Executive summary

1 In the *Fiscal sustainability report* (*FSR*) we look beyond the medium-term forecast horizon of our twice-yearly *Economic and fiscal outlooks* (*EFOs*) and ask whether the UK's public finances are likely to be sustainable over the longer term.

2 In doing so our approach is twofold:

- first, we look at the fiscal impact of *past* government activity, as reflected in the assets and liabilities on the public sector's balance sheet; and
- second, we look at the potential fiscal impact of *future* government activity, by making 50-year projections of all public spending, revenues and significant financial transactions, such as government loans to students.

3 These projections suggest that the public finances are likely to come under pressure over the longer term, primarily as the result of an ageing population. Under our definition of unchanged policy, the Government would end up having to spend more as a share of national income on age-related items such as pensions and health care, but the same demographic trends would leave government revenues roughly stable.

4 In the absence of offsetting tax rises or spending cuts this would widen budget deficits over time and eventually put public sector net debt on an unsustainable upward trajectory. The fiscal challenge from an ageing population is common to many developed nations.

5 Separate from our central projections, we also look at the long-term sustainability of particular tax revenues. We have updated our assessments of the outlook for oil and gas receipts and transport tax receipts. In both cases we expect revenues to decline over the long term – and to be lower on average over the next few decades than when we last examined them. This suggests that governments will need to find additional revenue streams simply to maintain total revenues as a share of GDP, let alone to meet the additional spending pressures implied by an ageing population.

6 Long-term projections such as these are highly uncertain and the results we present here should be seen as illustrative, not precise forecasts. We quantify some of the uncertainties around the projections through sensitivity analyses – by varying key assumptions on demographic trends, the medium-term fiscal position and sector-specific trends in health spending.

7 It is important to emphasise that we focus here on the additional fiscal tightening that might be necessary beyond our medium-term forecast horizon, which currently ends in 2018-19. The

report should not be taken to imply that the substantial fiscal consolidation already in the pipeline for the next five years should be made even bigger over that period.

8 That said, policymakers and would-be policymakers should certainly think carefully about the long-term consequences of any policies they introduce or propose in the short term. And they should give thought too to the policy choices that will confront them once the current consolidation is complete.

Public sector balance sheets

9 We assess the fiscal impact of past government activity by looking at the assets and liabilities accumulated on the public sector's balance sheet. We look at two presentations of the balance sheet: the National Accounts and the 2012-13 Whole of Government Accounts (WGA).

10 The current and previous governments have both set targets for the National Accounts measure of public sector net debt (PSND) – the difference between the public sector's liabilities and its liquid financial assets. The latest published data show PSND at end-March 2014 was £1,273 billion, 76.1 per cent of GDP or £48,200 per household.

11 Public sector net worth (PSNW) is a broader balance sheet measure, which includes all physical and all financial assets. PSNW fell sharply from 2008 onwards and the latest outturn data gave a value for PSNW of minus £208 billion at the end of 2012, which was minus 13.2 per cent of GDP. No government has used PSNW as a target, in part because reliable estimates of the value of the public sector's physical assets are hard to construct.

12 The medium-term outlook for PSND and PSNW has improved since last year's *FSR*. Our forecast for the medium-term peak in PSND has fallen by 6.9 per cent of GDP to 78.7 per cent of GDP, with that peak coming one year earlier in 2015-16.

13 National Accounts balance sheet measures do not include liabilities arising from the future consequences of past government activities, for example the pension rights that have been accrued by public sector workers. But more information on liabilities of this sort is available in the WGA. These are produced using commercial accounting rules.

14 According to the 2012-13 WGA:

- the net present value of future **public service pension payments** arising from past employment was £1,172 billion or 73.3 per cent of GDP at the end of March 2013. This is £166 billion higher than a year earlier. While some of this reflects an increase in the expected future flow of pension payments – due to an additional year of public employment – much reflects the fact that the projected flow has been converted into a one-off upfront net present value sum using a lower discount rate;

- the total capital liabilities in the WGA arising from **Private Finance Initiative** contracts were £37 billion, up from £36 billion a year earlier. Only £5 billion of these were on the public sector balance sheet in the National Accounts and therefore included in

PSND and PSNW. If all investment undertaken through PFI had been undertaken through conventional debt finance, PSND would be around 2.0 per cent of GDP higher than currently measured – little changed from last year;

