Office for
Budget
Responsibility

Working paper No.12
Student loans and fiscal illusions

Jim Ebdon & Reece Waite

July 2018

1 Introduction

1.1 The Office for Budget Responsibility (OBR) was created in 2010 to provide independent and authoritative analysis of the UK's public finances. As part of this role, the Budget Responsibility and National Audit Act 2011 requires us to produce "*an analysis of the sustainability of the public finances*" each year. The *Fiscal sustainability report (FSR)* is our primary vehicle for this and the latest edition was published on the 17 July 2018. This working paper expands on the analysis in this year's *FSR* by focusing specifically on student loans and their treatment in the National Accounts.

1.2 The Office for National Statistics (ONS) compiles public sector finance statistics according to the European System of Accounts 2010 (ESA 2010) and the companion Manual on Government Deficit and Debt (MGDD). ESA 2010 aims to record the "*economic reality of transactions*" and as such generally provides a good basis for analysing fiscal sustainability. But ESA 2010 applies to the whole economy, not just government, and seeks to produce statistics that are comparable across EU Member States. Despite their stated aim, the resulting accounting conventions do not always capture economic reality well, for example due to the idiosyncrasies of some national policies and institutions. One such example is the income-contingent student loans that operate in the UK.

1.3 Student loans in the UK differ significantly from most loans captured in ESA 2010 accounts: payments of interest and principal are contingent on borrowers' income rather than the amount that has been borrowed and, for many borrowers, significant sums are expected to be written off after a defined number of years. In addition, the Government periodically sells off portions of the loan book.

1.4 Unfortunately, the ESA 2010-based statistics do not record any of the associated transactions in a manner that conveys their consequences for the public finances well. There are other quirks in the system of public finance accounting, but those relating to student loans are arguably the most important. The loan book is large and growing rapidly. In our March 2018 *Economic and fiscal outlook (EFO),* net cash outlays (new loans issued minus repayments) at the UK level are forecast to be £15.6 billion (0.7 per cent of GDP) in 2018-19, rising to £19.1 billion (0.8 per cent of GDP) by 2022-23. The fiscal consequences of the loans and repayments play out over more than 30 years, which is much longer than governments normally plan for.

1.5 At the simplest level, Chart 1.1 shows the raw cash flows associated with the 2017-18 cohort of full time English student loan recipients, as projected in the model we use for our medium- and long-term forecasts. These relate to students who receive the first tranche of their student loan in the academic year starting in 2017. As the chart shows, this cohort receives most of its loans in the first three years – in line with average length of an

undergraduate course. Lending then falls away rapidly and repayments pick up as students graduate and their earnings increase, reflecting the income contingent nature of the repayments. From the mid-2030s, annual repayments remain relatively stable with additional payments from those with rising incomes largely matching the decreasing repayments from those with falling incomes or higher earners who have completed their repayments. Finally, 30 years after graduation, outstanding balances are written-off and repayments fall to zero. In nominal terms, total outlays of £16.0 billion over the 30 years are slightly smaller than the total repayments of £18.0 billion, but this does not include the cost to government of financing the loans. If this were included, we estimate that total outlays would exceed total repayments by £9.7 billion. We use the 2017-18 cohort of loans throughout this paper to illustrate different possible accounting treatments.

Chart 1.1: Net cash flows from the 2017-18 cohort of student loan recipients
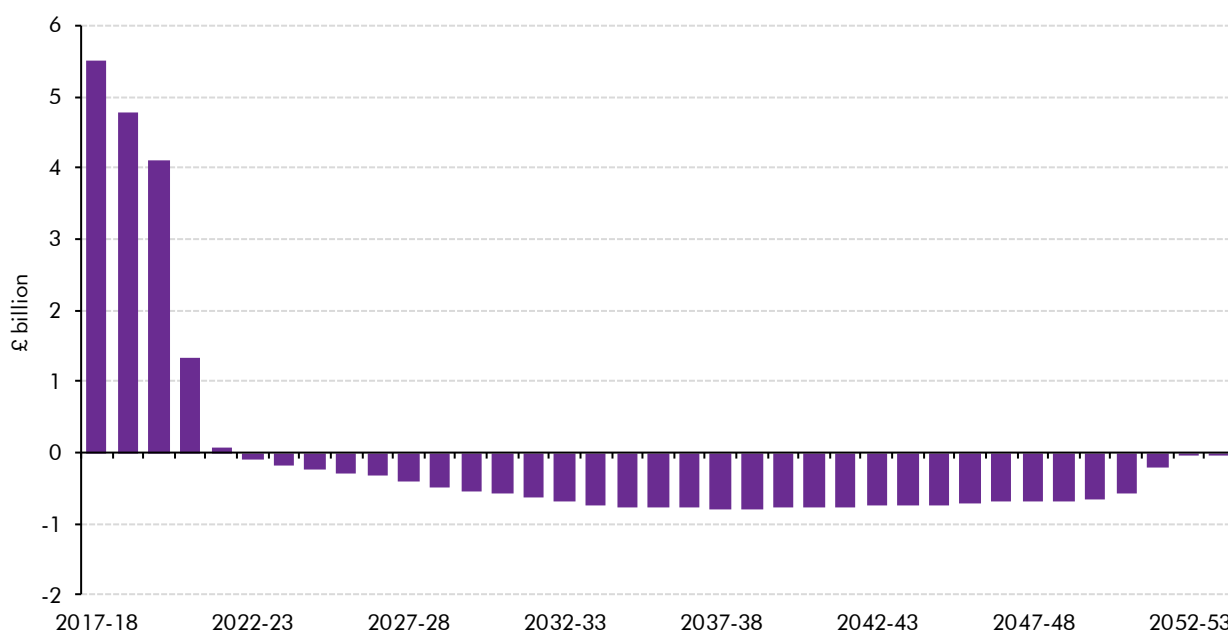
Source: ONS, OBR

1.6   Deciding how best to reflect the impact of the Government's decision to offer subsidised loans with income-contingent repayment terms in the public finance statistics is clearly challenging. Borrowing from the International Monetary Fund (IMF), we use the term 'fiscal illusions' to refer to situations where fiscal aggregates (accounting measures of the budget deficit or debt) do not reflect the true fiscal implications of the transaction taking place. The illusion can be due to size – where the recorded flow is too large or too small – or timing – where flows are recorded at a very different point in time (past or future) to when a tax or spending decision was made. The treatment of student loans in the UK public finance statistics generates both sorts of illusion.

1.7   We have drawn attention to these illusions in several *EFOs* and in our July 2017 *Fiscal risks report (FRR)*. The public finances treatment has also drawn criticism from outside commentators and from Parliament. The Treasury Select Committee (TSC) and the House of Lords Economic Affairs Committee have both recently issued reports on student loans,

calling for changes in the way they are treated.[1] The ONS has responded to the TSC recognising the pertinence of the issue and *"have begun working with Eurostat, the IMF and other countries to discuss the relevant issues and examples with a view to identifying the appropriate statistical treatment, and from there to develop relevant guidance"*. The ONS has published an article setting out potential methodological improvements and we have discussed these options with ONS officials in preparing this paper.[2]

1.8   This paper looks at alternative ways of accounting for the fiscal implications of student loans and whether alternative treatments can help us to analyse their impact on fiscal sustainability more effectively. In it we:

- describe the main **student loans programmes currently offered in the UK**;

- discuss **how student loans are currently treated** in the public finances, and the fiscal illusions associated with this treatment;

- investigate **possible alternative treatments**; and

- describe the **fiscal consequences** of these various treatments, and draw our conclusions about their suitability for sustainability analysis.

---

[1] House of Commons Treasury Committee, *Student Loans Seventh Report of Session 2017-19,* February 2018 and House of Lords Economic Affairs Committee, *Treating Students Fairly: The Economics of Post-School Education Second Report of Session 2017-19,* June 2018.
[2] ONS, *Looking ahead: developments in public sector finance statistics*, July 2018.

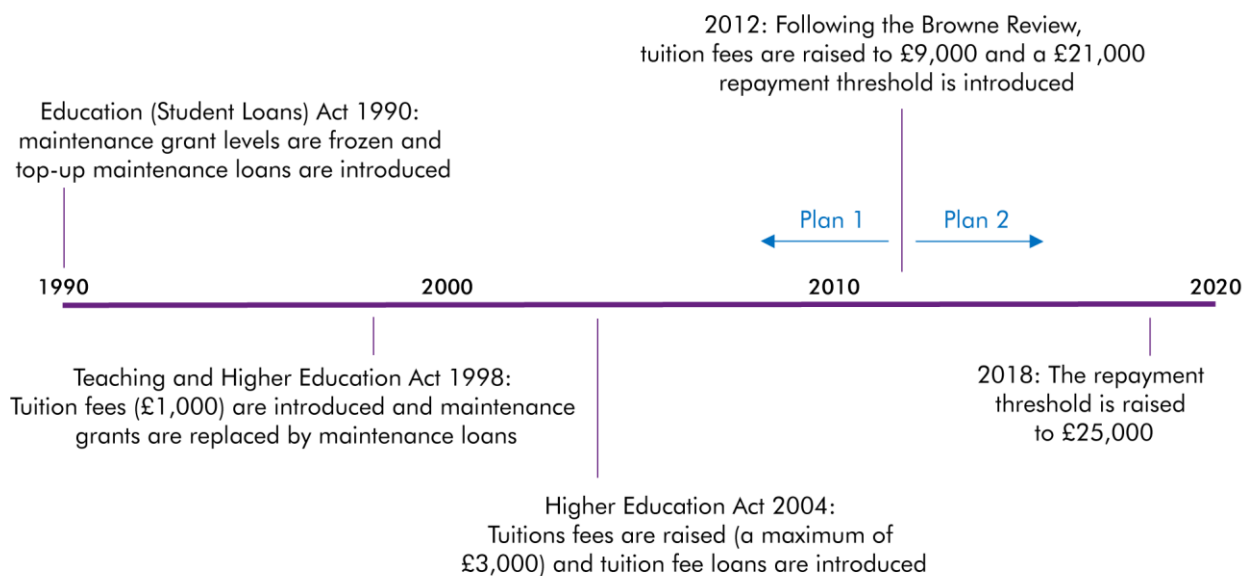# 2   Why do student loans matter for fiscal sustainability?

2.1   The English higher education student loans system has evolved in a number of stages over the past 30 years (see Figure 2.1). The key milestones include:

- The then Conservative Government's **Education (Student Loans) Act 1990**, which introduced student loans in order to top-up maintenance grants that had been frozen in nominal terms. The loans were 'mortgage-type', with equal monthly repayments to be made over five years after graduation and a deferral system for low earners. Borrowers paid an interest rate set at the rate of RPI inflation.

- The Labour Government's **Teaching and Higher Education Act 1998** introduced undergraduate tuition fees and thereby transferred some of the cost of teaching to the student population. The £1,000 a year fees were subject to a means test and were paid upfront. (There was no loan available for tuition fees until 2006-07). Maintenance grants were largely replaced by maintenance loans, to be repaid by students as a proportion of their future salary. (In 1998 repayments were set at 9 per cent of earnings above a threshold of £10,000, which was raised to £15,000 in 2000).

- The **Higher Education Act 2004** introduced variable tuition fees of up to £3,000 a year, with students given the option of taking out a loan to cover this cost, rather than having to pay upfront. Repayments were made alongside maintenance loans.

- The current arrangements came into force under the Coalition Government in 2012, following the **Browne Review in 2010**.[1] The tuition fee cap was raised to £9,000 a year and the interest rate increased to RPI+3 per cent during study and between RPI and RPI+3 per cent thereafter dependent on earnings. Repayments were set at 9 per cent above an earnings threshold of £21,000 a year (raised to £25,000 this year). Any outstanding balance on an individual's loan is written off 30 years after the first April after their graduation. Loans extended to students on courses starting after 1 September 2012 take on the post-Browne review terms, now called 'Plan 2' loans, while loans extended to students on courses starting before this date remain on the pre-Browne review terms, now called 'Plan 1' loans.

---

[1] Lord John Browne, *Securing a Sustainable Future for Higher Education: An Independent Review of Higher Education & Student Finance,* October 2010.

Figure 2.1: A timeline of student loans policy

2012: Following the Browne Review,
tuition fees are raised to £9,000 and a £21,000
repayment threshold is introduced

Education (Student Loans) Act 1990:
maintenance grant levels are frozen and
top-up maintenance loans are introduced

Plan 1   Plan 2

1990   2000   2010   2020

Teaching and Higher Education Act 1998:
Tuition fees (£1,000) are introduced and maintenance
grants are replaced by maintenance loans

2018: The repayment
threshold is raised
to £25,000

Higher Education Act 2004:
Tuitions fees are raised (a maximum of
£3,000) and tuition fee loans are introduced

2.2   Higher education is devolved in the UK and student loans are operated differently in
Scotland, Wales and Northern Ireland:

- In **Scotland**, borrowers must be ordinarily resident in Scotland before the first day of
the first academic year of their course. Tuition fees are paid for by the Scottish
Government and there are means-tested maintenance loans of up to £5,750 a year,
with some bursaries and grants. Repayments are 9 per cent on earnings above
£18,330 for 2018-19. The interest rate is currently set at 1.5 per cent.

- In **Wales** recipients must normally live in Wales on the first day of the first academic
year of their course. Tuition fee loans are available up to £9,000 a year and means-
tested maintenance loans are available up to £10,250 a year, alongside maintenance
grants and allowances. There is a minimum £1,000 a year grant available for all
students regardless of household income. Repayments are treated on the same basis
as English Plan 2 loans.

- In **Northern Ireland** borrowers must have been living in Northern Ireland for at least
three years before the start date of their course. Tuition fee loans are available up to
£4,160 a year, as well as means-tested maintenance loans up to £6,780 a year,
alongside grants. Repayments are treated on the same basis as English Plan 1 loans.

2.3   By international standards, student loans in the UK are relatively large and are taken up by
a high proportion of students. An OECD analysis of 27 countries found that in 2013-14 the
UK had the highest proportion of students taking out a loan (at around 92 per cent of the
student population) for those countries where data were available, and that the average UK
student had the highest average debt at graduation ($30,350 or about £19,100 at

2013-14 rates).[2] But comparing student loan systems across countries is difficult due to differences in the terms and conditions attached to the loans, the levels of state funding for higher education institutions and the projected future earnings paths of recipient students.

2.4   The design features of student loans in the UK that differentiate them from conventional loans reflect the fact that students lack the collateral necessary to take out conventional loans and will know better than lenders whether they are likely to embark on a higher or lower earning career. This implies levels of risk for both borrowers and lenders that would lead to lower take-up of higher education than successive governments have deemed desirable. To address this market failure, student loans need to be large enough to allow recipients to smooth their consumption over their student and graduate years, and also – for that to be effective – to offer an element of insurance against low incomes after graduation.

