

Office for
**Budget
Responsibility**

Discussion paper No. 1
**What should we include in the
*Fiscal sustainability report?***

March 2011

© Crown copyright 2011

You may re-use this information (not including logos) free of charge in any format or medium, under the terms of the Open Government Licence. To view this licence, visit <http://www.nationalarchives.gov.uk/doc/open-government-licence/> or write to the Information Policy Team, The National Archives, Kew, London TW9 4DU, or e-mail: psi@nationalarchives.gsi.gov.uk.

Any queries regarding this publication should be sent to us at: obrenquiries@obr.gsi.gov.uk

ISBN 978-1-84532-858-0
PU1155

Contents

| | | |
|-----------|---|----|
| Chapter 1 | Introduction | 2 |
| Chapter 2 | Background to the <i>Fiscal sustainability report</i> | 3 |
| Chapter 3 | Fiscal sustainability analysis: what we might want to capture | 5 |
| Chapter 4 | The fiscal consequences of past government activity..... | 7 |
| Chapter 5 | The fiscal consequences of future government activity | 15 |
| Chapter 6 | Summary indicators of sustainability..... | 22 |
| Chapter 7 | Next steps | 27 |
| Annex A | Items included in the OBR long-term public finance model | 28 |
| Annex B | National Accounts and balance sheets | 30 |
| Annex C | Inclusions within whole of government accounts | 32 |

1 Introduction

- 1.1** This discussion paper seeks views on what the Office for Budget Responsibility (OBR) should include in its *Fiscal sustainability report* (FSR). The FSR will be an annual analysis of the long-term sustainability of the UK's public finances. The first FSR will be published on 13 July 2011.
- 1.2** We hope that the FSR will promote an informed public debate on the long-term outlook for the public finances and on the policy challenges and choices that this presents. To that end we want to produce a document that is analytically rigorous, that draws on the best available empirical evidence, and that presents its findings in an informative and user-friendly way. To help us meet these objectives, we would welcome comments from potential users on the content and presentation of the report and on the research agenda that should underpin it. Needless to say, fiscal sustainability is an enormously wide-ranging topic, so it will be impossible to do full justice to every aspect in any single report.
- 1.3** Chapter 2 of this note explains the background to the FSR, and the aims set out for it to date. Chapter 3 discusses the scope of fiscal activity that the report might wish to cover. Chapter 4 describes how balance sheet measures can describe the fiscal impact of past government activity, while Chapter 5 looks at the use of long-term spending and revenue projections to capture future government activity. Chapter 6 discusses summary indicators of sustainability related to these projections. Chapter 7 outlines our next steps.
- 1.4** Any feedback and comments should be sent to OBRfeedback@obr.gsi.gov.uk, ideally by 6 May 2011. Please indicate whether you are happy for us to cite your submissions publicly.

2 Background to the fiscal sustainability report

- 2.1** The *Fiscal sustainability report* (FSR) will build on the long-term fiscal analysis presented by the Treasury in Budget documents from 1998 onwards and in its *Long-term public finance reports* (LTPFRs) from 2002 to 2009.¹ LTPFRs were published alongside the autumn Pre-Budget Report or the Budget, and thus tended to be overshadowed by the policy announcements and medium-term economic and public finance forecasts made at the same time. So we have decided to release the FSR separately from our medium-term forecasts, to try to ensure that long-term sustainability analysis gets the attention that it deserves.
- 2.2** The OBR has already published some long-term fiscal analysis. When the interim OBR was formed in May 2010, it was asked to undertake an initial assessment of the public sector balance sheet and fiscal sustainability, including the impact of ageing, public service pensions and PFI contracts. This was included in the pre-Budget forecast of the interim OBR.² The interim OBR's Budget Responsibility Committee suggested in the same publication that the permanent OBR had an important role to play in future by:
- “promoting the transparent and coherent provision of information on public sector liabilities and longer-term fiscal pressures, including drawing on the work of government departments and other bodies to highlight any gaps in information”; and
 - “providing a comprehensive and periodic analysis of the implications of these liabilities for fiscal sustainability, to promote understanding of fiscal pressures and allow the Government to take these into account when setting policy.”
- 2.3** The permanent OBR's November 2010 *Economic and fiscal outlook* built on the assessment made in June by including illustrative long-term projections of public sector net debt and debt interest in addition to the five-year forecast.³ As noted in that publication, these were stylised projections rather than detailed forecasts

¹ All previous editions of the annual Long-term public finance report are available from <http://webarchive.nationalarchives.gov.uk/20100407022214/http://hm-treasury.gov.uk/home.htm>;

² OBR. 2010. *Pre-Budget forecast*. Available from <http://budgetresponsibility.independent.gov.uk/>

³ OBR. 2010. *Economic and fiscal outlook*. Available from <http://budgetresponsibility.independent.gov.uk>

What should we include in the *Fiscal sustainability report*?

and were designed to illustrate some of the long-term pressures that may come to bear on the public finances in the future. Noting these limitations, the OBR set out the following aims for future FSRs:

- “we will aim to assess the full long-term impact of many of the recent policy changes that we have mentioned. These include changes to the uprating of pension benefits, changes to the public sector workforce, and bringing forward the increase in the state pension age. We have also noted many of the reviews that might be relevant, including the Independent Review of Higher Education Funding and Student Finance, the Commission on the Funding of Care and Support, and the Independent Public Service Pension Commission. Our analysis has also focused on spending pressures, but the sustainability of different tax bases is also important”; and
- “the OBR will also use the *Fiscal sustainability report* to comment on the evolution of the public sector balance sheet. We expect that the whole of government accounts, due to be published next spring, will be very helpful in quantifying further liabilities that may be material to the Government.”

2.4 Given these objectives, this discussion paper looks at the approach taken to long-term fiscal analysis in past Treasury and OBR publications, and seeks views on what lessons can be learned for the content and presentation of the FSR.

3 Fiscal sustainability analysis: what we might want to capture

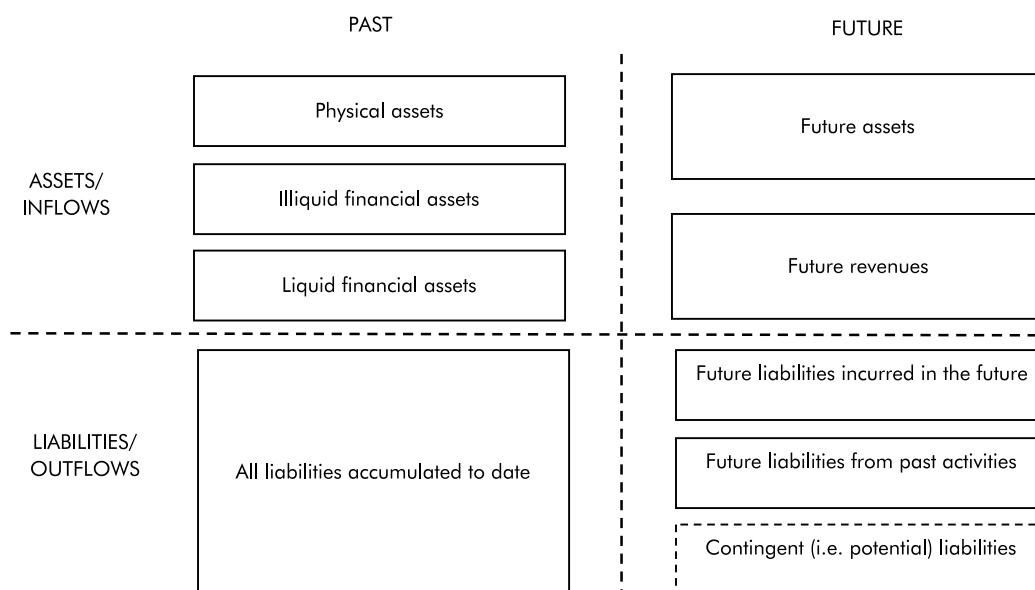
- 3.1** The OBR has been tasked to assess the long-term sustainability of the public finances. But, as the June 2010 Pre-Budget forecast noted, there is no single, widely accepted definition of 'fiscal sustainability'. For the purposes of the FSR, we will need to decide which definition or definitions are most informative and amenable to quantification, and then select summary measures accordingly. Ideally we want measures that are meaningful to a non-technical audience and which facilitate international and historical comparison.
- 3.2** In thinking about the health of the government's long-term fiscal position, we are interested in the impact of both its past and future fiscal activity.
- 3.3** As a consequence of its past activity, the government has accumulated assets (physical and financial) and liabilities. This past activity also results in financial flows in the future, notably on public service pensions and the government's servicing of its debt (partly offset by a financial return on some of its assets). The government's past activity has also created various 'contingent liabilities' where there is a non-zero probability that it will face some cost in the future, such as making good a loan guarantee or meeting the hard-to-predict costs of nuclear decommissioning.
- 3.4** Looking forward, the government's future activity will involve financial outflows, partly on the accumulation of future assets, but mostly to pay for current (i.e. non-investment) spending on public services and transfer payments. But it will also receive future revenues, mostly from taxation. The government may also find itself in possession of valuable assets it has not had to pay to accumulate, for example access to the electromagnetic spectrum that it was possible to auction.
- 3.5** Assessing the long-term sustainability of the public finances involves summarising the fiscal consequences of some or all of this past and future activity. Figure 3.1 shows a schematic that aims to demonstrate these distinctions.¹ We can focus on flows (future revenues and spending, including that generated by existing assets and liabilities) or stocks (existing assets and liabilities, plus the present value of expected future revenues and spending). In principle, these approaches should