- the liabilities in the WGA include £131 billion (8.2 per cent of GDP) in **provisions** at the end of March 2013 for future costs that are expected (but not certain) to arise, most significantly the costs of nuclear decommissioning. Total provisions have increased by £18 billion since last year's WGA, mainly those related to nuclear decommissioning at the Sellafield site, clinical negligence claims and a new provision for the loss of revenues when North Sea companies set off the costs of oil and gas field decommissioning against their tax bills. (This was shown as a contingent liability in last year's accounts.) Around £13 billion of provisions were actually used in 2012-13, which was close to the expectation set out in the previous year's WGA; and

- the WGA identified £88 billion (5.5 per cent of GDP) of quantifiable **contingent liabilities** – costs that could arise in the future, but where the probability of them doing so is estimated at less than 50 per cent (so they are not included in the headline total of liabilities). The £13 billion reduction compared with last year was more than accounted for by the removal of the £20 billion oil and gas field decommissioning contingent liability. This now appears partly as a provision, but only for the period to 2017-18. Contingent liabilities relating to export finance and to clinical negligence cases were the main offsetting increases.

15 Overall gross liabilities in the WGA increased by £276 billion over the year to reach £2,893 billion at end-March 2013. This was explained by the net deficit recorded during the year, as expenditure exceeded revenue, plus the accumulation of additional public service pension liabilities described above.

16 As 2012-13 was a year in which the Bank of England expanded its quantitative easing (QE) programme, the WGA show a rise in 'government borrowing and financing' – in other words gilts sold to the private sector – of just £31 billion. This comprises net issuance of £115 billion of debt by central government, largely offset by an £84 billion increase in gilts held within the public sector by the Bank of England. The WGA show an increase in 'other financial liabilities' associated with the reserves created by the Bank of England to finance the QE gilt purchases.

17 The WGA measure of the budget deficit – called 'net expenditure' in the accounts – was 11.4 per cent of GDP in 2012-13, down slightly from 2011-12. The WGA net deficit in 2012-13 was unchanged from its level in 2009-10. This is in marked contrast to the National Accounts measure of the current deficit, which fell by a quarter over the same period. The different paths can be explained by different accounting concepts, including changes in provisions that are carried through to the WGA measure of the budget deficit. Provisions reduced the WGA net deficit by 1.9 per cent of GDP in 2009-10 (when a £25 billion provision related to the Asset Protection Scheme was reversed), but increased it by 1.0 per cent of GDP in 2012-13.

18 Unlike PSND, the WGA balance sheet also includes the value of tangible and intangible fixed assets – for example the road network and the electromagnetic spectrum respectively. These

assets are estimated at £757 billion or 47.4 per cent of GDP in March 2013. They have increased by £4 billion since last year's WGA. The overall net liability in the WGA was £1,630 billion or 102 per cent of GDP at end-March 2013. This compares with PSND of £1,185 billion or 74.2 per cent of GDP at the same date, and to a WGA net liability of £1,347 billion or 86.7 per cent of GDP a year earlier at end-March 2012.

19 In this year's report, we have again summarised policy announcements relating to guarantees and possible contingent liabilities that we would expect to appear in subsequent years' WGA. Key among these are schemes related to housing, exports and infrastructure.

20 While the precise accounting treatment of these measures will not be known until future WGAs are published, some broad implications for fiscal sustainability are clear. Most importantly, while each measure in isolation could well be considered a remote contingent liability, the probabilities of the various liabilities crystallising are likely to be correlated. In particular, the probability that the various parties to which the Government is exposed will default would increase in the event of a future economic downturn, particularly if it was focused on the housing and financial sectors. The more serious the downturn, the greater the likelihood that a large proportion of contingent liabilities will crystallise to the detriment of fiscal sustainability.

21 There are significant limits to what public sector balance sheets alone can tell us about fiscal sustainability. In particular, balance sheet measures look only at the impact of past government activity. They do not include the present value of future spending that we know future governments will wish to undertake, for example on health, education and state pension provision. And, just as importantly, they exclude the public sector's most valuable financial asset – its ability to levy future taxes. This means that we should not overstate the significance of the fact that PSND and the WGA balance sheet both show the public sector's liabilities outstripping its assets. Across countries and time, this has usually been the case.