2.5   As a consequence, student loans involve a significant subsidy element. The loans carry an interest rate in excess of many commercial loans, but repayments are contingent on the borrowers' income rather than how much they borrowed. And it is the policy intention that a significant proportion of the money lent out and interest charged on it will be written off rather than repaid. This can be for a number of reasons, most notably that a student's earnings may remain below the earnings threshold for the 30 years after they graduate, or they may rise above it too infrequently or by too small an amount to repay both their principal and the interest on it before the loan matures. Other potential reasons include a borrower dying or becoming permanently unfit for work and receiving a disability-related benefit. Only 30 per cent of English Plan 2 full-time higher education entrants in academic year 2017-18 are expected to repay their loan in full.[3]

2.6   Total repayments of student loans are considerably lower than the total amount that students in principle owe the government, taking into account both principal and the interest added to it each year (known as 'capitalised interest'). Chart 2.1 shows this for the 2017-18 full-time English higher education cohort in our student loans model. Only 39 per cent of total liabilities are forecast to be repaid, with repayments covering only £18.0 billion of the £46.1 cumulative liabilities, with the latter made up of £16.0 billion of principal lent out at the start of the 30 years and £30.1 billion of capitalised interest that builds up over the entire period at rates of between RPI and RPI+3 per cent. The £28.0 billion difference between cumulative repayments and cumulative liabilities overstates the subsidy cost of the loans because the government charges a higher interest rate to students than it can borrow at to finance the loans. As we noted above, total outlays and financing costs are expected to exceed total repayments for this cohort by £9.7 billion.

---

[2] OECD, *Education at a Glance 2016,* July 2016. See *Indicator B5: How much do tertiary students pay and what public support do they receive?,* Table B5.4.
[3] Department for Education, *Student loan forecasts, England 2017-18,* June 2018.

Chart 2.1: Cumulative repayments and liabilities 2017-18 cohort
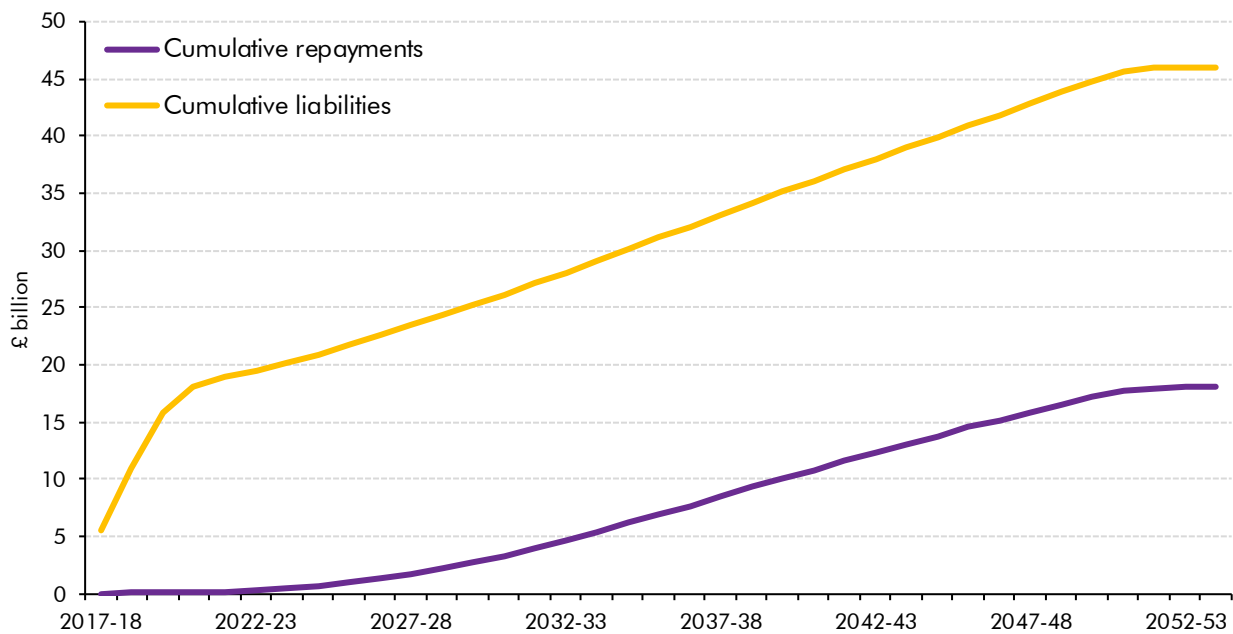
Source: OBR

2.7 The estimated subsidy cost of student loans is recorded in the Department for Education's (DfE) accounts as the 'resource accounting and budgeting' (RAB) charge. The RAB charge is the percentage by which the net present value of future repayments falls short of the value of new loans issued. It depends on assumptions about future economic conditions and terms of the loans, and also crucially on the discount rate used. The most recent RAB charge for 2017-18 uses a discount rate of RPI + 0.7 per cent which is intended to represent the long-term cost of government borrowing (so that the RAB charge represents the measure of government subsidy). As actual cash repayments are projected to fall short of the total principal and interest owed, the 2017-18 RAB charge was 45 per cent for Plan 2 full-time higher education loans.

Chart 2.2: Student loan assets

Source: SLC, OBR
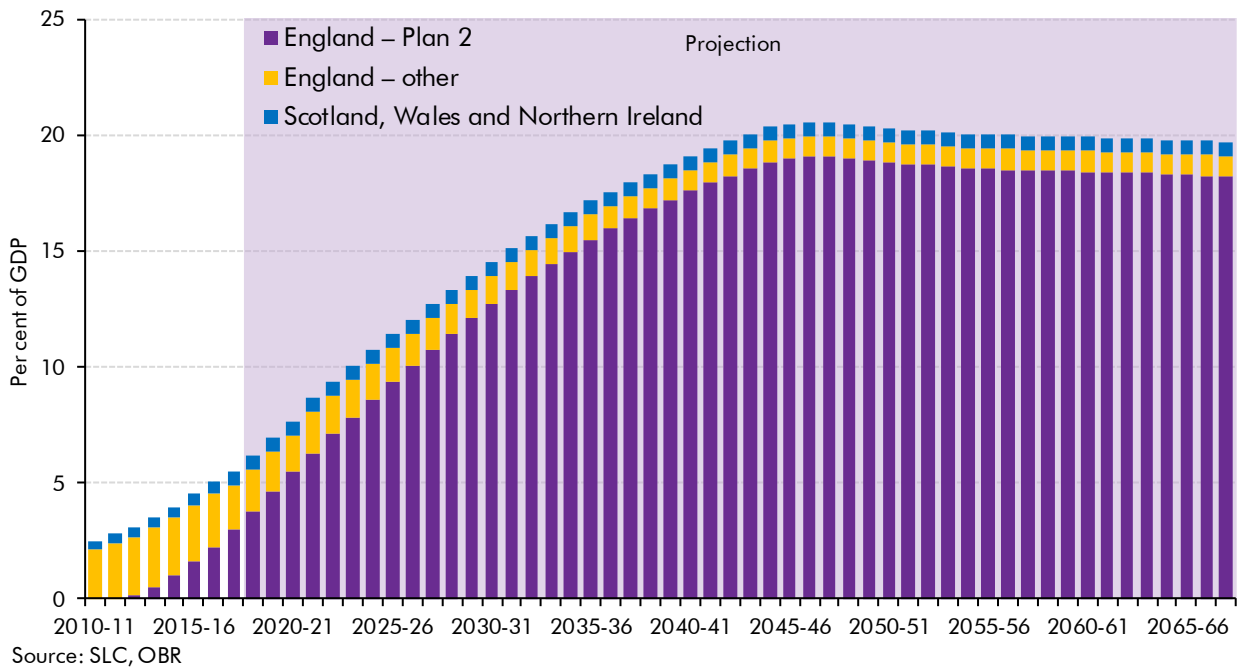
2.8   Chart 2.2 shows the levels of student loan assets in outturn and in our 2018 *FSR* projection. We estimate that the nominal value of outstanding English student loans will stand at £99.8 billion in 2017-18 (4.9 per cent of GDP), with Plan 2 loans accounting for 62 per cent of the total. The total outstanding reaches around 20 per cent of GDP from the 2040s onwards, at which point over 90 per cent will be English Plan 2 loans. It is therefore Plan 2 loans that are most crucial when considering the impact of student loans on fiscal sustainability, so we concentrate our analysis on these for the remainder of the paper.

2.9   In December 2017 the Government sold a first tranche of Plan 1 loans and aims to raise a total of £12 billion over five years from selling more of them. In the first sale, loans with a face value of £3.5 billion were sold for £1.7 billion. The Government has justified the sales as being in line with its policy of selling assets it no longer has a reason to hold. In its response to the TSC, it said: *"these student loans could be sold precisely because they have achieved their original policy objective of supporting students to access higher education"*.

3 How are student loans treated in the public finances?

How are loans treated in the public finances? And why are student loans unusual?

3.1 The ONS records transactions in the public finances in line with the *European System of Accounts 2010* (ESA 2010) and the companion *Manual on Government Deficit and Debt* (MGDD). The current guidance is clear on how loans, in general, should be treated, but is less clear on how to record loans where the government expects to make a significant loss or where repayments are contingent on the borrowers' income.

3.2 In the absence of appropriate international guidance, the ONS treats student loans as it would any other loan, despite their unusual properties. This means that interest accrues on them for many years before any repayments are made and that the loss associated with repayments falling short of the principal plus capitalised interest is not recorded until it is written off many years in the future. The failure to reflect any losses in the ESA 2010-based public finance statistics until the eventual write-off occurs is in contrast to the upfront recording in DfE's commercial-accounting-based RAB charge (described in Chapter 2).

3.3 The main fiscal aggregates used to assess the health of the public finances are public sector net borrowing (PSNB), net debt (PSND) and net financial liabilities (PSNFL):

- **PSNB** is the difference between public sector spending and income in a given year. It is an accrued concept, which means that as far as possible transactions are recorded when underlying activity being captured takes place rather than when any cash is exchanged.

- **PSND** represents the stock of the public sector's debt liabilities (debt securities, loans and cash and deposits) minus its liquid assets (cash, deposits, foreign exchange reserves and other assets used in cash management processes). As such it is largely the stock of the government's cash borrowing over time. Student loans are treated as 'illiquid assets' (despite the fact that the government periodically sells them) and so they do not net off the PSND total.

- **PSNFL** is a wider stock measure than PSND that includes all financial assets and liabilities. It is largely the stock equivalent of PSNB. The wider coverage of financial assets means that student loans net off the PSNFL total.

3.4 The following transactions are recorded in the public finances over the lifetime of a loan:

- When **extending a loan**, the government exchanges one financial asset (cash) for another (the loan). The loans are recorded at their nominal value, that is at the cash amount extended rather than after recognising future expected write-offs. Measured this way, there is no change in the overall level of the government's financial assets, although it has converted a liquid asset into an illiquid one from the perspective of PSND.

- The **interest** payable (as distinct from actually paid) from the borrower to the government is treated as an income stream for government. This interest is capitalised, which is to say that is it is added to the principal to increase the amount owed. This increases the government's recorded financial assets.

- Any cash **repayments** made have the inverse effect of loan extensions. The government receives a cash asset in exchange for reducing its loan asset, with no impact on overall financial assets. From the perspective of PSND, this converts an illiquid asset back into a liquid one that nets off the PSND total.

- Finally, any **unpaid debts are written off** – mostly after a fixed period of time. This represents a gift from the government to the borrower, and so reduces the government's financial assets.

3.5   Table 3.1 shows the impact of student loans on the conventional fiscal aggregates. PSND responds to any movements in cash (loan extension and repayment), but as these cash transactions are matched by increases/decreases in other financial assets, neither PSNB or PSNFL are affected. Instead PSNB and PSNFL are affected by capitalised interest and by write-offs, where loan assets increase or decrease in value with no corresponding cash movement.

3.6   Over the lifetime of a loan the net cash elements (loan extension and repayment) must equal the net accruals elements (capitalised interest and write-offs), so eventually cumulative impact on PSNB and PSNFL will equal the impact on PSND. So the difference between cash- and accruals-based recording is essentially one of timing, which is almost always the case in the public finances.

Table 3.1: The effect of student loans transactions on fiscal aggregates (ESA 2010)

|	Loan extension	Capitalised interest	Cash repayments	Write-offs
Public sector net debt	Increases	No impact	Decreases	No impact
Public sector net borrowing	No impact	Decreases	No impact	Increases
Public sector net financial liabilities	No impact	Decreases	No impact	Increases

What types of fiscal illusion emerge?

The balance sheet illusion

3.7   Chart 3.1 illustrates the impact of the 2017-18 cohort of English Plan 2 student loans on the main National Accounts balance sheet aggregates. PSND increases sharply in the early years as the loans are extended, up to a maximum of nearly £16 billion. This reduces gradually as cash repayments are made. Eventually, after the final loans are written off, the net effect is to reduce debt by £2 billion – reflecting the difference between the £16.0 billion principal lent out and the £18.0 billion in total repayments made. This reflects the fact that the interest paid by those graduates who pay back more than the original loan is expected to outstrip the unpaid principal associated with those who pay back less than the original loan. But this is just the direct effect of the loan extension and repayments on PSND – if the debt interest incurred financing the net cash outlay is factored in as well, PSND would be almost £10 billion higher rather than £2 billion lower over the lifetime of the loans.[1]

3.8   The path of PSNFL is essentially the reverse of that for PSND. The original extension of the loan has no impact on PSNFL (as the government is simply swapping one financial asset for another), but PSNFL then falls as capitalised interest raises the recorded value of the loan assets. This effect builds steadily over time to a peak of £25.8 billion in 2047-48. PSNFL then rises sharply as the remaining value of the loans is written off after 30 years from the borrower's graduation. The extent to which PSNFL is flattered while interest is accruing, and the size of the corresponding write-offs, are heavily influenced by the interest rate charged. For a given path of graduates' earnings, the higher the interest rate charged the larger the amount of capitalised interest that reduces PSNFL, but also the greater the amount of interest that will not be repaid and will therefore be written off at the end.

3.9   Eventually the PSND and PSNFL lines coincide as the cumulative cash position matches the cumulative accruals one. This is true whether the cost to government of financing the loans is included or not. So PSND and PSNFL both show an overall loss of £9.7 billion on this cohort of loans when debt interest is included. This is smaller than the £28.0 billion shortfall between total liabilities and total repayments shown in Chart 2.1, which reflects the fact that the interest rate charged on the loans is much higher than the government's cost of borrowing. The lower figure better captures the cost of the Government's subsidy to this cohort of borrowers since it tells us what would have happened to PSND or PSNFL if the loans had not been extended and the gilts used to finance them had not been issued.

---

[1] This assumes financing at the weighted average yield on gilts that underpins our most recent *EFO* and *FSR* projections.