¹ Adapted from HM Treasury: 2003. *Long-term public finance report*; and OECD & International Federation of Accountants. 2009. *Reporting on the long-term sustainability of the public finances*. Discussion Paper. Available from <http://www.ifac.org/Guidance/EXD-Details.php?EDID=0133>

What should we include in the *Fiscal sustainability report*?

tell the same story. In practice, they rarely appear to because the coverage of different summary stock and flow measures used in policy presentation and discussion differs widely. One challenge for the FSR will be to try to tell a coherent story using both approaches and to warn against drawing inappropriate conclusions from an unrepresentative subset of government activity.

Figure 3.1: Government activity: past and future, stocks and flows



Questions

- 1 Is this a sensible framework in which to think about the scope of the FSR?
- 2 Are there other stocks and flows that we should take into account?

4 The fiscal consequences of past government activity

Public sector net debt and the public sector balance sheet

- 4.1** The current and previous Governments have both used public sector net debt (PSND) – public sector financial liabilities net of liquid financial assets – as a key target indicator of fiscal sustainability. Neither has gone so far as to identify an optimal PSND to GDP ratio, but both have signalled – at the very least – that they did not want to see this measure of public sector debt and its associated servicing costs on an unsustainable upward path. From 1997 to 2008, the last Labour Government’s ‘sustainable investment rule’ required it to keep PSND below 40% of national income. But the financial crisis pushed PSND well above this level and in 2010 the new Coalition Government announced a ‘supplementary target’ to have PSND falling as a share of GDP between 2014-15 and 2015-16.
- 4.2** Chart 4.1 shows the evolution and OBR forecast for PSND on the basis that excludes the temporary effects of the financial sector interventions.

Chart 4.1: OBR November forecast of public sector net debt



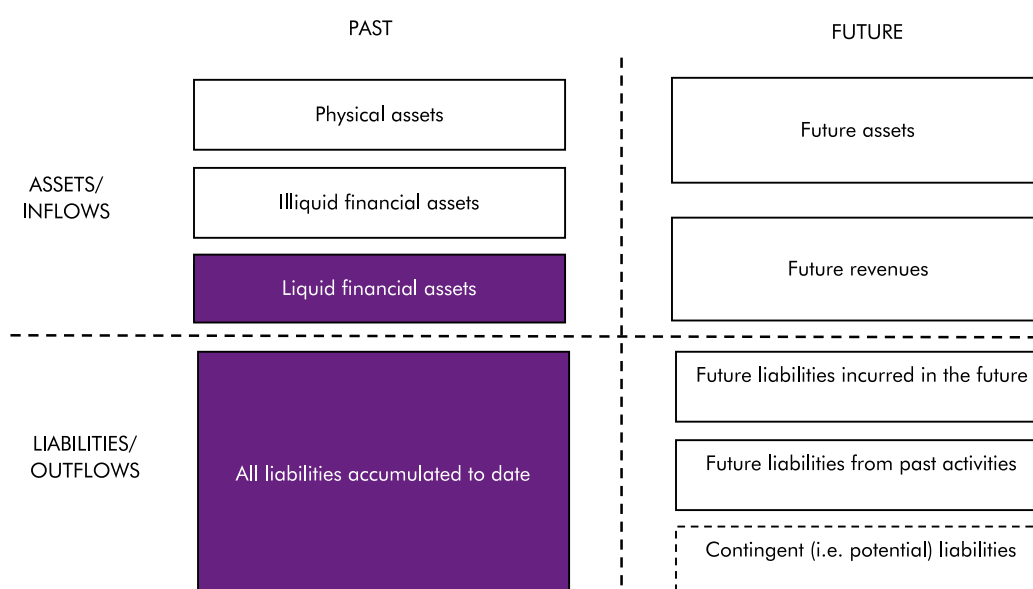
Source: ONS, HM Treasury

■ Outturn ■ Forecast

What should we include in the *Fiscal sustainability report*?

4.3 PSND is a National Accounts measure that is easily understood and in principle is amenable to international comparison, although in practice this is complicated by the fact that international organisations tend to focus on the net financial liabilities of general government, which excludes public corporations from the analysis. However, PSND encompasses a relatively narrow and entirely backward-looking subset of the government activities referred to in the previous section, as in Figure 4.1.

Figure 4.1: Content of public sector net debt



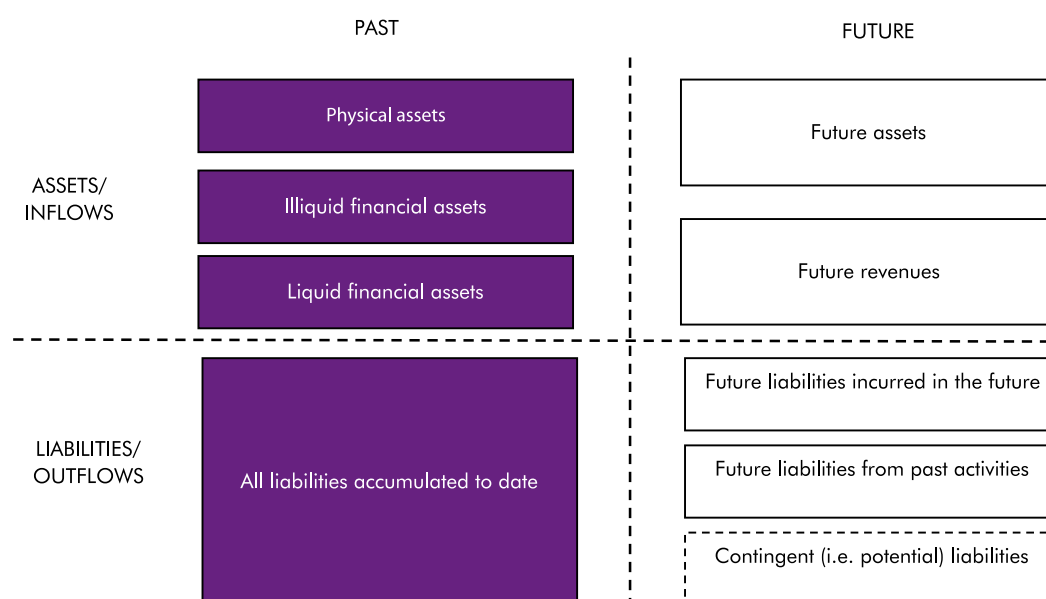
4.4 The measure of PSND used by the Government excludes the temporary effects of the previous Government’s interventions to stabilise the financial sector in the wake of the financial crisis. For example, it removes the balance sheets of the public sector banks from PSND on the basis that these banks are only temporarily in the public sector and therefore do not represent a long-term cost to the taxpayer.¹ This definition of PSND is consistent with National Accounts definitions and methodologies and is the measure used by the OBR in its medium-term forecasts. The measure of PSND which includes the bank’s balance sheet is considerably higher, at 149.2 per cent of GDP in January 2011. Such issues

¹ O’Donoghue, J. ONS. 2009. *Public sector finances excluding financial interventions*. Available from <http://www.statistics.gov.uk/articles/nojournal/excluding-financial-interventions.pdf>

illustrate the extent to which definitional and boundary issues can affect the level of backward-looking measures such as PSND.