Long-term projections

22 We assess the potential fiscal impact of future government activity by making long-term projections of revenue, spending and financial transactions on an assumption of 'unchanged policy', as best we can define it. In doing so, we assume that spending and revenues initially evolve over the next five years as we forecast in our March 2014 *EFO*. This allows us to focus on long-term trends rather than making revisions to the medium-term forecast.

Demographic and economic assumptions

23 Demographic change is a key long-term pressure. Like many developed nations, the UK is projected to have an 'ageing population' over the next few decades, with the ratio of the elderly to those of working age rising. This reflects increasing life expectancy, relatively low levels of fertility, and the retirement of people born during the post-war 'baby boom'.

24 We base our analysis on projections of the UK population produced by the Office for National Statistics (ONS) every two years. In this *FSR* we use its 2012-based projections for the first time. The main changes since the previous projections are an increase in the estimated size of the

population following the census, lower net migration (and a change in the profile of age-specific migration flows) and higher fertility rates in the longer term. As a result, by 2063-64 the latest projections suggest that there will be more elderly people, fewer working age people and roughly the same number of children as in the previous projections. Our central projection for the public finances uses the ONS 'low migration' population variant. This assumes net inward migration of 105,000 a year, which we consider reasonable given international trends and the direction of Government policy. We test the sensitivity of our results to a number of different demographic assumptions.

25 As regards the economy, we assume in our central projection that whole economy productivity growth will average 2.2 per cent a year on an output per worker basis, in line with the long-run average rate. We assume CPI inflation of 2.0 per cent (in line with the Bank of England's inflation target) and a long-term GDP deflator inflation rate of 2.2 per cent. These assumptions are unchanged from last year's *FSR*.

26 In our latest *EFO*, we forecast the output gap to close within the forecast period, so the long-term projections in this *FSR* start from a position where the economy is operating in line with our estimate of its underlying potential. That was not the case last year, when our medium-term forecast showed spare capacity remaining at the end of the forecast period and our long-term projections started with a period of above-trend growth until the output gap had closed.

Defining 'unchanged' policy

27 Fiscal sustainability analysis is designed to identify whether and when changes in government policy may be necessary to move the public finances from an unsustainable to a sustainable path. To make this judgement, we must first define what we mean by 'unchanged' policy over the long term.

28 Government policy is rarely clearly defined over the long term. In many cases, simply assuming that a stated medium-term policy continues for 50 years would lead to an unrealistic projection. Where policy is not clearly defined over the long term, the Charter for Budget Responsibility allows us to make appropriate assumptions. These are set out clearly in the report. Consistent with the Charter, we only include the impact of policy announcements in our central projections when they can be quantified with "reasonable accuracy".

29 In our central projections, our assumption for unchanged policy is that beyond 2018-19 underlying age-specific spending on public services, such as health and education, rises in line with per capita GDP. As detailed spending plans are only available to 2015-16, we have to make an assumption about the composition of spending on public services in 2018-19:

- our central projection assumes that all types of departmental spending fall proportionately from 2015-16. This implies health and education spending, the main age-related elements of departmental spending, being reduced by 1.1 per cent and 0.7 per cent of GDP respectively between 2015-16 and 2018-19 (equivalent to £23 billion and £15 billion in nominal terms in 2018-19);

- alternatively, we could assume for these three years – as we do beyond 2018-19 – that per capita spending by age and gender is fixed relative to potential earnings. Under this scenario, health and education spending would be broadly flat as a share of GDP over these three years. The Government would then have to find cuts in other spending of 1.9 per cent of GDP (£39 billion in nominal terms in 2018-19) to stick to its announced policy assumption for total spending.

30 We assume that most tax thresholds and benefits are uprated in line with earnings growth rather than inflation beyond the medium term, which provides a more neutral baseline for long-term projections. An inflation-based assumption would, other things equal, imply an ever-rising ratio of tax to national income and an ever-falling ratio of benefit payments to earnings in the rest of the economy.

Results of our projections

31 Having defined unchanged policy, we apply our demographic and economic assumptions to produce projections of the public finances over the next 50 years.