Chart 3.1: PSND and PSNFL student loans impact of 2017-18 cohort
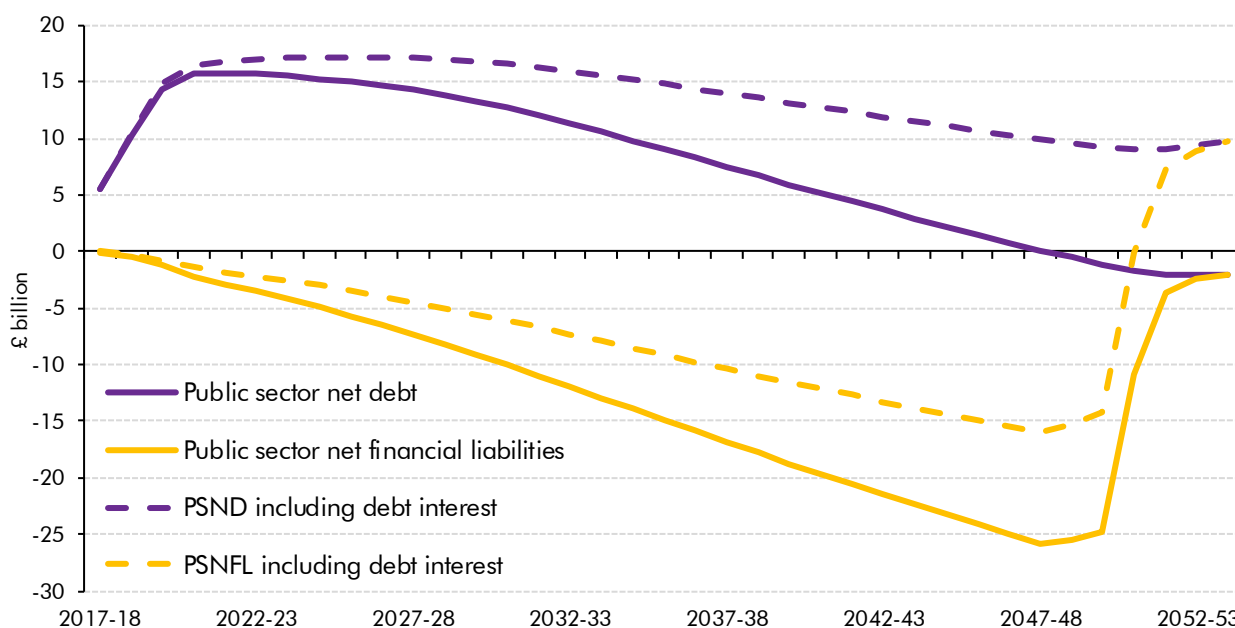
Source: ONS, OBR

3.10 The PSND and PSNFL treatments of student loans both generate fiscal illusions relative to the true effect of the loans on fiscal sustainability, at least until the loans have fully matured – and even then you need to incorporate the cost of financing them to see the full picture:

- **The PSND illusion** is one that is common to the treatment of all financial assets that are deemed illiquid: the loan assets are not recognised at all (in effect they are valued at zero), so PSND rises more than a true reflection of fiscal reality would show.

- **The PSNFL illusion** is one that relates specifically to student loans, in that it overvalues the loan assets. It records them at their nominal value, but – as the large eventual write-offs show – they are worth considerably less than this. PSNFL therefore underplays the true fiscal cost of these loans.

3.11 An ideal balance sheet treatment would lie somewhere between the PSND and PSNFL treatments, as is the case in the Department for Education's departmental accounts. But it would also be transparent about the financing cost as well.

3.12 Chart 3.2 shows the impact on PSND and PSNFL of the entire English student loans book, consistent with our latest *FSR* projections, presented as a share of GDP:

- The extension of loans to successive cohorts of students pushes up **PSND**, but the increase flattens off in the late 2030s as the difference between new loan outlays and repayments on past loans narrows. The impact peaks at 9.6 per cent of GDP in 2042-43 and then slowly declines, reaching 9.2 per cent of GDP in 2067-68. Based on a continuation of our long-term economic projections and student numbers remaining constant as a share of the population, these trends would continue. (As we

14

note in the *FSR*, the peak PSND impact of all UK student loans – including non-English and Plan 1 loans – is currently projected at over 12 per cent of GDP in the late-2030s.)

- In contrast, successive loan cohorts have a beneficial impact on **PSNFL** that increases as interest is capitalised. PSNFL is reduced steadily as a share of GDP until 2045-46, the first year of large English Plan 2 write-offs. The continuing write-offs dampen the beneficial effect of capitalised interest over the remainder of the projection. The total beneficial impact is 9.4 per cent of GDP in 2067-68 – broadly in line with the detrimental impact on PSND – and would remain broadly stable assuming constant student numbers as a share of the population and our long-term economic assumptions persisted.

3.13   Chart 3.2 also shows the impact of including the debt interest consequences of financing the loans. Including these for the 2017-18 cohort turns a £2.0 billion profit into a £9.7 billion loss. Including them for the whole loan book more than doubles the PSND impact in 2067-68 to 25.7 per cent of GDP and more than offsets the PSNFL benefit to leave a 7.2 per cent of GDP increase in 2067-68.

Chart 3.2: Total PSND and PSNFL student loans impacts
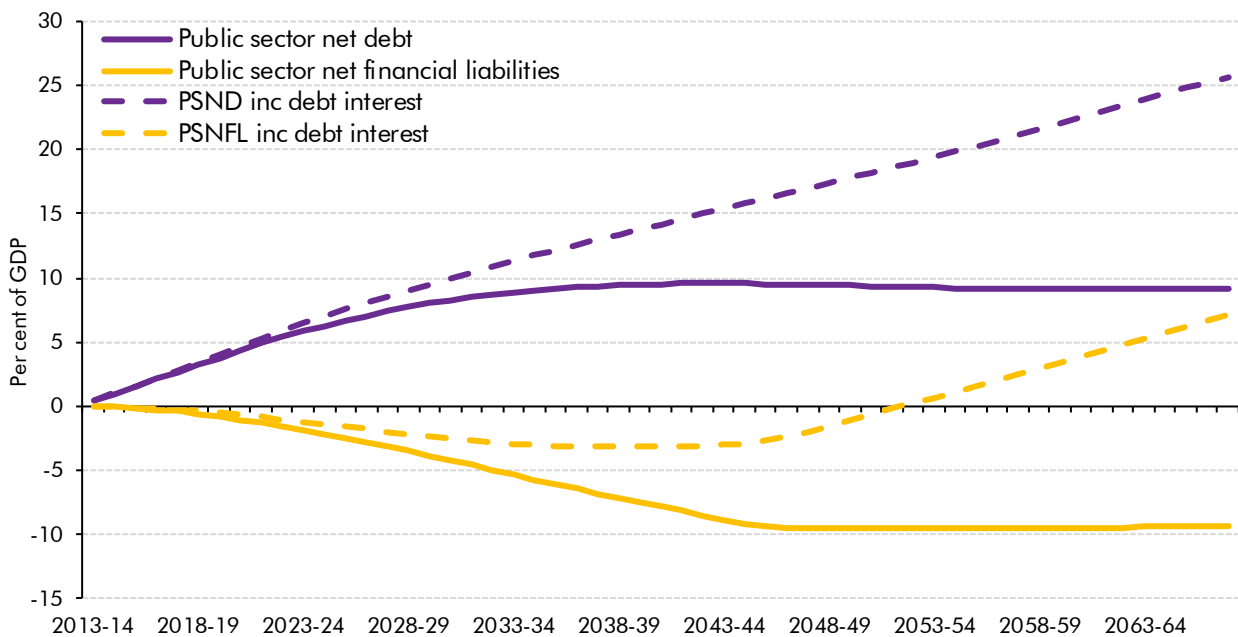
Source: ONS, OBR

The borrowing illusion

3.14   Chart 3.3 shows the impact on public sector net borrowing of the loans extended to the 2017-18 cohort. Within PSNB capitalised interest is recorded as a receipt and write-offs as spending. For the first 30 years, the loans reduce the deficit by the value of the capitalised interest that accrues each year. This reduction settles at around £1 billion a year until substantial write-offs – reflecting both unpaid interest and principal – start to be recorded from 2048-49 to 2053-54. The write-offs peak in 2050-51 at £14.7 billion. Net of the interest still accruing on outstanding loans, this results in a dramatic increase in the deficit of

£14.1 billion in that year. Including the impact of debt interest costs increases borrowing by an average of £0.3 billion a year over the lifetime of the loans.

3.15   The PSNB fiscal illusion derives from two factors – first, the length of time between issuing a subsidised loan and recognising the cost of the subsidy; and second, the relatively high rate of interest at which the capitalised interest accrues, despite the fact that little of it is expected to be repaid. The cohort in Chart 3.3 flatters the measured deficit for 30 years as interest payable accrues, while the huge write-offs at the end of the period finally recognise a cost that was incurred decades earlier. The capitalised interest that accrues on this cohort's loans is worth almost twice the original loan principal, but the final write-offs are equivalent to 93 per cent of the capitalised interest.[2] In every year of our forecast for this cohort, the value of the newly capitalised interest is greater than the cash repayments made. Our *EFO* forecasts run for only five years and so our deficit forecasts – and governments' progress against any deficit targets – will continue to be flattered by this over-recording of the 2017-18 cohort's interest receipts until the late 2040s.

Chart 3.3: Spending, receipts and deficit impact of 2017-18 student loans cohort
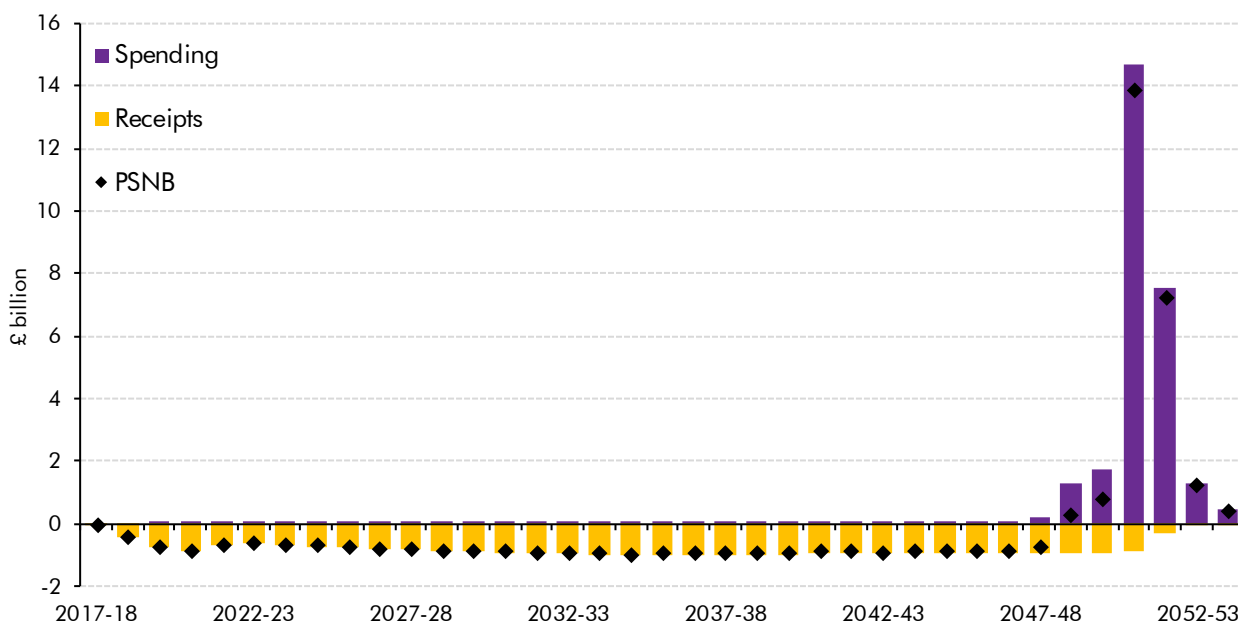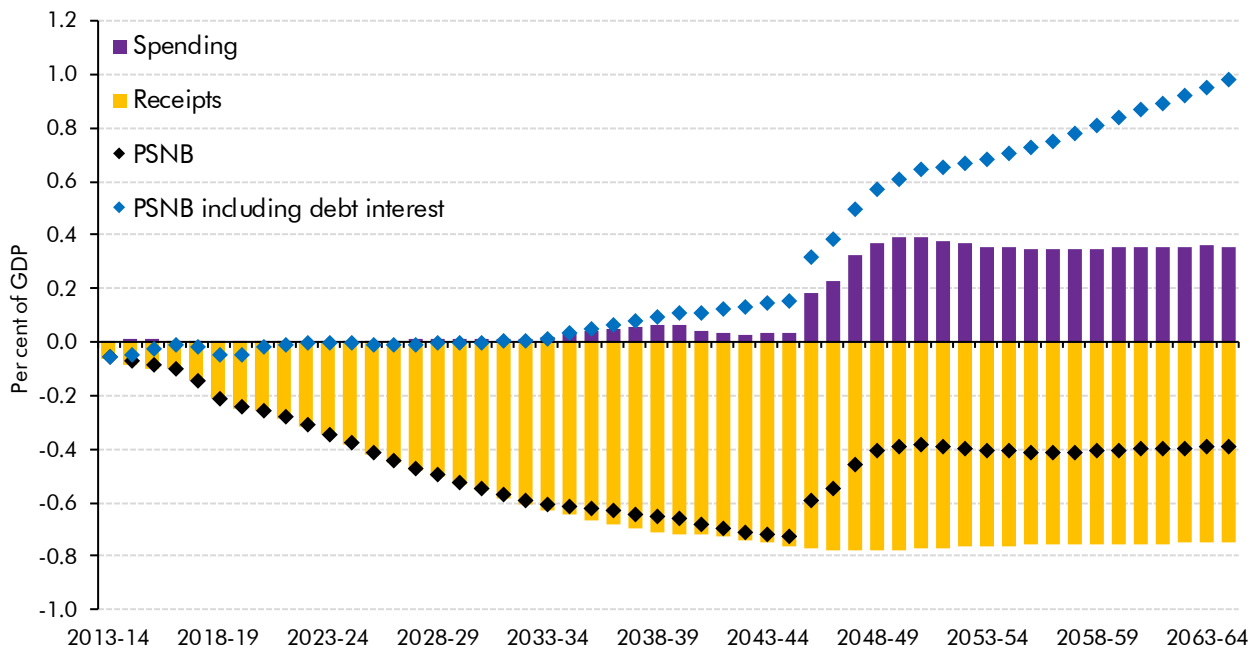

Source: OBR

3.16   Chart 3.4 shows the effect on the deficit of capitalised interest and subsequent write-offs over the entire student loans book. Total receipts increase with the size of the loan book, thanks to the capitalisation of the interest on it. This reduces the deficit by amounts that get progressively larger until they reach 0.8 per cent of GDP in 2046-47, before the large Plan 2 write-offs.

---

[2] This is not the same as saying that 93 per cent of the interest is written off, since some borrowers will repay both principal and interest in full while others will pay neither interest nor principal. But the overall effect is that PSNB records £30.1 billion of receipts over 30 plus years before then recording nearly £28.0 billion of spending over six years to leave a net position of just £2.0 billion gain (before financing costs).

3.17 But even when these write-offs begin they are more than offset by the interest capitalising on the larger loans taken out by later cohorts. The write-offs do mean that the deficit is flattered to a smaller extent (0.4 per cent of GDP in 2050-51), but they do not reverse the illusion as they do when considering a single cohort. This means that so long as the student loans system continues in its current form, the fiscal illusions associated with new cohorts of loans will outweigh those that are reversing for cohorts reaching the point where write-offs begin. This pyramid of fiscal illusions means that the deficit will always be flattered despite the system barely breaking even in cash terms and costing significant amounts after the interest cost of financing the loans is included. Factoring in this debt interest cost, the impact on the deficit is around zero until the mid-2030s before deteriorating as large write-offs begin, eventually reaching over 1 per cent of GDP.