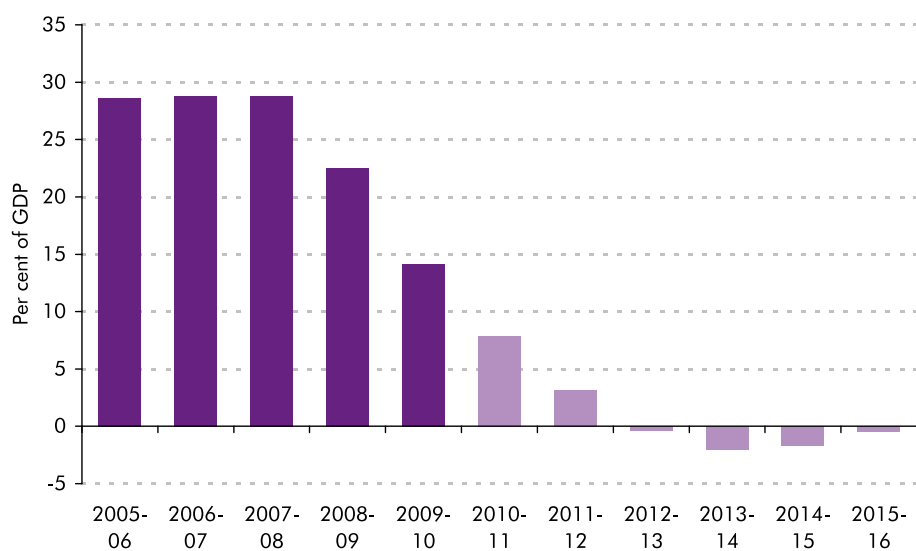
- 4.5** Public sector net worth (PSNW) is another possible measure of fiscal sustainability. It is defined as the difference between total public sector assets and liabilities, and is therefore distinct from PSND in that it also includes less liquid and non-financial assets. Figure 4.2 shows the full coverage of PSNW. These non-financial assets include both tangibles, such as buildings and inventories, and intangible assets such as own account software. There are significant and inherent uncertainties involved in valuing these items which complicate their inclusion on the asset side of the balance sheet. For this reason net worth has not typically been used as a key fiscal aggregate.

Figure 4.2: Content of public sector net worth



- 4.6** The OBR produced a forecast of PSNW in the November *Economic and fiscal outlook*. This showed net worth falling sharply and turning negative in 2012-13, as in Chart 4.2. This is the natural result of the high levels of borrowing to fund current spending forecast over this period. Current spending does not create an asset on the government's balance sheet to offset the increased liabilities. The problems involved in calculating net worth suggest it may be best explored through further analysis as part of the production of the *Fiscal sustainability report*, rather than reported on regularly in the OBR's medium-term fiscal projections.

Chart 4.2: OBR November forecast of public sector net worth



Source: ONS, HM Treasury

■ Outturn ■ Forecast

Including future liabilities in balance sheet measures

4.7 Some commentators have criticised the use of PSND as a measure of indebtedness or financial health, and a similar criticism would apply to PSNW, because it excludes future liabilities and contingent liabilities arising out of past activity. These include:

- future pension payments to past and existing public sector workers: the Government Actuary's Department, in conjunction with the Treasury, has previously published regular estimates of the present value of future public service pension payments.² Exactly how to calculate such present values is controversial in itself, reflecting their sensitivity to mortality assumptions and the choice of discount rate used to convert future cash flows into an upfront lump-sum equivalent. See Box 4.1 for further discussion of this point. For example, Towers Watson use different assumptions for these key inputs, and with updated calculations suggest the present value of these liabilities is in the region of £1.2 trillion;³

² The most recent of which was £770 billion or 53 percent of GDP as at 31 March 2008

³ Towers Watson. 2010. Public Sector Pension Liabilities now £1.2 trillion. Available from <http://www.towerswatson.com/united-kingdom/press/1418>

- payments to private finance initiative (PFI) providers and other long-term contracts: under the National Accounts framework, contracts under which the government is considered to bear the risks and rewards of an asset are recorded on the government balance sheet. A 'financial lease' is recorded, in effect showing the government taking a loan from the private sector partner which is repaid over the contract. This is recorded in PSND. However, if the asset is not on the government's balance sheet then an 'operating lease' is recorded, in which case payments to the provider of operations are equivalent to rental. These will not be recorded in PSND, except as the unitary payment each year for the provision of the service, and yet represent future payments that are largely contractually obliged. Maitland-Smith explains these distinctions further;⁴ and
- contingencies, provisions, guarantees and other measures: many financial liabilities can be thought of on a spectrum of risk. These distinctions are also discussed by Maitland-Smith. There is a further distinction that can be made between explicit liabilities recognised by law, and implicit moral or expected obligations – but even confining the issue to explicit liabilities there can be a degree of uncertainty around obligations. Commitments are future liabilities that will occur as a result of contract agreements. Provisions are future expenditure for liabilities that are uncertain but highly likely. Contingent liabilities are similar expenditures, but where probability and outlay are much more complex to calculate. And guarantees are a commitment to bear risk. So, for example, nuclear decommissioning liabilities can have a significant preparation time whilst energy generation comes on line and are thus fairly certain. Some events are less predictable, for example the effects and timing of the financial crisis, as a result of which there are now guarantees given to support financial institutions.

4.8 Simply adding the present value of one of more of these categories of liability to PSND would give a bigger number, but not necessarily a more meaningful picture of the public sector's financial health. One additional problem is the sensitivity of present value estimates of future financial flows to the choice of discount rate used to convert them into a one-off sum, as in Box 4.1.

⁴ Maitland-Smith, F. ONS. 2009. *Government financial liabilities: beyond public sector net debt*. Available from <http://www.statistics.gov.uk/cci/article.asp?id=2251>

Box 4.1: Discount rates

The discount rate is the interest rate used when discounting future cash flows. The concept of discounting is inherently related to the concept of present value, i.e. calculating the current value or worth of those future flows. The Independent Public Service Pensions Commission (IPSPC) gives the following example to explain the use of discount rates:⁹

Let us assume that a company promises an individual a payment of £100 in 10 years' time. The cost to the company could be considered to be the amount of money needed now in order to pay £100 to this individual in 10 years' time. Assuming that the company decides that it will invest in government bonds and it expects that these will give a return of 4 per cent nominal per year. The cost to the company of providing £100 in 10 years' time is therefore:

$$£100 \div 1.04^{10} = £67.56$$

Effectively, the 'discount rate' used is 4 per cent, which is equal to the expected return on government bonds. Alternatively, the company may decide to invest in equities, where it expects a return of 8 per cent nominal per year. The cost of the company of providing £100 in 10 years' time (using a discount rate of 8 per cent) will then be:

$$£100 \div 1.08^{10} = £46.32$$

In this example from the IPSPC the effect is clear – the higher the discount rate, the lower the present value of a given future amount. Conceptually this is the reverse of a higher interest rate, which would for the same current amount of money yield a higher amount in future. For a given future cash flow, adjusted for inflation, the choice of discount rate can therefore have a significant impact on the present value of the liability, and those wanting to accentuate the magnitude have a simple option in choosing a low discount rate to achieve this. But there are many possible choices of discount rate. Following recommendations from the IPSPC, the Treasury conducted a consultation on the discount rate used to set unfunded public service pension contributions, considering various plausible options also outlined by the IPSPC. These included:

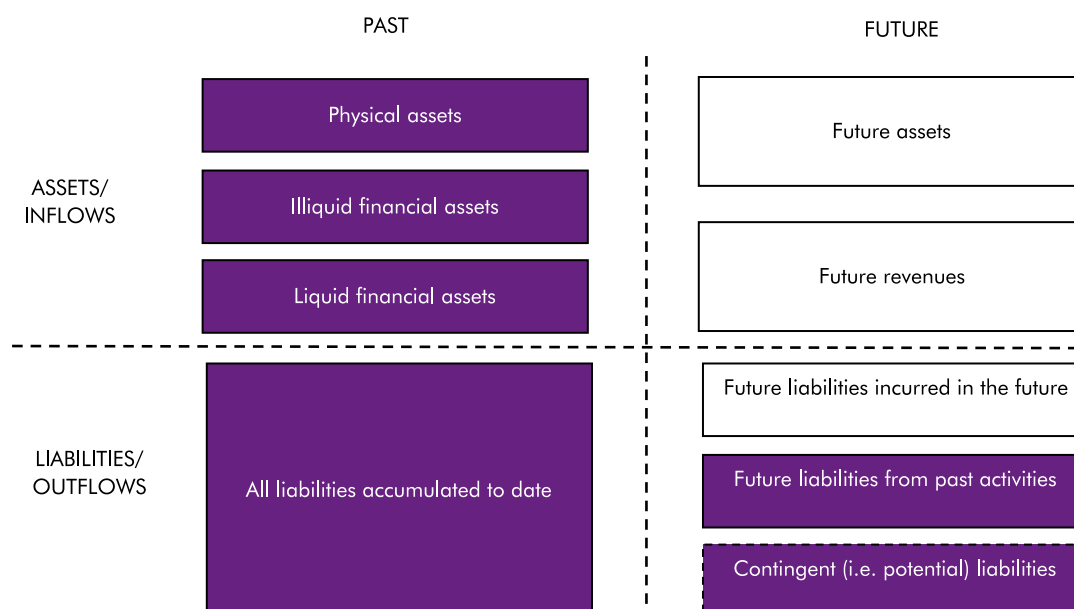
- a rate consistent with the private sector and other funded schemes;
- a rate based on the yield on index-linked gilts;
- a rate in line with expected GDP growth; and
- a social time preference rate – the value society places on current consumption as opposed to future consumption.

This list highlights the choice available and the reasoning for making such choices. However, it also serves to highlight that there is no 'correct' discount rate. Being aware of the potential impact of the choice of discount rate is important in understanding the true size of future commitments, and one of the functions of the FSR may be in showing the sensitivity of given measures to these choices.

⁹ IPSPC. 2010. *Interim Report*. Available from http://www.hm-treasury.gov.uk/indreview_johnhutton_pensions.htm

- 4.9** Concerns about the omission of items like public service pension costs from PSND should be addressed to some extent by the greater prominence they will receive in the whole of government accounts (WGA) that the government is due to publish by the end of 2011. We hope that WGA will be published in time for consideration in the FSR this summer, but if not they should at least provide a very useful resource for subsequent reports.
- 4.10** The WGA are consolidated financial statements for the public sector. The accounts will be completed in line with Generally Accepted Accounting Principles, specifically the International Financial Reporting Standards as adapted for the public sector. This will include an accruals-based balance sheet. See Annex B for a further explanation of some of the distinctions between this approach and those relating to the European System of National Accounts.
- 4.11** The WGA will capture a wider, but still not complete, range of the activities identified in the previous section, as shown in Figure 4.3. It will include financial and non-financial assets and liabilities, plus some costs incurred in the past for which the cash flows will occur in the future. In particular, it will take account of commitments for both finance and operating leases under PFI, net pension liabilities and provisions.

Figure 4.3: Coverage of whole of government accounts



- 4.12** Annex C lists many of the items for inclusion in WGA. It is not yet clear how WGA will be presented and in exactly what form some of the items will be included. As can be seen from the list, many items, such as contingent liabilities, will only be disclosed as notes to the accounts, thus not counting towards balance sheet

What should we include in the *Fiscal sustainability report*?

totals. In other cases, contingent liabilities may actually be impossible to quantify, in which case only narrative descriptions will be included. Therefore it seems that there will be useful consolidated information on many assets and liabilities, but a key OBR function may be in drawing these together further in an effort to summarise the information into a more readily understandable format for the non-technical reader.

- 4.13** WGA will not alter the measures of PSND or PSNW as these will continue to be calculated on a National Accounts basis. They will also continue to exclude the liabilities and obligations that we have outlined. However, it is clear that the publication of WGA will add a great deal to the breadth and depth of information that can be used in conjunction with these other historically-focused measures of financial health.
- 4.14** Important information on some of the assets and liabilities incorporated into WGA has already been published. In August 2010 the ONS published the article *Wider measures of public sector debt*.⁵ This analysed inclusions and exclusions from PSND, and set out a fuller range of liabilities, obligations and assets and how they had changed over time. It included measures of the public sector's financial liabilities, financial assets, non-financial assets (both tangible and intangible), and wider liabilities and obligations. This included those related to PFI schemes, public sector pension schemes, state pension schemes, and contingencies, provisions and guarantees (including nuclear decommissioning). We hope WGA will add further information for comparison with work of this kind.
- 4.15** There is no 'right answer' as to whether we should focus on balance sheet measures that include or exclude these items. Different measures will be suitable for different purposes. Increasing transparency and understanding of what they do and do not tell us will be key.

Questions

- 3** How can the OBR most usefully present public sector balance sheet information?
- 4** What summary indicators of all or part of the balance sheet should we focus on?
- 5** In which areas are current indicators misinterpreted or misunderstood?
- 6** What weight should we place on estimates of PSNW?

⁵ Hobbs, D. ONS. 2010. *Wider measures of public sector debt*. Available from <http://www.statistics.gov.uk/articles/nojournal/wider-measures-public-sector-debt.pdf>

5 The fiscal consequences of future government activity

Long-term spending and revenue projections

- 5.1** Accruals-based balance sheets contain useful information on the fiscal consequences of past government activity, including its implications for some future cash flows. But, to assess long-term fiscal sustainability, we need to understand how future government activity might affect these balance sheets (or at least some of the summary measures based upon them).
- 5.2** Perhaps the simplest way to do so is to undertake a ‘bottom-up’ analysis, aggregating long-term projections of different spending and revenue streams as shares of GDP on the presumption of unchanged policy. This has been the main approach taken by the Treasury in its LTPFRs and in the OBR’s forecast publications to date. For example, the November 2010 *Economic and fiscal outlook* presented projections for PSND and net interest payments through to 2049-50, based on certain assumptions. It was assumed that spending and revenues evolve as in the OBR’s forecasts until 2015-16, after which:
- revenues remain constant as a share of GDP;
 - interest rates are calculated assuming a continuation of the Debt Management Office strategy, with the rate held constant after 25 years;
 - whole economy productivity grows at the average rate of the past 50 years;
 - whole economy inflation remains at the rate forecast for 2015-16;
 - the population changes in line with the ONS ‘low migration’ scenario; and
 - employment rates reflect historical patterns for different age cohorts.
- 5.3** Three alternative assumptions were made for non-interest public spending beyond 2015-16:
- all non-interest spending remains constant as a share of GDP;

