrangements establish a rules-based framework to define the Bank's capital needs and its income distribution policy. The framework provides adequate financial resources to ensure the Bank's independence and back its monetary policy and financial stability mandates.

Authorities' Views

23. The authorities reiterated that future increases in the Bank Rate are likely to be gradual and limited. The authorities expect that domestic cost pressures will keep rising as labor market pressures feed into higher wages. They noted that there were signs of rising wage pressures, such as strong pay growth for recently hired workers. They also noted that the effect of Brexit on monetary policy is difficult to predict since exit could be accompanied by significant supply shocks whose impact could dominate those of lower demand. They agreed that the balance sheet should be reduced in a predictable and well-communicated manner.

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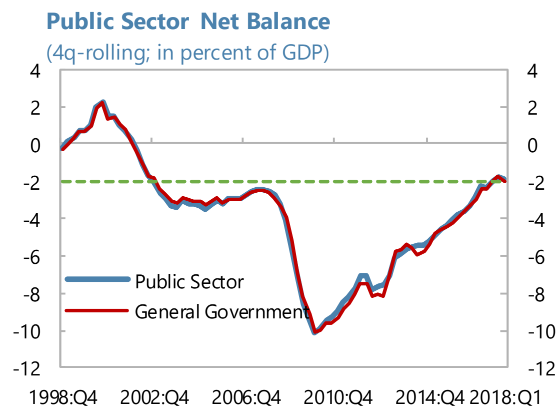
[5] The lowering of this threshold from 2 to 1.5 percent was justified by an updated assessment of the effective zero lower bound for the policy rate. With new facilities such as the Term Funding Scheme, commercial banks can get funding at the Bank Rate.

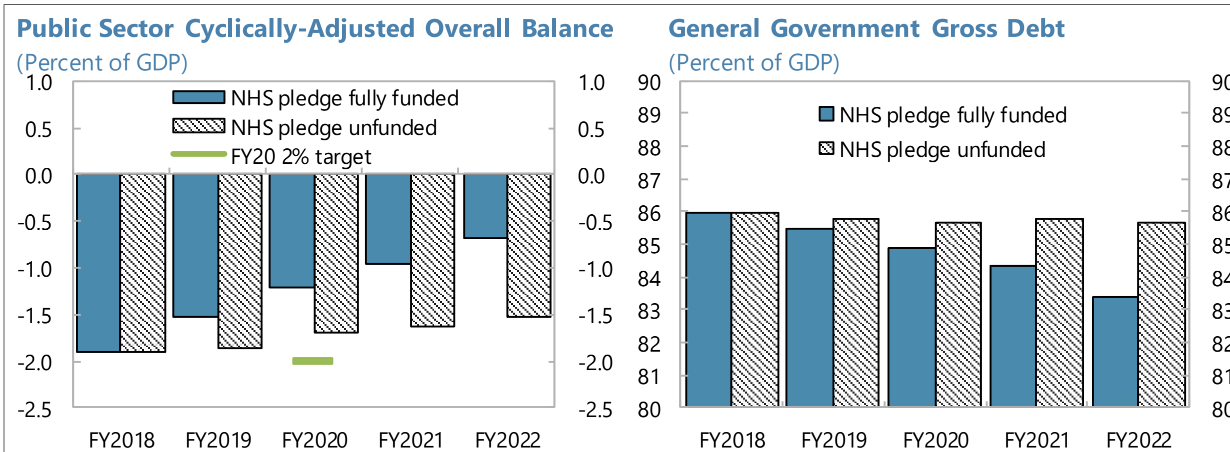
B. Fiscal Policy

24. Steady fiscal consolidation remains critical to rebuild buffers against future shocks. Fiscal consolidation over the last decade has substantially reduced deficits. In 2017, the headline deficit declined below 2 percent of GDP and the cyclically-adjusted primary deficit was virtually eliminated (Figure 6). However, at 85 percent of GDP general government debt remains relatively high from a cross-country perspective. Bringing the debt ratio down is important to create buffers that will allow the public finances to weather future shocks. The authorities' fiscal stress tests and staff's debt sustainability analysis (Annex III) show that the fiscal position is highly sensitive to negative macroeconomic shocks. The FY2018 budget envisages narrowing of the cyclically-adjusted public sector deficit to ¾ percent of GDP by 2022. This pace of adjustment would set debt on a downward path (Box 3) and also help reduce the current account deficit.



Sources: Haver Analytics, OBR, ONS, and IMF staff calculations.

25. However, spending pressures pose risks to the current fiscal plans. In June 2018, the government pledged an increase in the funding for the National Health Service over five years, corresponding to an average real health spending increase of 3.4 percent per year starting next year (about 1 percent of GDP total increase by FY2023). Such a permanent increase in spending should be matched by a corresponding increase in funding, financed either from new revenue sources and/or offsetting spending cuts elsewhere in the budget. If the additional spending is left unfunded, gross government debt would remain around current levels over the forecast horizon instead of



Source: IMF staff projections based on Autumn Budget 2017 and Spring Update 2018.
Note: NHS pledge nominal values from OBR FSR 2018. Debt ratios are shown for general government instead of public sector to abstract from BoE's operations.

declining.[6] In addition, the margin against the 2 percent of GDP cyclically-adjusted overall balance target for FY2020 would be significantly reduced, limiting the room for policy responses to shocks.

26. Adverse growth effects related to Brexit create further challenges. Each 1 percentage point reduction in nominal GDP reduces fiscal balances by about 0.4 percentage points. Most analysts estimate output costs relative to a no Brexit scenario to be well above 1 percent of GDP.[7] Staff projections in Box 2 suggest that even under the baseline scenario of a broad FTA, medium-term output in the UK would be between 2½ and 4 percent lower than under a "no Brexit" counterfactual. If Brexit disproportionately affects relatively tax-rich sectors like finance, the revenue impact could be even larger. Reduced migration will also have a negative budgetary impact, as EU migrants tend to be younger and more skilled than the UK average, making them net contributors to the fiscal accounts. These negative budget effects exceed any savings from lower net EU contributions and exacerbate the longer-term budget pressures that pre-date Brexit.

27. As in many advanced economies, population aging is likely to put considerable pressure on the budget over the longer term. Spending on health (driven by rising cost pressures) and pension benefits is projected to increase by four percentage points of GDP between 2023 and 2043. In the past, increased spending on health and pensions has been largely offset by a reduction in expenditures in other areas, such as in defense and interest payments. However, going forward, interest payments will increase in line with monetary policy normalization. Moreover, identifying efficiency gains to reduce spending in other areas, without reducing the quality or quantity of public services, may be harder following several years of consolidation. Absent a fundamental rethinking of the size and role of the public sector, revenue measures will likely need to play a more prominent role in the next phase of the fiscal consolidation.

28. Tax reforms can reduce economic distortions and create room for growth-enhancing infrastructure spending.

- Scaling back distortionary tax expenditures (such as removing preferential VAT rates) would improve tax neutrality and reduce pressures to cut more productive public spending.[8]

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[6] Since loans under the BoE's Term Funding Scheme have a 4-year term, the unwinding of the scheme would automatically reduce public sector debt starting in FY2020 even if gross government debt is unchanged.

[7] While there could be some direct savings from the net contributions to the EU budget that the UK will no longer make – although it is unclear how much will be available after payments on the agreed withdrawal settlement and other Brexit-related spending – there is no "Brexit dividend" to public finances, as lower fiscal revenues due to lower output more than offset any direct savings.

[8] Tax relief on value added taxes represents the largest category by tax expenditures cost (2.5 percent of GDP), with the main contribution given by the zero percent VAT rate on most foods (0.9 percent of GDP). The fiscal impact of broadening the VAT base would depend on the extent to which the personal tax and benefit system is adjusted to address the distributional and work incentive consequences of the change. A simulation presented in the Mirrlees report (2011) suggested that extending VAT at the standard rate (17.5 percent at the time of the study) to all goods would allow the government to make each household as well off as it is in the baseline, and still have around 0.2 percent of GDP of revenue per year left over.

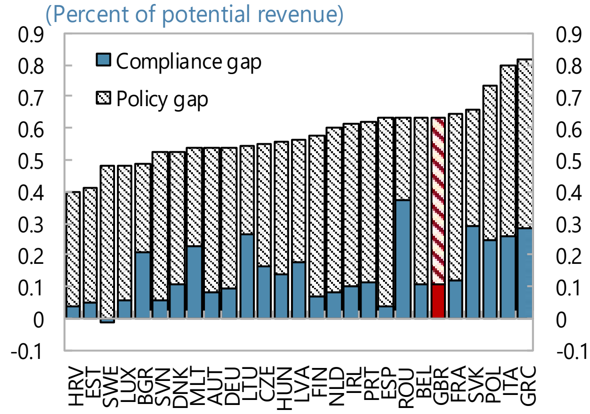
Transparency would be enhanced by regular assessments of whether the tax expenditure schemes can be justified compared to other policy instruments.[9]

- Reducing the tax code's bias toward debt, for example by adopting a tax allowance for corporate equity, could help promote financial stability.

- Property tax reform would reduce vulnerabilities in the housing market by easing supply constraints. Rebalancing property taxation away from transactions and toward property values could boost labor mobility and encourage a more efficient use of the housing stock. Reducing council tax discounts for single-occupant properties could also increase utilization.

EU: VAT, Compliance, and Policy Gaps 2015

(Percent of potential revenue)



Source: IMF Fiscal Monitor (2018).
Note: Policy gap = difference between potential VAT revenue if all final consumption were taxed at the current standard rate and potential VAT given the current policy framework. Compliance gap = difference between potential VAT revenue that could have been collected given the current policy framework and actual accrued VAT revenue. VAT = value-added tax.

- Moving towards a more equal tax treatment of employees, the self-employed, and corporations would reduce incentives to switch to a different legal form of work for tax reasons and bring the tax system in line with evolving employment practices.[10]

29. Policy alternatives should be explored to address health and pension spending pressures.[11] The strain on public finances related to the aging of the population will require making difficult social choices going forward. Either taxes and fees will have to increase, or health services and pension payments will be affected.

- ***Health***. Cross-country analysis indicates that the UK may have some room for further efficiency gains. On the revenue side, the share of out-of-pocket payments is lower in the UK than the mean for other advanced countries. Accordingly, higher taxes or higher cost-sharing through user fees could also be considered, although the latter would be controversial.

[9] See IMF 2016 UK Fiscal Transparency Evaluation Rec. 1.2.

[10] IFS (2017) estimates that taxing the self-employed the same as employees would amount to higher revenues of 0.25 percent of GDP annually, which would increase over time if the post-crisis trend increase in self-employment were to continue. Staff's recommendations to reduce the tax code's bias towards debt and to rebalance property taxation away from transactions are justified on efficiency and financial stability grounds and could be designed to be broadly revenue neutral. For an expanded discussion of potential additional revenue measures, see chapter 2 of the Selected Issues paper.

[11] See chapter 2 of the Selected Issues paper.

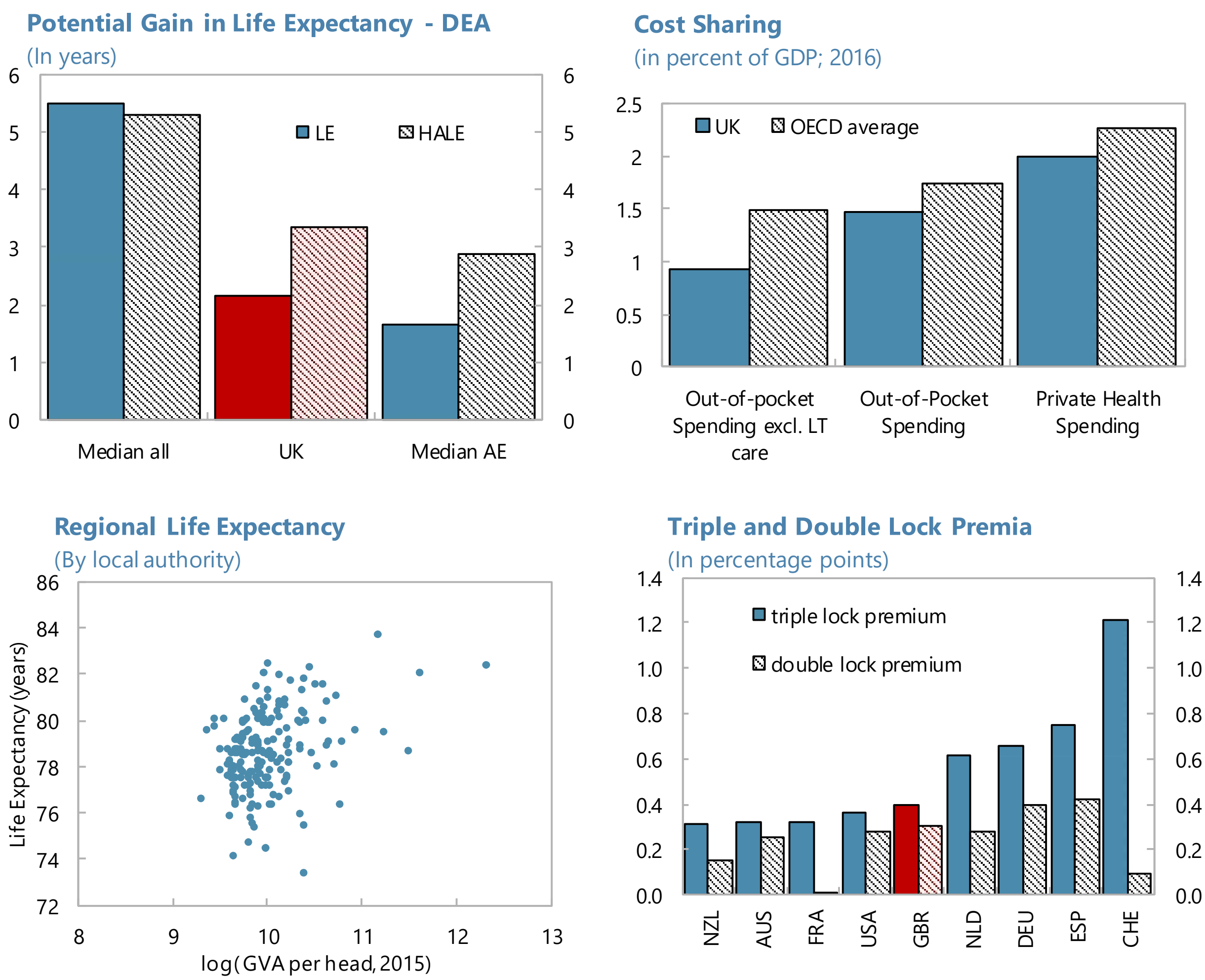
- ***Pensions.*** Further increases in the state pension age (beyond those already legislated) may be needed as life expectancy continues to increase, although it should not be the sole means of adjustment, as it may disproportionately affect groups with lower-than-average life expectancy. The triple lock guarantee on state pensions—which guarantees an annual increase in the state basic pension payment equal to the highest of 2½ percent, CPI inflation, or the rise in average earnings—is an unsustainable method of indexation, poorly targeted to those most in need, and not in line with international best practices (which generally maintain a constant real income in retirement via indexation to CPI). Means testing of access to social benefits in old age could also help control pension spending, while safeguarding the most vulnerable and mitigating income inequality.[12]

Authorities' Views

30. The authorities underscored their commitment to meet the fiscal rules and reduce public debt. They agreed that bringing the debt ratio down is important to maintain credibility of the fiscal framework and to regain room to support the economy if a negative shock hits, as noted in their recent Managing Fiscal Risks report. On the funding of the increased health spending, the authorities cited the Prime Minister's remarks on the need for taxpayers to contribute in a fair and balanced way. Authorities are mindful of the long-term fiscal challenges posed by an aging population and have taken action to improve the sustainability of the pensions system. For instance, the currently legislated increase in state pensionable age to 68 will be brought forward from 2046 to 2039. The authorities highlighted that their strategy to boost productivity growth will help maintain fiscal sustainability.

[12] Greater redistribution could also be achieved via the tax system.

United Kingdom: Health and Pension Spending Pressures Background



Sources: Eurostat, Haver Analytics; OBR FSR 2017; OECD; ONS; WDI database; WHO database; and IMF staff calculations.
Note: LE= Life expectancy; HALE = Health-adjusted life expectancy. Potential gain in LE/HALE is computed using Data Envelope Analysis (DEA). Private health spending includes voluntary schenes and out of pocket expenditures on health. Double-lock premium estimated as the average difference between the maximum of earnings growth and CPI inflation, and earnings indexation, over the period 1990-2016. Triple and double lock premia are computed for illustrative purposes and do not denote the formal method of pension indexation in different countries.

C. Financial Sector Policies

Brexit Implications for the Financial System

31. **The UK financial industry will be significantly affected by Brexit.** Banking activities, including mortgages, cross-border banking, and deposit taking, will be most affected by the loss of passport rights. The asset management industry may see a smaller impact as its activities could benefit from existing equivalence frameworks, although approvals will have to be granted (GFSR, October 2018). Typically, free trade agreements do not cover services. Staff's assumption in the baseline is that non-tariff costs for services will rise to half of the estimated non-tariff trade costs

that have been eliminated due to UK's EU membership. Under this assumption, value added in the UK financial sector would fall by about 15 percent, with some increase in activity likely in the EU and US. In case of a no-deal Brexit, the output losses could be even greater.[13] Nonetheless, London would remain a large financial center as the majority of non-EU facing business is likely to stay in the UK.

32. The authorities are working with financial institutions to prepare for Brexit. There has been significant progress in converting relevant EU financial sector legislation into UK law, including the preparation of secondary legislation where needed and the replication of EU institutional capacity. The UK government has committed to bringing forward legislation to create temporary permission regimes to allow EEA financial services firms and funds to continue their activities in the UK for a time-limited period after the UK has left the EU, providing a backstop in case a Brexit agreement is not ratified. EU policymakers have also issued advice to financial institutions to step up preparations for a "cliff-edge" Brexit. Risks to financial stability include both direct effects from potential disruptions to the provision of financial services (see October 2018 GFSR) and indirect effects from macroeconomic shocks. The BoE's 2017 annual cyclical stress test suggests that the major UK banks are sufficiently well-capitalized to withstand a range of macroeconomic shocks that could be associated with Brexit (even if compounded by a global recession).[14]

33. Regulatory and supervisory cooperation between UK and EU authorities will be crucial to maintaining the integrity of cross-border transactions and business. A technical working group, chaired by the heads of the BoE and the ECB, has been established to discuss Brexit-related risk. As suggested in the 2018 EU Financial Stability Assessment, the EU and UK authorities should work together to ensure legal continuity in insurance and derivative contracts and proper data sharing to avoid cliff-edge effects. The potential loss of euro-dominated derivatives clearing permissions for EU banks on UK-based CCPs could generate short-term financial stability risks related to the continuity of existing contracts, as well as netting efficiency losses related to the fragmentation of derivatives clearing. Changes in the regulation and oversight arrangements for euro-denominated derivatives clearing on UK-based central counterparties (CCPs) will require careful design to ensure smooth functioning of derivatives clearing.[15] Continued commitment to high regulatory standards will be important to preserve hard-won financial stability gains and prevent easing of prudential regulations.

[13] See chapter 1 of the Selected Issues paper, paragraphs 28–29. Staff estimates suggest that the loss of value added in the financial sector can be up to 25 percent in a low-access scenario. Oliver Wyman (2016) estimates that revenue in the sector could decline about 20 percent in a similar scenario.

[14] Stress test results should be interpreted with caution, as the exercise did not include all possible Brexit-related financial shocks (some of which are difficult to model, such as potential strains in derivatives markets or sudden liquidity shortages).

[15] The euro area FSAP recommended that ESMA be given direct supervisory powers over euro clearing in CCPs outside the EU; it also favored a stronger role for the Eurosystem in CCP oversight. The FSAP cautioned against mandatory relocation of euro clearing to the EU-27.

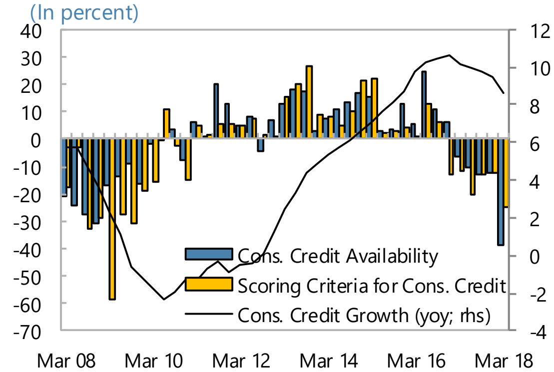
Balance Sheet Developments

34. Household and corporate debt is relatively high and has started to edge up further, although it remains below its pre-crisis peak. The cost of servicing debt for households and corporates remains relatively low, due to very low interest rates. Total credit (excluding student loans) is expanding broadly in line with GDP, although with differences across credit segments.

- ***Consumer credit*** continues to grow rapidly, despite some moderation since 2016.[16] Consumer credit is mostly unsecured with a high default rate sensitivity to income and interest rate shocks.[17] The authorities have directed banks to strengthen underwriting standards for consumer loans over the last year, and survey measures show credit supply conditions have tightened since then. If rapid consumer credit growth persists, further policy measures may be warranted, including targeted increases in bank-specific capital buffers, the imposition of sectoral capital requirements, and enhanced monitoring of non-bank consumer credit providers.

Consumer Credit and Credit Supply Conditons

(In percent)



Sources: Bank of England; and IMF staff calculations.
Note: Lending conditions refer to the change over the past 3 months, with negative values denoting lower availability/tighter scoring criteria, as reported in the credit conditions survey and scaled betwen + -100.

- ***Mortgage lending*** growth has been moderate, owing in part to subdued demand, as well as macroprudential measures taken in recent years.[18] Despite the recent moderation in residential house price growth (and outright declines in parts of London), house prices remain high relative to incomes (Figure 9). The ratio of new mortgage loans at relatively high loan-to-income (LTI) ratios has increased somewhat in the last two years, although the share of highly indebted households remains low.[19] Since 2014, mortgage lenders have been required to test whether borrowers could still afford their mortgages in a stressed rates scenario.

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[16] Consumer credit includes dealership car finance, personal loans, and credit cards. Banks provide around 80 percent of lending in credit and personal loans, but less than half of dealership car finance.

[17] Consumer loans account for an outsized part of losses in a stress scenario: consumer credit accounted for around 7 percent of UK banks' domestic loans in the 2017 stress test but contributed to nearly 40 percent of projected losses on these loans.