Chart 3.4: The effect of student loans on spending, receipts and the deficit

Source: OBR

The loan sale illusion

3.18 For a given cohort of loans, once the write-offs have been completed the cumulative impact on PSNB will equal the net cash position. And so, while the fiscal illusion from the capitalised interest persists for three decades, it does eventually unwind. But this is not the case if the loans are sold before the write-offs occur. This generates a permanent illusion, as a result of which a government can avoid ever having to recognise the cost of write-offs in the deficit.

3.19 When the government sells a tranche of student loans, it receives cash upfront in return for surrendering income streams that extend over a period of years. The cash-based PSND, with its distinction between liquid and illiquid financial assets, will be reduced at the point of sale, but will then increase relative to the path it would have taken due to the future income foregone. Whether PSND ultimately ends up higher or lower as a result of the sale will depend on the cash raised, the income foregone and the debt interest consequences. In

terms of PSNFL, loan sales will typically cause it to rise because the loans will be sold at a discount to the nominal value at which they are recorded due to expected future write-offs and other factors. Sales therefore generate a smaller cash asset than that foregone. If the value of the loans recorded in PSNFL were closer to the written down value in DfE's accounts, any increase in PSNFL at the point of sale would be much smaller.

3.20   The PSNB treatment of student loan sales generates a more serious fiscal illusion, so long as they take place at what is judged to be a market price. If this is the case, the inevitable (and perhaps large) discount to the nominal value is recorded as a holding loss that does not affect the deficit. This means that the deficit will be flattered by the build-up of never-to-be-paid interest on the loans that are sold, but will never be hit by the write-offs that follow. As well as creating a perverse incentive for the government to sell loans, this breaks the rule that accruals adjustments should only change the timing of cash payments, not their overall value.

3.21   Student loan sales take place at steep discounts to the nominal value, largely reflecting the expectation of low recovery rates on the loans, but also relative costs of capital between the private sector buyers and the public sector seller and an additional risk premium. The expected recovery rate diminishes as the loan book matures and higher earners repay their loans. In December 2017, the Government sold a tranche of Plan 1 English student loans and achieved a price of 49 per cent of the nominal value of the loans. As the sale means that no write-offs will ever be recorded in respect of these loans, it cements a fiscal illusion in the National Accounts. As the Treasury Select Committee noted:

"The policy of selling off student loans prior to their write-off allows the Government to spend billions of pounds of public money without any negative impact on its deficit target at all, creating a huge incentive for the Government to finance higher education through loans that can be sold off." [3]

3.22   It should be said that all sales of financial assets cause fiscal illusions when viewed through the lens of PSND, because a sale exchanges the rights to receive a future income stream for upfront cash. The upfront cash reduces PSND because it is deemed liquid whereas the asset sold was not, but over the long run the loss of future income might outweigh this.

3.23   We estimate that the Government's plan to sell £12 billion of Plan 1 loans up to 2021-22 will ultimately deprive it of £23.0 billion of repayments over the lifetime of these loans. Including the interest saved by no longer having to finance the loans that are sold, but also the much larger loss of interest that could have been saved thanks to the income stream foregone, we estimate that the government will lose an undiscounted £28.1 billion overall on the sales over the period until the loans would have been written off. The TSC has noted that the value-for-money case for selling such large future income flows at a steep discount is flattered by the use of a higher discount rate than is used to value them in DfE's accounts (i.e. the rate specified in the Treasury's Green Book guidance on project appraisal).[4] While loans may have "achieved their original policy objective" as the Government states, it is not immediately obvious why selling them at such a loss is of net benefit to the taxpayer.

[3,4] House of Commons Treasury Committee, *Student Loans Seventh Report of Session 2017-19,* February 2018

4 How else could student loans be recorded?

4.1 What would an ideal treatment look like? As we have described, the ONS follows international statistical conventions when compiling the National Accounts and the public sector finances. Unconstrained by those rules, what would an ideal accounting treatment for income-contingent loans with large expected write-offs look like? What should be recorded upfront and what over the life of the loan?

4.2 Under the current accounting rules, we have seen that delaying write-offs of unpaid debt for 30 years moves the accounting for the subsidy element of student loans far beyond the horizon that governments normally plan for and over which we produce detailed forecasts. What is more, when looking at the entire loan book, the eventual write-offs for each individual cohort are masked by the continuing benefit of accruing interest on subsequent cohorts. The delay in recording write-offs also combines with the accounting treatment of holding losses to give governments a perverse incentive to sell the loans. The current rules also mean that income is recorded that will never be received. Finally, we have also seen that when selling the loan book, the current treatment means that they accrue more income than will ever be received in cash.

4.3 An ideal treatment would: record expected losses up front; only record income the government is likely to receive; maintain the convention that cash treatment equals accruals treatment over the long run; and remove perverse incentives to sell tranches of the loan book.

4.4 Are there any approaches that would get close to this ideal? The ONS has described four alternative approaches that we consider here – as well as looking at a simple commercial-style up-front accounting loss treatment.[1] Not all these methods fit comfortably within a National Accounts framework. The ONS has to look at these transactions not just from the point of view of government, but also from that of the borrower, and to consider consistency between flow aggregates such as PSNB and stock aggregates such as PSND and PSNFL. We are less constrained and will judge the alternatives against three criteria: practicality; the extent to which they remove the current fiscal illusions; and whether they generate other perverse incentives for governments in the future. With these criteria in mind, we consider how each would be affected by two recent Government decisions: the increase in the repayments threshold and the sale of a tranche of Plan 1 loans at a large discount to face value. The analysis is based on examining different treatments of the 2017-18 full-time Plan 2 cohort and applying the results to the whole English loan book projection from our 2018 *FSR*.

---

[1] ONS, *Looking ahead: developments in public sector finance statistics,* July 2018

4.5   The five approaches examined are:

- **Approach 1: 'Revenue and expenditure'** – where the outlays are assumed to be grants and the receipts are assumed to be taxes;

- **Approach 2: 'Modified interest'** – where the loans continue to be treated as loans, but interest is recorded when it is paid, reducing final write-offs;

- **Approach 3: 'Hybrid'** – where the loans are treated in part as loans, since some portion will be repaid, and in part as grants, since some will not;

- **Approach 4: 'Net cost to government'** – where the expected cost of financing the loans is added to an approach that recognises write-offs upfront; and

- **Approach 5: 'Commercial accounting style'** – where the net present value of projected future cash flows is used to estimate an upfront write-off cost when loans are issued.

Approach 1: Revenue and expenditure

How would it work?

4.6   Loans in ESA 2010 give rise to *"an unconditional debt to the creditor which has to be repaid at maturity"*. But this does not seem to hold for income-contingent student loans, so one approach would be to conclude that they are not really loans at all. Extending loans that do not put a concrete obligation on the borrower to repay and that are extended on terms that mean much of the ultimate debt is not expected to be repaid could be seen as granting students (and universities) funding rather than lending it. Indeed, the TSC has asked the ONS to *"consider whether a portion of the loan should, in substance, be classed as a grant"*.

4.7   If student loans were not treated as loans then what would be the nature of the repayments? Charging repayments that are contingent on incomes rather than the amount of debt outstanding could be seen as an income tax rather than an interest charge, albeit a time-limited tax subject to a lifetime ceiling on payments. From the point of view of the borrower, an obligation to pay only really arises when their salary exceeds the earnings threshold and then a percentage of their income is withheld as per PAYE. Indeed, more than 80 per cent of student loan repayments in England during 2017-18 were made via the PAYE system. The ONS also raises the possibility that the payments could be treated as a form of social contribution. The effect on the deficit would be the same under either treatment.

4.8   Treating student loans as spending and repayments as taxation would move the National Accounts treatment much closer to the cash flows. As shown in Table 4.1 this means the treatment in all three fiscal aggregates would be similar.

Table 4.1: Approach 1: impact of student loans transactions on fiscal aggregates

	Loan extension	Capitalised interest	Cash repayments	Write-offs
Public sector net debt	Increases	No impact	Decreases	No impact
Public sector net borrowing	Increases	No impact	Decreases	No impact
Public sector net financial liabilities	Increases	No impact	Decreases	No impact

Comparison with the current accounting system

4.9 Charts 4.1 and 4.2 show the consequences of what is, in effect, a 'cash equals accruals' recording treatment. All loan outlays would be scored as up-front spending and all repayments as receipts when the cash arrives.

4.10 In respect of the 2017-18 cohort, Chart 4.1 shows that there would be large amounts of spending in the early years (£5.5 billion in 2017-18, cumulating to £16.0 billion by 2022-23 once all loans to this cohort have been extended), while the tax receipts build up gradually to a peak of £0.8 billion in 2038-39 and then decline. At first the decline is slow, as more of the cohort repay their loans, but it is then quicker at the end of the 30-year loan term as outstanding debt is written off. Compared to the current treatment receipts are smaller at first, but similar over the final decade. The big difference relates to recording the spending element, which happens upfront rather than three decades into the future. Since this upfront cost is not affected by the large amounts of unpaid capitalised interest that accrue over the lifetime of the loans, the total spending effect relates only to the principal extended and so is much smaller than under the current treatment.

Chart 4.1: Approach 1: Revenue and expenditure (2017-18 cohort)
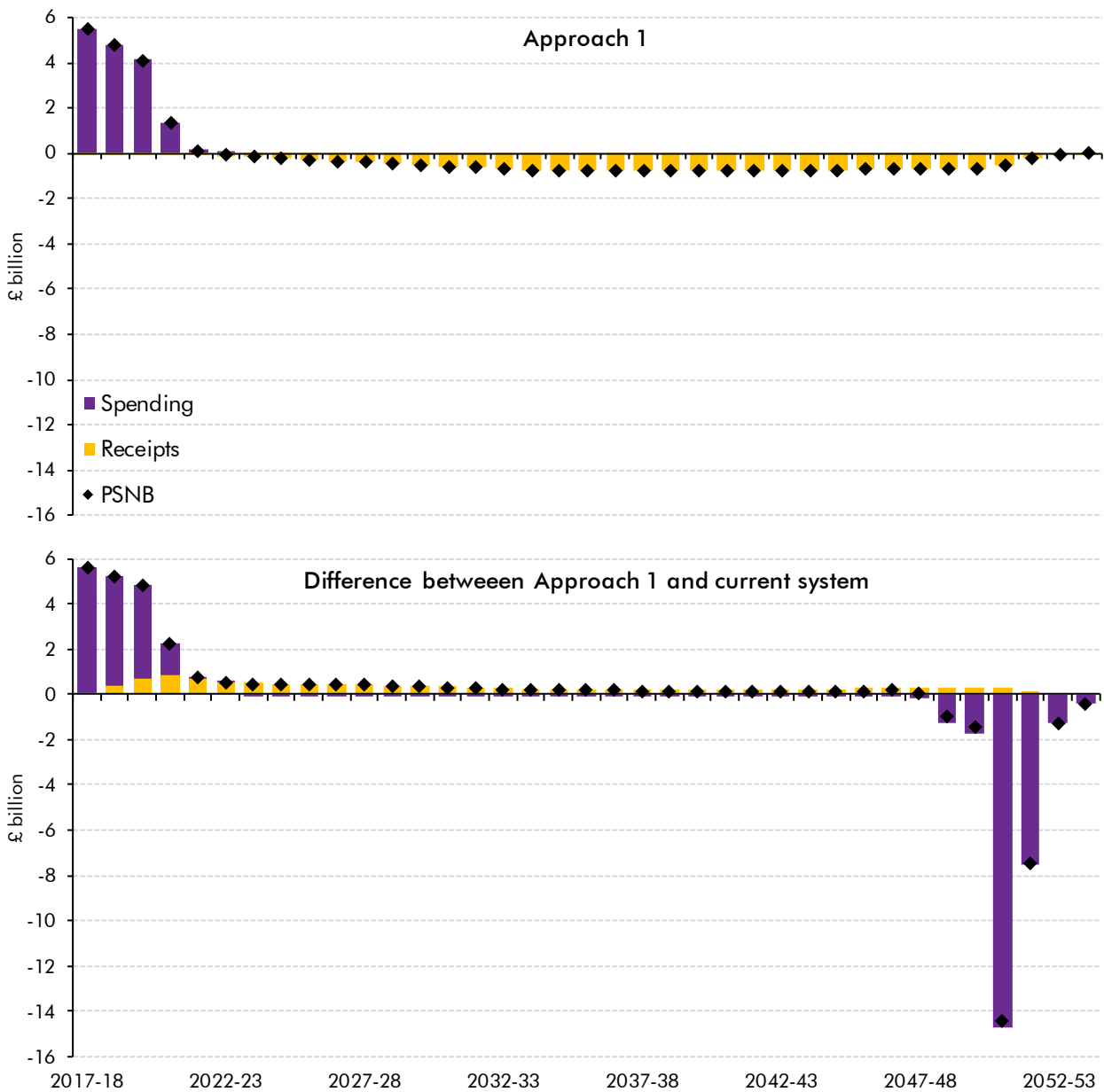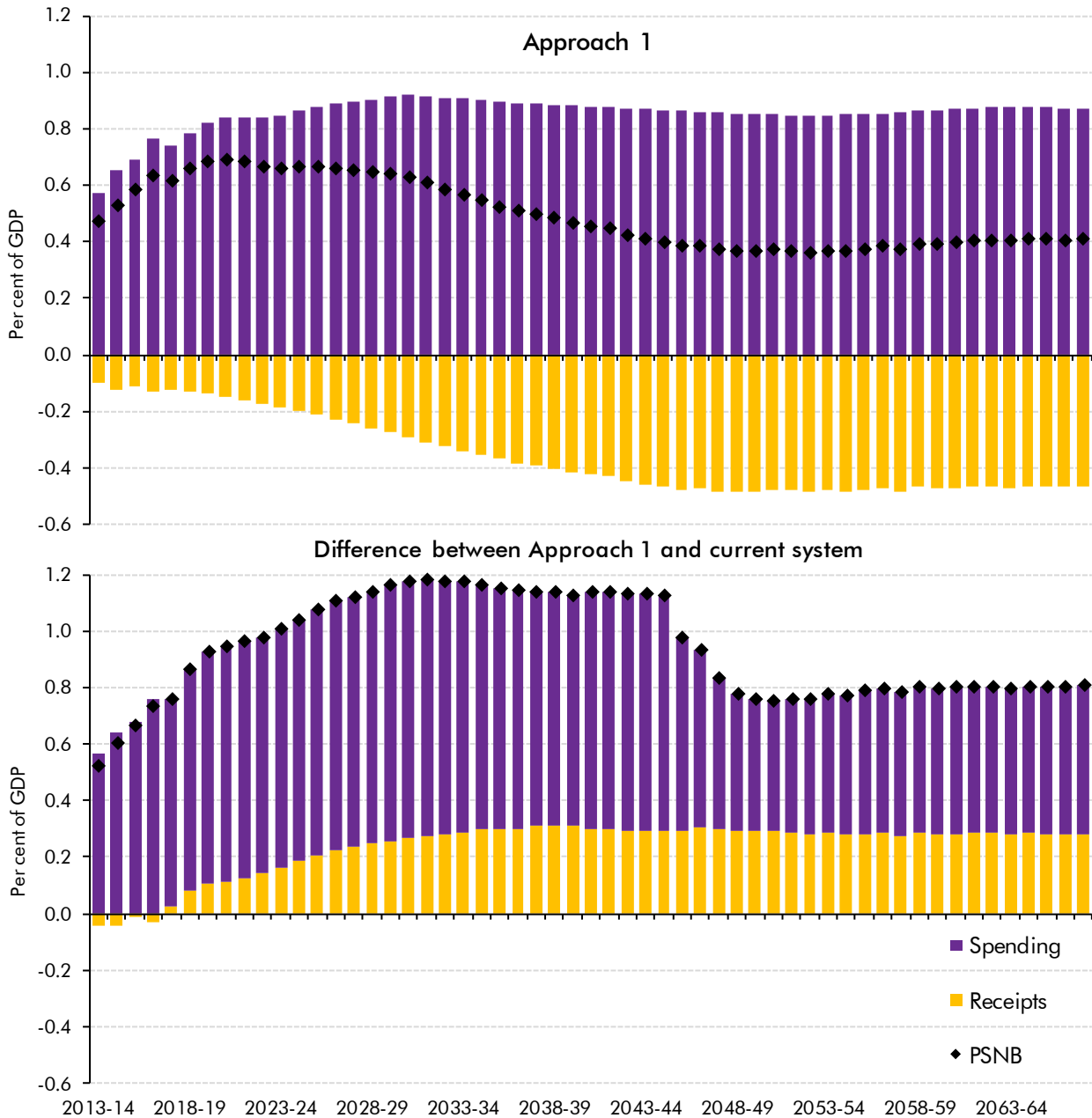

Source: OBR

4.11 As Chart 4.2 shows, recording flows on a cash basis for the whole loan book gives a spending line that rises sharply until around 2020-21, reaching 0.8 per cent of GDP, before rising more slowly and then plateauing from around 2030-31 at 0.9 per cent of GDP. Cash receipts do not take off until 2022-23, but then rise to 0.5 per cent of GDP in the late 2040s and remain fairly stable thereafter. The profile of the PSNB impact is dominated by the spending recorded in the early years, peaking at a net addition to PSNB of 0.7 per cent of GDP in 2020-21. As receipts rise but spending falls to zero, the PSNB hit declines and is 0.4 per cent of GDP from the late 2040s onwards.