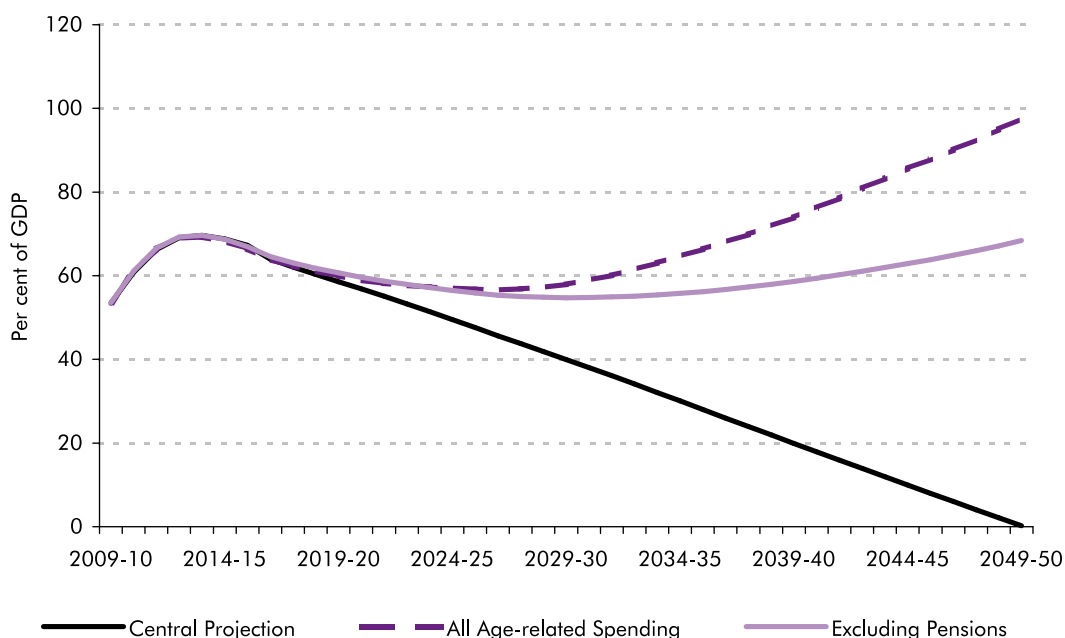
What should we include in the *Fiscal sustainability report*?

- age-related spending on people of different ages remains constant per person as a share of GDP as the proportion of the population in different age groups changes, while spending on non-age-related public services remains constant as a share of GDP; and
- age-related spending, excluding state and public service pensions, on people of different ages remains constant per person as a share of GDP as the proportion of the population in different age groups changes, while spending on non-age-related pensions and public services remains constant as a share of GDP;

5.4 The demographically adjusted projections for age-related spending are constructed by combining population projections with detailed age profiles for males and females, for all major spending and revenue categories. The profiles capture the age distribution of spending and revenue over a representative individual's lifetime – in other words, for any specific age, the profile shows the percentage of total lifetime spending (or revenue) that is consumed (or returned). Taking total spending and revenue on these items at the end of the medium-term forecast, and applying the profiles and projected population by year of age, we can then calculate a per capita by year of age contribution to the total. Combining these per capita terms with further population projections for future years it is then possible to generate long-term revenue and spending projections.

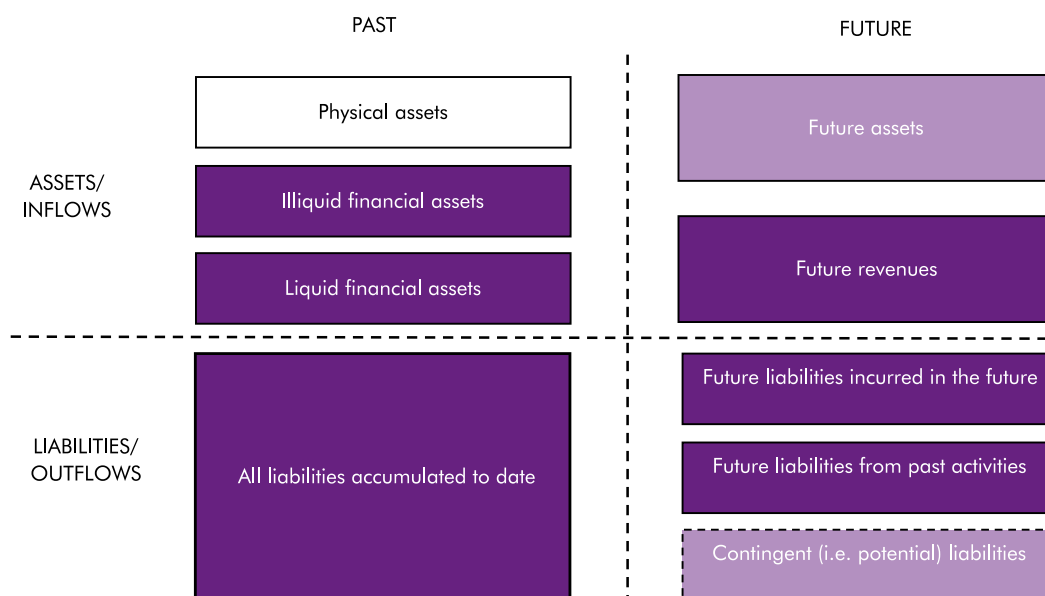
5.5 The analysis showed PSND on a downward long-term trajectory without adjusting for prospective changes in the age composition of the population, but with the debt ratio beginning to rise again in the 2020s when demographic adjustments were made, as shown in Chart 5.1.

Chart 5.1: OBR November forecast of the impact of demographic change on PSND



- 5.6** Using long-term projections of this type provides a relatively comprehensive framework for assessing fiscal sustainability. It takes into account items such as the cost of public service pensions, but without the same sensitivity to the choice of discount rate as in the balance sheet approach. It also takes into account the fact that the government has many non-contractual but nonetheless meaningful ongoing spending commitments, for example, that it is likely to wish to continue to provide state education and healthcare. Crucially, it also recognises that the government has the ability to raise future tax revenues.
- 5.7** Looking at flows of spending and revenue also provides a more intuitive guide to the nature of the potential policy response: the bulk of any adjustment to shift the public finances from an unsustainable to a sustainable trajectory is likely to have to take the form of increasing revenues and/or reducing spending rather than transactions in assets or liabilities.
- 5.8** Figure 5.1 shows the content of revenue and spending projections. The relatively comprehensive coverage of these projections can be appreciated in comparison to historically focused measures. However, there are still potential inflows and outflows that it is impossible to fully incorporate. These are lightly shaded in the schematic. A full assessment of fiscal sustainability must also attempt to encompass these.

Figure 5.1: Content of revenue and spending projections



Improving future projections

5.9 In their use of long-term projections to date, the Treasury and OBR have focused on the implications of future changes in the age structure of the population for demand for particular broad categories of spending. There is more to do in refining this work, for example in the construction of the underlying profiles that represent lifetime expenditure for each item. These are largely constructed from survey data, but it may be possible to incorporate new data or research and alter their shape accordingly.

5.10 There also seems a strong argument for extending the analysis to take greater account of non-demographic drivers of spending and of long-term influences on the buoyancy of different revenue streams (although it should be noted that in many international examples of sustainability analysis, tax receipts are simply increased in line with nominal GDP).¹ If we were to extend and enrich the analysis in this way, it would be important to emphasise that these remain projections rather than precise forecasts.

¹ See for example Office of the Parliamentary Budget Officer. 2010. *Fiscal Sustainability Report*. Available from http://www2.parl.gc.ca/sites/pbo-dpb/documents/FSR_2010.pdf

- 5.11** On the spending side, one obvious candidate is to take into account trends in health costs. Comparisons across countries show what a large impact changes in health care spending can have on the position of the public finances.² Changes in the number of years spent in ill health and advances in medical technology may also have an impact not only on the shape of profiles but also in the overall underlying direction of spending.
- 5.12** On the revenue side, there are a number of non-demographic factors that might affect the size of particular revenue streams over the long term. For example:
- technology: the buoyancy of fuel duty revenues will be affected by technical advances in engine design that promote fuel efficiency;
 - resource exhaustion: future revenues from North Sea oil and gas will depend on the rate at which stocks of these resources are used up;
 - behavioural change: revenue from tobacco duty will depend in part on long-term trends in smoking, while revenues from some environmental taxes will depend in part on changes in the polluting behaviour they are designed to discourage; and
 - globalisation: revenue from taxes on internationally mobile capital will be affected by movements in tax rates in other countries.
- 5.13** A useful thought experiment is to look at each revenue stream that government receives and to ask whether there is a good argument for assuming that the tax base will rise by a rate other than the growth rate of nominal GDP over the long run. The spending and revenue streams included in the OBR's long-term analysis are listed in Annex A.
- 5.14** Sustainability analysis is designed in part to identify when and where policy changes may be necessary to move the public finances from an unsustainable to a sustainable path. One practical challenge in doing so is to define what we mean by 'unchanged policy' when projecting particular spending and revenue streams. Over the five-year forecasting horizon of the OBR's *Economic and fiscal outlook*, the announced policy is usually quite clear, and can be expected to be maintained. But over the longer term it is far less clear, as continuing announced policies (or the absence of them) would often lead to unrealistic outcomes.