Expenditure

32 Population ageing will put upward pressure on public spending. Our central projection shows spending excluding debt interest rising from 34.3 per cent of GDP at the end of our medium-term forecast in 2018-19, to 39.3 percent of GDP by 2059-60, before falling slightly to 39.1 per cent of GDP in 2063-64. That would represent an overall increase of 4.8 per cent of GDP or £79 billion in today's terms.

33 The main drivers are upward pressures on key items of age-related spending:

- **health spending** rises from 6.4 per cent of GDP in 2018-19 to 8.5 per cent of GDP in 2063-64, rising smoothly as the population ages. This is a slightly smaller rise than we projected last year, in part due to the additional overall spending cuts the Government has pencilled in for 2018-19 (which are included in our medium-term forecast). We assume that these affect all types of spending proportionately. We test the sensitivity of our projections to this assumption (described below);

- **state pension costs** increase from 5.5 per cent of GDP in 2018-19 to 7.9 per cent of GDP in 2063-64 as the population ages. Spending is lower by the end of the projection than last year. The projection has been pushed higher by the updated population projections, but reduced by the Government's policy of linking the State Pension age (SPA) to longevity. We assume that this brings forward the rise in the SPA to 68 and introduces rises to 69 and 70 within the projection horizon; and

- **long-term social care costs** rise from 1.2 per cent of GDP in 2018-19 to 2.3 per cent of GDP in 2063-64, reflecting the ageing of the population and the Government's announcement of a lifetime cap on certain long-term care expenses incurred by individuals. The projections are little changed from last year.

Revenue

34 Demographic factors will have less impact on revenues than on spending. Non-interest revenues are projected to be broadly flat across the projection period as a share of GDP. In our central projections, those revenue streams that are not affected by demographics are explicitly held constant as a share of GDP – even though non-demographic factors may affect them in the future. Some non-demographic factors are explored separately in the report.

35 In our detailed analysis this year, we have returned to the issue of North Sea revenues. We find again that receipts are likely to fall to below 0.1 per cent of GDP over the coming decades. Our central projection suggests around £40 billion will be raised in North Sea revenues in total between 2019-20 and 2040-41, down by around a quarter relative to last year's report. The majority of this change is explained by lower production in our latest medium-term forecast, which knocks through to our long-term projection. We have considered a wide range of alternative oil price and production scenarios, all of which imply that oil and gas receipts are on a declining trend as total production from the UK continental shelf moves towards its ultimately recoverable capacity. In considering these projections, it is important to note that oil and gas receipts are the most volatile revenue streams in the UK public finances and forecasting them over even short horizons is extremely difficult. The same factors that make North Sea receipts volatile on a year-to-year basis make it very hard to predict the pace of the long-term trend decline with any confidence.

36 We have also revisited our previous analysis of the effects of improving fuel efficiency on transport taxes – fuel duty and vehicle excise duty (VED). Greater fuel efficiency reduces fuel duty receipts by reducing the volume of fuel consumed for a given number of miles travelled and reduces VED receipts because most rates paid are graduated according to fuel efficiency. Both are forecast to fall as a share of GDP in our latest medium-term forecast and our long-term projections show that trend continuing. The fuel duty projections are the more sensitive to faster or slower progress in fuel efficiency. Failing to revalorize fuel duty with RPI inflation – instead freezing rates in cash terms from the end of the medium-term forecast period – would cause a sharper reduction in fuel duty receipts than in any fuel efficiency scenario we consider.

37 In Annex A to this year's report, we have looked in more detail at employment and earnings trends that are relevant to the sustainability of the public finances. An important consequence of the rising employment and falling real wages of recent years has been to reduce the effective tax rate on labour income. More people working means more personal allowances to offset against earnings before tax is paid. Our long-term projections assume that the effective tax rate on labour income trends very slowly lower due to demographic trends. If labour market trends led to a higher or lower path for the effective tax rate on labour income, the outlook for fiscal sustainability would be correspondingly better or worse.

38 Our analysis of longer-term pressures on revenue streams suggests that governments will, over time, need to find new sources of revenue to maintain the overall ratio of revenue to national income, let alone to meet the spending pressures from an ageing population.

Financial transactions

39 In order to move from spending and revenue projections to an assessment of the outlook for public sector net debt, we need also to take into account the impact of public sector financial transactions. These affect net debt directly, without affecting accrued spending or borrowing.