4.12 Compared to the current approach, fewer receipts are recorded across the projection. Spending is also higher in all years, even after the large Plan 2 write-offs start adding to

spending under the current approach. The new loans issued in the latter years of the projection, which generate spending of 0.8 per cent of GDP in this approach, are roughly twice as large as the write-offs on 30-year old loans recorded under the current approach.

Chart 4.2: Approach 1: Revenue and expenditure (whole loan book)

Source: OBR

How does this approach fare against the criteria we have set?

4.13 The revenue and spending approach would certainly be practical – indeed it would be the simplest to implement among the five we look at as we project cash flows and they are straightforward for the ONS to measure in outturn. It would also be an improvement on the current approach as it removes the illusions that come from recording too much income

23

over the three decades that interest accrues and from the spending element being recorded far beyond the horizon of any sitting government. However, it generates a fiscal illusion of its own since it overstates the spending element relative to the true effect on fiscal sustainability. By assuming that all outlays are grants, the upfront cost ignores the fact that a material portion of the loans will eventually be repaid. Under this approach, were a future government to switch back to a grant-based system, the cost over a medium-term forecast horizon would change little, despite the significant increase in the true fiscal cost to government of such a switch. So this approach would lead to potential perverse incentives.

4.14   This approach would also do little to help reveal the true fiscal cost of raising the repayment threshold but would remove the recorded benefit from selling the Plan 1 loans at a heavy discount:

- **Raising the earnings threshold** above which repayments must be made is fiscally costly, but this approach would not make that cost immediately transparent. The spending recorded in the early years would be unaffected since the policy did not alter the size of loan outlays. The receipts records as cash repayments are made would be lower in every year, because earnings between the previous and new earnings thresholds would no longer trigger repayments. But this difference would be relatively small in any given year – and therefore over a medium-term forecast horizon – with the full effect of the policy only becoming apparent after three decades of lower receipts.

- **Student loan sales** would not affect the fiscal aggregates under this treatment because the loans would already have been treated as grants, so in an accounting sense they could not subsequently be sold. Instead, the real-world sale would need to be treated as a securitisation of future revenue flows, which would have no PSND impact.

Approach 2: Modified interest

How would it work?

4.15   From the perspective of most borrowers, a student loan appears to be a genuine liability and so should perhaps be recorded as such. Strictly speaking though, repayments only crystallise as a genuine liability when a borrower's earnings rise above the threshold and this liability is then for the most part paid promptly via the tax system. The interest accruing on the loans could be modified to recognise that it is contingent on borrowers' earnings. Viewing the interest element in this way would move its treatment away from the ESA 2010 guidance that *"the interest accruing in each accounting period must be recorded whether or not it is actually paid"*. Instead the recording would more closely resemble that of a tax where only those receipts *"government realistically expects to collect"* are recorded.

4.16   This raises the question of how much interest is expected to be paid. There are two parts to this question: first, how large are the expected repayments? And second, what proportion of them are interest? The first is relatively straightforward – we estimate total repayments at each *EFO* and *FSR* and they are observable in outturn. The second – deciding what portion is interest and what portion principal – is not. In the case of the 2017-18 Plan 2 cohort,

borrowers are estimated to be charged a total of £30.1 billion in interest, but to make only £18.0 billion of total repayments. In reality this will be made up of some borrowers that repay all interest and principal, some that repay part and some that repay none. Since these splits do not fall readily from the projection model, another approach to splitting principal and interest is required.

4.17   For simplicity, we assume that interest is repaid before principal, which means that in aggregate total repayments cover only part of the total interest accrued and none of the principal. Indeed, in no individual year are repayments greater than the newly capitalised interest. On this basis we would record only £18.0 billion of interest over the lifetime of the loans (60 per cent of the amount recorded under the present accounting rules), while the full £16.0 billion of principal would be written off after 30 years. Receipts could be recorded on a cash basis, as in Approach 1, or the gross amount could be accrued each year with an annual interest write-off recorded in spending to achieve the same overall deficit impact. We illustrate the simpler route of recording cash repayments as the modified interest receipts.

4.18   As Table 4.2 shows, this approach would bring the accrued treatment of interest and repayments more closely into line with the cash flows, but the write-offs would still be recognised after three decades with no cost recorded upfront.

Table 4.2: Approach 2: impact of student loans transactions on fiscal aggregates

	Loan extension	Capitalised interest	Cash repayments	Write-offs
Public sector net debt	Increases	No impact	Decreases	No impact
Public sector net borrowing	No impact	No impact	Decreases	Increases
Public sector net financial liabilities	No impact	No impact	Decreases	Increases

Comparison with the current accounting system

4.19   In respect of the 2017-18 cohort, Chart 4.3 shows the effect of recording all repayments as interest receipts, but not recording any interest that is accrued but never paid. On this basis £18.0 billion of receipts are recorded over the lifetime of the loans, the same amount and profile as in Approach 1. By accruing only the receipts that are ultimately expected to be received as cash repayments, there is no interest to be written off after 30 years – only the original principal. For illustration, these write-offs have been distributed across years according to the pattern of write-offs we project under the current accounting treatment. As the chart illustrates, this approach produces a scaled down version of the current methodology – receipts over the first 30 years are lower and so are the write-offs recorded at the end of the period. The receipts benefit to PSNB would stabilise at around £0.8 billion a year (rather than £1.0 billion a year under the current treatment) and the peak write-off would be £8.4 billion (rather than £14.7 billion).

Chart 4.3: Approach 2: Modified interest (2017-18 cohort)
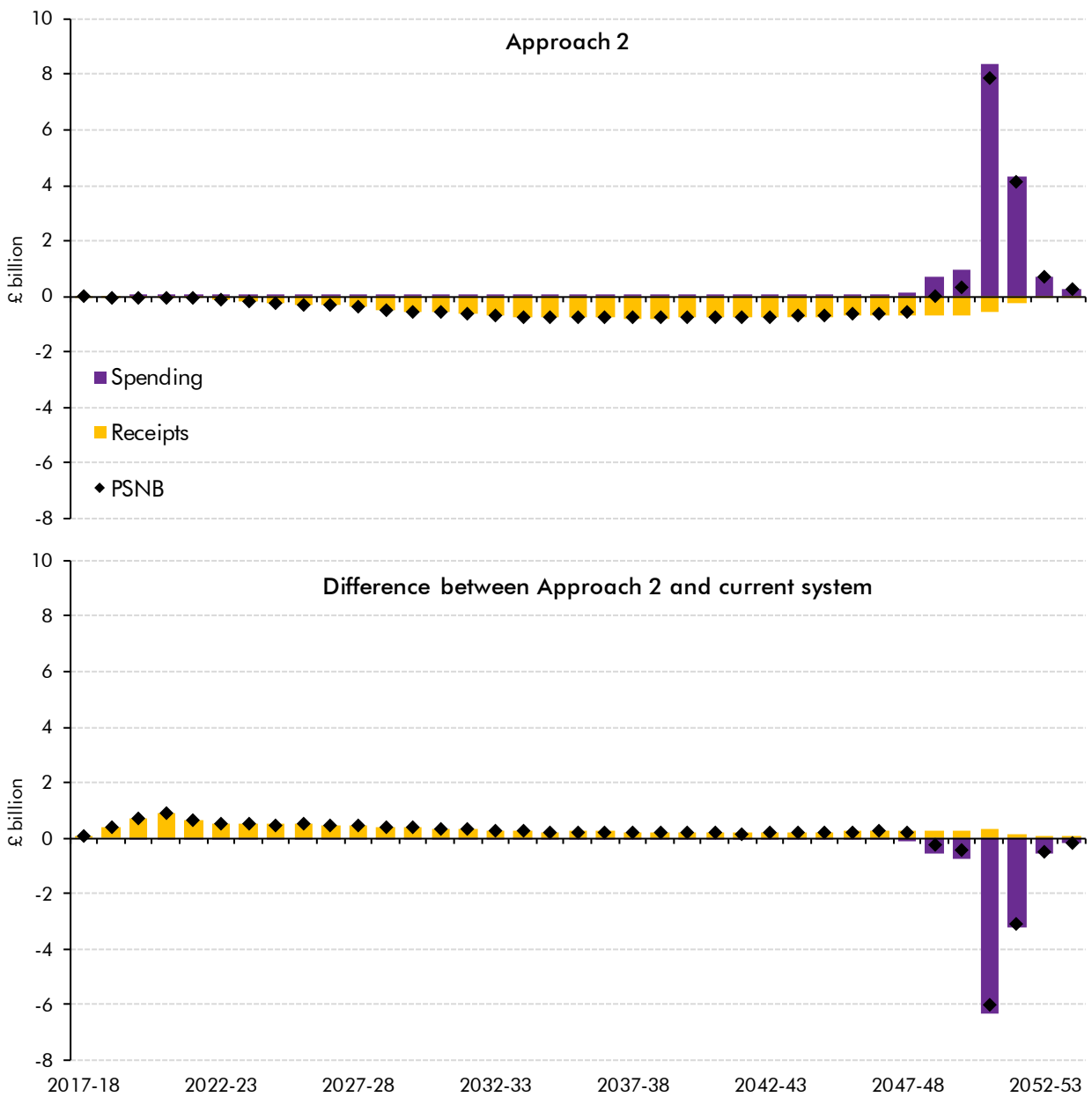
Source: ONS, OBR

4.20 Chart 4.4 shows the consequences of applying the modified interest treatment to the entire loan book, assuming that the scaling derived from the 2017-18 cohort applies to all other cohorts. As with the 2017-18 cohort, this approach reduces the beneficial impact on PSNB of capitalising interest and the detrimental impact of the subsequent write-offs. The deficit impact peaks at 0.5 per cent of GDP in 2044-45 before declining to 0.3 per cent in 2067-68, compared to 0.7 and 0.4 per cent respectively in the current treatment.

Chart 4.4: Approach 2: Modified interest (whole loan book)
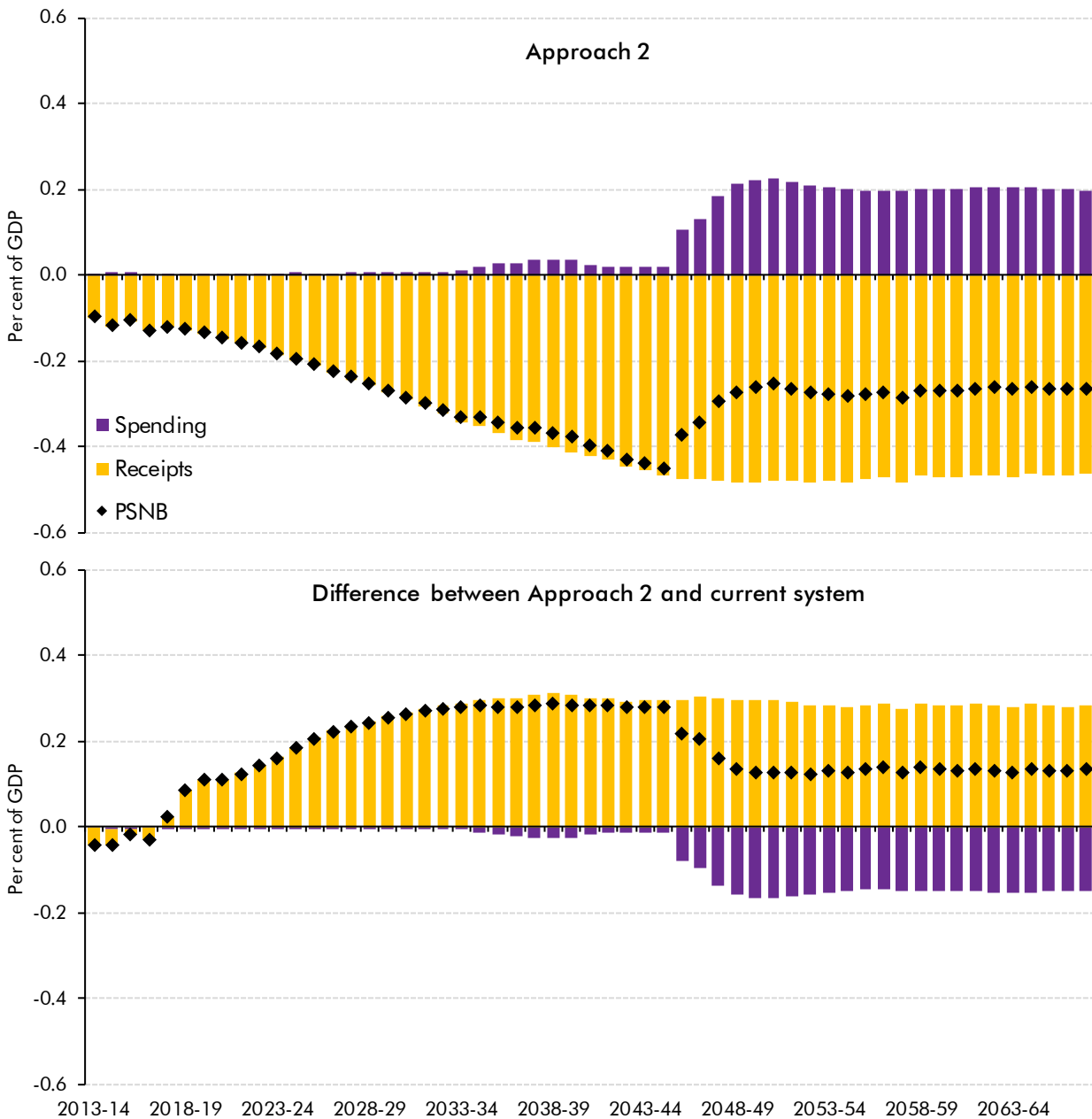
Source: OBR

How does this approach fare against the criteria we have set?