² See European Commission. 2009. *Sustainability Report 2009*. Available from http://ec.europa.eu/economy_finance/publications/publication15998_en.pdf; and Hagist, C and Kotlkoff, L. 2006. *Health Care Spending: What the Future Will Look Like*. Available from <http://www.ncpa.org/pub/st286>

What should we include in the *Fiscal sustainability report*?

- 5.15** For example, in our medium-term forecasts, unless it states otherwise, the Government is assumed to up-rate income tax allowances and thresholds in line with inflation. But because earnings typically rise more quickly than prices, this definition of unchanged policy will result in the average tax rate steadily rising over time as people find more of their income becoming subject to higher tax bands. In its own long-term projections, the Treasury recognised that this fiscal drag could not be assumed to continue indefinitely. So it assumed that allowances and thresholds rose in line with earnings rather than prices beyond the medium-term horizon, turning off fiscal drag after five years.
- 5.16** A similar issue arises on the spending side, where up-rating benefits in line with prices rather than average incomes over the long term would see the value of those benefits steadily shrinking in generosity relative to the living standards of the bulk of the population. This may seem unrealistic. Some observers may also question whether adjusting age-related spending for demographic changes is consistent with the notion of projecting ‘unchanged policy’ or whether it is in fact a prediction of how policy is likely to change.
- 5.17** Definitions of unchanged policy are necessary in order to make projections and to identify where action may be needed. But given these issues the OBR will need to be very clear and transparent about the definitions it uses and the reasons for choosing these definitions.
- 5.18** As highlighted within our schematic, there may be areas where government policy is defined but events themselves are very uncertain. This complicates the projection process as it requires an additional assessment of the probability of an event occurring. Previous practice has tended to ignore these items, except to the extent that a payment may be captured in the spending forecast and thus informs the base from which projections are made. Inclusion of such items under different assumed scenarios may represent another form of sensitivity analysis in projections. Within this area of sensitivity it may also be appropriate to discuss broader trends and challenges that may influence future spending, for example climate change.
- 5.19** When undertaking long-term projection analysis, we also need to decide what if any account to take of the potential interaction between the outlook for the public finances and the long-term performance of the economy. The evolution of the debt ratio is the result of distinct levels and structures of taxation and expenditure, and this will have an impact on interest rates and growth rates. Therefore there may well be important feedback effects from the public sector debt path to capital accumulation and future growth rates. Discussion of this sort is included in the Congressional Budget Office’s long-term budget projections for the United

States.³ It could also be argued that that some forms of spending are more likely to promote long-term economic growth than others, such as investments in physical and human capital.

Questions

- 7 How can we improve long-term spending and revenue projections?
- 8 How can we best capture the impact of demographic change?
- 9 Which non-demographic influences on spending should we take account of?
- 10 How should we model different revenue streams over the long-term?
- 11 How should we deal with contingent liabilities in long-term projections?
- 12 How should we deal with the feedback between fiscal developments and economic performance?

³Congressional Budget Office. 2010. *The Long-term Budget Outlook*. Available from <http://www.cbo.gov/ftpdocs/115xx/doc11579/06-30-LTBO.pdf>

6 Summary indicators of sustainability

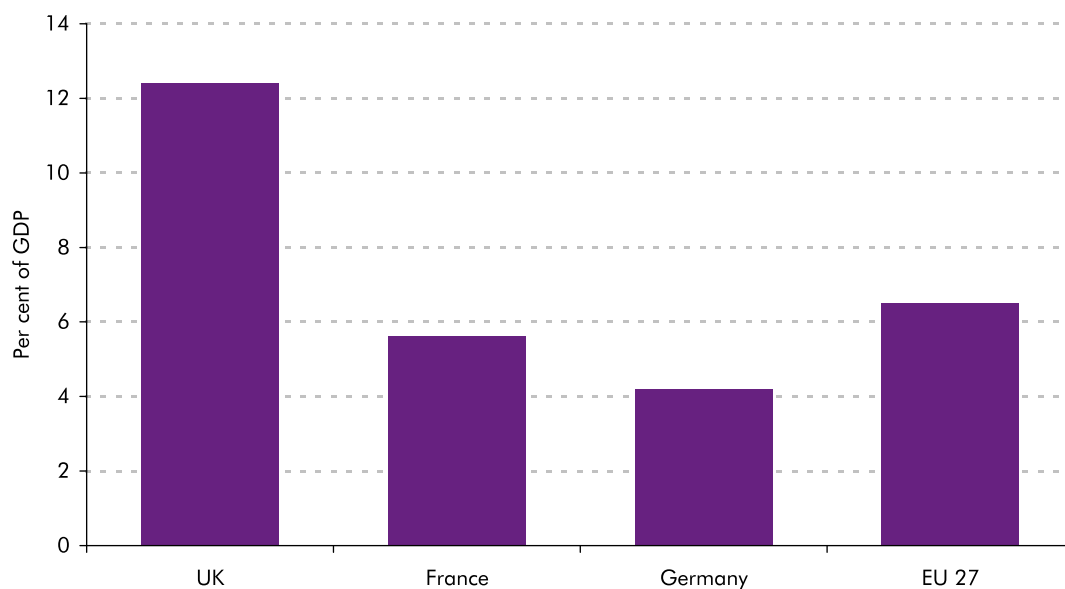
- 6.1** Given a set of long-term projections for spending and revenues, there remains the need to summarise their implications for fiscal sustainability in a rigorous yet meaningful and comprehensible way. Most definitions of fiscal sustainability are built on the concept of solvency – the ability of the government to meet its future obligations.

Solvency

- 6.2** The formal solvency condition can be given by the government's inter-temporal budget constraint (IBC)¹. The IBC will be satisfied if the projected outflows of the government, given by the current public debt and the discounted value of all future expenditure, are covered by the discounted value of all future government revenue. Intuitively, this means that over an infinite horizon government receipts less spending on items other than debt interest, known as the primary balance, must be sufficiently large to service government debt.
- 6.3** Judging sustainability against this criterion, the European Commission (EC) calculates the structural adjustment to the long-term primary balance thought necessary to fulfil the infinite horizon IBC. The resulting 'S2 indicator', as shown in Chart 6.1, is a comprehensive measure and making our own estimate would facilitate international comparisons. But estimating across an infinite horizon may be thought too unrealistic with too high a degree of uncertainty. Furthermore, using this indicator requires an assumption that the UK public finances will reach a steady state at some time in the future, but it is unclear at what point this should be.