[18] The growth of buy-to-let mortgages in particular has moderated. Policy 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 for an affordability assessment under stressed interest rates.

[19] Regulation limits the number of mortgages extended at LTI ratios at or above 4.5 to 15 percent of new mortgage loans.

- ***Student loans*** have accounted for a rising share of aggregate household debt in recent years, but these loans are typically extended by the public sector with income-contingent repayments, mitigating risks to banks.

- ***Non-financial corporate balance sheets*** have strengthened over the last decade, with lower debt ratios and higher profitability and interest coverage ratios relative to pre-crisis levels (Figure 7). However, more recently market-based corporate borrowing has expanded rapidly supported by strong risk appetite in global markets. Foreign investments in commercial real estate and leveraged loans are significant.[20] At the same time, bank exposure to risky corporate lending has declined. CRE prices remain high and have continued to rise after a short-lived dip following the EU referendum. Certain segments, including central London, seem particularly stretched.

35. Banks' balance sheets have continued to strengthen. Capital and liquidity coverage ratios have increased. The authorities have raised the countercyclical capital buffer requirement from 0.5 to 1 (effective as of November 2018), consistent with their assessment that banks are in a "standard risk environment" apart from Brexit-related risks. The 2017 annual stress test conducted by the BoE suggests that the UK banking system would be resilient to deep simultaneous recessions in the UK and major economies, large falls in asset prices (including house prices), and further misconduct costs. All banks subject to the ringfencing requirements are on track to meet the January 2019 deadline, which should further strengthen the bank resolution framework. However, profitability remains a challenge. Persistently low profitability hinders the ability of banks to accumulate capital from retained earnings following an adverse shock. Profitability should, however,

Financial Soundness Indicators for Major UK Banks 1/

(Percent)

	2000-06	2011	2012	2013	2014	2015	2016	2017
Capital adequacy								
Basel III common equity Tier 1 capital ratio	...	7.2	8.4	10.0	11.4	12.6	13.4	14.6
Simple leverage ratio	4.8	5.1	5.1	5.6	5.9	6.6	6.6	6.9
Basel III leverage ratio (2014 proposal)	...	...	...	...	4.4	4.9	4.9	5.0
Asset quality								
Non-performing loans net of provisions to capital	...	16.1	13.9	9.5	5.4	3.9	3.4	3.4
Non-performing loans to total gross loans	...	4.0	3.6	3.1	1.7	1.0	0.9	0.8
Profitability								
Return on assets before tax	1.1	0.4	0.2	0.3	0.5	0.4	0.3	0.6
Price-to-book ratio	224.3	58.7	82.7	107.4	99.5	89.2	81.0	97.0
Liquidity								
Loan-to-deposit ratio	113.1	108.9	103.1	99.1	95.9	97.1	94.0	93.9
Short-term wholesale funding ratio	...	19.1	16.7	14.7	13.6	10.5	10.1	11.9
Average senior CDS spread	...	2.7	1.5	1.0	0.6	0.8	0.9	0.3

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 December Financial Stability Report, except for asset quality indicators, for which the coverage is as defined in the IMF's Financial Soundness Indicators. Data for 2017Q3 or latest available.

[20] Foreign investors accounted for 50 percent of transactions in UK CRE in 2018 Q2.

improve over the medium term as legacy misconduct costs dwindle and banks continue to adjust their business models. Furthermore, rising interest rates should help alleviate the pressure on interest margins.

36. A continued prudent approach to supervision would be important to maintain financial stability. The CCyB rate needs to be kept under review to ensure it reflects shifts in the overall risk level. A timely adoption of the Basel III final agreement together with implementation of Bank of England's guidance on the use of hybrid models for estimating risk weights should help reduce the variability of risk weights among banks. In the meanwhile, bank-specific capital buffers should continue to be adjusted when necessary to match banks' individual risk exposures. Potential risks related to market-based finance bear close monitoring. The authorities' ongoing effort to collect information on leverage outside the banking system and assess potential vulnerabilities is welcome. The BoE is developing a system-wide stress simulation covering hedge funds, dealers, insurance companies and other non-bank firms as part of its work on assessing potential stability risks beyond the banking sector. The simulation should provide information on contagion risks and on the institutions' ability to deal with sharp rises in redemptions at times of high asset price volatility. Efforts to actively monitor and mitigate cyber security risks should also continue.

Authorities' Views

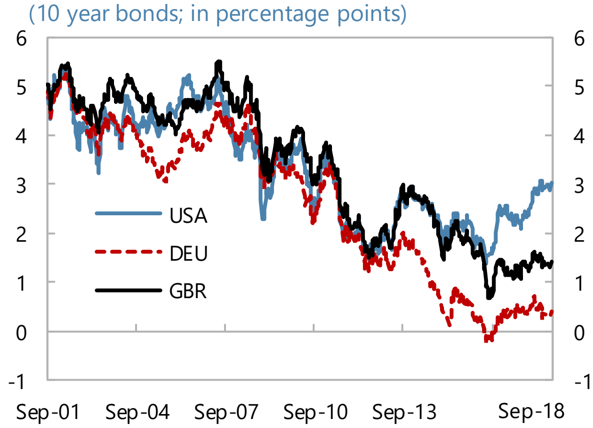
37. The authorities are committed to implementing prudential and regulatory policies after Brexit that meet or exceed international standards, independent of the outcome of the EU withdrawal negotiations. The authorities emphasized that contingency planning in the financial sector is advancing. The temporary permission regime, which is awaiting parliamentary ratification, and other legislation will ensure that EEA financial firms currently operating in the UK via a passport can continue to conduct regulated activities as normal for up to three years after exit. However, the authorities stressed the risk that cross-border derivative and insurance contracts could be affected by the loss of passporting rights in the absence of something analogous to a temporary permissions regime on the EU side. The Bank of England noted that domestic banks' capital ratios have tripled since the end of 2007, and are at an adequate level to withstand a range of shocks, including those that could be associated with a disorderly Brexit. The authorities also noted that the macroprudential requirements on mortgage lending implemented in 2014 should mitigate risks from high household leverage. The ringfencing of banks would help ensure that banks can be resolved without resorting to public funds. The recent adoption of the MiFID II framework has helped strengthen investor protection and transparency.

D. Contingency Planning for a Disorderly No-Deal Brexit

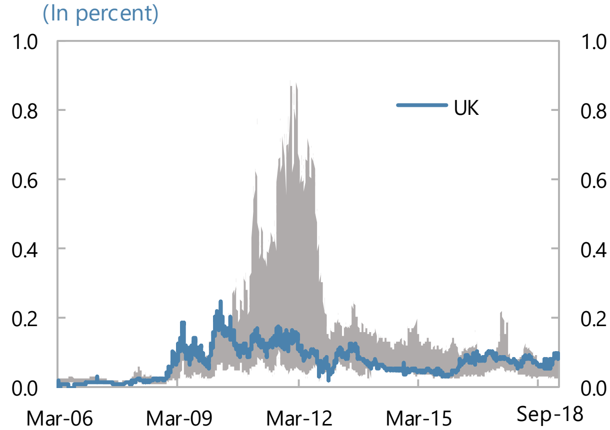
38. Adequate capitalization, temporary permissions, and ensuring liquidity provision could help mitigate financial disruptions associated with a potential disorderly Brexit. The planned temporary permission regime for financial institutions would reduce the risk of financial services disruption for UK customers. In the event of stress in financial markets, the BoE will need to ensure that the financial system has adequate liquidity. In addition, the countercyclical buffer could be released to support bank credit supply. Of course, any relaxation of the CCyB would need to maintain confidence in the financial system and ensure an appropriate degree of resilience against future shocks. The annual stress test in 2018 should be used to gauge the strength of the banking system to withstand a combination of possible risks associated with Brexit.

39. There is some fiscal space to help smooth the adjustment if needed. The UK faces limited financing risks in the near term despite a relatively high debt burden. Gross financing needs over the forecast horizon are manageable under both the baseline and stress simulations. Market-implied default probabilities remain contained and sovereign yields are low from an historical perspective. The automatic stabilizers should be allowed to operate freely. 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. Specific measures that could be used include frontloading infrastructure spending, which would help raise the economy's productive capacity.[21] 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 to output is very large, affecting confidence and risk premia. Therefore, any policy easing should be temporary and anchored in credible medium-term fiscal consolidation plans.

Sovereign Bond Yields
(10 year bonds; in percentage points)



Five-Year Sovereign EDF 1/
(In percent)



Sources: CreditEdge; Haver Analytics; and IMF staff calculations.
1/ EDF is Expected Default Frequency.
Note: Shaded area shows the minimum and maximum of Belgium, France, Germany, Japan, Netherlands, US, and UK.

40. 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. 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. However, the implications for monetary policy are not clear cut, as the authorities may face a trade-off between inflation and

[21] As discussed in the structural policy section, public spending on active labor market policies per unemployed and public investment as a share of GDP are relatively low from a cross-country perspective.

output stabilization. The authorities will also need to take into account any natural tightening of financial conditions due to heightened investor risk aversion.

Authorities' Views

41. The authorities stand ready to provide tailored responses to a wide range of shocks. The fiscal framework allows flexibility to provide temporary support in the case of large negative output shocks, but the fiscal space to respond could narrow if interest rates on public debt were to increase significantly. They also noted that the precise nature of the shock will be an important factor in determining the type of fiscal policy response that is appropriate. The authorities therefore 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. There was also agreement that the monetary policy response would depend on the relative shifts in supply and demand, and the magnitude of the exchange rate depreciation. They noted the current economic conditions (very little spare capacity and above target inflation) are different than those that prevailed after the referendum, which would affect their policy choices. The Bank of England believes it has enough instruments in place to ensure that the financial system has adequate liquidity.

E. Structural Reforms

42. Sustained policy efforts are needed to support growth, improve competitiveness, and help reduce income inequality and regional disparities. Productivity levels in the UK are lower than in peer economies, and productivity growth since the financial crisis has been exceptionally low. Exiting the EU could depress trend productivity further through reduced foreign investment, trade, and immigration. A multi-pronged policy approach is needed to support productivity, increase living standards and make growth more inclusive (Figure 10).[22] In the near term, the key reform priority would be strengthening human capital, including through retraining, which would help support a smooth adjustment to Brexit-related structural changes.

- ***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.

- ***Infrastructure.*** The perceived quality of UK infrastructure and public spending on infrastructure are lower than in other advanced economies (OECD 2015 and 2017). In recent years, the authorities have increased public investment in infrastructure, particularly in transport, with plans for further increases over the medium term. In addition, the institutional framework for selection and oversight of infrastructure projects has been strengthened significantly. Nevertheless, further efforts would be needed to close the infrastructure gap with peer economies.

- ***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. Last year's introduction

[22] See 2017 UK IMF Staff Report for a quantification of the impact of some of these structural reforms.

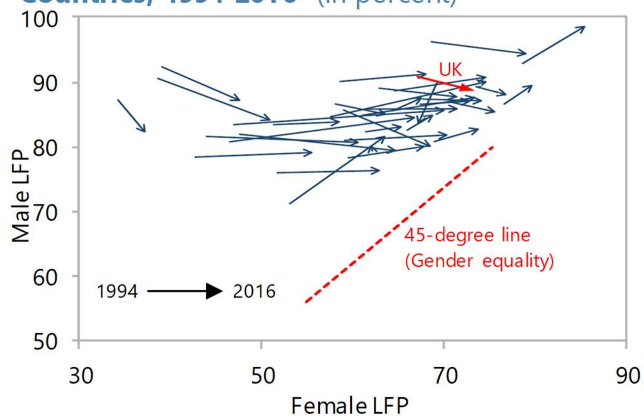
of T-level technical qualifications and reforms to funding for apprenticeships should help reduce the skills gap. It will be important to monitor and evaluate the effectiveness of these programs once they have been in place for some time. Recent initiatives to increase the basic skills of high-school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

- ***Research and development.*** 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.

- ***Decentralization of governance arrangements.*** Fiscal centralization is high in the UK relative to other countries. 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.[23]

43. Boosting economic opportunities for women would promote growth and equity. The female participation rate in the UK, at 74 percent, is already relatively high by advanced economy standards. Recent government initiatives have sought to increase it further by improving government support for childcare costs and doubling the free childcare available to 3- and 4-year-olds of eligible working parents. The government has also introduced free childcare for disadvantaged children aged 2. Nevertheless, fully closing the participation rate gap would boost output by around 5 to 6 percent in the long run. Policies to facilitate job sharing and compressed work schedules could be helpful in this regard. Efforts should also focus on measures to close the gender pay gap (which stands at 10 percent on average for full-time employees) and to increase representation of women in senior positions and in corporate boards, where they remain relatively few in number. Recently-enacted legislation requiring larger firms to make public data on gender pay gaps has helped focus attention on pay disparities.

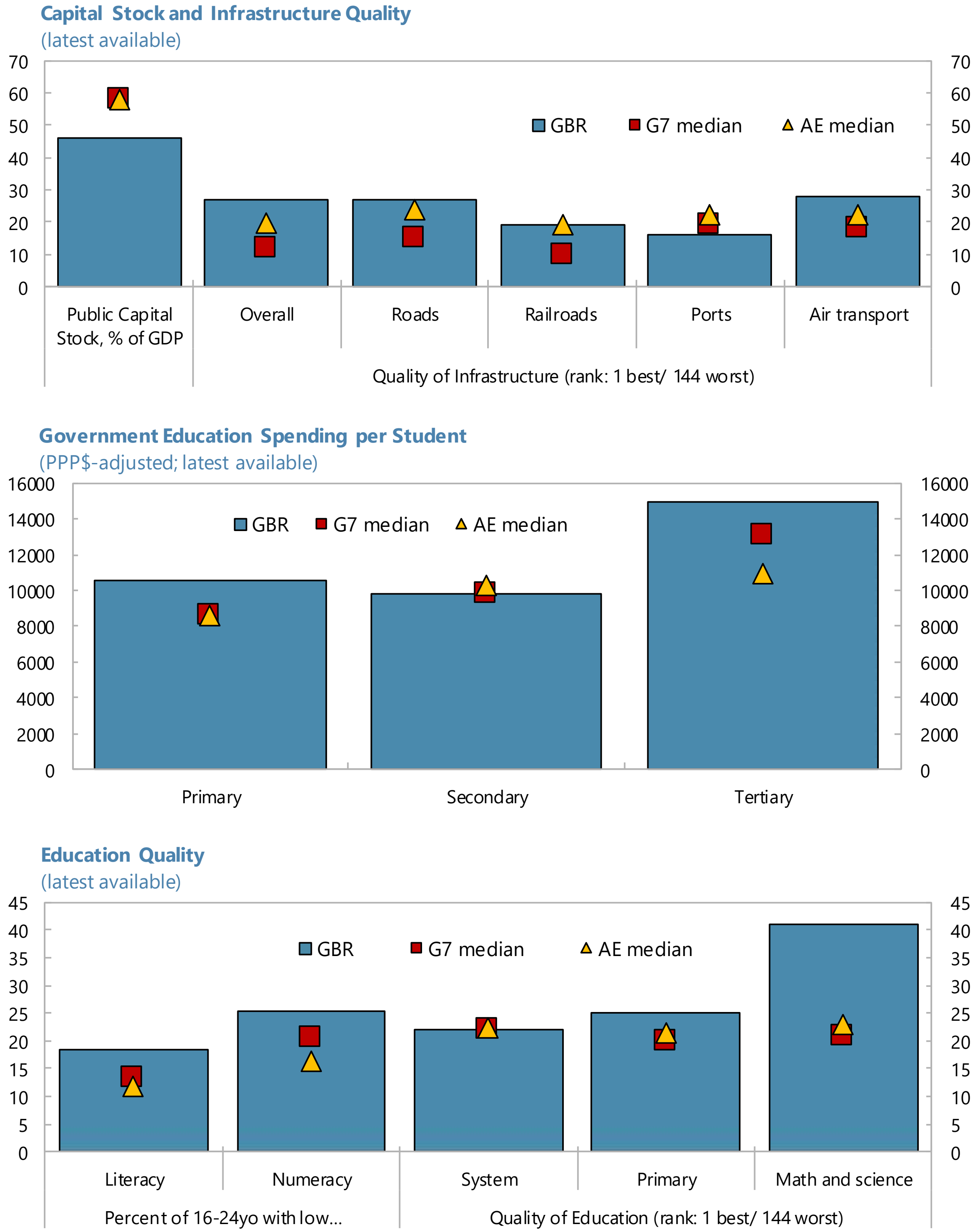
Labor Force Participation by Gender in OECD Countries, 1994-2016 (in percent)



Sources: OECD; and IMF staff calculations.

[23] Relatively low-income regions could be exposed to a loss of funding from the EU structural funds and the European Investment Bank.

Figure 1. United Kingdom: Physical and Human Capital

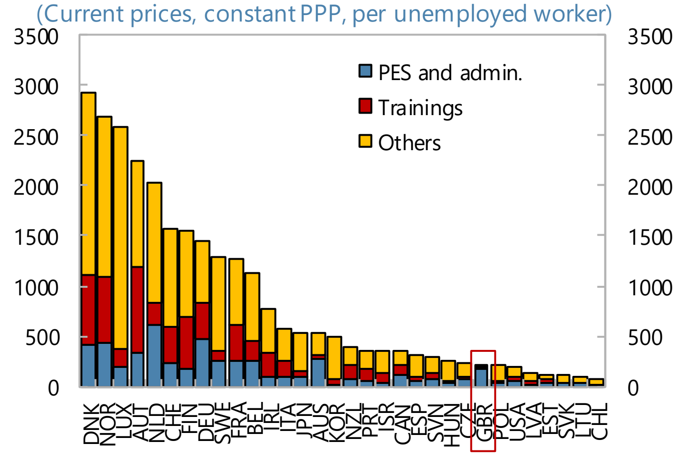


Sources: FAD Investment and Stock Database (2017); OECD Survey of Adult Skills (2015); World Economic Forum; and IMF staff calculations.

44. Brexit is likely to reshape the structure of the UK economy and policies could play a role in facilitating the transition. The ultimate impact will depend on the nature of the final agreement and may take many years to fully materialize. Nevertheless, rising trade barriers with the EU are likely to affect some industries more than others, resulting in a reallocation of resources across sectors post-Brexit (Box 4). Although UK labor markets are very flexible, which would help the adjustment (OECD, 2014), productivity could suffer further from Brexit-induced sectoral adjustments.[24] Policies should seek to support workers and not particular jobs or sectors. For instance, increased use of active labor market policies, including support for re-training, such as the National Retraining Scheme, could help facilitate the adjustment for both low-skilled and highly-specialized workers.[25] Evaluations of the effectiveness of job-search support policies should take into account the sustainability and quality of job matches, not only the time it takes to find a match. Moreover, policies that promote entrepreneurship, higher investment in R&D, and reforms to promote housing supply and mobility could increase productivity and facilitate human capital accumulation.

Expenditure in Active Labor Market Measures

(Current prices, constant PPP, per unemployed worker)



Sources: OECD; and IMF staff calculations.

Authorities' Views

45. The authorities agreed with staff's view on the key structural reform priorities. They noted that a comprehensive strategy is underway for boosting productivity based on supporting long-term investment in physical, human and intellectual capital. A £31 billion National Productivity Investment Fund has been created, targeting investments in transport, housing, digital, and research and development. The expansion of infrastructure spending would be done at a gradual pace to contain any cost inflation and get the best value for money. Infrastructure investment is targeted to increase by over 50 percent from 2012/13 to 2020/21, and the fiscal remit for the National Infrastructure Commission aims for sustained public infrastructure investment of 1 to 1.2 percent of GDP over the long-term. The new system for funding apprenticeships and the recently announced reforms to technical education should increase students' skills and facilitate job matching. The authorities agreed that increased use of active labor market policies, including support for re-training such as the National Retraining Scheme could help smooth the flow of workers both geographically and across economic sectors post-Brexit. The government recently announced it

[24] The government introduced a "back to work" program in 2011 and reformed the benefit system to incentivize unemployed workers to take up jobs (through the Universal Credit).

[25] The literature generally finds positive employment effect from training programs, particularly when designed to target specific skills.

intends to pilot extended performance measures in the evaluation of its job programs, including factors such as length of the employment spell and earnings progression while in work.

F. Corporate Transparency and Anti-Corruption Efforts

46. Corporate transparency continues improving. Measures to verify beneficial ownership information of UK companies in the publicly available People with Significant Control (PSC) register are being developed and implemented. Financial institutions will be required to report discrepancies in the PSC register. Strong enforcement actions for breaches of the requirements under the PSC and private trust registers will contribute to ensuring that information contained in such registers is timely and accurate. The proposal for a register of overseas legal entities owning UK real estate is also welcome and should include verification measures. The new Office for Professional Body Anti-Money Laundering Supervision is expected to improve consistency of AML supervision in the accounting and legal sectors, especially for firms that provide trust and company services. The UK authorities' commitment to supporting British Overseas Territories (BOTs) in establishing public registers of beneficial ownership of companies is welcome. The agreements allowing the rapid exchange of information of companies registered in Crown Dependencies and BOTs should be extended to cover trusts.

47. Anti-foreign bribery enforcement has strengthened in recent years. The report by the OECD Working Group on Bribery in International Business Transactions, which for the UK is the basis of staff's assessment, commends the UK's enforcement efforts and political commitment to fighting foreign bribery.[26, 27] The positive assessment is due to legislative reforms, such as deferred prosecution agreements and the effective approach taken by the Serious Fraud Office (SFO) to investigate and resolve cases. Channels for whistleblowing and detection capabilities were also improved, including through enhanced intelligence analysis by the SFO. Individuals and companies have been found criminally liable, civil remedies have been applied and administrative sanctions imposed.

48. The OECD Working Group report calls on the UK to build on the current work to enhance the effectiveness of enforcement. Efforts should focus on: (i) maintaining the role of the SFO in foreign bribery cases; (ii) further improving interagency cooperation and ensuring the safeguard of the independence of investigations and prosecutions; (iii) improving coordination of law enforcement between England, Wales, and Scotland and improving Scotland's enforcement capacity; (iv) enhancing the UK's AML reporting framework to improve detection of foreign bribery; (v) strengthening engagement with the CDBOT regarding the detection and enforcement; and

[26] In the case of the UK, the assessment is based on the OECD Working Group on Bribery in International Business Transaction's Phase 4 report published in March 2017. The information contained herein does not prejudice the Working Group's monitoring of the implementation of the OECD Anti-Bribery Convention.