4.21   This approach would not be as practical as the simple cash-equals-accruals of Approach 1, as it would be necessary to divide cash receipts into principal and interest and to project the proportion of overall debt that will ultimately not be repaid. In the simple approach we have illustrated above, all repayments are assumed to be interest. If administrative data allowed the position to be estimated on a loan-by-loan basis, a significant portion of repayments would be counted as principal. In terms of fiscal illusions, this approach removes the income illusion of over-recording capitalised interest and so reduces the scale of the timing illusion that comes from recording the write-offs after 30 years. But the timing itself is unchanged, remaining far beyond the horizon normally considered by any government.

4.22   This approach would do little to help reveal the true fiscal cost of either raising the repayment threshold or selling the Plan 1 loans at a heavy discount:

- Under this approach, **raising the repayment threshold** would reduce the amount of income recorded each year because it reduces total repayments over the lifetime of the loan, which forms the basis for the amount of interest income recorded. Using the simple methodology we have illustrated above, this effect would be similar to that under Approach 1. This approach would suffer the same problem as Approach 1 in that the true fiscal cost would only be revealed over the lifetime of the loan, while the effect in each year and over a medium-term forecast horizon would be modest.

- This approach would not generate any differences from the current approach in terms of recording the proceeds of **selling student loans at a discount to their face value**, so would not address the fiscal illusions.

Approach 3: Hybrid (part loan, part grant)

How would it work?

4.23   Under Approach 2, scaling down interest receipts would still treat all student loans as loans. Under Approach 1, conventional tax-and-spending would treat them all as grants. An alternative approach would be to treat them as a bit of both. Loans to students who will become high-earning graduates do meet the standard definition of loans, since they will be repaid with interest. But loans to students who will be low-earners are in reality grants, since they will not be repaid at all and the government will not recover any unpaid sums. For a group in between, the loans are in effect soft loans or partially repayable grants, since they will not be repaid in full with interest.

4.24   This would argue for splitting the outlay into loan and grant elements and recording the grant element as upfront spending. This seems consistent with the ESA 2010 guidance that *"loans granted by government not likely to be repaid are recorded in the ESA as capital transfers"*. The ONS generally considers that this relates to individual transactions that fail the statistical definition of a loan. But it could apply this to the partitioning of the student loans scheme in its entirety. Recording a portion of the original outlay as a grant would mean that interest would accrue only on the remaining portion regarded as a genuine loan.

4.25   As Table 4.3 shows, recording student loans on this basis would not affect the cash-based PSND measure, but it would mean that PSNB and PSNFL were affected at the point of the loan outlay as well as by the capitalised interest. Cash repayments would still have no effect as they would still be treated as replacing one financial asset with another of the same value.

Table 4.3: Approach 3: impact of student loans transactions on fiscal aggregates

	Loan extension	Capitalised interest	Cash repayments	Write-offs
Public sector net debt	Increases	No impact	Decreases	No impact
Public sector net borrowing	Increases	Decreases	No impact	No impact
Public sector net financial liabilities	Increases	Decreases	No impact	No impact

Comparison with the current accounting system

4.26   Dividing outlays into loans and grants without analysing them on a loan-by-loan basis involves making a fairly arbitrary choice. For a given cohort of loans there is an infinite number of grant and interest lines that could sum to leave no end-of-period write-offs. That said, the treatment implies that the proportion of principal recorded as upfront spending and the reduction in interest recorded should be equal, which can be inferred simply from our projections.

4.27   For the 2017-18 cohort, we project that borrowers will be charged a total of £46.1 billion (£16.0 billion in principal and £30.1 billion in capitalised interest) and that just £18.0 billion (39.1 per cent) will be repaid while £28.0 billion (60.9 per cent) will be written off. If 60.9 per cent of the outlays were to be recorded as spending and the capitalised interest recorded were to be reduced by 60.9 per cent in every period, no write-offs would be needed as the sum of the recorded transactions would be equal to the overall cash position.

4.28   Looking at the 2017-18 cohort, Chart 4.5 shows that under this approach the spending line would be a scaled down version of the cash outlays shown in Approach 1, while the receipts would be a scaled down version of the capitalised interest recorded under the current methodology. As a result, the initial effect would be to increase PSNB as the spending element is recorded. The effect starts high in 2017-18 at £3.4 billion, since this first year sees the highest outlay and the lowest interest income. Outlays fall sharply after three years, while receipts rise steadily before stabilising at £0.4 billion a year. Eventually receipts drop back to zero as outstanding debt is written off. Compared to the current method, the spending element is recorded upfront while recorded receipts are lower.

## Chart 4.5: Approach 3: Hybrid (2017-18 cohort)
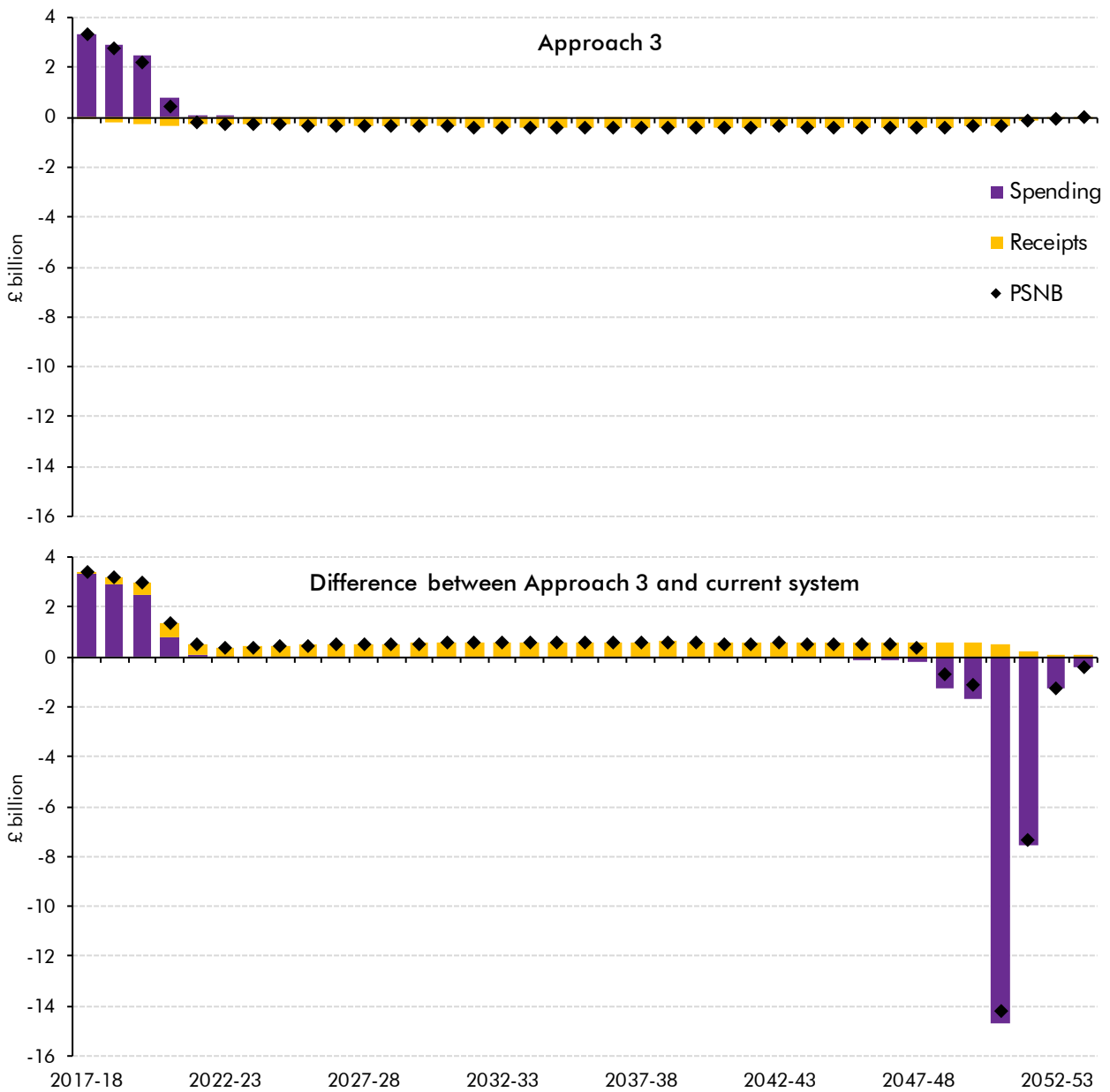
Source: OBR

4.29 Applying the same scaling factors to the whole loan book produces a PSNB path that is dominated in the early years by the build-up of the loan book, which generates a rising path for spending due to the grant elements of outlays to successive cohorts. The addition to borrowing then moderates as interest receipts increase (again reflecting the larger size of the overall loan book) and spending stabilises. The addition to borrowing reaches 0.4 per cent of GDP in the early 2020s, then declines before stabilising at around 0.2 per cent of GDP.

4.30 In the Government's fiscal target year of 2020-21, this treatment would see student loans add £9.2 billion to borrowing, with £11.5 billion of spending being only partly offset by £2.3 billion of accrued interest. That compares with the way student loans reduce the deficit

by £5.7 billion in that year under the current accounting treatment due almost entirely to accrued interest. The £14.9 billion difference between these approaches would be £0.5 billion smaller than the margin by which our March 2018 forecast suggested the Government would meet its target for the cyclically adjusted deficit in that year.

Chart 4.6: Approach 3: Hybrid (whole loan book)
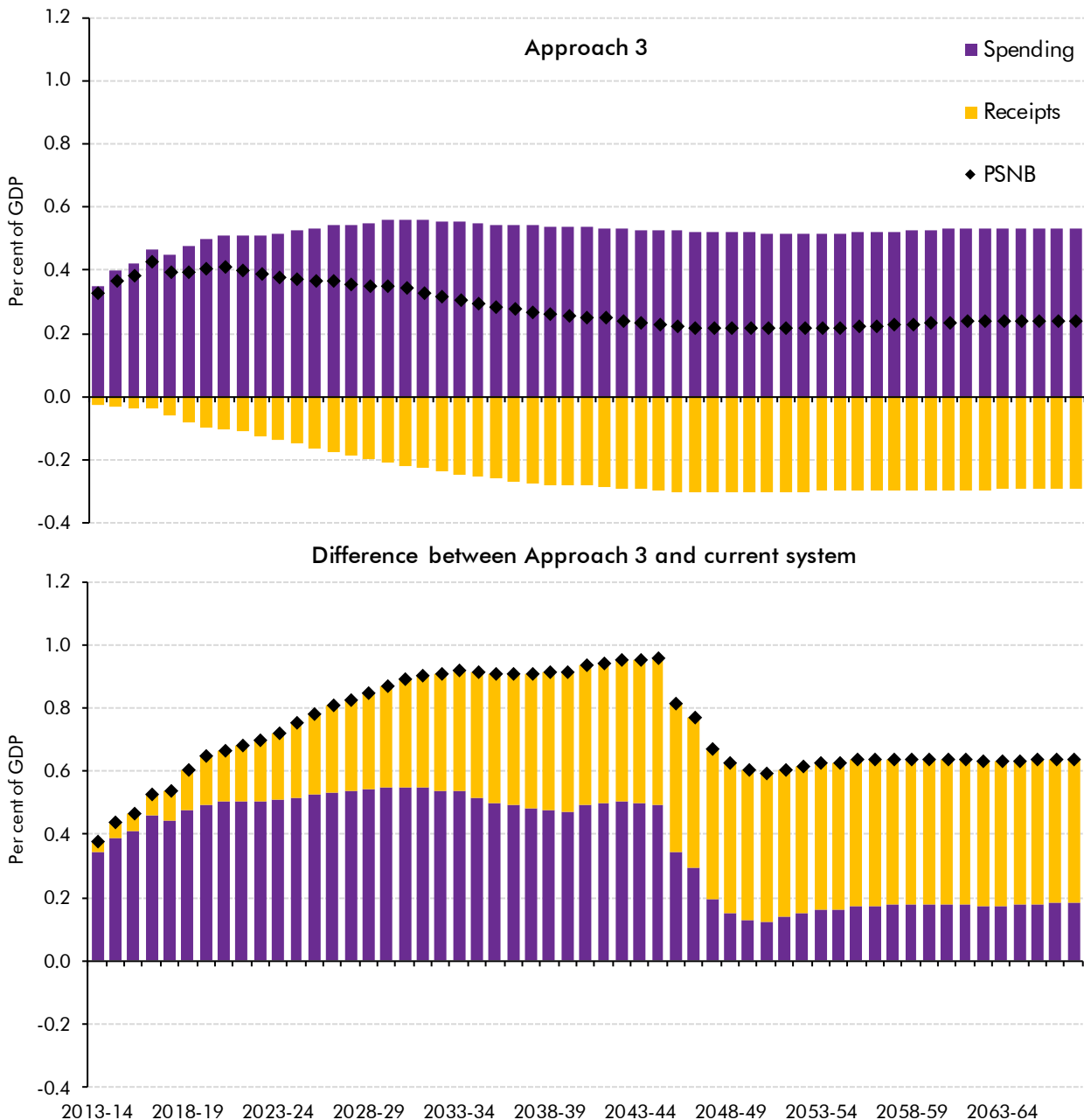
Source: OBR

How does this approach fare against the criteria we have set?

4.31   The hybrid treatment would successfully eliminate the spending illusion by recording an appropriate expected cost of the subsidy element upfront. Receipts would continue to be based on capitalised interest, but only to an extent that would be consistent with the amount

of interest that is actually projected to be paid. Together these adjustments would remove the need for write-offs far in the future to recognise the cost of decisions made today.

4.32 Alas this methodology would have practical difficulties. Estimating the upfront grant element involves making assumptions about the behaviour of each cohort over its 30-year life. Inevitably, outturns will differ from forecasts, and forecasts will change as assumptions are revised. Forecasts will also change if the scheme parameters evolve in different ways to those that are modelled. The ONS would need to decide how to reflect these potentially large changes in outturn statistics while maintaining a meaningful time series.

4.33 Finally, while this approach would remove some existing perverse incentives for government behaviour, it could introduce others. Adjusting the real-world scheme parameters – interest rates, loan duration etc – could affect the accounting aggregates more than it affects actual cashflows. For example, reducing the rate of interest charged on borrowers who do not repay anything would reduce the overall write-off from the current 60.9 per cent. This would reduce the amount recorded upfront as spending and so, over the medium-term horizon that governments tend to focus on, the fiscal position would seem to improve despite overall cash flows being unchanged. But if it were possible to analyse the system on a loan-by-loan basis, this sort of illusion could be avoided.