40 For the majority of financial transactions, we assume that the net effect is zero. Student loans are an important exception. Since last year's report, the Government's decision to sell the pre-2012 student loan book has exchanged some future loan repayments for upfront sale proceeds, while crystallising the loss associated with interest rate and write-off subsidies. Removing the cap on student numbers increases the annual outlays on student loans in England to 0.7 per cent of GDP a year in the long term, up 0.2 per cent of GDP from last year's report. Projections for repayments are only a little higher, despite a larger number of students making repayments, as repayments per student are now projected to be lower. We project that the direct flows will add 5.4 per cent of GDP to net debt in 2018-19, rising to 9.8 per cent of GDP by the mid-2030s, and then falling to 8.3 per cent of GDP in 2063-64.

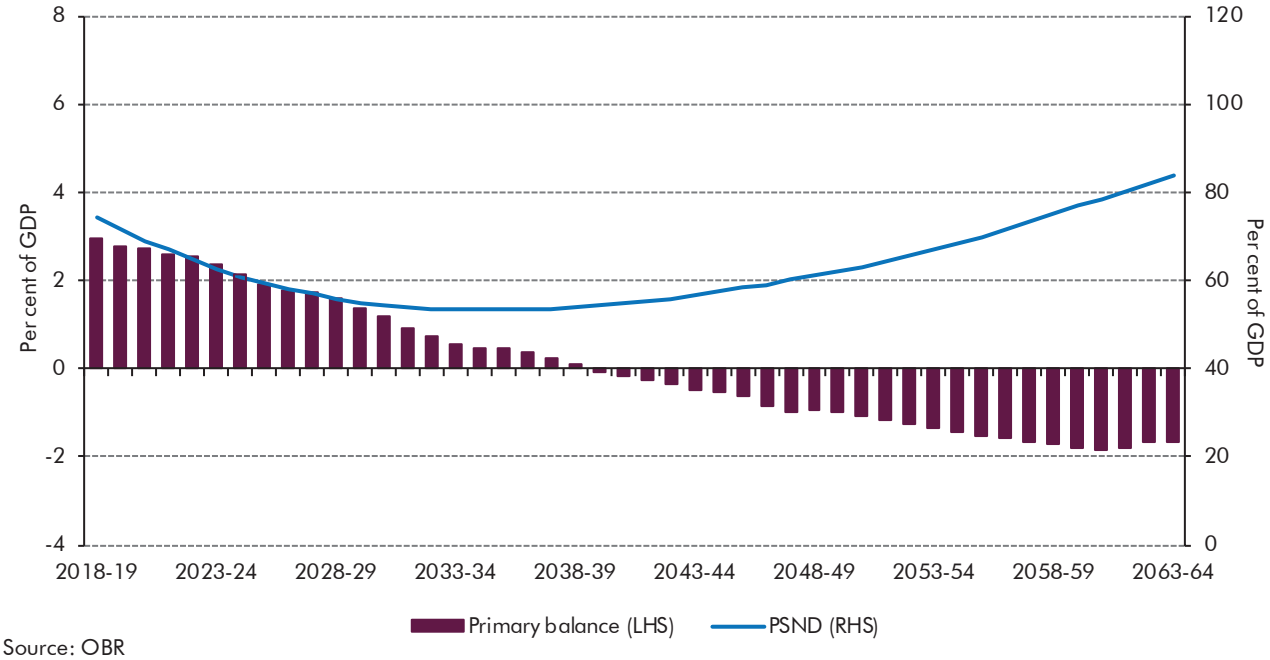
41 In Annex B, we look in more detail at student loans, including how they are treated in the National Accounts, the Whole of Government Accounts and the Government's budgeting framework. We test the sensitivity of our projections to different assumptions about the uprating of fees, the number of students and the volatility of graduate earnings.

Projections of the primary balance and public sector net debt

42 Our central projections show public spending increasing as a share of national income beyond the medium-term forecast horizon, gradually rising towards and then exceeding receipts. As a result, the primary budget balance (the difference between non-interest revenues and spending that is the key to the public sector's debt dynamics) is projected to move from a surplus of 3.0 per cent of GDP in 2018-19 to rough balance in the late-2030s and then to a deficit of 1.7 per cent of GDP in 2063-64 – an overall deterioration of 4.7 per cent of GDP, equivalent to £77 billion in today's terms.