[27] A progress report by the OECD Working Group is expected to be published in March 2019. The discussion on whether the UK has an effective AML/CFT system designed to prevent foreign officials from concealing the proceeds of corruption will be included in a future Article IV consultation staff report when the FATF fourth round report for the UK is completed.

(vi) conducting a comprehensive review of Her Majesty's Revenues and Customs capacity to detect and report foreign bribery. Fund staff agrees with these recommendations and urges the UK to move forward to implement them.

Authorities' Views

49. The authorities welcomed the IMF assessment of efforts to tackle issues related to beneficial ownership and the supply side of corruption. In addition to the PSC and the private trust registers, they noted they are conducting public consultation for the register of overseas legal entities owning UK real estate. In parallel, beneficial ownership information is now a condition of awarding contracts that involve central government procurement and meet certain criteria or thresholds. They are also implementing the OECD Phase 4 recommendations. For example, they increased the budget of the SFO and created a new National Economic Crime Centre which will improve cross-government intelligence sharing and cooperation.

STAFF APPRAISAL

50. Economic activity has moderated since the referendum in June 2016. Net exports were supported by weaker sterling and strong external demand. However, above-target inflation following the sharp post-referendum depreciation reduced real income and consumption growth. Business investment has been lower than would be expected in the context of robust global growth and favorable financing conditions. Despite the slowdown in growth, the employment rate has risen to a record high and slack in the economy is limited.

51. Growth is expected to remain moderate in the near term, although there are significant risks. Investment would remain constrained as long as Brexit uncertainty weighs on firms. With the economy operating at full employment and household saving already at a very low rate, consumption growth will be broadly in line with subdued real income growth. Net exports are expected to continue to make a positive contribution to growth. The baseline forecast is conditional on a timely agreement with the EU including on a trade pact covering goods and some services, and a relatively smooth Brexit process thereafter.

52. Leaving the EU without an agreement is the most significant near-term risk to the UK economy. A disruptive departure without an implementation period could have serious negative economic consequences. While all likely Brexit outcomes will entail costs for the UK economy by departing from the frictionless single market that now prevails, an agreement that minimizes the introduction of new tariff and nontariff barriers would best protect growth and incomes in the UK and EU. Close cooperation and coordination with the EU to prevent disruptions and mitigate risks will be important to achieve a smooth transition.

53. Monetary policy should respond flexibly to data developments in an environment of heightened uncertainty. While the inflationary impact of past sterling depreciation continues to fade, unit labor costs are firming in the context of a tight labor market. If domestic inflation surpasses the level consistent with the 2-percent target, further gradual tightening of monetary policy would be warranted. However, if negative economic shocks depress domestic demand, accommodative conditions should be maintained. The reduction in the Bank of England's balance sheet should commence once the policy rate has reached a level from which it can be cut materially in the event of a demand slowdown.

54. Steady fiscal consolidation remains critical to comply with the government's fiscal framework, build buffers against future shocks, and help reduce the current account deficit. The recently-announced increase in public health spending should be financed from new revenue sources and/or offsetting spending cuts elsewhere in the budget. Brexit-related effects would add to the rising strain on public finances related to population aging. To mitigate age-related spending increases, the authorities should explore opportunities for further efficiency gains in health care provision and eliminate the "triple lock" on public pensions. Absent a fundamental rethinking of the size and role of the public sector, revenue measures would need to occupy a more prominent place in deficit reduction efforts going forward.

55. A continued prudent approach to supervision is crucial in a context of relatively easy financing conditions and heightened risks related to Brexit. Household and corporate leverage have started to edge up, although they remain below pre-crisis levels. Consumer credit continues to rise faster than income, despite recent tightening of underwriting standards. Further policy action may be needed if high rates of growth persist, including additional increases in bank-specific capital buffers and steps to enhance the oversight of nonbank financial institutions. Regulatory and supervisory cooperation between UK and EU authorities will be crucial to maintaining the integrity of cross-border financial transactions after Brexit. As suggested in the recent Euro Area FSAP, the EU and UK authorities should work together to ensure legal continuity in insurance and derivative contracts and proper data sharing to avoid cliff-edge effects. Continued commitment to high regulatory standards is essential to preserve hard-won financial stability gains.

56. In a disorderly no-deal Brexit scenario, policies should seek to safeguard macroeconomic and financial stability. In the event of financial market disruption accompanied by sharp declines in asset prices, the Bank of England would need to ensure that the financial system has adequate liquidity. The fiscal framework provides flexibility to support the economy, for example through bringing forward infrastructure spending. However, the space to respond could narrow if the shock were to significantly raise interest rates on public debt. Any easing of fiscal policy should be targeted and embedded in a credible medium-term fiscal consolidation plan. A permanent shock to output would require an eventual adjustment of revenues or spending.

57. Further sustained policy efforts are needed to support productivity and make growth more inclusive. The plan to increase public infrastructure investment over the medium term is welcome. Continued focus on policies to increase human capital is also critical. Improving economic opportunities for women by facilitating flexible work arrangements and closing the gender pay gap would promote growth and equity. Brexit will lead to important shifts in the structure of the UK economy and policies could play a role in facilitating the transition. Policies should seek to support workers and not particular jobs or sectors. Options include support for re-training, policies that promote entrepreneurship, higher investment in research and development, and reforms to promote housing supply and mobility.

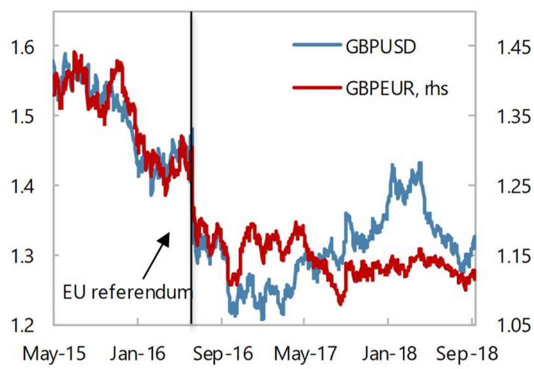
58. Efforts to improve corporate transparency and enforcement against foreign bribery should continue. Measures to verify beneficial ownership continue to be developed and implemented. Ensuring consistent and effective AML supervision of TCSPs is critical to mitigating ML abuse. Enhancing continued exchange of information on companies and trusts with the CDBOT is important. Efforts to combat the supply side of corruption are welcome, and further enforcement including in CDBOT is encouraged.

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

Figure 2. United Kingdom: Recent Macroeconomic Developments

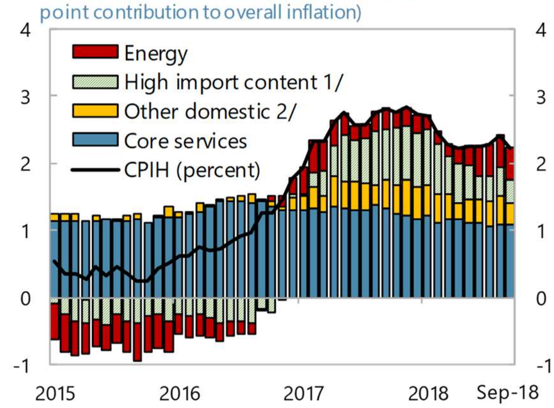
The 2016 sterling depreciation …

Exchange Rates



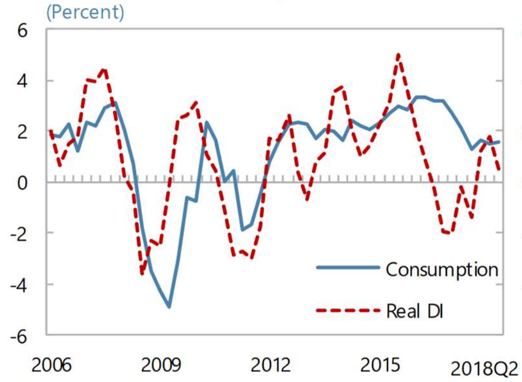
… has pushed up inflation,

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



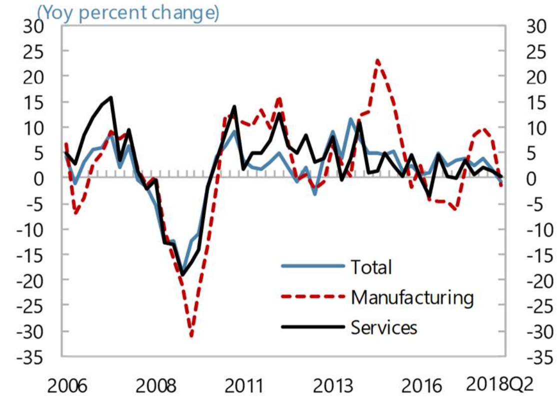
… reducing real disposable income and consumption growth.

Real Income and Consumption Growth
(Percent)



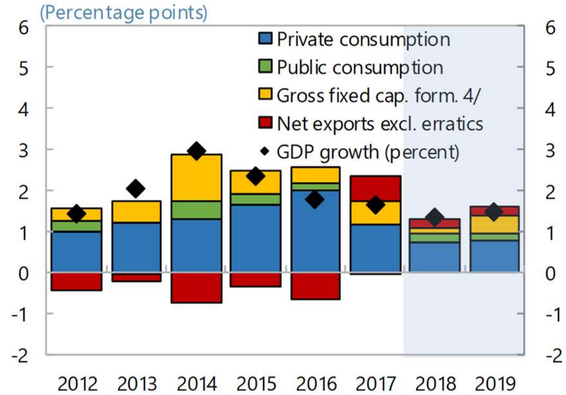
Investment growth remains subdued owing to heightened uncertainty.

Investment Growth
(Yoy percent change)



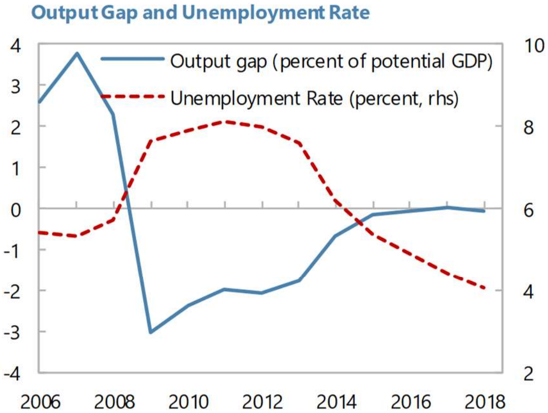
Despite the slowdown in growth …

Contribution to Growth 3/
(Percentage points)



… slack in the economy is limited.

Output Gap and Unemployment Rate

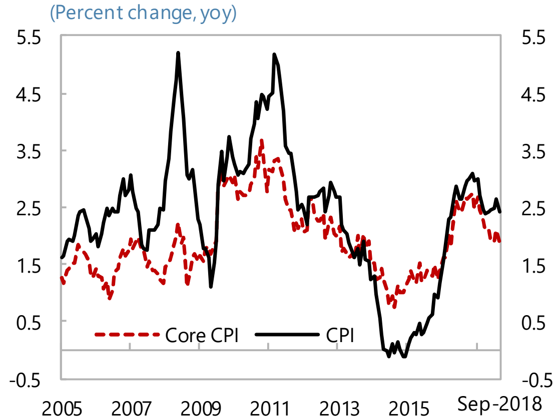


Sources: Haver; and IMF staff calculations.
1/ Non-energy industrial goods, and unprocessed food.
2/ Processed food, alcohol, tobacco, and transportation services.
3/ Excluding contributions from erratic terms and statistic discrepancies.
4/ Excluding inventories.

Figure 3. United Kingdom: Inflation

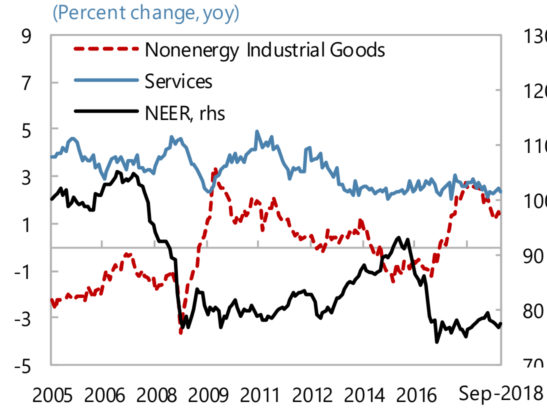
Inflation has begun to fall since November ...

Inflation
(Percent change, yoy)



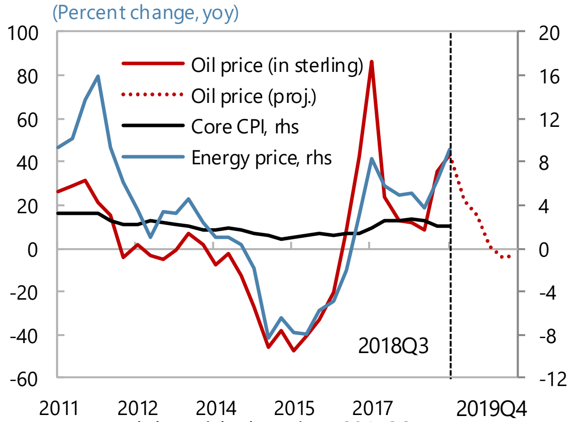
... as the effect from past sterling depreciation fades.

CPI Components: services and industrial goods
(Percent change, yoy)



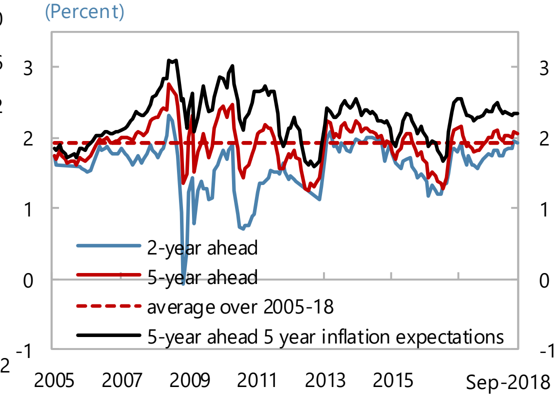
Projected increase in oil prices is expected to raise headline inflation over the near term.

Energy and Oil Price Inflation
(Percent change, yoy)



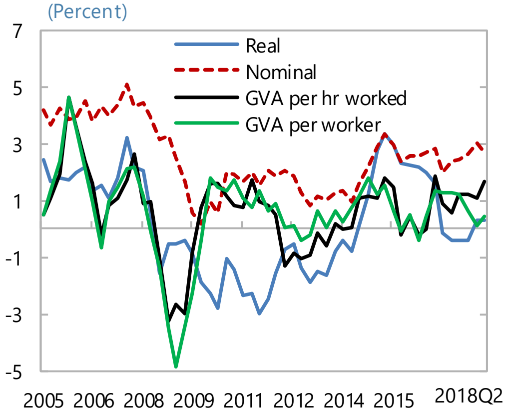
Inflation expectations remain in line with the target.

Inflation Expectations 1/
(Percent)



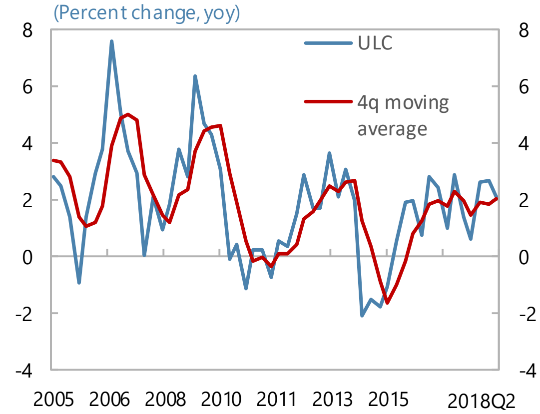
Wage growth has picked up since 2017Q3...

Labor Productivity and Real Wage
(Percent)



... supporting a moderate rising unit labor cost.

Unit Labor Cost 2/
(Percent change, yoy)

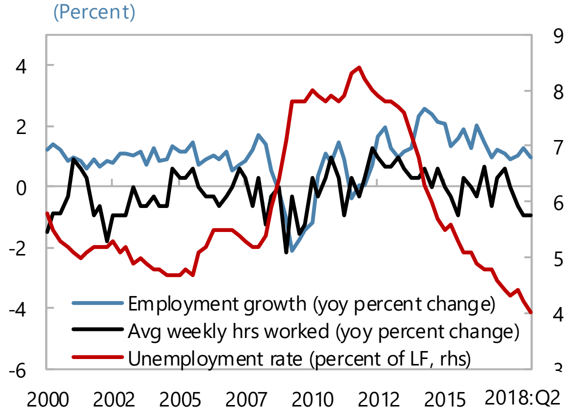


Sources: Haver; Bank of England; IMF WEO database; and IMF staff calculations.
1/ Derived from government securities, assuming RPI inflation exceeds CPI inflation by 1 percentage point.
2/ Labor cost (per worker) over productivity.

Figure 4. United Kingdom: Labor Market Developments

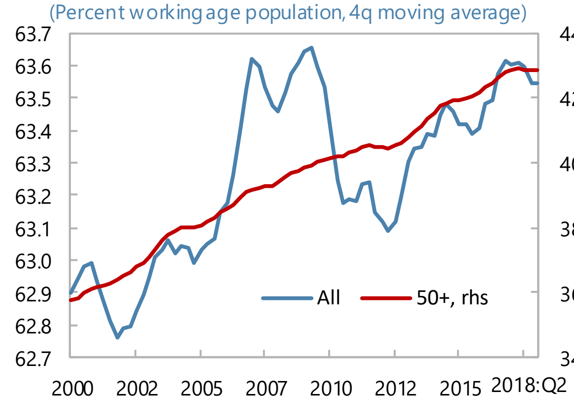
Unemployment rate is at a historic low level, but average hours worked has fallen recently …

Employment Growth and Unemployment Rate
(Percent)



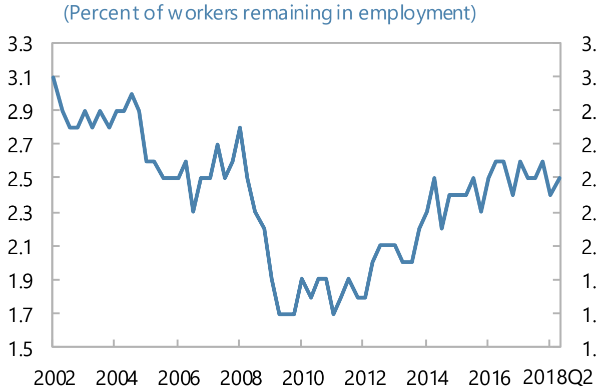
… this could reflect the increased participation from the older workers.

Labor Force Participation Rate
(Percent working age population, 4q moving average)



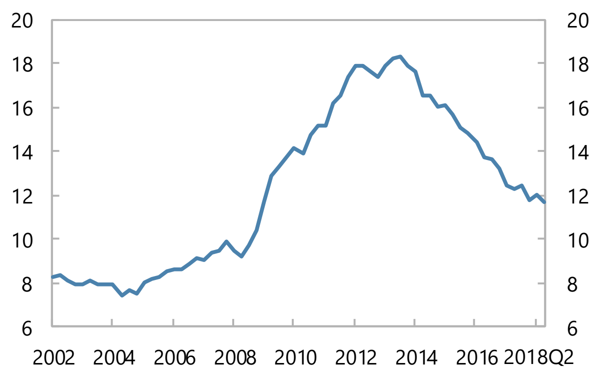
The improvement in job-to-job flow rate has stalled …

Job-to-job Flow Rate
(Percent of workers remaining in employment)



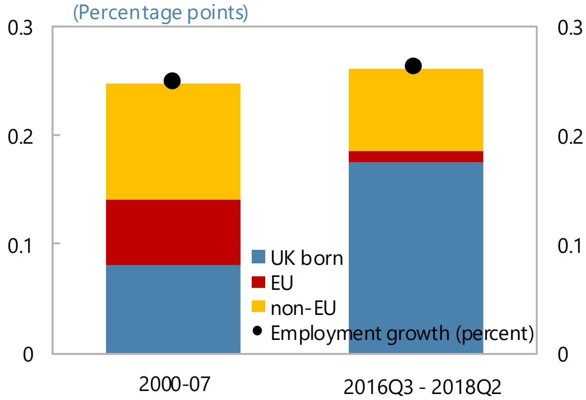
… as well as the share of PT workers who want a full time job

Share of Part-time Workers Who Could not Find Full-time Job (Percent of part-time workers)



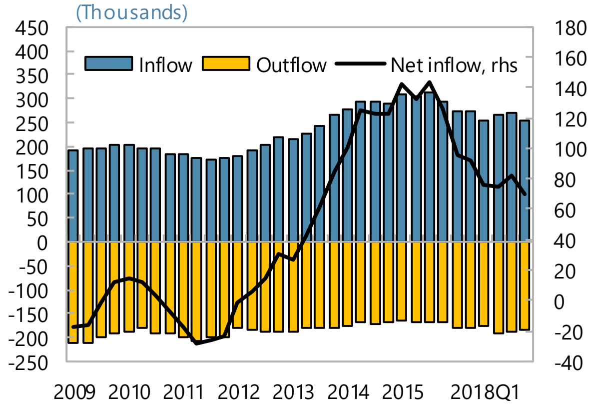
More recently, UK born workers have been the main contributor to employment growth.

Contributions to Employment Growth
(Percentage points)



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

Work Related Migration
(Thousands)

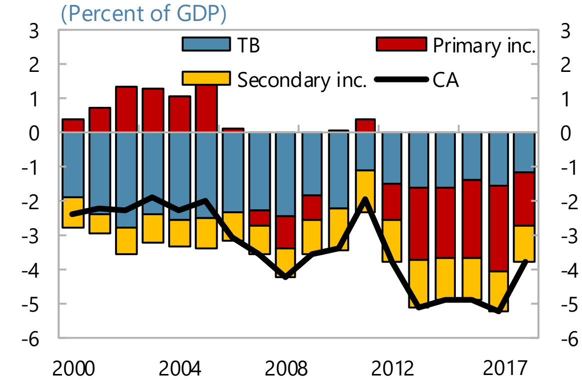


Sources: Haver; ONS; and IMF staff calculations.