¹ For derivation of the IBC see European Commission. 2009. *Sustainability Report 2009*. Available from http://ec.europa.eu/economy_finance/publications/publication15998_en.pdf; Chalk, N and Hemming, R. *IMF 2000 Assessing Fiscal Sustainability in Theory and Practice*. Available from http://ec.europa.eu/economy_finance/publications/publication15998_en.pdf; and HM Treasury. 2002. *Long-term public finance report*

Chart 6.1: European Commission 2009 S2 indicator

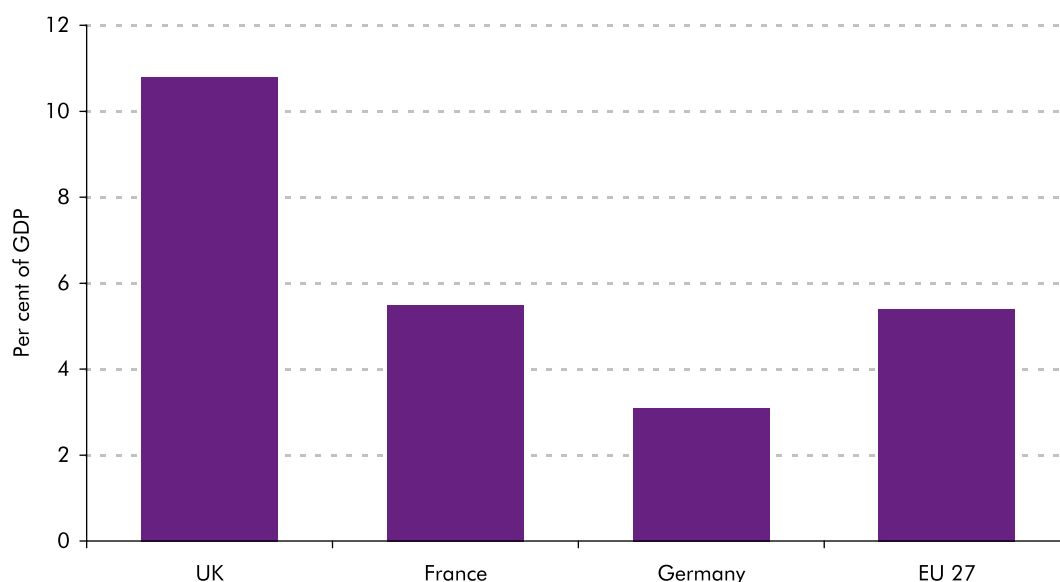


Source: European Commission

6.4 This 'fiscal gap' (or 'primary gap') approach can be applied to objectives other than satisfying the infinite horizon IBC. For example, the Commission's 'S1 indicator' shows the adjustment to the primary balance required to reach a gross general government debt ratio of 60 per cent of GDP in 2060, the target set out in the Maastricht Treaty. This indicator is shown in Chart 6.2. The UK Government does not have a long-term target for the debt-to-GDP ratio so we would need to consider whether reporting fiscal gap indicators for other specific debt-to-GDP ratios would be helpful. The choice of ratios is unclear because there is a great deal of uncertainty about the optimal ratio, and no consensus that there should be a specific target.

6.5 If such indicators were to be used, we would also have to decide on appropriate time horizons for the analysis. As with the S2 indicator, longer time horizons add to uncertainty. It is also important to remember that the indicator does not tell you whether the target debt ratio is likely to be breached prior to the end of the horizon.

Chart 6.2: European Commission 2009 S1 indicator



Source: European Commission

6.6 Fiscal gap indicators are widely used and can be explained in a non-technical way. But there are other ways to summarise the requirements of public sector solvency. For example, we could give the level of primary balance that would need to be obtained, rather than the amount of tightening. Equally we could recalculate the indicator as the difference between the current tax rate and the tax rate that should prevail so that the debt-to-GDP ratio remains unchanged over the relevant time horizon – the so-called ‘tax gap’ indicator. We could also provide indicators that show the amount by which the primary balance would need to be tightened so as to prevent net debt ever exceeding a certain ratio.

6.7 Solvency is not the only criterion that could be taken into account when assessing fiscal sustainability. A more comprehensive view goes beyond a simple debt target to consider a number of further dimensions, as outlined by the OECD.²

Intergenerational fairness

6.8 Can the government meet its current obligations without shifting the burden of paying for them to future taxpayers? Focusing on intergenerational fairness in

² Schick, A. OECD. 2005. *Sustainable Budget Policy*. OECD Journal on Budgeting Vol. 5, No.1. pp.159-208

this way suggests the use of 'generational accounts'.³ This approach focuses on the balance between the benefits received (in cash and kind) and the taxes paid by people in specific age cohorts. This dimension of sustainability can be summarised using the 'intergenerational balance gap'. This is the difference between the present value of future assets and liabilities, assuming all future generations receive the same net benefits, adjusted for growth, as current newborns.

6.9 Intergenerational gaps were reported in early LTPFRs, but the discussion was dropped in 2006 for two main reasons. First, the Treasury struggled to find up-to-date generational accounts for other developed countries to which it could compare its own numbers. Second, the Treasury found it hard to demonstrate the policy relevance of the indicator, because it looked only at future cohorts rather than asking, for example, how a current 20-year-old was likely to fare relatively to a current 30-year-old. It was also argued at the time that this indicator gave too strict a measure of sustainability, as ensuring that net lifetime tax transfers are zero would require the elimination of public sector debt over a chosen horizon.⁴

6.10 However, whilst the results of generational accounts may in some ways be difficult to interpret, they may be the most effective way of illustrating this dimension of sustainability. The ONS and the National Institute of Economic and Social Research have recently been undertaking work to update generational accounts for the UK.⁵ This work can provide greater insight into intergenerational fairness, and into the underlying drivers of changes in the generational accounts, such as the elements of spending and revenue that create most fluctuation in net transfers to cohorts.

Growth

6.11 As we noted in the previous section, there are potential interactions between the outlook for public finances and the long-term performance of the economy. Do the long-term prospects for the public finances support or hinder economic growth? The IBC is a partial-equilibrium approach, in that it does not consider interactions between budgetary variables and the path of the economy. However, there is a great deal of research devoted to these effects and to the relationship between budgetary and macroeconomic variables. But judging and summarising the scale of these effects is far from easy.

³ See Cardarelli, R, Sefton, J and Kotlikoff, L. NIESR. 1999. *Generational Accounting in the UK*. Discussion Paper No. 147. Available from <http://www.niesr.ac.uk/pubs/dps/dp147.pdf>; and HM Treasury. 2002. *Long-term Public Finance Report*

⁴ HM Treasury. 2002. *Long-term Public Finance Report*

⁵ McCarthy, D, Sefton, J, and Weale, M. NIESR. 2011. *Generational Accounts for the United Kingdom*. Discussion paper No. 377

What should we include in the *Fiscal sustainability report*?

- 6.12** A related issue is the extent to which we should assess the sustainability of the public sector's financial balance with reference to the implications that it has for the financial balances of other sectors of the economy – bearing in mind that by construction the aggregate borrowing of the government, household and corporate sectors must be offset in the current account of the balance of payments. For example, if we assume from historic experience that the balance of payments is likely to be in long-term deficit, then does the achievement of a significant ongoing budget surplus imply unrealistic assumptions about the path of household and corporate balance sheets?

Robustness to shocks

- 6.13** We may wish to judge the sustainability of the public finances not just by setting out a central projection for the path of government debt, but also by examining how likely it is that economic and fiscal shocks might move it to an unsustainable trajectory. This certainly underlines the importance of accompanying any central projection with analysis of its sensitivity to key parameters, such as the trend rate of productivity growth, the steady-state rate of inflation and the interest rate on government debt. But there may be other ways in which we can capture and illustrate the robustness of the public finances to shocks – for example, by looking at the potential impact of shocks like those seen in the past.

Questions

- 13** Should we focus on solvency as the main criterion for judging sustainability?
- 14** Which summary indicators of solvency should we use?
- 15** What use should we make of intergenerational accounting?
- 16** How should we take into account feedback between fiscal outturns and economic performance?
- 17** How should we view the government balance in the context of other sectoral balances?
- 18** How should we assess the robustness of the long-term debt path to possible shocks?

7 Next steps

- 7.1** This discussion paper has outlined many key questions that we will have to consider when undertaking analysis in the FSR. The OBR is now requesting responses to these questions. However, given the wide-ranging nature of this topic, the OBR would also welcome responses that detail further areas of inquiry that may not have been mentioned within this discussion.
- 7.2** Whilst there is great uncertainty inherent in any analysis of fiscal sustainability, the analysis still needs to be as robust as possible. For this reason we would also greatly appreciate responses that detail credible research and evidence that we can draw on in our work.
- 7.3** Responses will inform the agenda of the OBR in preparing future editions of the FSR and discussion papers that focus in more detail on specific topics relevant to fiscal sustainability.
- 7.4** Please send all comments to OBRfeedback@obr.gsi.gov.uk, ideally by 6 May 2011.

A Items included in the OBR long-term public finance model

A.1 Listed below are the revenue and expenditure items that are projected in the OBR long-term public finance model.