43 Taking this and our projection of financial transactions into account, PSND is projected to fall from its medium-term peak of around 79 per cent of GDP in 2015-16 to just over 53 per cent of GDP in the mid-2030s, before rising to 84 per cent of GDP in 2063-64. Beyond this point, debt would remain on a rising path.

Chart 1: Central projection of the primary balance and PSND



Source: OBR

44 The primary balance and PSND at the end of the projection period have improved relative to last year. That reflects the net effect of a number of offsetting factors:

- the latest ONS population projections suggest that there will be proportionately more young and old people in the population, and fewer of working age, than the previous projections. This worsens the primary balance and raises the debt ratio;
- spending cuts pencilled in for 2018-19 improve the primary balance, which knocks through to the long-term projections; and
- linking the State Pension age to longevity is assumed to bring forward the rise to 68 and to bring rises to 69 and 70 within the projection horizon, which improves the primary balance and reduces the debt ratio.

45 Needless to say, there are huge uncertainties around any projections that extend this far into the future. Small changes to underlying assumptions can have large effects on the projections once they have been cumulated across many decades. We therefore test these sensitivities using a number of different scenarios.

46 The eventual increase in PSND would be greater than in our central projection if long-term interest rates turned out to be higher relative to economic growth, if the age structure of the population was older, or if net inward migration (which is concentrated among people of working age) was lower than in our central projection.

47 Given the importance of health spending in the demographic challenge to fiscal sustainability, the rate of productivity growth in the sector and the level of health spending at the start of the

projection are also important assumptions. If productivity growth was weaker in the health sector than in the rest of the economy, and health spending was to be increased more quickly to compensate, then in our illustrative scenario health spending would rise by a further 5.9 per cent of GDP by 2063-64. This would see PSND rise substantially faster. If we assumed health spending moved in line with demographics from 2015-16, rather than being cut in line with other departmental spending, it would be 1.2 per cent of GDP higher in 2018-19. This would be compounded by the demographics to increase health (and therefore total) spending by a further 0.4 per cent of GDP by 2063-64.

Summary indicators of fiscal sustainability

48 In our central projections, and most of the variants we calculate, on current policy we would expect the budget deficit to widen sufficiently over the long term to put public sector net debt on a continuously rising trajectory as a share of national income. This would be unsustainable.

49 Summary indicators of sustainability can be used to illustrate the scale of the challenge more rigorously and to quantify the tax increases and/or spending cuts necessary to return the public finances to different definitions of sustainability. We focus on a measure of sustainability that asks how big a permanent spending cut or tax increase would be necessary to move public sector net debt to a particular desired level at a particular chosen date. This is referred to as the 'fiscal gap'.

50 The current Government does not have a long-term target for the debt to GDP ratio. So, for illustration, we calculate the additional fiscal tightening necessary from 2019-20 to return PSND to 20, 40 or 60 per cent of GDP at the end of our projection horizon in 2063-64.

51 Under our central projections, a once-and-for-all policy tightening of 0.9 per cent of GDP in 2019-20 (£15 billion in today's terms) would see the debt ratio reach 40 per cent of GDP in 2063-64. But this is less than the 1.7 per cent of GDP required to stabilise debt over the longer term and so the debt ratio would continue rising beyond the target date. Tightening policy by 0.3 per cent of GDP a decade would see the debt ratio fall more slowly to begin with, but the overall tightening would be large enough to stabilise the debt ratio at around the target level and prevent it from taking off again. These fiscal gap estimates are slightly lower than in last year's report, reflecting the slightly smaller primary deficit and lower PSND at the end of the projection period. Targeting debt ratios of 20 and 60 per cent of GDP would require larger and smaller adjustments respectively.

52 These calculations depend significantly on the health of the public finances at the end of our medium-term forecast. If the structural budget balance was 1 per cent of GDP weaker or stronger in 2018-19 than we forecast in the *EFO*, the necessary tightening would be bigger or smaller by the same amount.

53 The sensitivity factors that we identified in the previous section as posing upward or downward risks to our central projections for PSND similarly pose upward or downward risks to our estimates of fiscal gaps. The most dramatic would be the scenario of weaker productivity in the health sector pushing up spending per person.