Figure 5. United Kingdom: External Sector

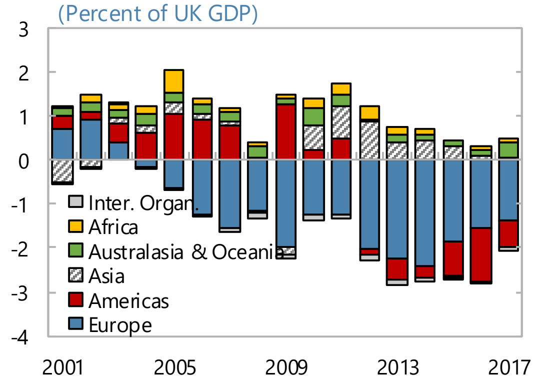
The current account has improved in 2017...

Current Account Balance
(Percent of GDP)



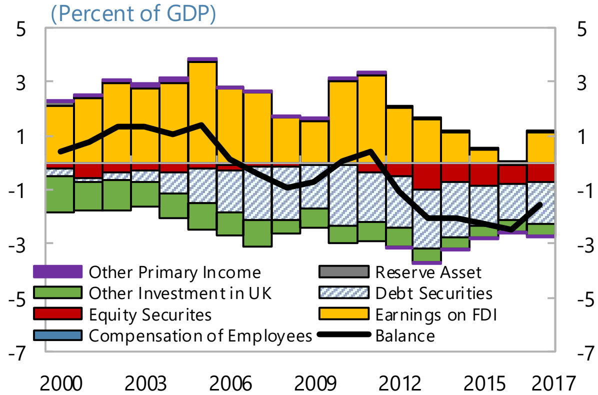
... with primary income balance benefiting from sterling depreciation post-referendum.

Primary Income Balance
(Percent of UK GDP)



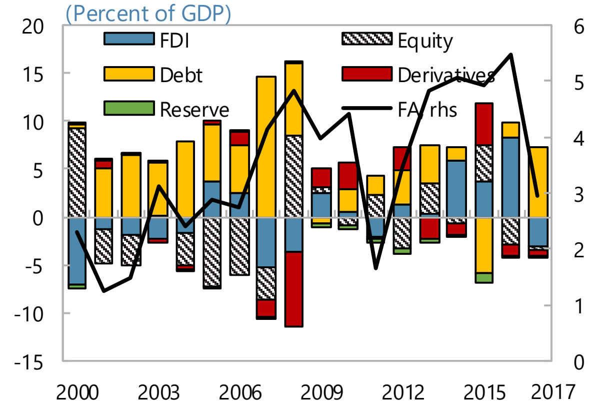
Returns on foreign direct investment have increased.

Net Primary Income Balance
(Percent of GDP)



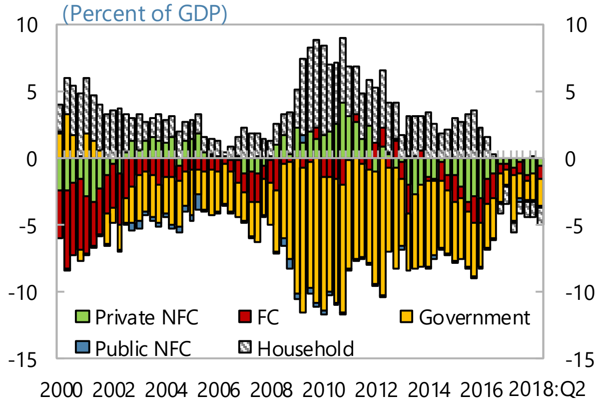
The current account deficit was financed by debt inflows in 2017.

Financing the Current Account
(Percent of GDP)



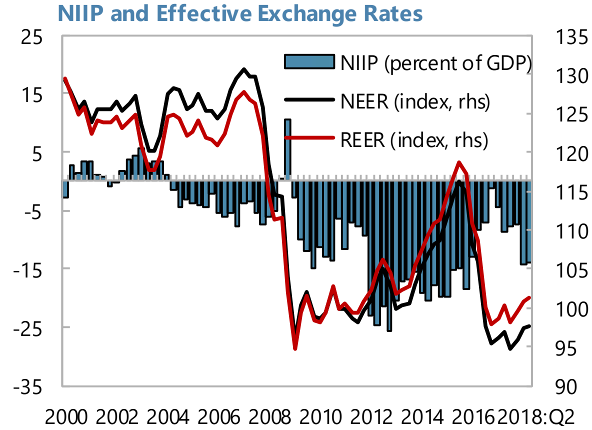
From S-I persepctive, household sector savings have continued to decline.

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



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

NIIP and Effective Exchange Rates

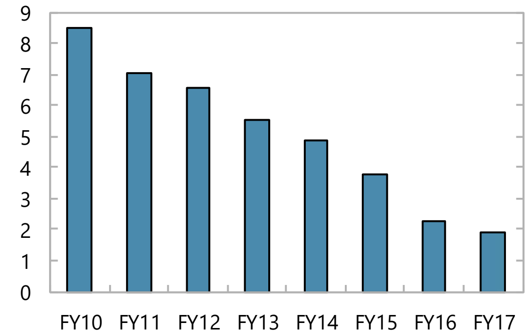


Sources: Haver; INS; and IMF staff calculations.

Figure 6. United Kingdom: Fiscal Developments

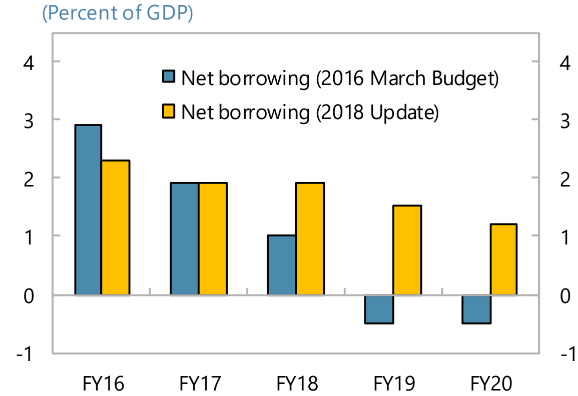
Fiscal consolidation has continued, with the deficit falling below 2 percent of GDP in FY17.

Public Sector Net Borrowing
(Percent of GDP)



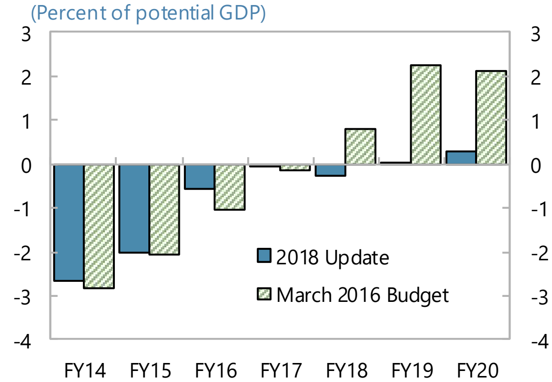
Authorities envisage a slower pace of consolidation ahead, due to weaker growth prospects…

Fiscal Consolidation Plan
(Percent of GDP)



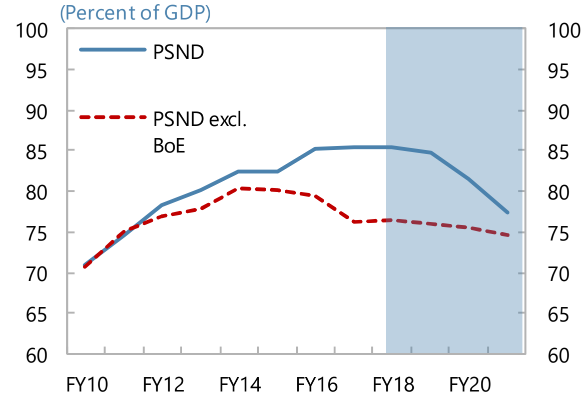
… and more gradual structural adjustment.

Cyclically-Adjusted Primary Balance
(Percent of potential GDP)



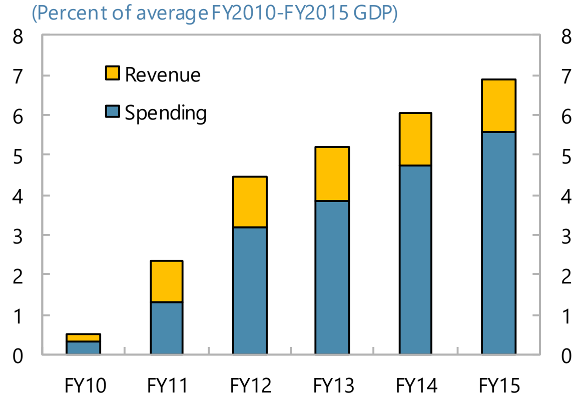
The debt ratio is expected to start falling after FY17.

Net Public Sector Debt
(Percent of GDP)



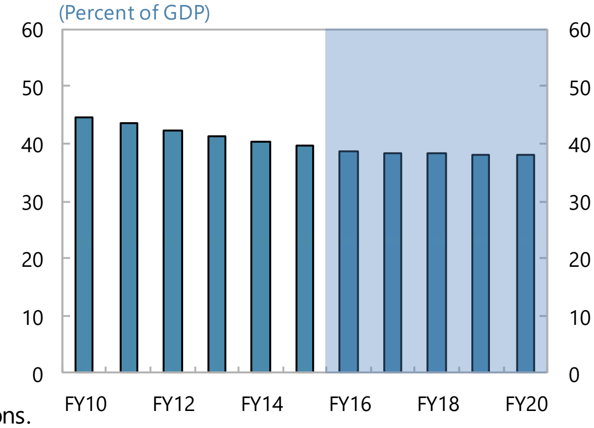
The consolidation so far has been mainly driven by expenditure measures…

Public Sector Discretionary Consolidation Plan
(Percent of average FY2010-FY2015 GDP)



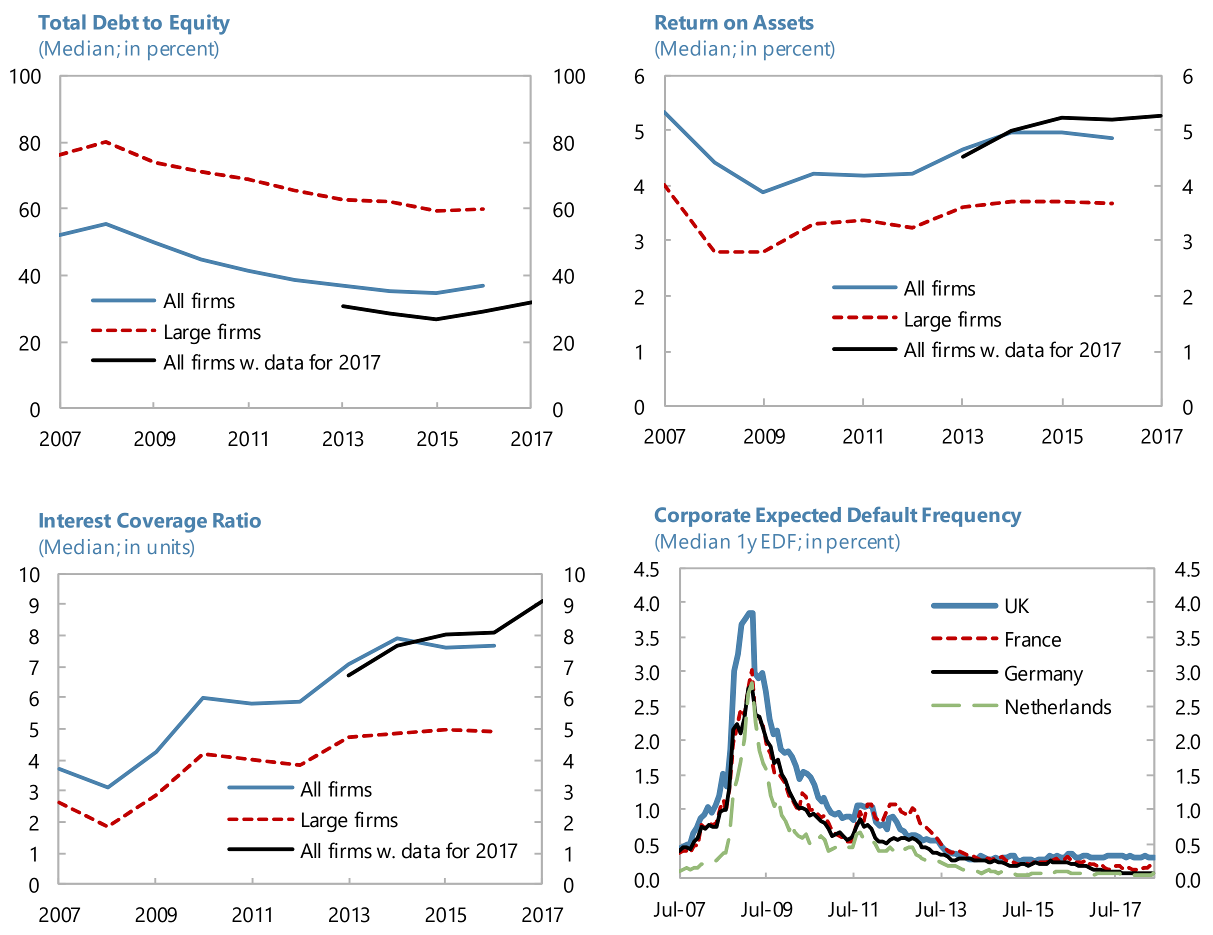
… and more spending cuts are planned ahead.

Public Sector Spending
(Percent of GDP)



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 7. United Kingdom: Non-Financial Corporate Health

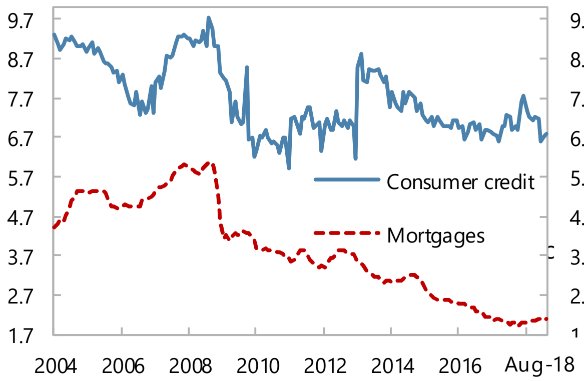


Sources: Moody's KMV, Orbis, and IMF staff calculations.

Figure 8. United Kingdom: Credit Market Developments

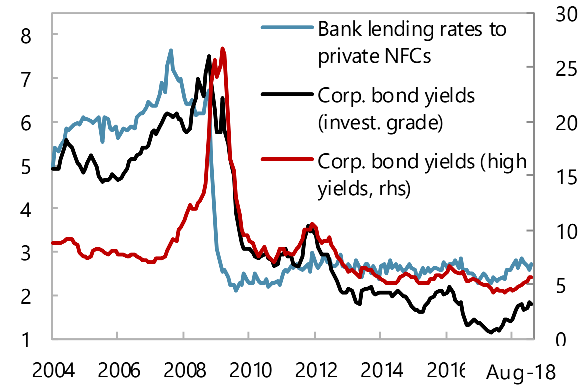
Mortgage lending rates have continued to fall.

Household Lending Rates
(Percent)



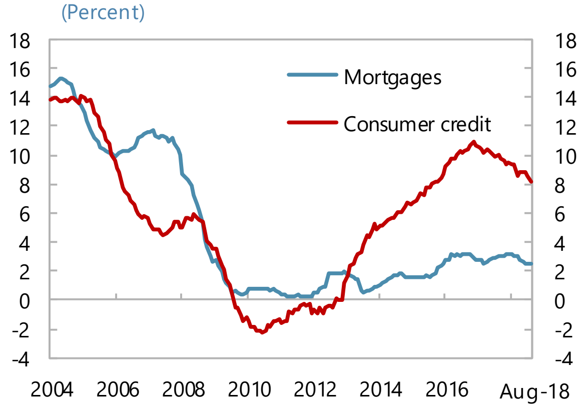
The borrowing costs of non-financial corporates (NFCs) have increased somehow but remain low.

Lending Rates to Private NFCs
(Percent)



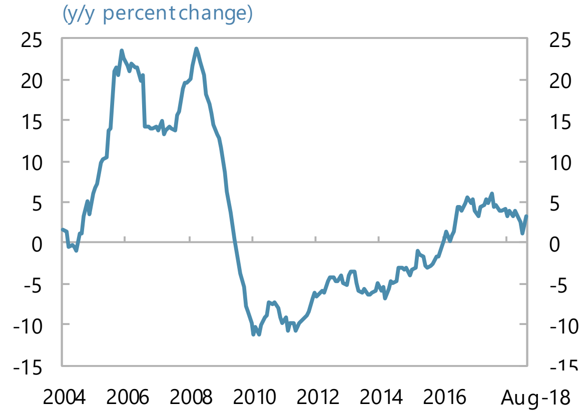
Mortgage credit is growing in line with income, while consumer credit continues to grow at a fast pace.

Household Credit Growth
(Percent)



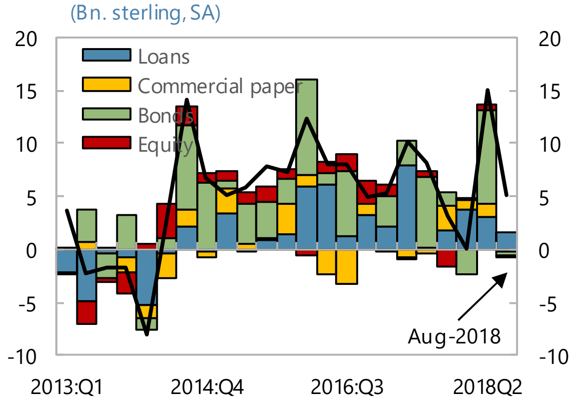
Bank credit growth to NFCs turned positive in 2016.

Bank and Building Society Lending to UK Firms
(y/y percent change)



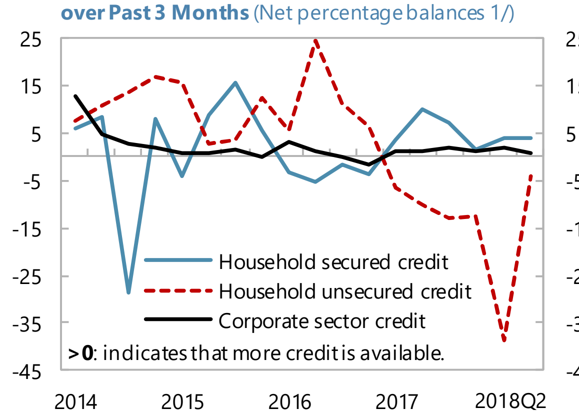
Market funding has weakened in recent quarters.

UK: Net Finance Raised by UK Businesses
(Bn. sterling, SA)



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

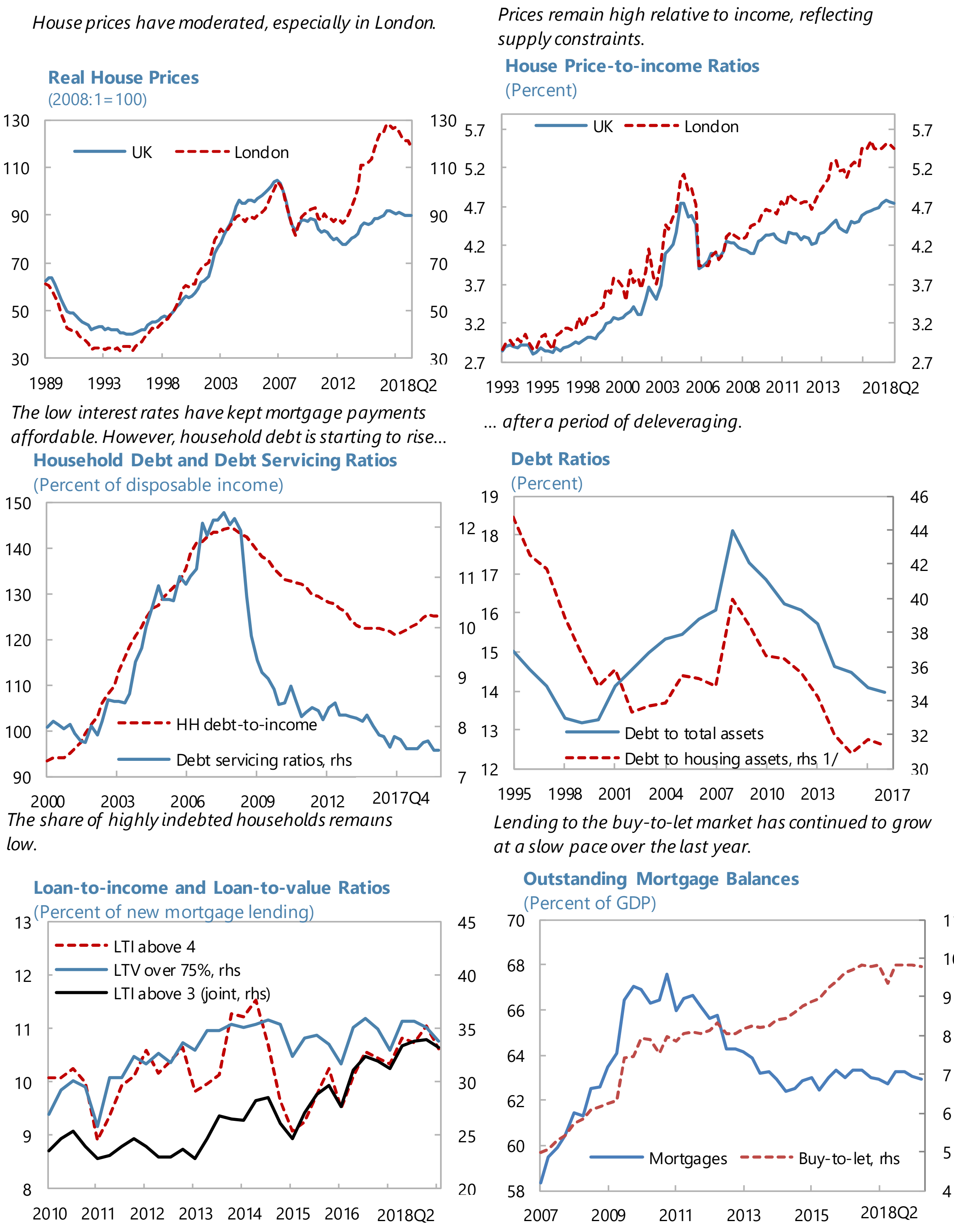
Bank of England Survey: Credit Availability over Past 3 Months (Net percentage balances 1/)