4.34 This approach would better reflect the true fiscal cost of raising the repayment threshold, though only in part, and would overcome the PSNB illusion generated in the current treatment when selling the Plan 1 loans at a heavy discount:

- Under this approach, **raising the repayment threshold** would increase the projected shortfall in repayments relative to total debt outstanding. That would increase the proportion of new outlays treated as spending and reduce the proportion on which capitalised interest would be accrued. In doing so, the cost of the policy change in respect of new lending would be recognised upfront, removing a key element of the fiscal illusion in the current treatment. The remaining part of the illusion relates to existing loans on which the payment terms become more lenient. Since these would already have been split into grant and loan elements, there would be a question over whether and how to go back and adjust the proportions. Would historical estimates of these grants be increased and historical interest income be reduced? Or would there be a one-off cost in the year that the decision was implemented? The latter might be more transparent in recognising the cost of the policy, but it could lead to unhelpful volatility in the annual path of PSNB, which could itself generate perverse incentives.

- By recognising the cost of the subsidy element upfront, these costs would have been recognised before any subsequent **student loan sales** could take place. This would remove the PSNB-related fiscal illusion that comes with selling loans – even at a steep discount – before write-offs have been recorded. If any sale were to take place at a greater discount than that embodied in the calculation of the upfront grant element, a small fiscal illusion would remain unless that further cost were recorded in some way.

Approach 4: Net cost to government

How would it work?

4.35   Approach 3 tries to get to the economic reality of student loans transactions by splitting the outlays into loan and grant elements, but the partitioning relies on assumption-heavy long-term projections and depends on using the rate of capitalised interest even though this bears little relation to actual returns from students. A further alternative would be to ignore the terms of the loans and focus instead on how much they actually cost the government. In the end, this is their true effect on fiscal sustainability. The overall cost (the subsidy element) can be estimated as the difference between total cash outflows (loan outlays plus the debt interest cost of financing them) and total cash inflows (cash repayments of principal and interest). This means that if the government were to cover the total costs of the scheme with payments from students, the subsidy element would be zero. This approach would represent a significant departure from the conventional approach in the public sector finances, where debt interest is treated in aggregate rather than being apportioned to certain activities.

4.36   Table 4.4 shows that recording student loans on this basis would not affect the cash-based PSND measure, but it would mean that PSNB and PSNFL were affected at the point of the loan outlay by the sum calculated as the subsidy. As this involves recording future interest payments upfront these payments are then not recorded over the life of the loan in PSNB. None of the usual transactions – loan extension, capitalised interest, repayments or write-offs - are recorded within the deficit. This represents a dramatic departure from normal National Accounts practice.

Table 4.4: Approach 4: impact of student loans transactions on fiscal aggregates

|	Loan extension	Capitalised interest	Cash repayments	Write-offs
Public sector net debt	Increases	No impact	Decreases	No impact
Public sector net borrowing	Increases	Decreases	No impact	No impact
Public sector net financial liabilities	Increases	Decreases	No impact	No impact

Comparison with the current accounting system

4.37   Running the cashflows (in and out) associated with the 2017-18 cohort through our *FSR* model gives a debt interest cost of £11.7 billion over the lifetime of the loans, but the net return (cash repaid minus initial outlays) is just £2.0 billion. Using this approach, that would give a £9.7 billion subsidy cost over the lifetime of the loans. For the purposes of recording the spending associated with this cost, it can be divided in proportion to the outlays and recorded at the point the loans are issued.

4.38   To ensure that the accrued amounts equal the net cashflows over the lifetime of the loans, this upfront cost needs to be unwound over time by an amount equal to the modelled debt interest payments. This gives an unintuitive receipts path compared to previous approaches. By coincidence, the initial spending profile looks almost exactly the same as the hybrid

example above which also had £9.7 billion of write-offs upfront. The receipts path records a long relatively even effect over the life of the loans reflecting the regular stream of financing costs.

Chart 4.7: Approach 4: Net cost to government (2017-18 cohort)
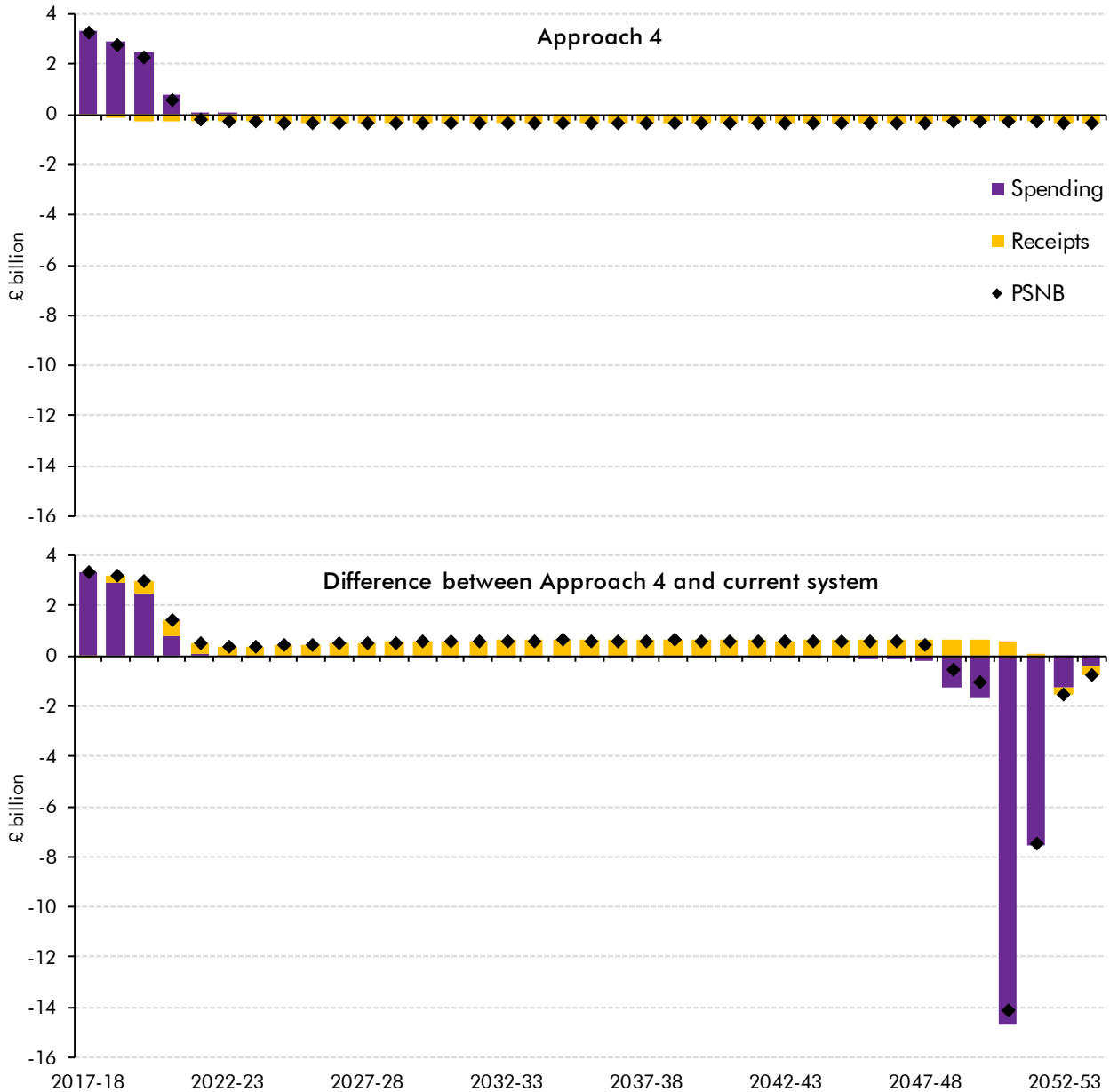
Source: OBR

4.39   The impacts of applying this method to the whole loan book are shown in Table 4.8. The subsidies recorded on each year's loan extensions build up gradually until they reach nearly 0.6 per cent of GDP as outlays increase under Plan 2. Offsetting this are the unwinding financing costs shown here as receipts. These build to over 0.3 per cent of GDP. The overall impact is an increase in the deficit which peaks at 0.4 per cent of GDP in 2019-20 before declining to around 0.2 per cent.

Chart 4.8: Approach 4: Net cost to government (whole loan book)
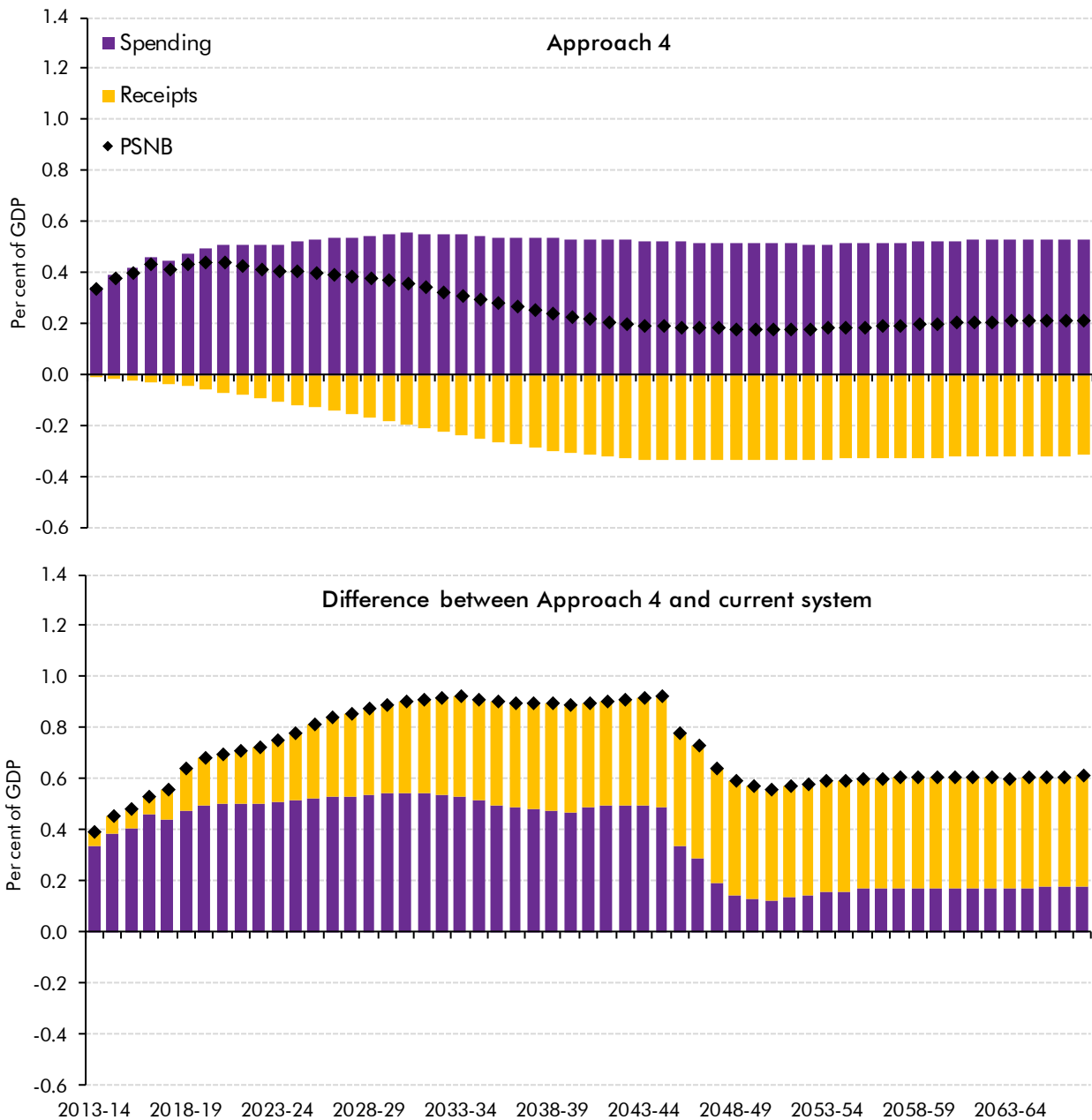
Source: OBR

How does this approach fare against the criteria we have set?

4.40   This approach would have the advantage of recording the estimated subsidy upfront and, unlike Approach 3, would not need an arbitrary split of cash receipts into principal and interest. It would have other advantages over Approach 3 as, by depending only on projected future cash flows, it would be less sensitive to some potential changes to scheme parameters, reducing the perverse incentives for governments to tinker with them. But it does present difficulties. Most obviously it relies on assumption-driven projections over many decades, which would be subject to many of the same issues as under Approach 3. In

addition, it is not clear how one would interpret the receipts line in the accounts or how these transactions would be reflected within the balance sheet.

4.41 This approach would address the fiscal illusions around changing the repayment threshold and selling Plan 1 loans at a heavy discount to roughly the same extent and for similar reasons as described for Approach 3. Again, with the repayment threshold change, the key outstanding issue would be over whether and how the resulting increase in expected losses on past loans would be recognised.

Approach 5: commercial accounting-style

How would it work?

4.42 The 'net cost to government' methodology described above could potentially fit, albeit with difficulty, into the National Accounts framework, but the adoption of a 30-year timeframe to measure the interest payments is fairly arbitrary as in reality the interest consequences will continue in perpetuity. The RAB charge approach in DfE's departmental accounts deals with such issues by discounting future cash flows to create a net present value. This has the advantage of Approach 4, in that only cash flows matter: there would be no need to consider the capitalising interest, nor to partition the flows between principal and interest. Beyond the familiar challenges associated with projecting cashflows over long periods, the key remaining challenge would be to choose an appropriate discount rate. A suitable candidate would be the expected cost of financing. This is the methodology used by the US Congressional Budget Office for concessionary loans in US budgeting.[2]

Comparison with the current accounting treatment

4.43 In our *FSR* projections we assume long-run interest costs to be 4.7 per cent, and that rate is used in this paper. (Eurostat usually adopts a similar discount rate of 5 per cent.) For the 2017-18 cohort, the net present value of all future cashflows is a £7.9 billion cost to government. This would be a similar size to the estimates of upfront grant and net cost to government in Approaches 3 and 4. So this method would produce a meaningful estimate of the subsidy element that could be recorded upfront to remove the spending illusion created by the current system. While this gives a viable way of estimating the upfront spending, there is no obvious way to record the future flows so as to reach a position whereby cash equals accruals. Given the difficulty of accommodating discounted cashflows within the National Accounts, the ONS does not consider this approach in its article and we cannot present an estimate of its potential impact on National Accounts here over the full time series

---

[2] Brixi and Schick, *Government at risk,* The World Bank, April 2002

How does this approach fare against the criteria we have set?

4.44   This approach would share most of the pros and cons attached to Approach 4, while adding the challenge of choosing an appropriate discount rate and the associated sensitivity of the estimate to any change in the discount rate. The potential importance of this can be seen in successive editions of the commercial accounting-style Whole of Government Accounts, where the largest changes from year to year are often related to discount rate movements.

4.45   This approach would address the fiscal illusions around changing the repayment threshold and selling Plan 1 loans at a heavy discount to roughly the same extent and for similar reasons as described for Approaches 3 and 4. Again, with the repayment threshold change, the key outstanding issue would be over whether and how the resulting increase in expected losses on past loans would be recognised.