Revenue

- Income tax
- Corporation tax
- Taxes on capital gains
- Petrol revenue tax
- Other taxes on income and wealth
- VAT
- Fuel duty
- Tobacco
- Alcohol
- National non-domestic rates
- Stamp duties
- Betting, gaming and lottery
- Insurance premium tax
- Payment to National Lottery distribution fund
- Other customs and excise duties
- Vehicle excise duty paid by business
- Other taxes on production
- Other miscellaneous taxes on production
- Council tax
- Vehicle excise duty paid by households
- Other miscellaneous taxes transfers and fees
- Inheritance tax
- Total national insurance contributions
- Contributions to public service pension schemes
- Current international cooperation
- Rent and other current transfers
- Gross operating surplus

Expenditure

- Retirement pension: basic (including non-contributory)
- Retirement pension: state earnings-related pension scheme and state second pension
- Pension credit
- Other pension benefits
- Attendance allowance and disability living allowance
- Incapacity benefit & severe disablement allowance
- Maternity benefits (statutory maternity pay and maternity allowance)
- Income support
- Jobseeker's allowance (contributory and income-based)
- Housing benefit (rent rebates and rent allowances)

What should we include in the *Fiscal sustainability report*?

- Council tax benefit
- Income tax credits and reliefs
- Public service pensions
- Child benefit
- Child & working tax credit (expenditure element)
- Student grants
- Total final consumption: education: schools
- Total final consumption: education: higher education full time
- Total final consumption: education: higher education part time
- Total final consumption: education: further education full time
- Total final consumption: education: further education part time
- Total final consumption: personal social services: residential social care
- Total final consumption expenditure: health: hospital and community health service (HCHS) Service under 45s
- Total final consumption expenditure: health: HCHS over 45s death-related
- Total final consumption expenditure: health: HCHS over 45s age-related
- Total final consumption expenditure: health: family health service excluding drugs
- Total final consumption expenditure: health: pharmaceutical
- Total final consumption expenditure: other
- Miscellaneous current transfers: grants to schools
- Miscellaneous current transfers: grants to higher education
- Miscellaneous current transfers: grants to further education
- Miscellaneous current transfers: other grants to non-profit institutions
- Miscellaneous current transfers: grants to NHS for intermediate consumption
- Miscellaneous current transfers: contributions to the EU
- Subsidies: health
- Subsidies: housing
- Subsidies: other (non-attributable)
- Gross capital formation: education
- Gross capital formation: health
- Gross capital formation: housing
- Gross capital formation: other
- Current international cooperation
- Capital transfers payable: education
- Capital transfers payable: health
- Capital transfers payable: private non-financial corporations
- Compensation of employees: contributions: education
- Compensation of employees: contributions: social services
- Compensation of employees: contributions: health
- Compensation of employees: contributions: other

B National Accounts and balance sheets

- B.1** Both SNA and GAAP are accrual accounting frameworks; that is, the aim is to record expenditure as it is incurred and income when it is earned, rather than when cash changes hands.^{1 2} There are therefore a number of similarities between the two frameworks. However SNA has been designed primarily to record economic activity by sector within the economy, while GAAP has been developed to reflect the financial performance and position of individual organisations and groups of organisations under common control. In addition, some of the differences between the two frameworks reflect past practice or methodological differences, rather than any underlying principle.
- B.2** SNA gives us the National Accounts measure of net debt. This debt (less liquid financial assets) is the cumulative effect of past borrowing as measured by the net cash requirement, and as such a measure of the obligations created in the past that have been accumulated to date.
- B.3** GAAP-based balance sheets look at past transactions and the extent to which these have already committed future funding flows. This provides a more rounded picture of an entity's position than a simple cash statement. GAAP-based balance sheets show a wider range of assets and liabilities than debt, including financial and non-financial assets and liabilities (similar to net worth), as well as provisions for the future cash transfers arising from past events. As with debt, GAAP-based balance sheets are mainly backward looking, not including future spending and revenue that will occur as a result of future events.
- B.4** The different approaches therefore largely relate to the timing of the recognition of costs, although the cash flows themselves are unaffected by these distinctions. This leads to three major differences:
- provisions against future costs which are included in the GAAP framework when the cost is occurred, but accounted in the in the SNA when the costs becomes payable;

¹ SNA is the accounting standard recognised in the United Nation's 1993 System of National Accounts (SNA 1993). This was interpreted in the 1995 European System of Accounts by Eurostat.

² GAAP is the Generally Accepted Accounting Principles upon which resource account and budgeting (RAB) and from this whole of government accounts (WGA) are based.

What should we include in the *Fiscal sustainability report*?

- public service pensions, which are accounted for in the GAAP on the basis of benefits earned during the year and in SNA as pensions payable for the year; and
- single use military equipment assets, which are treated as consumed when purchased in National Accounts, but depreciated over their lives in GAAP.

B.5 Within the GAAP framework there is also a disclosure of contingent and remote contingent liabilities, but these are identified rather than being included in the balance sheet totals.

C Inclusions within whole of government accounts

C.1 Detailed in Table C1 is a list of items to be included within whole of government accounts (WGA).¹ Items included as notes to the accounts may also be included in the main accounts, but as yet the presentation is not certain. WGA will also include a management commentary, detailing:

- business and fiscal strategy;
- principal risks and uncertainties;
- main trends and factors affecting the future development, performance of WGA's business;
- an indication of how pension liabilities are treated in WGA;
- financial instruments – an indication of the financial risk management objectives and policy; the exposure to price risk, credit risk and cash flow risk (if material);
- details of important post-balance sheet and position events; and
- information about significant trends related to financial assets and liabilities, revenues and expenditure, and cash flows associated with long-term provisions.

¹ List adapted from Hobbs, D. ONS. 2010. *Wider measures of public sector debt*. Available from <http://www.statistics.gov.uk/articles/nojournal/wider-measures-public-sector-debt.pdf>

Table C.1: Notes to the accounts of WGA

| Items included | Details |
|---|---|
| Tangible fixed assets | Including method of financing (owned, finance leased, on-balance sheet PFI, PFI residual interest) |
| Intangible fixed assets | Including software licences, licences and trademarks, patents, development expenditure, goodwill, single use military equipment, and emission rights |
| Financial assets | Including details of principles of recognition and measurement; loans, receivables and investments |
| Provisions for liabilities and charges | Including nuclear decommissioning, financial stability, clinical negligence, early departure and other types of provision |
| Other financial liabilities | Including financial guarantees and derivatives, details of principles of recognition and measurement; derivative financial instruments and hedging activities |
| Net pension liability | Details of main public sector defined benefit schemes, including analyses of movements in liabilities, liabilities by scheme, scheme assets etc. Including details of actuarial methods, assumptions and valuations |
| Leases | Including: <ul style="list-style-type: none"> · operating lease commitments – expiring within one year; between one and five years; after five years · finance lease commitments – rentals due within one year; between one and five years; after five years |
| Commitments under PFI contracts | Including: <ul style="list-style-type: none"> · PFI payments to which WGA bodies are committed at the year-end analysed by the period during which the commitments expire – within one year; within one to five years; after five years · details of significant on-balance sheet and off-balance sheet PFI contracts |
| Other financial commitments | Financial commitments that are not leases or PFI contracts, analysed by expiry period |
| Quantifiable contingent assets | e.g. Nuclear Liabilities Fund |
| Quantifiable contingent liabilities | e.g. 2012 London Olympics guarantees, European Investment Bank callable capital, export credit guarantees, clinical negligence, Channel Tunnel Rail Link guarantees. |
| Non-quantifiable contingent assets | e.g. Mobile phone spectrum rights |
| Non-quantifiable contingent liabilities | e.g. Taxes and duties legal actions, Financial Assistance Scheme, nuclear decommissioning, guarantees of indemnities of Northern Rock, etc. |
| Financial assets which are not consolidated | Details of those financial assets that are not consolidated as they fall outside of the WGA boundary – e.g. Bank of England, Royal Mint, Northern Rock, Bradford & Bingley, Royal Bank of Scotland, Lloyds Banking Group, etc. |

ISBN 978-1-84532-858-0



9 781845 328580 >