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

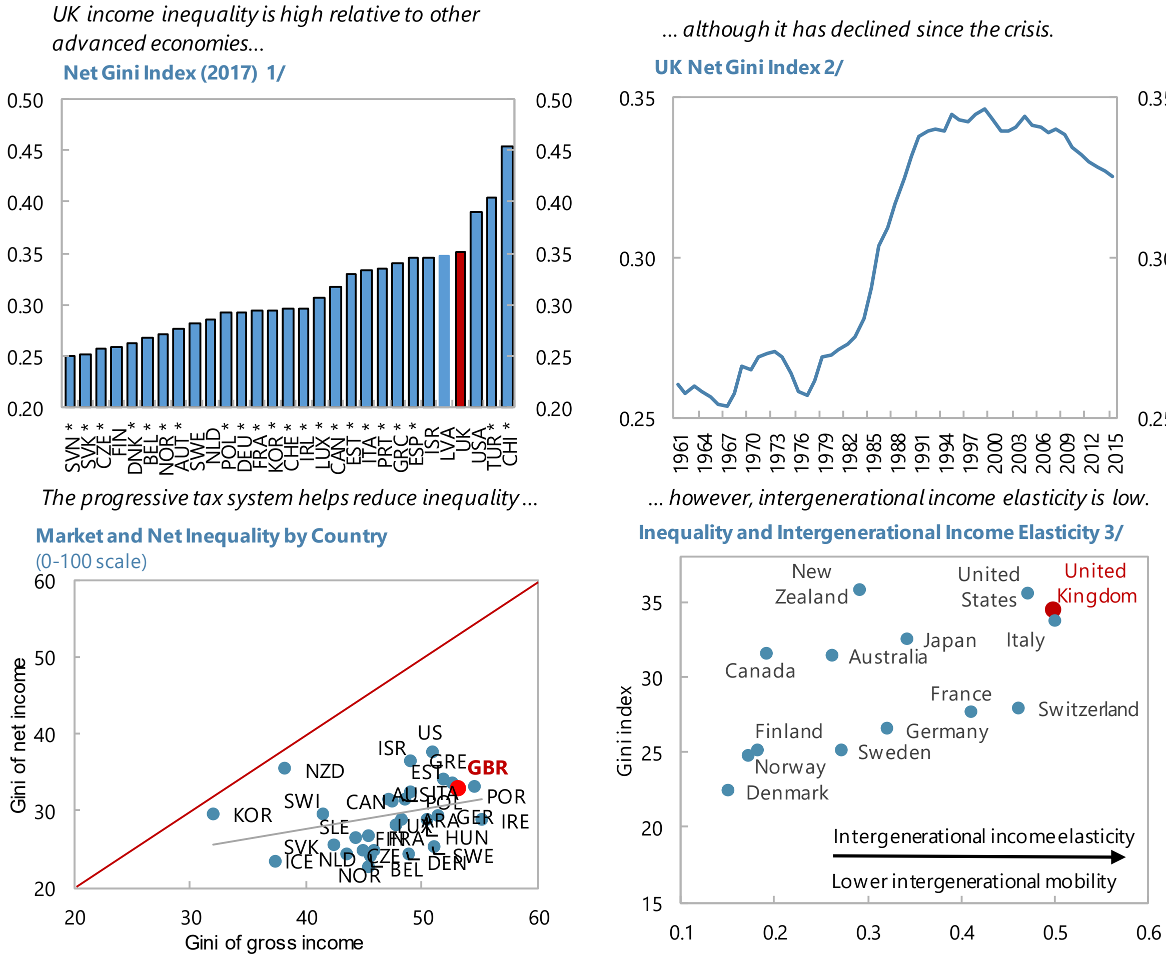
1/ Calculated by weighting the responses of lenders' responses.

Figure 9. United Kingdom: Housing Market Developments



Sources: Bank of England; BIS; ONS; Haver; and IMF staff calculations.
1/ Housing assets for 2016 and 2017 are derivated using house prices.

Figure 10. United Kingdom: Inequality



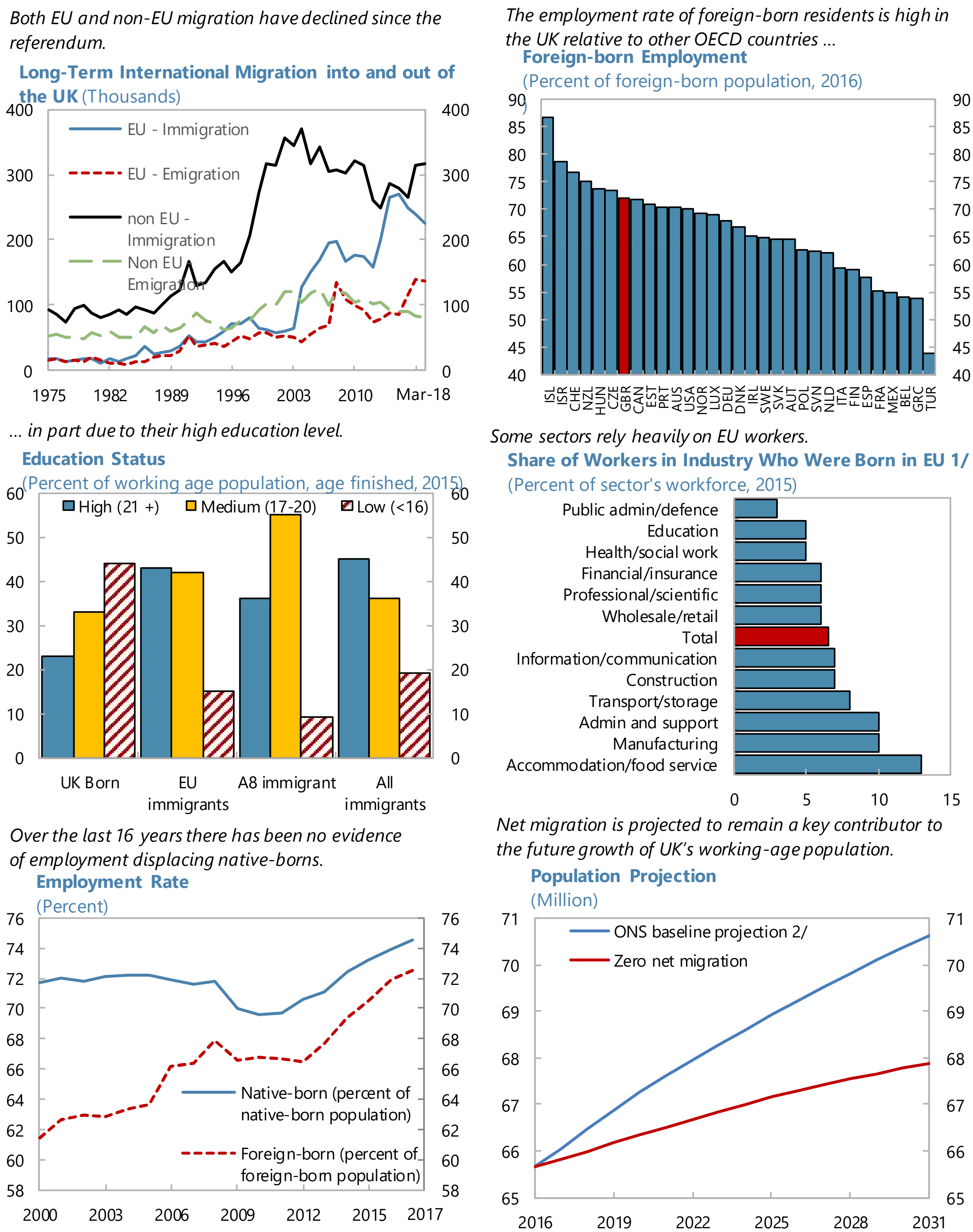
Sources: OECD; SWIID; Corak (2015); and IMF staff calculations.

1/ Measures inequality in disposable income, post taxes and transfers. Based on OECD data. 2016 data for countries with star.

2/ Measures inequality in disposable income, post taxes and transfers. 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 11. United Kingdom: Migration



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.

Table 1. United Kingdom: Selected Economic Indicators, 2014–2019

	2014	2015	2016	2017	2018	2019
					Projections	
Real Economy (change in percent)						
Real GDP 1/	2.9	2.3	1.8	1.7	1.4	1.5
Private final domestic demand	2.9	2.8	3.0	2.1	1.1	1.4
CPI, end-period	1.0	0.1	1.2	3.0	2.3	2.1
Unemployment rate (in percent) 2/	6.2	5.4	4.9	4.4	4.1	4.2
Gross national saving (percent of GDP)	12.3	12.3	12.0	13.6	13.7	14.0
Gross domestic investment (percent of GDP)	17.3	17.2	17.3	17.4	17.2	17.2
Public Finance (fiscal year, percent of GDP) 3/						
Public sector overall balance	-4.9	-3.8	-2.3	-1.9	-1.9	-1.5
Public sector cyclically adjusted primary balance (staff estimates) 4/	-2.7	-2.0	-0.6	-0.1	-0.3	0.0
Public sector net debt	82.6	82.3	85.2	85.3	85.5	84.7
Money and Credit (end-period, 12-month percent change)						
M4	-1.1	0.2	6.2	3.8	...	...
Net lending to private sector	1.5	2.8	3.8	3.8	...	...
Interest rates (percent; year average)						
Three-month interbank rate	0.5	0.6	0.5	0.4	...	...
Ten-year government bond yield	2.6	1.9	1.3	1.2	...	...
Balance of Payments (percent of GDP)						
Current account balance	-4.9	-4.9	-5.2	-3.8	-3.5	-3.2
Trade balance	-1.6	-1.4	-1.6	-1.2	-1.0	-0.9
Net exports of oil	-0.6	-0.4	-0.4	-0.4	-0.5	-0.4
Exports of goods and services (volume change in percent)	2.3	4.4	1.0	5.4	0.0	1.2
Imports of goods and services (volume change in percent)	3.8	5.5	3.3	3.2	-0.3	0.6
Terms of trade (percent change)	1.3	1.5	1.9	-0.5	0.2	0.0
FDI net	-5.8	-3.7	-8.2	3.1	2.3	1.9
Reserves (end of period, billions of US dollars)	109.1	130.5	136.6	158.6	...	...
Fund Position (as of May 31, 2016)						
Holdings of currency (in percent of quota)					82.5	82.5
Holdings of SDRs (in percent of allocation)					70.2	70.2
Quota (in millions of SDRs)					20,155	20,155
Exchange Rates						
Exchange rate regime						Floating
Bilateral rate (October 5, 2018)						US$1 = £0.7832
Nominal effective rate (2010=100, year average) 5/	107.2	114.2	101.8	95.9	95.5	...
Real effective rate (2010=100, year average) 5/	109.7	116.8	104.3	99.1	99.0	...

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.

5/ As of September 2018.

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	2.0	2.9	2.3	1.8	1.7	1.4	1.5	1.5	1.6	1.6	1.6
Q4/Q4 1/	2.6	3.1	2.2	1.7	1.3	1.5	1.4	1.6	1.6	1.6	1.6
Real domestic demand	2.1	3.2	2.3	2.4	1.3	1.3	1.3	1.5	1.5	1.6	1.6
Private consumption	1.8	2.0	2.6	3.1	1.8	1.1	1.2	1.3	1.4	1.5	1.5
Government consumption	-0.2	2.2	1.4	0.8	-0.1	1.3	0.9	0.6	0.9	1.1	1.1
Fixed investment	3.4	7.2	3.4	2.3	3.4	0.9	2.5	3.1	2.5	2.5	2.6
Public	-3.5	8.7	-0.7	0.9	1.9	-0.3	4.0	6.1	1.0	1.2	1.5
Residential	9.4	8.7	7.8	9.1	9.6	7.2	2.2	2.5	2.7	2.7	2.7
Business	2.9	5.2	3.7	-0.2	1.6	1.2	2.4	2.7	2.8	2.8	2.8
Stocks 2/	0.2	0.7	-0.2	-0.1	-0.5	0.1	-0.1	0.0	0.0	0.0	0.0
Gross national saving (percent of GDP)	11.1	12.3	12.3	12.0	13.6	13.7	14.0	14.4	14.6	14.8	15.1
Gross domestic investment (percent of GDP)	16.2	17.3	17.2	17.3	17.4	17.2	17.2	17.5	17.6	17.8	17.9
External balance 2/	-0.5	-0.4	-0.3	-0.7	0.6	0.1	0.1	0.0	0.0	0.0	0.0
Exports of Goods and Services	1.5	2.3	4.4	1.0	5.4	0.0	1.2	0.9	0.9	0.9	0.9
Imports of Goods and Services	3.2	3.8	5.5	3.3	3.2	-0.3	0.6	0.8	0.8	0.8	0.8
Current account 3/	-5.1	-4.9	-4.9	-5.2	-3.8	-3.5	-3.2	-3.0	-3.0	-2.9	-2.9
CPI Inflation, period average	2.6	1.5	0.0	0.7	2.7	2.5	2.2	2.0	2.0	2.0	2.0
CPI Inflation, end period	2.0	1.0	0.1	1.2	3.0	2.3	2.1	2.0	2.0	2.0	2.0
GDP deflator, period average	1.9	1.7	0.4	2.1	1.9	1.5	1.6	1.7	1.8	1.9	1.9
Output gap 4/	-1.8	-0.7	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Potential output	1.7	1.8	1.8	1.7	1.5	1.4	1.4	1.5	1.6	1.6	1.6
Employment and productivity											
Employment	1.2	2.4	1.7	1.4	1.0	1.1	0.5	0.5	0.5	0.5	0.5
Unemployment rate 5/	7.6	6.2	5.4	4.9	4.4	4.1	4.2	4.5	4.5	4.5	4.5
Productivity 6/	0.2	0.2	0.8	0.4	0.5	0.7	0.9	1.0	1.1	1.1	1.1
Memorandum items:											
Private final domestic demand	2.3	2.9	2.8	3.0	2.1	1.1	1.4	1.5	1.6	1.7	1.7
Household saving rate 7/	8.6	8.6	9.4	6.8	4.4	4.3	4.2	4.2	4.1	4.1	4.2
Private saving rate	13.6	14.7	13.5	12.1	12.4	12.2	12.3	12.3	12.3	12.1	12.2
Credit to the private sector	0.9	1.5	2.8	3.8	3.8	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
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	2.2	1.5	1.0	1.1	0.7	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/

(Percentage change, 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
								2018 Spring Statement					
Revenue	36.1	36.4	35.7	35.7	35.5	35.8	36.5	36.6	36.7	36.8	36.8	36.7	36.7
Taxes	27.1	27.3	26.5	26.6	26.5	26.7	27.2	27.4	27.6	27.6	27.6	27.4	27.4
Social contributions	6.1	6.2	6.1	6.0	5.9	6.0	6.3	6.4	6.5	6.5	6.5	6.5	6.5
Other revenue	2.9	3.0	3.1	3.1	3.1	3.1	3.0	2.8	2.6	2.7	2.8	2.8	2.8
Of which: Interest income	0.4	0.4	0.3	0.3	0.4	0.4	0.3	0.4	0.4	0.5	0.5	0.5	0.6
Expenditure	44.6	43.5	42.3	41.2	40.4	39.5	38.8	38.8	38.4	38.3	38.1	37.8	37.6
Expense	42.5	41.9	40.6	39.9	39.0	38.4	37.5	37.4	37.3	37.1	36.7	36.5	36.3
Consumption of fixed capital	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	1.9	1.9	1.9	1.9	1.9
Interest	2.6	2.7	2.4	2.3	2.0	2.0	2.0	2.2	2.0	2.0	2.0	2.0	2.0
Others	37.8	37.0	36.1	35.5	34.8	34.3	33.4	33.2	33.4	33.1	32.7	32.5	32.3
Net acquisition of nonfinancial assets	2.1	1.6	1.7	1.3	1.4	1.2	1.3	1.4	1.1	1.2	1.4	1.3	1.3
Gross operating balance	-6.4	-5.5	-4.9	-4.2	-3.4	-2.6	-1.0	-0.8	-0.7	-0.3	0.1	0.2	0.4
Net lending/borrowing (overall balance)	-8.5	-7.1	-6.5	-5.5	-4.9	-3.8	-2.3	-2.2	-1.8	-1.6	-1.3	-1.1	-0.9
Primary balance	-6.2	-4.7	-4.5	-3.6	-3.2	-2.2	-0.6	-0.4	-0.1	0.0	0.2	0.3	0.6
Cyclically adjusted overall balance	-6.5	-5.2	-4.5	-3.9	-4.1	-3.5	-2.2	-2.3	-1.9	-1.6	-1.3	-1.1	-0.9
Cyclically adjusted primary balance (CAPB)	-4.2	-2.8	-2.5	-2.0	-2.5	-1.9	-0.5	-0.5	-0.3	-0.1	0.2	0.3	0.6
General government gross debt 2/	75.6	81.8	83.4	85.4	86.3	86.3	86.4	85.5	85.4	85.3	84.9	84.8	84.2
Public sector net debt 3/	71.0	74.6	78.2	80.2	82.6	82.3	85.2	85.6	85.5	85.1	82.1	78.3	77.9
Memorandum items:													
Output gap (percent of potential)	-2.6	-2.8	-2.9	-2.0	-0.7	-0.2	-0.1	0.2	0.2	0.1	0.0	0.0	0.0
Real GDP growth (percent)	2.1	1.4	1.5	2.4	2.9	2.2	1.7	1.6	1.5	1.2	1.3	1.4	1.5
Nominal GDP (in billions of pounds)	1,607	1,651	1,710	1,782	1,858	1,914	1,990	2,054	2,116	2,177	2,241	2,312	2,389
Potential GDP growth (percent)	1.1	1.6	1.7	1.5	1.6	1.7	1.8	1.4	1.4	1.4	1.4	1.4	1.5
									Staff projections				
Revenue	36.1	36.4	35.7	35.7	35.5	35.8	36.5	36.5	36.6	36.7	36.7	36.6	36.6
Taxes	27.1	27.3	26.5	26.6	26.5	26.7	27.2	27.2	27.4	27.5	27.4	27.3	27.3
Social contributions	6.1	6.2	6.1	6.0	5.9	6.0	6.3	6.5	6.5	6.5	6.5	6.5	6.5
Other revenue	2.9	3.0	3.1	3.1	3.1	3.1	3.0	2.8	2.6	2.7	2.8	2.8	2.8
Of which: Interest income	0.4	0.4	0.3	0.3	0.4	0.4	0.3	0.3	0.4	0.5	0.5	0.5	0.6
Expenditure	44.6	43.5	42.3	41.2	40.4	39.5	38.8	38.4	38.5	38.2	37.9	37.5	37.3
Expense	42.5	41.9	40.6	39.9	39.0	38.4	37.5	37.1	37.4	37.0	36.5	36.2	36.0
Consumption of fixed capital	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	1.9	1.9	1.9	1.9	1.9
Interest	2.6	2.7	2.4	2.3	2.0	2.0	2.0	2.2	2.0	2.0	2.0	2.0	2.0
Other	37.8	37.0	36.1	35.5	34.8	34.3	33.4	32.9	33.4	33.0	32.6	32.3	32.0
Net acquisition of nonfinancial assets	2.1	1.6	1.7	1.3	1.4	1.2	1.3	1.3	1.1	1.2	1.4	1.3	1.3
Gross operating balance	-6.4	-5.5	-4.9	-4.2	-3.4	-2.6	-1.0	-0.6	-0.8	-0.3	0.2	0.3	0.7
Net lending/borrowing (overall balance)	-8.5	-7.1	-6.5	-5.5	-4.9	-3.8	-2.3	-1.9	-1.9	-1.5	-1.2	-1.0	-0.7
Primary balance	-6.2	-4.7	-4.5	-3.6	-3.2	-2.2	-0.6	-0.1	-0.3	0.0	0.3	0.5	0.8
Cyclically adjusted overall balance	-6.9	-5.6	-5.1	-4.3	-4.3	-3.7	-2.3	-1.9	-1.9	-1.5	-1.2	-1.0	-0.7
Cyclically adjusted primary balance (CAPB)	-4.6	-3.3	-3.1	-2.4	-2.7	-2.0	-0.6	-0.1	-0.3	0.0	0.3	0.5	0.8
CAPB (percent of potential GDP)	-4.5	-3.2	-3.0	-2.4	-2.7	-2.0	-0.6	-0.1	-0.3	0.0	0.3	0.5	0.8
General government gross debt 2/	75.6	81.8	83.4	85.4	86.3	86.3	86.4	85.9	86.0	85.5	84.9	84.3	83.4
Public sector net debt 3/	71.0	74.6	78.2	80.2	82.6	82.3	85.2	85.3	85.5	84.7	81.5	77.4	76.7
Memorandum items:													
Output gap (percent of potential)	-2.1	-2.0	-2.1	-1.5	-0.5	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Real GDP growth (percent)	2.1	1.4	1.5	2.4	2.9	2.2	1.7	1.5	1.5	1.5	1.5	1.6	1.6
Nominal GDP (in billions of pounds)	1,607	1,651	1,710	1,782	1,858	1,914	1,990	2,055	2,112	2,184	2,252	2,328	2,410
Potential GDP growth (percent)	1.1	1.3	1.6	1.8	1.8	1.8	1.7	1.5	1.4	1.5	1.5	1.6	1.6

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.