How else could student loans be recorded?

5   Conclusions

Comparing the current treatment to alternatives

5.1   In this working paper we have described the various fiscal illusions that are created by the National Accounts treatment of student loans. On the balance sheet, public sector net debt ignores student loan assets entirely while public sector net financial liabilities records them at a significant premium to their true value. In borrowing, capitalised interest that is not expected to be repaid flatters the figures for decades, then large-scale write-offs far in the future recognise the subsidy cost of today's lending decisions. And a quirk of the accounting treatment means that selling loans before write-offs have been recorded means the true cost of student loans is never recognised in borrowing, rather than being recognised very late. We have explored five alternative treatments to see if these can dispel any or all of these illusions and reveal the true impact of student loans on fiscal sustainability.

5.2   Of the approaches considered, three could fit easily into a National Accounts framework, while the net cost approach partially fits in, and the ONS has published an article outlining them. We also consider briefly a more commercial accounting style net present value approach. Chart 5.1 shows the deficit impacts from the current approach and the four alternative National Accounts approaches.

Chart 5.1: PSNB impact of student loans: current and alternative approaches

Source: OBR

39
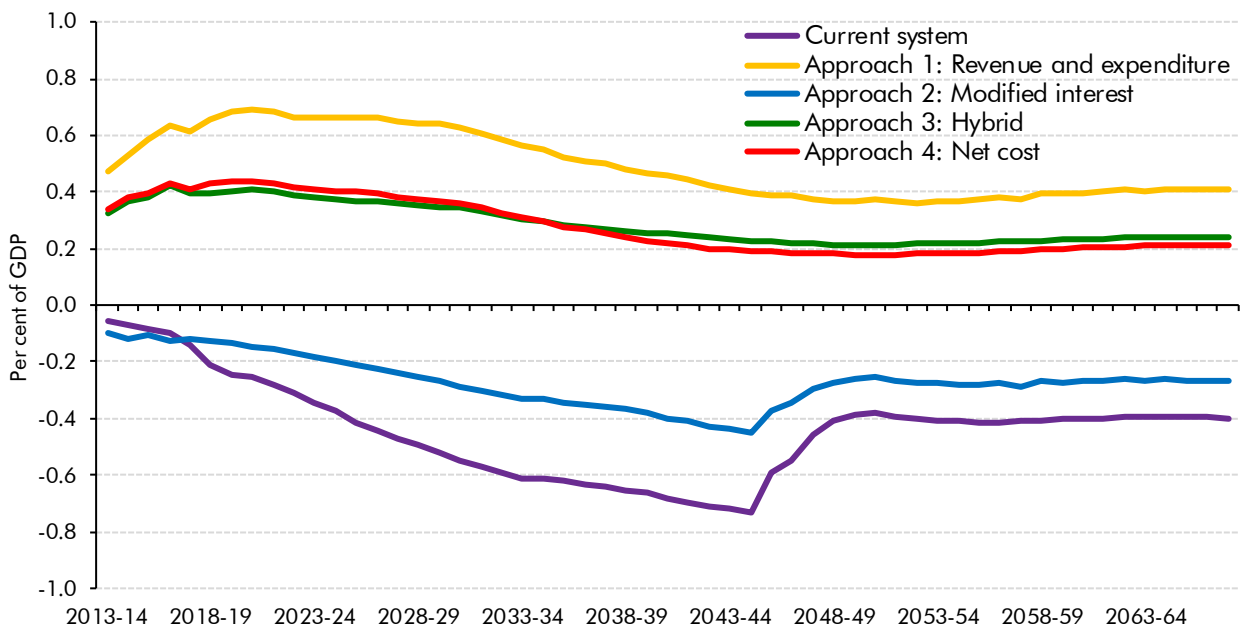
5.3   We set out a range of criteria against which to judge the performance of each approach, which are summarised in Table 5.1. These were:

- **Practicality**: how heavily does the approach rely on assumptions about the economy and policy settings over extended periods? Does it require arbitrary decisions on splitting repayments into principal and interest?

- **Borrowing illusions**: does the approach record the spending element upfront – or at least within the typical time horizon of a sitting government? Does it record only the amount of interest that the government actually expects to receive?

- **Balance sheet illusions**: does the approach avoid undervaluing the loans (as in PSND) or overvaluing them (as in PSNFL)?

- **Loan sale illusion:** does the approach ensure that accrued income and spending ultimately equal net cash flows (avoiding the issue in the current treatment whereby selling loans at a discount to face value does not affect borrowing but does remove the need to recognise write-offs at the term of the loan)?

- **Recognising the true cost of policy changes**: does the approach appropriately reflect the effect of the decision to raise the repayment threshold announced in 2017 that came into effect this year?

- **Perverse incentives:** does the approach remove the perverse incentives associated with the current treatment of student loans? And does it avoid introducing any new ones?

Table 5.1: Performance of the alternative approaches

	Revenue and expenditure	Modified interest	Hybrid	Net cost to government	Commercial accounting style
Practicality: economic assumptions	✔	✔	✘	✘	✘
Practicality: arbitrary divisions	✔	✘	✘	✔	✔
PSNB: spending up front	✔	✘	✔	✔	✔
PSNB: interest actual received	✔	✔	✔	n/a	n/a
Debt: PSND	✘	✘	✘	✘	✘
Debt: PSNFL	✘	✘	✔	n/a	n/a
Loan sale	✔	✘	✔	✔	✔
Policy change	✘	✘	✔	✔	✔
Perverse incentives	✘	✔	✘	✔	✔

5.4   As Table 5.1 shows, no one method succeeds on all criteria. The modified interest approach fails to remove the spending illusion. Indeed, as Chart 5.1 shows, it is really just a toned down version of the current approach. As such it does not offer sufficient improvements to be a viable preferred approach. The remaining approaches all show that student loans generate a net cost to the government, which is the case in reality, so these are preferred.

5.5   But all the approaches have their weaknesses:

- The **revenue and expenditure approach** overstates the spending element and fails to record the recent policy changes adequately, but as a cash-based approach it is the most practical.

- The **hybrid approach** also fits into a National Accounts framework, but relies on dividing repayments into interest and principal in ways that leave it open to perverse incentives. It also requires making long-term assumptions about the future economy and policy settings. If used in outturn statistics it would be difficult to adjust the time series for these changes in a satisfactory way.

- The **commercial accounting approach** has advantages as it depends more on the relatively less uncertain flows in the near future, whereas the **net cost to government approach** weights the distant future the same as the medium term. But neither fits easily into the National Accounts system.

5.6   This suggests that it would be sensible to continue to employ a variety of approaches when looking at the fiscal impacts of student loans. The hybrid approach would work well in the absence of major changes to the scheme design or the long-term economic assumptions underpinning it. But there would continue to be value in sense-checking the conclusions from a hybrid approach against other methods, in particular if the parameters of the scheme were to change in any significant way.

Estimating the scale of the fiscal illusion

5.7   If we take the hybrid approach to provide the closest approximation of the true fiscal sustainability implications of student loans, we can use it to illustrate the current size of the fiscal illusion in the deficit. Chart 5.3 shows the current treatment and the hybrid approach (similar results would be obtained with the subsidy approach) and the difference between them for the 2017-18 cohort. Chart 5.4 repeats this for the whole loan book.

5.8   For the 2017-18 cohort, the differences are greatest at the beginning and end of the loan, where the large spending transactions are recorded in each approach. They are relatively small in the middle period, where the differences in the receipts approaches dominate. In the first three years of the cohort, the deficit is flattered by an average of £3.2 billion a year under the current treatment while loans are being extended. Once all loans have been extended, the illusion relates to the over-recording of capitalised interest under the current approach. It reduces to £0.4 billion a year in 2022-23.

Chart 5.2: The PSNB illusion due to the 2017-18 student loans cohort
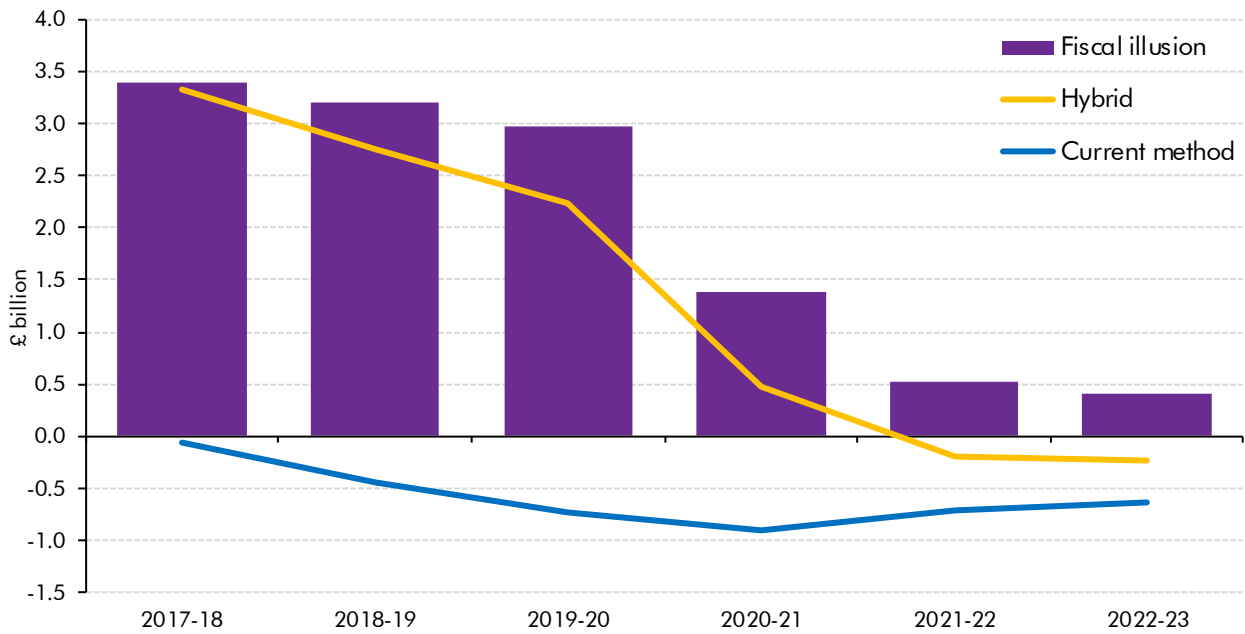
Source: OBR

5.9   Looking at the whole loan book shows the scale of the illusion when all the cohort-specific illusions are layered on top of the each other. Over the medium term, the current treatment suggests that student loans as a whole reduce PSNB, while the hybrid approach suggests (more appropriately) that they increase it. The illusion grows steadily from 0.6 per cent of GDP (£12.8 billion) in 2018-19 to 0.7 per cent in 2022-23 (£15.7 billion).

Chart 5.3: The PSNB illusion due to the whole student loans book
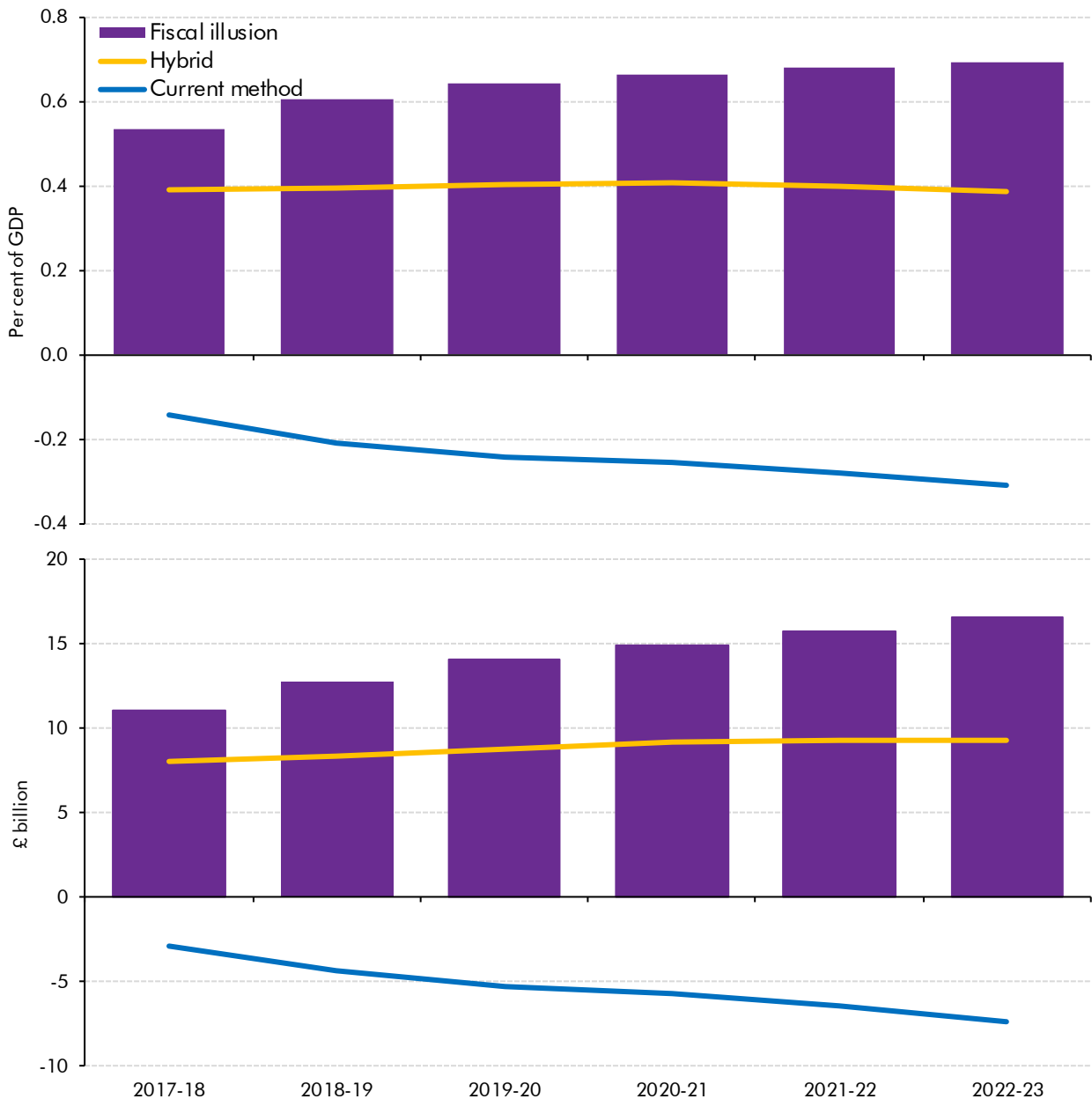
Source: OBR

5.10   It should again be emphasised that these results have been obtained by applying the results from one cohort of full-time English Plan 2 loans to the entire book. This is not such a problem in the longer term when Plan 2 loans make up over 90 per cent of the book, but it is more so in the medium term when the stock of Plan 2 loans rises from 62 per cent of the book in 2018-19 to 76 per cent in 2022-23. Bearing this caveat in mind, the 0.7 per cent of GDP (£14.9 billion) fiscal illusion from student loans compared to this hybrid approach is roughly equal to the margin by which the Chancellor was meeting his fiscal target in 2020-21 in our most recent forecast