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	-5.1	-4.9	-4.9	-5.2	-3.8	-3.5	-3.2	-3.0	-3.0	-2.9	-2.9
Balance on goods and services	-1.6	-1.6	-1.4	-1.6	-1.2	-1.0	-0.9	-0.8	-0.8	-0.7	-0.6
Trade in goods	-6.8	-6.6	-6.2	-6.7	-6.7	-6.6	-6.5	-6.3	-6.1	-5.9	-5.6
Exports	17.1	15.9	15.1	15.2	16.6	16.5	16.5	16.4	16.3	16.0	15.8
Imports	-23.8	-22.5	-21.3	-21.9	-23.3	-23.1	-23.0	-22.7	-22.4	-21.9	-21.4
Trade in services	5.1	5.0	4.8	5.2	5.5	5.6	5.7	5.5	5.4	5.2	5.0
Exports	12.7	12.3	12.3	13.1	13.6	13.6	13.6	13.3	13.0	12.7	12.3
Imports	-7.6	-7.3	-7.5	-7.9	-8.0	-8.0	-7.9	-7.8	-7.6	-7.5	-7.3
Primary income balance	-2.1	-2.1	-2.3	-2.5	-1.6	-1.5	-1.3	-1.2	-1.2	-1.2	-1.2
Secondary income balance	-1.4	-1.3	-1.2	-1.1	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Capital and financial account	-4.7	-5.0	-4.8	-5.4	-2.9	-3.5	-3.2	-3.0	-3.0	-2.9	-2.9
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	-5.1	-4.9	-5.5	-3.0	-3.6	-3.3	-3.1	-3.1	-3.0	-2.9
Direct investment	-0.4	-5.8	-3.7	-8.2	3.1	2.3	1.9	1.5	1.0	0.8	0.8
Abroad	1.6	-3.8	-2.1	1.9	5.6	3.5	3.3	3.1	3.0	3.0	4.0
Domestic	2.0	2.0	1.6	10.1	2.5	1.2	1.4	1.6	2.0	2.2	3.2
Portfolio investment	-10.3	0.5	-7.0	-7.3	-3.3	0.0	0.0	0.0	0.0	0.0	0.0
Financial derivatives	2.3	1.0	-4.4	1.1	0.5	0.1	-0.3	-0.5	0.1	0.0	-0.1
Other investment	3.3	-1.2	9.0	8.7	-3.6	-6.4	-5.4	-4.6	-4.6	-4.1	-4.0
Change in reserve assets	0.3	0.4	1.1	0.3	0.3	0.4	0.5	0.5	0.4	0.4	0.4
Net errors and omissions	0.4	0.0	0.1	-0.2	0.9	0.0	0.0	0.0	0.0	0.0	0.0
Terms of trade (y/y percent change)	1.2	1.3	1.5	1.9	-0.5	0.2	0.0	0.0	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	-18.0	-22.1	-20.1	-2.4	-8.1	-11.5	-14.4	-17.1	-19.6	-21.9	-24.1
Assets	547.3	553.8	507.5	556.8	525.8	518.1	509.7	501.6	493.3	484.9	477.1
Liabilities	565.3	575.9	527.6	559.2	533.9	529.6	524.1	518.7	512.9	506.8	501.2
Net direct investment	9.8	3.5	2.7	0.7	0.5	2.8	4.6	6.0	6.8	7.4	7.9
Direct investment abroad	81.6	75.2	74.0	79.5	77.2	78.5	79.5	80.1	80.5	80.8	82.0
Direct investment in the UK	71.8	71.8	71.4	78.8	76.6	75.7	74.8	74.1	73.7	73.4	74.1
Net Portfolio investment	-38.7	-35.6	-37.8	-32.7	-31.9	-31.0	-30.1	-29.1	-28.2	-27.2	-26.3
Portfolio investment abroad	116.9	120.5	117.9	124.9	132.5	131.4	129.6	127.7	125.7	123.0	119.8
Portfolio investment in the UK	155.6	156.2	155.7	157.6	164.4	162.4	159.7	156.8	153.9	150.2	146.1
Net financial derivatives	6.2	5.7	1.0	2.2	2.3	2.3	1.9	1.3	1.4	1.3	1.2
Assets	141.1	157.8	127.1	134.5	99.4	99.4	99.4	99.4	99.4	99.4	99.4
Liabilities	134.9	152.2	126.1	132.4	97.1	97.1	97.5	98.1	98.0	98.0	98.2
Net other investment	1.3	0.8	9.4	21.9	15.5	8.7	3.1	-1.6	-6.1	-10.1	-13.7
Other investment abroad	204.2	196.5	183.8	212.3	211.4	203.0	195.1	188.0	181.3	175.1	169.1
Other investment in the UK	203.0	195.8	174.3	190.5	195.8	194.3	192.1	189.7	187.4	185.2	182.8
Reserve assets	3.5	3.7	4.6	5.6	5.5	5.8	6.1	6.3	6.5	6.7	6.8
Memorandum items:											
Change in the net investment position	9.3	-4.9	1.4	16.9	-5.7	-3.6	-3.3	-3.1	-3.1	-3.0	-2.9
Current account balance	-5.1	-4.9	-4.9	-5.2	-3.8	-3.5	-3.2	-3.0	-3.0	-2.9	-2.9

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. External Sector Assessment

<table>
<tr><th></th><th>United Kingdom</th><th>Overall Assessment</th></tr>
<tr><td>Foreign asset and liability position and trajectory</td><td>Background. The net international investment position (NIIP) declined from -2.4 percent of GDP in 2016 to -8.1 percent of GDP in 2017. Over the past five years, the NIIP has strengthened by 20.4 percentage points, reflecting a negative CA contribution (-22.4pp) more than offset by valuation and growth effects (37.9pp and 4.8 pp respectively).[1/] Staff projects the NIIP to weaken over the medium term, although the importance of and uncertainty around valuation effects cast significant doubt around these estimates.
Assessment. The sustainability of NIIP is not a concern. Since 2000, valuation gains have offset around a third of the effect of current account flows on the IIP. In addition, 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 (excluding derivatives, gross assets and gross liabilities exceed 400 percent of GDP).</td><td rowspan="3">Overall Assessment:
The external position in 2017 was weaker than implied by medium-term fundamentals and desirable policy settings, and preliminary data suggest the assessment will be broadly unchanged for 2018.

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 ongoing fiscal consolidation, the effect of the real depreciation, and an improving primary income balance as UK growth underperforms that of its trade partners.
The uncertainty around this assessment is significant, reflecting both possible measurement uncertainty, as well as uncertainty about the future trade arrangement with the EU and its possible effect on growth and trade flows.

Potential policy responses:
The current fiscal consolidation plan implemented within a medium-term framework will appropriately continue to support the external rebalancing. Further</td></tr>
<tr><td>Current account

CA Assessment 2017</td><td>Background. The CA balance improved to -3.9 percent of GDP in 2017 (from -5.2 percent in 2016) and is expected to further improve to -3.5 percent of GDP in 2018, remaining significantly below its average historical values. The wider CA deficits since the 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 broadly stable at around -1.6 percent of GDP through 2016, and increased to -1.3 percent in 2017, supported by strong growth in trading partners and a weaker sterling. It is expected to remain broadly stable in 2018, at -1.0 percent of GDP. The CA improvement in 2017 was also driven by an improvement in net income flows (0.9 percent of GDP), helped by the positive valuation effect from sterling depreciation which increase the sterling value of income inflows denominated in foreign currency.
From a savings-investment perspective, the CA dynamics during 2017 reflect an improvement in gross national savings, but the CA deficit reflects a still elevated general government deficit (1.8 percent of GDP in 2017) and low private sector savings.
Assessment. The EBA CA model estimates a CA gap of -4.8 percent of GDP for 2017 (a cyclically-adjusted CA balance of -3.8 percent of GDP compared with a CA norm of 1 percent of GDP). However, the cyclically-adjusted CA could be understated due to measurement biases associated with large NIIP valuation effects.[2/] Looking ahead, the recovery of global growth relative to UK growth should translate into higher net income inflows over time. Uncertainty around the CA gap estimation is high, as evident from the results under different methodologies, partly reflecting measurement uncertainties (large and volatile NIIP valuation changes, and other unidentified stock-flow adjustments). Overall, staff assesses the 2017 cyclically-adjusted CA balance to be 1 to 5 percent of GDP weaker than the CA norm, with a mid-point of 3 percent of GDP. This range takes into account the uncertainty in the assessment due to the Brexit negotiation process, possible measurement and modeling issues, the REER assessment below and the External Sustainability (ES) approach.[3/ 4/]
Actual CA -3.9 | Cycl. Adj. CA -3.8 | EBA CA Norm 1.0 | EBA CA Gap -4.8 | Staff Adj. -1.8 | Staff CA Gap -3.0</td></tr>
<tr><td>Real exchange rate</td><td>Background. Sterling depreciated by 10 percent in 2016 in real effective terms relative to its average level in 2015 and by additional five percent from 2016 to 2017. 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. As of August 2018 the REER is unchanged relative to its 2017 average.
Assessment. EBA REER level and index approaches suggest a gap of -9.3 and -10.0 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 is broadly anchored on the CA assessment. The weaker sterling and strong trading partner growth are expected to support further CA deficit narrowing in the near term.</td></tr>
</table>

	United Kingdom	Overall Assessment
Capital and financial accounts: flows and policy measures	**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.	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	Note: The Office for National Statistics introduced in 2017 methodological changes, revising the historical series of the CA and the NIIP. Revisions to the CA were negative in most years and related mainly to the primary income balance. In June 2018, a new round of methodological changes led to the revision of historical external series. This time, the revisions lowered the CA deficit in recent years, led by an upward revision to the trade balance as a result of improvements in the estimation of net trade earnings (which feed into exports of services). 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 could be close to 80 percent of GDP in mid-2017 (November 2017 Inflation Report). Market value estimates of FDI assets assume their valuations move in line with those of equity market indices in the UK and abroad. These estimates are uncertain, as actual FDI market values could evolve differently from equity markets. 2/ Staff's estimates of valuation effects have been persistently positive even during periods without significant exchange rate depreciation (i.e. 2000 to 2007, and 2009 to 2015). 3/ The ES approach provides a complementary perspective when the regression approaches yield unsatisfactory empirical fits, as in the case of the UK. This approach suggests a CA gap of about -3 percent of GDP relative to the CA level that would stabilize NFA to GDP at its 2017 level. 4/ Should Brexit lead to a significant increase in trade barriers, the equilibrium exchange rate could be weaker than suggested here.	

Annex II. Risk Assessment Matrix[1]

Source of Risks and Relative Likelihood	Expected Impact of Risk	Policy Recommendations
Low / Medium **Leaving the EU with no deal**: the UK leaves the EU and becomes a third country on March 29, 2019 without a Withdrawal Agreement and framework for a future relationship in place between the UK and the EU.	**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. For instance, contractual and operational challenges could lead to the disruption of financial services. 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.	• Close collaboration with the EU will help ensure a smooth and predictable transition to a new economic relationship. • Contingency planning for risks that may arise in the event of heightened market volatility, including liquidity support. • Let automatic fiscal stabilizers operate fully. Some temporary fiscal support, for example though additional expenditures on labor market policies and bringing forward infrastructure spending, could be considered. 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. "Short term (ST)" and "medium term (MT)" are meant to indicate that the risk could materialize within 1 year and 3 years, respectively. When not shown, the time horizon covers both the short term and the medium term.

Source of Risks and Relative Likelihood	Expected Impact of Risk	Policy Recommendations
	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.	
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 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.	• Preemptively, maintain prudent lending standards. • Maintain strong balance sheets and high capital buffers in the financial sector. • In case of significant negative macroeconomic effects, consider easing monetary policy.
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.
Medium **Cyber-attacks** on critical global, financial, transport or communication infrastructure and	**Medium** A successful cyber-attack on one or more systemically important financial institutions or market	• Preemptively, carry out regular testing of the resilience of computer systems to cyberattacks and address vulnerabilities.

Source of Risks and Relative Likelihood	Expected Impact of Risk	Policy Recommendations
broader private and public institutions trigger systemic financial instability or widespread disruptions in socio-economic activities.	infrastructure (payment, clearing, and settlement payments) causes delay, disruption or loss of services, affecting many institutions that rely on the attached hub, and affecting the flow of goods and services. This could also lead to a loss of confidence in the functioning of the financial system.	
Financial conditions: • **Sharp tightening of global financial conditions (ST)** increases refinancing risks; stress on leverage firms, households, and vulnerable sovereigns; capital account pressures; and a broad-based downturn. It could be triggered by a sharper-than expected increase in US interest rates or the materialization of other risks. (**High**) • **Decompression of risk premia** in UK corporate bond markets could also be triggered by domestic concerns. (**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.
Weaker-than-expected global growth: **Euro Area (MT):** progress on fiscal adjustment, addressing legacy bank sector problems and structural reforms slows or reverses, raising borrowing costs and undermining medium-term prospects. (**Medium**) **China:** Disorderly deleveraging adversely affecting near-term growth (**Low**). In the medium term, insufficient progress in deleveraging and rebalancing growth reduces growth, with additional credit stimulus postponing the slowdown,	**Medium** / **High** Slowdown in exports and GDP growth. The Euro Area is the UK's largest trading partner, and financial sector exposures are significant at 240 percent of CET1 of system-wide capital. 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 200 percent of system-wide CET1.	• Allow automatic fiscal stabilizers to operate; could temporarily ease macroeconomic policies if growth slows sharply. • Implement structural policies to boost investment, productivity and competitiveness.

Source of Risks and Relative Likelihood	Expected Impact of Risk	Policy Recommendations
but making it sharper. (**Medium**)	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.	
High **Rising protectionism and retreat from multilateralism (other than Brexit)** Fraying consensus about the benefits of globalization lead to trade wars and economic isolationism.	**Medium** A retaliatory cycle of trade restrictions would have an impact on global growth. Higher uncertainty, reduced global business confidence, and tighter financial conditions would lead to lower investment, exacerbating weak productivity prospects.	• Continued support for the multilateral rules-based trading system, trade liberalization, and free trade agreements. • Sustained efforts to make growth more inclusive, for instance, by addressing regional disparities in labor productivity.

Annex III. Debt Sustainability Analysis[1]

Public sector gross debt stands at about 96 percent of GDP in FY17 and is projected to start falling next fiscal year, reaching around 85 percent of GDP by FY23. 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 remain slow between FY17 and FY19, in line with weak private domestic demand. In subsequent years, growth is projected to stabilize around 1.6 percent. CPI inflation is expected to have peaked 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 90 basis points by FY23.

- **Fiscal adjustment**. The authorities have slowed the pace of fiscal consolidation since the Brexit referendum. In staff's baseline projections, the primary deficit does not turn to surplus until FY20. 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 expired in 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 8 percent of GDP in FY18—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 each around -0.4 percent. This suggests a slight upward bias in staff's historical inflation projections. The median forecast error for the primary balance is -0.06 percent of GDP, suggesting no significant bias in staff

[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).

projections. The cross-country experience suggests that the envisaged CAPB adjustment of about 1 percentage point of GDP in FY18–FY23 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 FY19 and FY20 (the cumulative growth shock is 4 percent of GDP). Under these assumptions, the debt-to-GDP ratio rises to about 98 percent of GDP by FY20 and declines below 95 percent by FY21. Gross financing needs rise slightly to about 13 percent of GDP by FY20 and decline gradually thereafter.

- **Primary balance shock.** This scenario assumes a deterioration in the primary balance of 1.3 percentage points both for FY19 and FY20. The debt-to GDP ratio peaks at around 96 percent of GDP in FY19 and drops below 90 percent by FY21. Gross financing needs also rise to around 12 percent of GDP by FY20.

- **Interest rate shock.** In this scenario, a 224 basis point increase in interest rates is assumed from FY19 on. The effective interest rate edges up to 2.6 percentage points by FY23/24, but is only 0.4 percentage point 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 FY19, 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).[3]

[3] The government has taken steps to address this risk by reducing the share of index-linked to total gilt issuance from an average of 25 percent over the last five years, to around 20 percent in its FY2018 financing remit. Moreover, the government intends to keep the appropriate balance between index-linked and conventional gilts in future financing remits under review.

- **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 99 percent of GDP in FY20 and declines to around 95 percent of GDP by FY21. Gross financing needs would rise to 13 percent by FY20.

- **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 FY19. Real GDP is also reduced by one standard deviation for two years. Under this scenario, the debt-to-GDP ratio would rise to about 110 percent of GDP in FY19, and gross financing needs would peak at 21 percent of GDP.

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

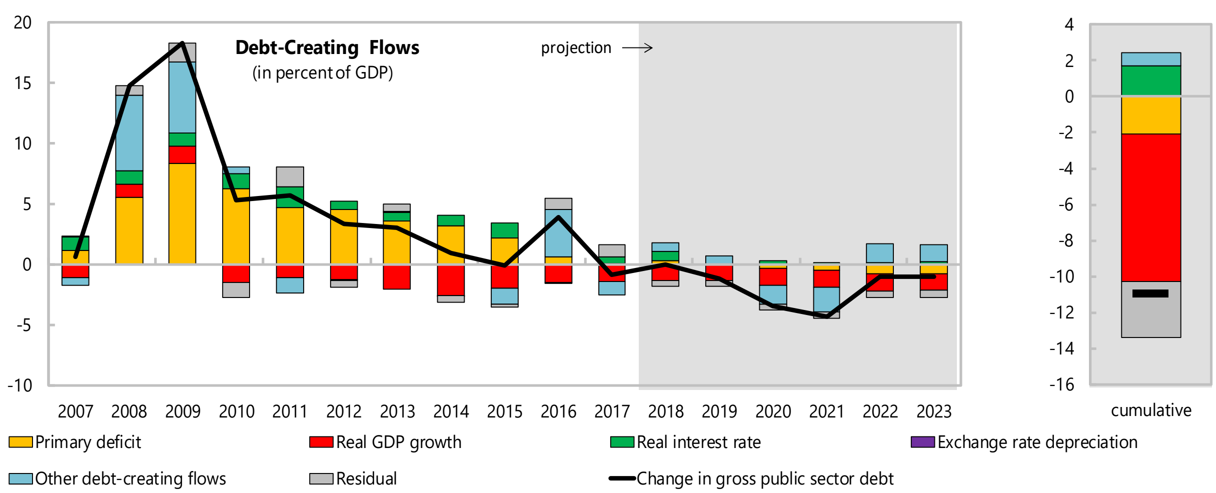
(In percent of GDP unless otherwise indicated)

Debt, Economic and Market Indicators [1]

	Actual			Projections						As of September 28, 2018		
	2007-2015 [2]	2016	2017	2018	2019	2020	2021	2022	2023	Sovereign Spreads		
Nominal gross public debt	77.9	96.3	95.5	95.5	94.4	90.9	86.6	85.6	84.6	EMBIG (bp) 3/		110
Public gross financing needs	11.4	9.1	9.6	8.3	9.3	9.9	8.4	7.2	8.2	5Y CDS (bp)		29
Real GDP growth (in percent)	1.1	1.7	1.5	1.5	1.5	1.5	1.6	1.6	1.6	Ratings	Foreign	Local
Inflation (GDP deflator, in percent)	1.7	2.2	1.7	1.3	1.9	1.5	1.8	1.8	1.9	Moody's	Aa2	Aa2
Nominal GDP growth (in percent)	2.9	4.0	3.2	2.8	3.4	3.1	3.4	3.5	3.5	S&Ps	AA	AA
Effective interest rate (in percent) [4]	3.5	2.3	2.3	2.2	2.0	1.9	2.0	2.1	2.2	Fitch	AA+	AA

Contribution to Changes in Public Debt

	Actual			Projections							
	2007-2015	2016	2017	2018	2019	2020	2021	2022	2023	cumulative	debt-stabilizing
Change in gross public sector debt	5.8	3.9	-0.8	0.0	-1.2	-3.4	-4.3	-1.0	-1.0	-11.0	primary
Identified debt-creating flows	5.5	3.0	-1.8	0.4	-0.7	-2.9	-3.8	-0.4	-0.5	-7.9	balance [9]
Primary deficit	4.4	0.6	0.1	0.3	0.0	-0.3	-0.5	-0.8	-0.8	-2.1	0.3
Primary (noninterest) revenue and grants	35.6	36.3	36.3	36.2	36.3	36.3	36.1	36.1	36.1	217.2	
Primary (noninterest) expenditure	39.9	36.9	36.4	36.5	36.3	36.0	35.6	35.3	35.3	215.1	
Automatic debt dynamics [5]	0.1	-1.5	-0.8	-0.6	-1.3	-1.1	-1.2	-1.2	-1.1	-6.5	
Interest rate/growth differential [6]	0.1	-1.5	-0.8	-0.6	-1.3	-1.1	-1.2	-1.2	-1.1	-6.5	
Of which: real interest rate	1.1	0.0	0.6	0.8	0.0	0.3	0.1	0.2	0.2	1.7	
Of which: real GDP growth	-1.0	-1.5	-1.4	-1.4	-1.3	-1.4	-1.4	-1.4	-1.3	-8.2	
Exchange rate depreciation [7]	0.0	0.0	0.0	…	…	…	…	…	…	…	
Other identified debt-creating flows	1.1	3.9	-1.1	0.7	0.7	-1.6	-2.0	1.5	1.5	0.7	
Cash req. adjustments. incl. privatization (negative)	1.1	3.9	-1.1	0.7	0.7	-1.6	-2.0	1.5	1.5	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 Euroarea loans)	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]	0.2	0.9	1.0	-0.4	-0.5	-0.5	-0.5	-0.6	-0.6	-3.1	



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 - π(1+g) - g + ae(1+r)]/(1+g+π+gπ)) 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 - π (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).

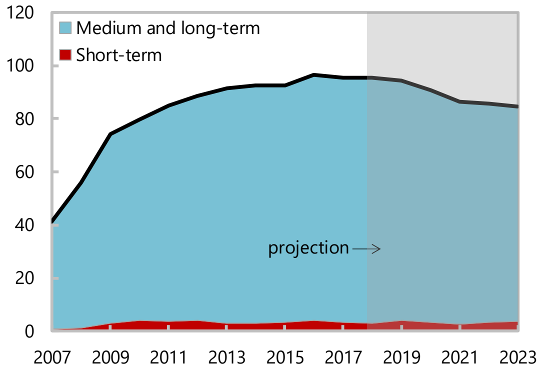
8/ Includes asset changes and interest revenues (if any). For projections, includes exchange rate changes during the projection period.

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.

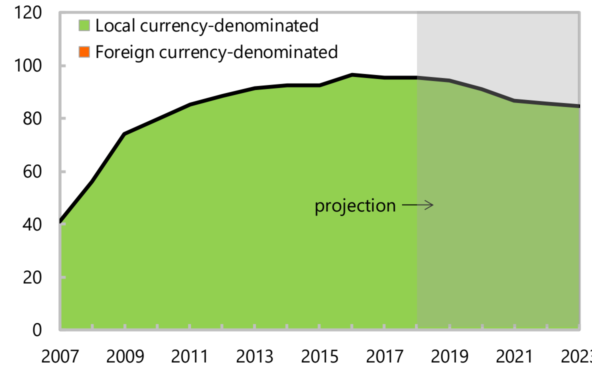
Figure 2. United Kingdom: Public DSA—Composition of Public Debt and Alternative Scenarios

Composition of Public Debt

By Maturity
(in percent of GDP)



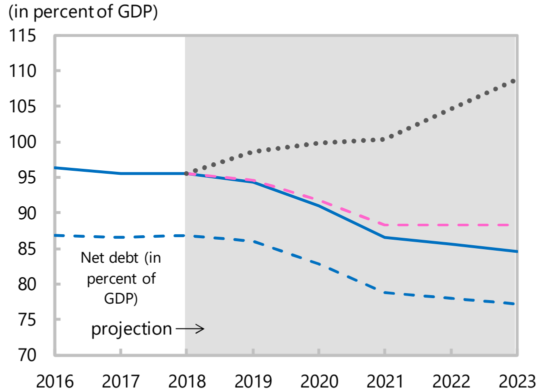
By Currency
(in percent of GDP)



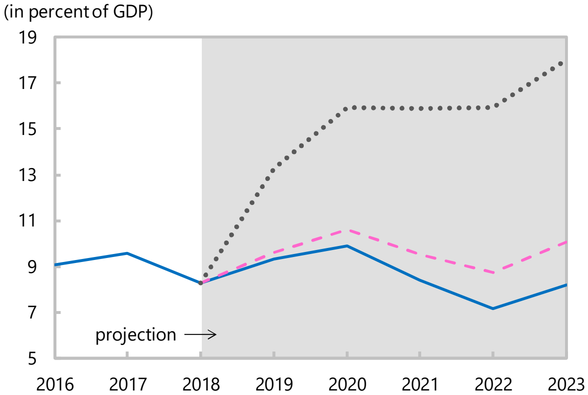
Alternative Scenarios

Baseline   Historical   Constant Primary Balance

Gross Nominal Public Debt
(in percent of GDP)



Public Gross Financing Needs
(in percent of GDP)



Underlying Assumptions
(in percent)

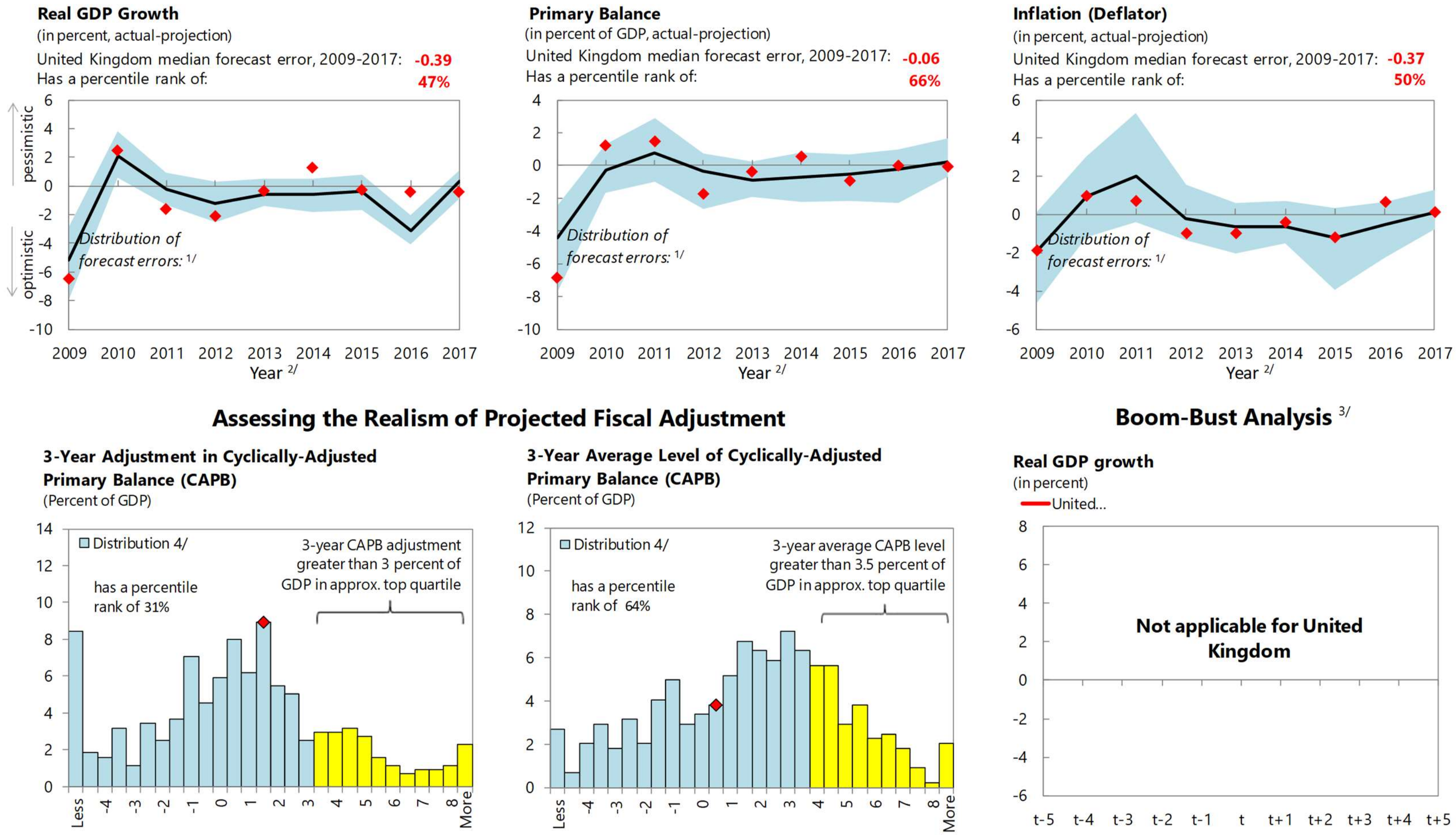
Baseline Scenario	2018	2019	2020	2021	2022	2023
Real GDP growth	1.5	1.5	1.5	1.6	1.6	1.6
Inflation	1.3	1.9	1.5	1.8	1.8	1.9
Primary Balance	-0.3	0.0	0.3	0.5	0.8	0.8
Effective interest rate	2.2	2.0	1.9	2.0	2.1	2.2
Constant Primary Balance Scenario						
Real GDP growth	1.5	1.5	1.5	1.6	1.6	1.6
Inflation	1.3	1.9	1.5	1.8	1.8	1.9
Primary Balance	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3
Effective interest rate	2.2	2.0	1.9	2.0	2.1	2.1

Historical Scenario	2018	2019	2020	2021	2022	2023
Real GDP growth	1.5	1.1	1.1	1.1	1.1	1.1
Inflation	1.3	1.9	1.5	1.8	1.8	1.9
Primary Balance	-0.3	-3.9	-3.9	-3.9	-3.9	-3.9
Effective interest rate	2.2	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



Source : IMF Staff.

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

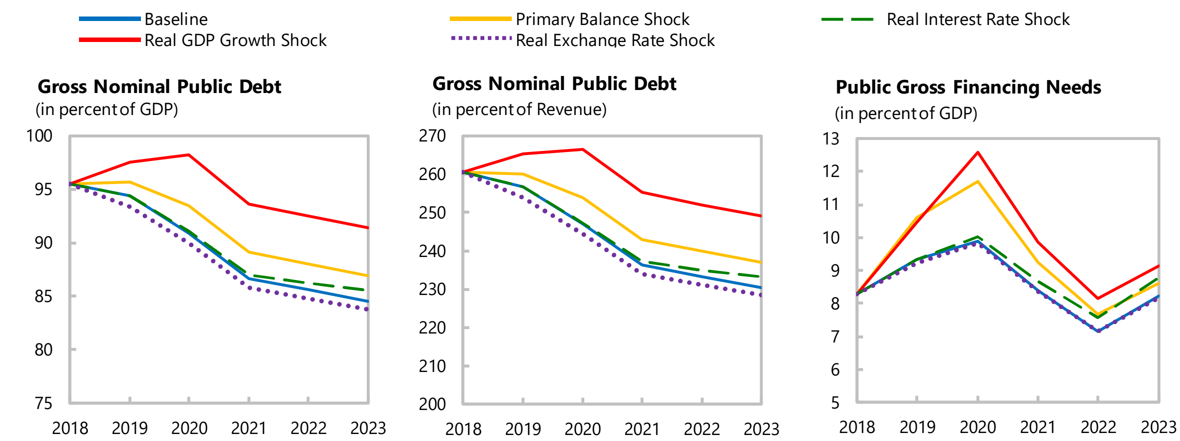
2/ Projections made in the spring WEO vintage of the preceding year.

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

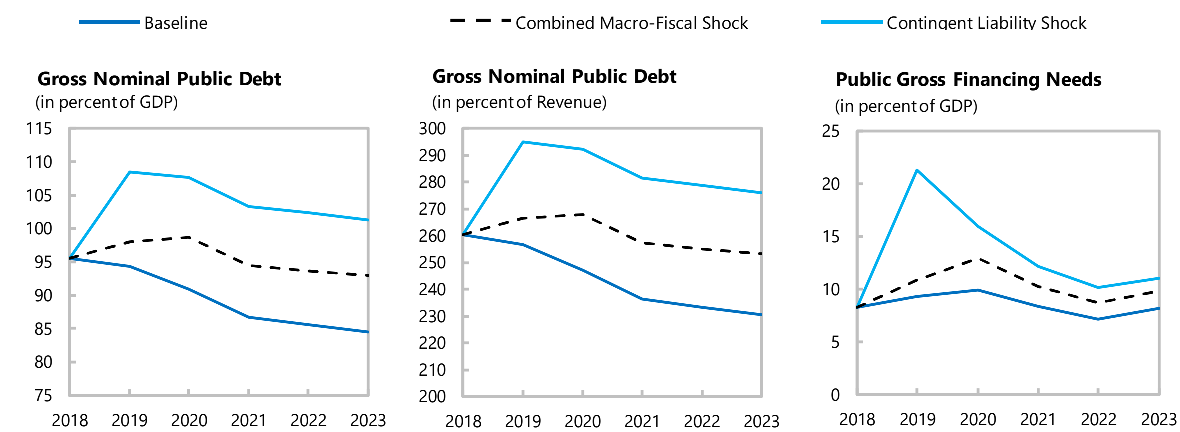
4/ Data cover annual obervations from 1990 to 2011 for advanced and emerging economies with debt greater than 60 percent of GDP. Percent of sample on vertical axis.

Figure 4. United Kingdom: Public DSA—Stress Tests

Macro-Fiscal Stress Tests



Additional Stress Tests



Underlying Assumptions
(in percent)

Primary Balance Shock	2018	2019	2020	2021	2022	2023
Real GDP growth	1.5	1.5	1.5	1.6	1.6	1.6
Inflation	1.3	1.9	1.5	1.8	1.8	1.9
Primary balance	-0.3	-1.3	-1.0	0.5	0.8	0.8
Effective interest rate	2.2	2.0	1.9	2.0	2.1	2.1
Real Interest Rate Shock						
Real GDP growth	1.5	1.5	1.5	1.6	1.6	1.6
Inflation	1.3	1.9	1.5	1.8	1.8	1.9
Primary balance	-0.3	0.0	0.3	0.5	0.8	0.8
Effective interest rate	2.2	2.0	2.1	2.2	2.4	2.6
Combined Shock						
Real GDP growth	1.5	-0.5	-0.4	1.6	1.6	1.6
Inflation	1.3	1.4	1.0	1.8	1.8	1.9
Primary balance	-0.3	-1.3	-1.5	0.5	0.8	0.8
Effective interest rate	2.2	2.0	2.1	2.2	2.5	2.6

Real GDP Growth Shock	2018	2019	2020	2021	2022	2023
Real GDP growth	1.5	-0.5	-0.4	1.6	1.6	1.6
Inflation	1.3	1.4	1.0	1.8	1.8	1.9
Primary balance	-0.3	-0.9	-1.5	0.5	0.8	0.8
Effective interest rate	2.2	2.0	1.9	2.0	2.1	2.1
Real Exchange Rate Shock						
Real GDP growth	1.5	1.5	1.5	1.6	1.6	1.6
Inflation	1.3	3.0	1.5	1.8	1.8	1.9
Primary balance	-0.3	0.0	0.3	0.5	0.8	0.8
Effective interest rate	2.2	2.0	2.0	2.0	2.1	2.2
Contingent Liability Shock						
Real GDP growth	1.5	-0.5	-0.4	1.6	1.6	1.6
Inflation	1.3	1.4	1.0	1.8	1.8	1.9
Primary balance	-0.3	-11.7	0.3	0.5	0.8	0.8
Effective interest rate	2.2	2.0	2.2	2.2	2.3	2.4

Source: IMF staff.

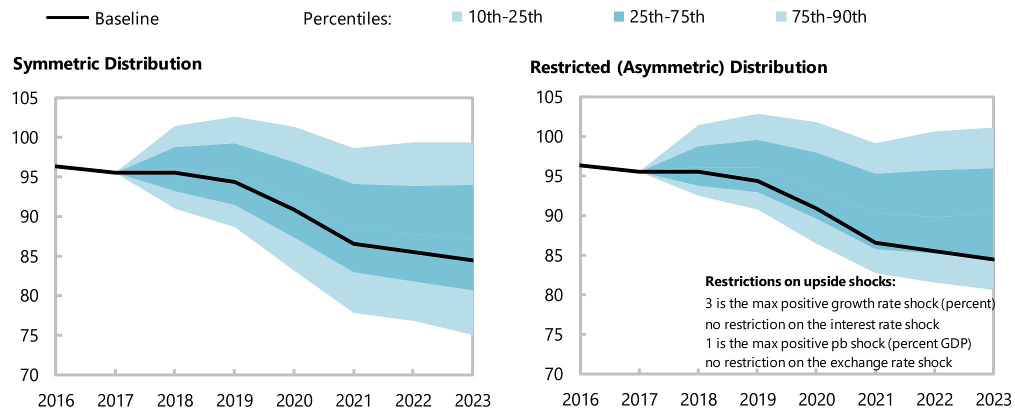
Figure 5. United Kingdom: Public DSA Risk Assessment

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

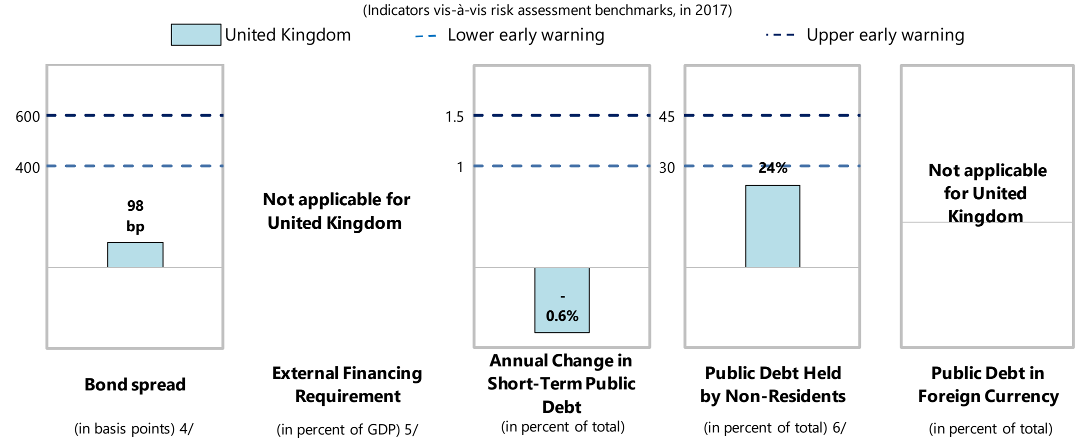
Evolution of Predictive Densities of Gross Nominal Public Debt

(in percent of GDP)



Debt Profile Vulnerabilities

(Indicators vis-à-vis risk assessment benchmarks, in 2017)



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, 30-Jun-18 through 28-Sep-18.

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 Fund Past Advice

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 BoE will publish an update to its position as part of its next Stress-testing Approach Document, following the conclusion of the Independent Evaluation Office's review of stress testing in 2019.
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 continues to expand and will total 14 templates in 2019. 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. The stability in data requests should help improve data quality for the 2018 stress test. The BoE has also begun the phased replacement of Excel reporting with XBRL in the 2018 stress test, and planned investment in analytical infrastructure will further raise the bar on firms' data quality. As part of its investment in model development to capture system-wide dynamics, the BoE four new system-wide models in the 2017 Annual Cyclical Stress Test Scenario (ACS): 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. Model development continues. A loan-level commercial real estate model will be used for the first time in the 2018 ACS and an additional net interest income model will be introduced in 2019.

United Kingdom: Update on Progress on FSAP's Key Recommendations	
Recommendations	**Update on Progress**
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. In order to improve the UK's flow of funds data, the BoE, FCA, and Office for National Statistics (ONS) are engaged in a joint Enhanced Financial Accounts project. As part of this, the ONS has published experimental data in 2018 providing a more granular breakdown of the 'other financial intermediaries' category, which includes all entities other than banks, insurance companies and pension funds. The Flow of funds initiative will publish a full set of experimental "from whom to whom" accounts in 2019, with the ambition of incorporating these statistics into the UK National Accounts in 2021. BoE research on indirect interconnectedness (interconnectedness due to common asset holdings) – using granular datasets on asset holdings of UK regulated banks and insurance companies and European open-ended investment funds – has continued. Using network analysis, this research identifies groups of financial institutions displaying similar patterns in security holdings, which could, in turn, could help highlight vulnerabilities in a fire sale scenario, even across financial institutions of different types. This work is due to be completed in 2019 H1. The BoE has also progressed in its work simulating stress in the financial system. Following the publication of FS Paper 42 '*Simulating stress across the financial system: the resilience of corporate bond markets and the role of investment funds,*' an extension of the model presented in that paper is in progress. There is also work in progress on a more comprehensive model to simulate stress in the financial system, part of which has involved gathering and using a range of data on interconnectedness in the UK financial system. Solvency II regulatory reporting and PRA ad-hoc reporting provides insight into the connections between regulated insurers and the wider financial system.

United Kingdom: Update on Progress on FSAP's Key Recommendations	
Recommendations	**Update on Progress**
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 periodically reviews its supervisory approach to less systemically important banks. The BoE aims to prioritize supervision and specialist resources where needed. As planned, the BoE has also instigated a thematic review on a sample of smaller firms based on fastest balance sheet growth. This review includes asset quality reviews, lending and funding and a stress-test assessment. Recently supervision of these banks has been supported through increased seniority level engagement, ongoing specialist reviews (capital, credit and liquidity), intel-gathering and horizon-scanning and a continued effort to enhance supporting analytics in decision-making.
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.	**Completed.** Since July 2017, the FCA obtains information from: 1. Non-EEA AIFMs on their quarterly-reporting non-EEA master funds, if the corresponding feeder funds are marketed in the UK. 2. UK AIFMs on all their non-EEA funds not marketed in the EEA.
Ensure that Broker Crossing Networks' (BCNs) activities are sufficiently supervised and monitored.	**In progress.** Following the implementation of MiFID 2, the FCA is undertaking a project to assess equity market structure in the UK, through data analysis and visits to a range of UK trading venues, systematic internalisers, brokers and their buy-side customers. Information gathered will be used to further assess the steps taken by former BCN operators to transition to the new regime, as part of the FCA's evaluation of the overall functioning of the market.
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

United Kingdom: Update on Progress on FSAP's Key Recommendations	
Recommendations	**Update on Progress**
	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 UK 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 BoE's existing responsibilities for operating the RTGS infrastructure. Direct delivery will enable a single entity to manage risks right across the system. 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, including Société Generale, Northern Trust and, most recently in May 2018, ING having joined CHAPS. In terms of EUI, BNP Paribas, Northern Trust and BNY Mellon have become CREST settlement banks. As part of the RTGS review the BoE has also engaged individually with CCPs and their clearing members for further discussions on whether direct membership of CHAPS would be beneficial

United Kingdom: Update on Progress on FSAP's Key Recommendations	
Recommendations	**Update on Progress**
	and also to ascertain the types of features and functionalities of a rebuilt RTGS that would promote broader usage in a clearing context. 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 could 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 BoE 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 BoE has also been closely involved in the FSB work on developing a Key Attributes Assessment 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 BoE will continue to work with the IAIS to finalize guidance in this area.

United Kingdom: Update on Progress on FSAP's Key Recommendations	
Recommendations	**Update on Progress**
	EIOPA Board of Supervisors have endorsed the follow-up work by the Project Group on Recovery and Resolution (PGRR) as identified in the Opinion. PGRR has since prepared a second phase. The PGRR draft Discussion Paper on resolution consists of two main parts: resolution funding and IGSs. Its aim is to gather feedback from stakeholders.
Establish an approach for engaging with countries that are not members of CMGs but where UK 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 a development stage with regards to resolution planning for the CCPs. Given the very wide geographic scope of LCH Ltd and ICE Clear Europe's service provision, the CMGs do not engage all other countries where participants are domiciled that rely on the UK CCPs for clearing. However, the proposed resolution strategies for UK CCPs are expected to follow the rules of the CCP when allocating losses, with the resolvability of the CCPs assessed on this basis. To this extent, the impact of resolution on participants' exposures should be predictable and transparent. The BoE has presented on its preferred resolution strategy for UK CCPs at the FSB's fmi-CBCM forum, which has a broader participation that the UK CCP CMGs. The BoE's policy approach to CCP resolution is also set out in the BoE's publicly available Purple Book, which was updated with a new edition published in October 2017. 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 BoE organized resolution presentations with non-CMG members at the margins of regional CMGs and supervisory Colleges including non-core colleges and regional colleges over the past two years. In 2016, the BoE 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.

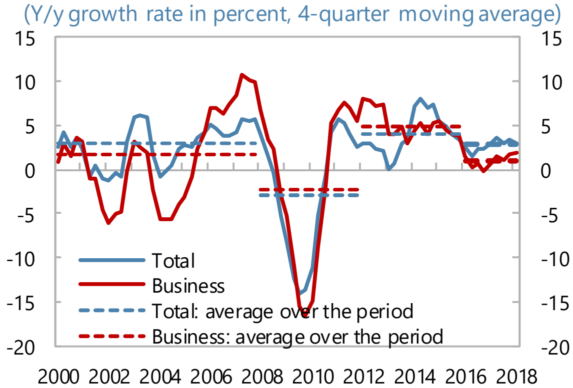
Box 1. Drivers of Weak Business Investment in the UK[1]

After increasing at a fast pace between 2011–2015, business investment—which accounts for roughly 50 percent of total investment in the UK—has slowed down significantly in recent years. The y/y growth in investment has averaged only 0.9 percent per quarter since 2016, compared to 1.8 percent before the global financial crisis.

A basic model of investment is estimated, linking it to past values of GDP growth rates, user cost of capital, and lagged differences between investment and GDP levels (Bean 1981). Cumulative business investment over the period 2016Q1–2018Q1 underperformed by 5.5 percent relative to that predicted by the model conditional on realized economic growth. Using higher counterfactual GDP growth rates instead of the actual growth rates, the model predicts that business investment should have been further 1.1 percent higher (bringing the total underperformance relative to the model prediction to 6.6 percent).[2] This implies that factors beyond the simple macroeconomic variables captured in the model have affected investment.

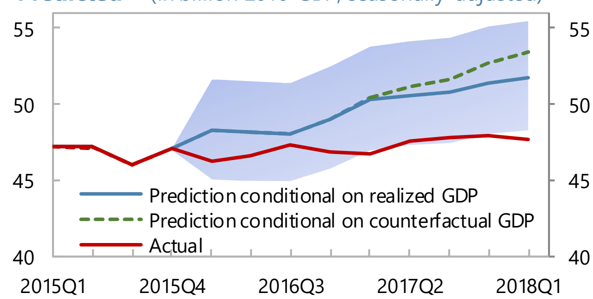
Investment Growth in the UK

(Y/y growth rate in percent, 4-quarter moving average)



Source: Haver Analytics.

Business Investment after 2015: Actual vs Predicted[1/] (In billion 2016 GBP, seasonally-adjusted)



Sources: Haver Analytics, Staff calculations.

1/ Blue area: 90 percent prediction bands for forecast conditional on realized GDP.

A natural candidate for the investment underperformance is the heightened uncertainty related to Brexit. In the Bank of England's Decision Marker's Panel survey, around 40 percent of firms consistently identify Brexit as a major source of uncertainty. In addition, Brexit could affect investment if firms expect higher future trade costs and start to adjust in advance.

The link between the likely future trade costs and investment is tested using balance sheet data for listed companies from Datastream. Expected trade costs are multiplied by the share of foreign sales in total sales (FSTS) to obtain a firm-level measure of exposure to Brexit-related risks. Firms' post-referendum investment spending is estimated as a function of this term and a range of control variables. The results suggest that potential future trade costs have had a considerable and statistically significant negative impact on investment after the referendum.[3]

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[1] See Górnicka (forthcoming) "Brexit Referendum and Business Investment in the UK," IMF Working Paper.

[2] Born et al. (2017) estimate that output losses due to Brexit have amounted to 1.3 percent of GDP by 2017Q3. Their methodology is applied to construct a higher counterfactual GDP growth path for 2016Q2–2018Q1.

[3] The positive and statistically significant coefficient on FSTS is consistent with the post-referendum sterling depreciation and stronger global growth contributing positively to investment expenditure by export-oriented firms.

Box 1. Drivers of Weak Business Investment in the UK (concluded)

Firm Investment and Expected Post-Brexit Trade Costs

Dependent variable: investment to fixed assets (in percent)

	(1)	(2)	(3)	(4)	(5)
Fixed assets to total assets	-0.42***	-0.42***	-0.38**	-0.27***	-0.43***
EBITDA	0.28	0.28	0.04	0.19	0.47*
Sales to fixed assets	0.002***	0.002***	0.002***	0.001***	0.002***
Total assets, log	-3.47*	-3.47*	-3.91*	-1.38	-3.03**
Total debt to common equity	-0.08*	-0.08*	-0.09*	-0.04*	-0.09*
Market to book ratio	0.0007	0.0006	0.01	-0.0001	-0.0009
Foreign sales to total sales (FSTS)	**0.37***	**0.39***	**0.38**	**0.21****	**0.39***
FSTS*WTO trade costs	**-0.02****	**-0.02****	**-0.02***	**-0.02****	**-0.02****
WTO trade costs		0.18			
Interest rate on debt			-0.05***		
Constant	78.80***	76.24**	84.96***	42.24***	77.09***
Sector dummies	YES	YES	YES	YES	YES
Observations	270	270	227	281	225
R-squared	0.32	0.32	0.33	0.30	0.30

Robust standard errors (clustered at sector level)
*** p<0.01, ** p<0.05, * p<0.1

Notes: The dependent variable is capital expenditure in 6 quarters between 2016Q1 and 2017Q2, in percent of end-2015 fixed assets. Net book value of plants, machinery and equipment is used as a measure of fixed assets. All control variables are as of end-2015, and in percent terms unless otherwise specified. As a measure of potential trade costs after the exit from the EU ("WTO trade costs"), sector-level estimates from Berden et al. (2009) and Dhingra et al. (2016) are applied. Specification (1) is the baseline specification, in version (2) standalone sectoral WTO costs are added. In model (3) the effective interest rate on outstanding debt is included, in model (4) the 2016 investment is used as the dependent variable. UK-listed companies potentially include large multinationals with businesses all around the globe, so to exclude those for which reported investment and export revenue possibly reflect mostly foreign activities, in specification (5) only firms with the share of foreign assets in total assets below 50 percent are included.

Box 2. The Impact of Different Brexit Outcomes[1]

This section summarizes staff's assumptions and the estimated long-run impact for three Brexit scenarios: EEA-type arrangement, a new UK-EU free trade agreement (FTA) underpinning staff's baseline outlook, and a WTO-based arrangement. All scenarios assume a smooth transition to the new equilibrium.[2] For simplicity, we assume that trading arrangements between the UK and non-EU countries remain unchanged (most studies find relatively small potential gains from such arrangements that are unlikely to offset the costs of leaving the EU). The scenarios are illustrative and are not predictions of the outcome of the negotiations. Quantifying the impact of Brexit is an imprecise science and any estimates are subject to large uncertainty, in part due to the difficulty of quantifying the non-tariff costs associated with various arrangements.

Staff's baseline scenario is between staying in an EEA arrangement and a scenario in which trade with the EU is conducted under WTO rules.

Greater access — Greater independence

	EU Membership	EEA	FTA	WTO rules
Tariffs on goods	None	None	None	High
NTBs on goods and services	None	Low	Medium	High
EU migration	Continued mobility	Continued mobility	Some restrictions	Strict labor mobility
Inward investment	High	Unchanged	Unchanged	Reduced

<u>FTA (staff baseline)</u>: This scenario assumes that the UK leaves both the customs union and the single market, and a new free trade deal is agreed with EU. More specifically:

- Trade tariffs are set at zero, while non-tariff costs rise to about half of the estimated non-tariff trade costs that has been eliminated due to UK's EU membership. In numerical terms, this is equivalent to about 10 percent average increase in tariff equivalent non-tariff trade costs.
- Following the provisional HM Government (2018) analysis, we assume that the UK government imposes minimum income requirement for EEA migrants. As a result, migration gradually falls by 40,000 over next twelve years relative to the ONS's baseline projection.

In this scenario, real GDP in the medium term is estimated to fall by about 2½ to 4 percent (with an average of about 3 percent) compared with a no-Brexit scenario, due to lower trade, migration and productivity. The range of estimates comes from the results of three different models.

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[1] See chapter 1 of the Selected Issues paper.

[2] While it is difficult to calibrate precisely the likely economic impact of this scenario, the magnitude of the disruptions and the loss of output would be more severe than in an orderly no-deal exit on WTO terms with a transition period.

Box 2. The Impact of Different Brexit Outcomes (concluded)

<u>WTO</u>: This scenario assumes a smooth transition reverting to WTO rules as the basis for trade with the EU. Under WTO rules[3] there would not be any preferential access to the EU single market. Specific assumptions are:

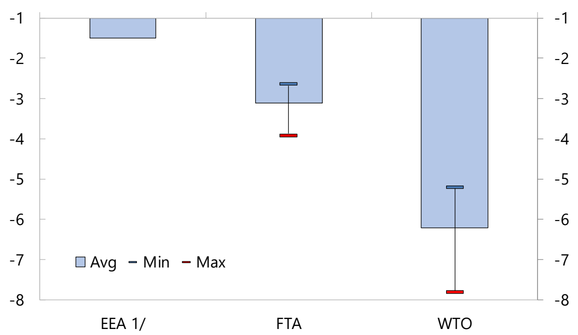
- Non-tariff trade costs rise by the full amount of the estimated past reduction due to UK's EU membership (20 percent increase on average for goods and services). In addition, tariffs on goods trade between the UK and the EU are assumed to rise by about 5 percent on average.
- Net migration falls to 100,000 by 2030, about 40 percent below the baseline ONS projection.
- Gross FDI inflows are assumed to fall by about 5 percent compared to the pre-Brexit WEO projection for a five-year period (equivalent to a reversal of about 20 percent of the increase in FDI inflows due to EU membership).

In this scenario, the decline in the level of real GDP is estimated to be around 5 and 8 percent (with an average of about 6 percent) compared with a no-Brexit scenario. Staff's estimates for all scenarios are closely in line the range of estimates in the literature.

<u>EEA</u>: An EEA-type of arrangement would allow the UK to keep almost full access to the single market and free movement of labor.[4] However, the UK would not be part of the customs union, implying a moderate increase in non-tariff trade costs.

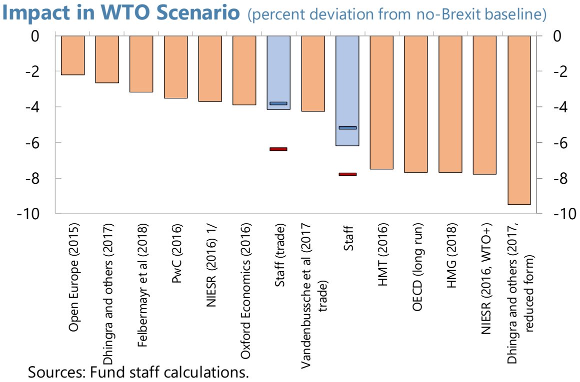
The estimated impact of this scenario is relatively mild, suggesting about a 1½ percent reduction in real GDP in the medium-term relative to a no-Brexit scenario, driven by a modest increase in non-tariff trade costs (see 2016 Article IV Selected Issues).

Estimated Brexit Impact on Output
(percent deviation from no-Brexit counterfactual)



Sources: Fund staff calculations.
1/ Based on 2016 Selected Issues paper.

Comparison with External Studies of Estimated Brexit Impact in WTO Scenario (percent deviation from no-Brexit baseline)



Sources: Fund staff calculations.
1/ Ebell and Warren (2016).

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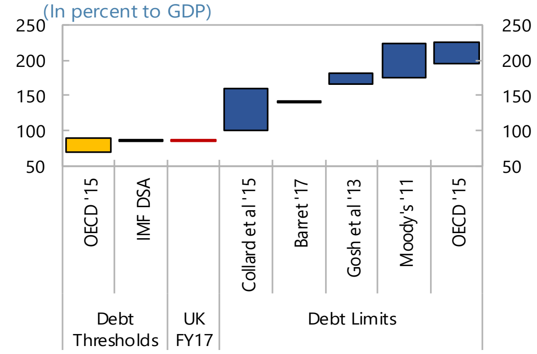
[3] The "default" to WTO rules is not straightforward even if the UK chooses to apply the existing EU tariff schedules. For many agricultural goods, preferential tariff rates apply to products up to a particular quota, with a higher rate prevailing thereafter, and these quotas—which currently apply at the EU level—would need to be split between the UK and the remainder of the EU. Any proposed division could be challenged by other WTO members. Farm subsidies agreed in the Uruguay round by the EU will also need be split between the UK and the rest of the EU.

[4] This arrangement does not cover agriculture or fisheries.

Box 3. Public Indebtedness and the Pace of Fiscal Consolidation

Public sector debt in the UK remains high. Countries with high levels of debt are more vulnerable to economic shocks and have less room for counter-cyclical fiscal policies (IMF Fiscal Monitor 2018). There is no consensus on what constitutes a safe level of debt. The UK's debt-to-GDP ratio remains below various estimates of "debt limits" at which debt may become unsustainable (HMT 2018). However, it is above estimates of "debt thresholds," where debt may begin to have adverse effects on economic activity, heighten the likelihood of future debt distress, and constrain government's ability to stabilize the economy in case of adverse shocks.

Debt Limits and Thresholds
(In percent to GDP)

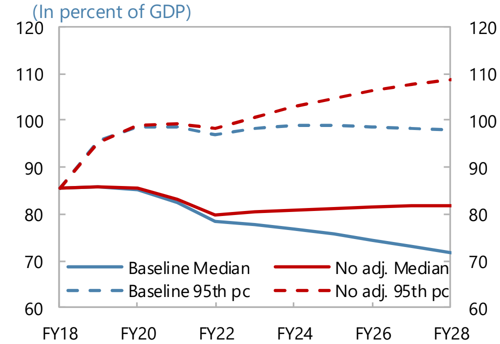


Source: IMF staff calculations.

Strengthening resilience to shocks will require sustained consolidation to reduce the debt-to-GDP ratio. The size and the pace of adjustment needs to be calibrated to the country's cyclical conditions, while taking into account the likelihood of future economic shocks.

- With the economy expected to continue operating near potential over the coming years, there is no reason to relax consolidation plans in the baseline.
- The baseline consolidation plan, including the goal of reaching a balanced budget by mid-2020s, would help debt decline to about 70 percent in ten years in the absence of shocks. In addition, the plan would help keep the probability of debt exceeding 100 percent below 5 percent (under typical shocks to the baseline based on historical distributions).[1] In contrast, leaving the deficit at around its current level of 2 percent of GDP would keep the debt-to-GDP ratio above 80 percent over the next decade, even in the absence of economic shocks.

Public Sector Net Debt
(In percent of GDP)



Source: IMF staff calculations.

- Over the longer term, macroeconomic risks such as recessions and financial crises are practicably unavoidable. Historically, the UK has averaged around one recession per decade, which could increase debt-to-GDP by 10 to 15 percentage points (OBR 2017, HMT 2018). Cross country experience shows that financial crises occur once every 20 years, with a median increase in debt of about 20 percentage points. It is therefore important that public finances are managed prudently during good times to ensure that when shocks materialize public finances remain sustainable.

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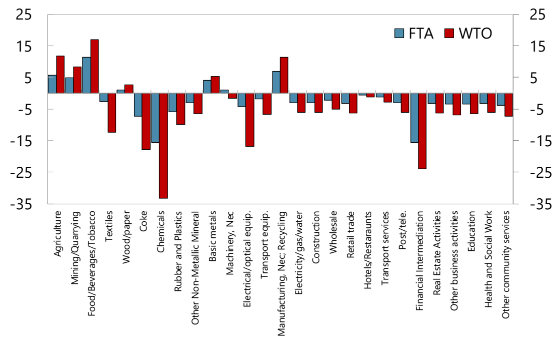
[1] The 100 percent threshold corresponds to the lower bound across a range of estimates for UK debt limit (see chart above). Forecasts and probabilities are based on simulations that combine the baseline forecast $\{g_t, oby_t, sfa_t\}$ for nominal growth, overall deficit to GDP, and stock-flow adjustments to GDP, with a sequence of shocks $\{\varepsilon_t^{g}, \varepsilon_t^{oby}, \varepsilon_t^{sfa}\}$ based on their historical distributions, using the debt dynamics equation. Baseline GDP growth remains constant at the level of the last projection year. Baseline stock flow adjustments are obtained from OBR FSR 2018, and are dominated by the unwinding of the BoE's Term Funding Scheme in FY2020–21, and by the growth in student loans over the longer term.

Box 4. Brexit Sectoral Impact and Labor Reallocation[1]

The impact of higher trade costs associated with Brexit would vary across sectors. It is estimated under different scenarios using a standard trade model. Intuitively, the impact on each sector depends on its exposure to the EU market, the increase in trade barriers and the sensitivity of trade flows to price changes. In the baseline scenario:

- The average loss in manufacturing is about 1 percent relative to a no-Brexit scenario. Yet, losses are estimated to be significantly larger in chemicals as well as electrical, optical and transport equipment sectors. On the other hand, firms in food, wood and paper industries could see some gains, possibly reflecting a substitution towards domestically produced goods.
- The service sectors face an average loss of about 4 percent, ranging from a relatively unaffected hotel and restaurants sector to about 15 percent loss in financial intermediation. Domestic-oriented services sectors, such as wholesale and retail sales are relatively less affected than export orientated ones.

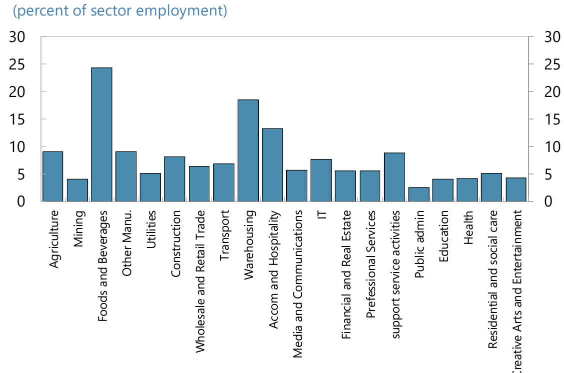
Estimated Sectoral Impacts
(percent deviation from no-Brexit scenario)



Sources: Fund staff calculations.

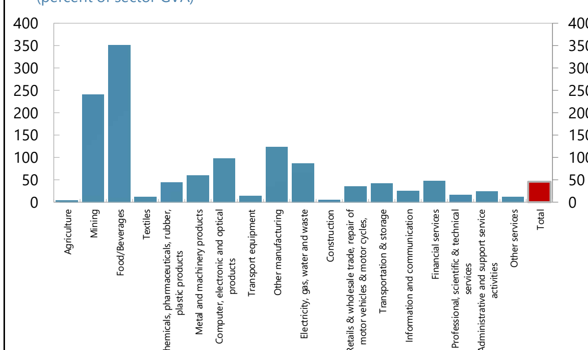
In addition to the direct trade effects, sectors which rely more heavily on EU workers and receive higher share of foreign direct investment could see a greater impact. In the baseline scenario, the reduction in migration reduces output by about ½ percent over the long run and the sectoral impact could be heterogeneous: about a quarter of workers in food and beverages come from the EU, while the share is only about 5 percent in the education sector. Brexit may also lead to shifts in FDI which could have additional negative effects on production. Sectors such as mining and food and beverages could be more vulnerable owing to their high share of foreign investment.

Share of EEA Migrants in 2016
(percent of sector employment)



Sources: Migration Advisory Committee.

Stock of Investment from EU 27 in UK
(percent of sector GVA)



Sources: ONS and fund staff calculations.

[1] See chapter 1 of the Selected Issues paper.

INTERNATIONAL MONETARY FUND

COMMUNICATIONS DEPARTMENT

Appendix I. Draft Press Release

Press Release No. 18/x
FOR IMMEDIATE RELEASE
[November xx, 2018]

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

IMF Executive Board Concludes 2018 Article IV Consultation with the United Kingdom

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

Output continues to grow at a moderate pace. Since the referendum on EU membership, business investment has been depressed by uncertainty about the future relationship between the UK and EU and expectations of higher future trade costs. At the same time consumption has been constrained by slow real income growth. Weaker domestic demand has been partially offset by stronger net exports, underpinned by strong external demand and weaker sterling. Potential growth has also slowed due to slow capital accumulation, decline in net migration from the European Union (EU), and persistent low productivity. Slack in the economy is limited and unemployment has declined to historically low levels.

Monetary policy has tightened, with a cumulative 50 basis point increase in Bank Rate over the last year. Nevertheless, financial conditions remain relatively easy, with mortgage rates at record low levels and total credit growing in line with GDP. Sustained fiscal consolidation has brought the public deficit below two percent of GDP for the first time in 15 years. A comprehensive strategy is underway to boost productivity based on supporting investment in physical and human capital. The authorities are focused on Brexit preparation work, which entails significant administrative and legislative changes.

Growth is projected to remain around 1½ percent going forward, under a baseline scenario that assumes a smooth transition to a broad free trade agreement with the EU. The most significant risk to the forecast is the possibility of leaving the EU without an agreement, which would have a large negative impact on growth, especially if it happens in a disorderly manner and without a

[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.

transition period. Beyond Brexit, the UK faces a range of other economic challenges, including persistently lackluster productivity growth, high public debt, rising age-related spending pressures, and a wide current account deficit.

Executive Board Assessment[2]

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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.

United Kingdom: Selected Economic Indicators, 2014–19

	2014	2015	2016	2017	2018	2019
					Projections	
Real Economy (change in percent)						
Real GDP 1/	2.9	2.3	1.8	1.7	1.4	1.5
Private final domestic demand	2.9	2.8	3.0	2.1	1.1	1.4
CPI, end-period	1.0	0.1	1.2	3.0	2.3	2.1
Unemployment rate (in percent) 2/	6.2	5.4	4.9	4.4	4.1	4.2
Gross national saving (percent of GDP)	12.3	12.3	12.0	13.6	13.7	14.0
Gross domestic investment (percent of GDP)	17.3	17.2	17.3	17.4	17.2	17.2
Public Finance (fiscal year, percent of GDP) 3/						
Public sector overall balance	-4.9	-3.8	-2.3	-1.9	-1.9	-1.5
Public sector cyclically adjusted primary balance (staff estimates) 4/	-2.7	-2.0	-0.6	-0.1	-0.3	0.0
Public sector net debt	82.6	82.3	85.2	85.3	85.5	84.7
Money and Credit (end-period, 12-month percent change)						
M4	-1.1	0.2	6.2	3.8	...	...
Net lending to private sector	1.5	2.8	3.8	3.8	...	...
Interest rates (percent; year average)						
Three-month interbank rate	0.5	0.6	0.5	0.4	...	...
Ten-year government bond yield	2.6	1.9	1.3	1.2	...	...
Balance of Payments (percent of GDP)						
Current account balance	-4.9	-4.9	-5.2	-3.8	-3.5	-3.2
Trade balance	-1.6	-1.4	-1.6	-1.2	-1.0	-0.9
Net exports of oil	-0.6	-0.4	-0.4	-0.4	-0.5	-0.4
Exports of goods and services (volume change in percent)	2.3	4.4	1.0	5.4	0.0	1.2
Imports of goods and services (volume change in percent)	3.8	5.5	3.3	3.2	-0.3	0.6
Terms of trade (percent change)	1.3	1.5	1.9	-0.5	0.2	0.0
FDI net	-5.8	-3.7	-8.2	3.1	2.3	1.9
Reserves (end of period, billions of US dollars)	109.1	130.5	136.6	158.6	...	...
Fund Position (as of May 31, 2016)						
Holdings of currency (in percent of quota)					82.5	82.5
Holdings of SDRs (in percent of allocation)					70.2	70.2
Quota (in millions of SDRs)					20,155	20,155
Exchange Rates						
Exchange rate regime						Floating
Bilateral rate (October 5, 2018)						US$1 = £0.7832
Nominal effective rate (2010=100, year average) 5/	107.2	114.2	101.8	95.9	95.5	...
Real effective rate (2010=100, year average) 5/	109.7	116.8	104.3	99.1	99.0	...

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.

5/ As of September 2018.