Scottish Fiscal Commission

Forecast Evaluation Report

August 2023

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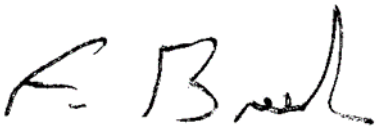
Foreword

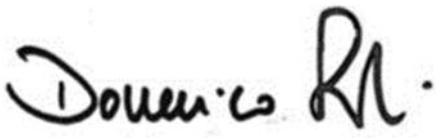
Our forecasts play a central role in setting the Scottish Government Budget. It is therefore important for us to ensure our forecasts are as reliable as possible. To do this we routinely evaluate our previous forecasts to identify improvements we can make for future forecasts. In this report we have evaluated our December 2021 forecasts for the economy, fully devolved taxes, and social security in 2022-23 and our January 2021 forecast for Scottish income tax revenues in 2021-22.

We would like to thank everyone who has contributed to this report, in particular those data providers who have worked hard to ensure we have the information we need. This includes the Scottish Government, Revenue Scotland, Social Security Scotland, the Department for Work and Pensions, HM Revenue and Customs, and the Office for Budget Responsibility.

Professor Graeme Roy



Professor Francis Breedon



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29 August 2023

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Summary

1 In this report we evaluate our December 2021 forecasts for the economy, fully devolved taxes, and social security in 2022-23. These forecasts were produced while there was ongoing uncertainty about the recovery from the Coronavirus (COVID-19) pandemic and before the economic consequences of the Russian invasion of Ukraine and rise in inflation were known. Given these factors, we are satisfied with the performance of our 2022-23 forecasts for economy, devolved taxes and social security.

2 For income tax we evaluate our January 2021 forecast for 2021-22. This forecast was prepared in a period of exceptional uncertainty related to the COVID-19 pandemic. The effects of the pandemic on the economy were smaller than we had assumed at the time and there was an unexpected increase in inflation. Together these factors contributed to an underestimate of income tax revenues in 2021-22 of 12 per cent. As we stated at the time, the exceptional context of COVID-19 meant that a large forecast error was always a possibility. However, there are valuable lessons to be learned from our forecast error particularly around the earnings of the highest paid in Scotland.

3 Our evaluation of previous forecasts includes analysis of different sources of error. This allows us to identify areas where we can improve the accuracy of future forecasts. Beyond the factors cited above, there are no common sources of error across the forecasts evaluated. However, we have identified points for improvement in individual areas.

Figure 1: Summary of headline evaluations

Forecast evaluated	Forecast	Outturn	Error	Relative error
Economy – GDP growth	2.2	2.0	-0.2	
Income tax	12,263	13,724	1,461	12
Devolved taxes	3,659	3,749	89	2
Devolved social security	4,065	4,193	127	3

Source: Scottish Fiscal Commission, Scottish Government, HMRC, Revenue Scotland, Social Security Scotland.
Tax and social security forecast, outturn and error are presented in £ millions with relative error in per cent. GDP growth is in per cent with the error in percentage points.

Income tax, reconciliations and the 2024-25 Budget

4 In this section, we look at both our own income tax forecast for 2021-22 and at the income tax reconciliation that will be applied in the 2024-25 Budget. We also discuss historic reconciliation estimates and look at the sensitivity of our forecast to revenues from high earners and Self Assessment (SA).

Income tax Block Grant Adjustments and reconciliations

5 The Scottish Government receives a Block Grant from the UK Government determined by the Barnett formula. This is the funding the Scottish Government would have received had there been no devolution of tax or social security powers to Scotland. The UK Government adjusts the Barnett determined block grant by removing funding where the Scottish Government is now raising tax revenue and adding funding where the Scottish Government is responsible for paying social security. These are called Block Grant Adjustments (BGAs). The Scottish Budget is initially set based on forecasts of tax revenues and BGAs. Once outturn data are available, reconciliations are

made to the Scottish Government's funding to correct for any differences between forecasts and outturn.

January 2021 Budget setting forecast

6 As shown in Figure 1, our January 2021 income tax forecast for 2021-22 underestimated income tax revenues by £1,461 million, or 12 per cent. When we produced our January 2021 forecast, we had to make assumptions around the outlook for COVID-19 and its effects on the economy and tax base. There was also uncertainty about the labour market data we were using and the effects of the job support schemes.[1]

7 Compared to our assumptions at the time, the lockdown in early 2021 was not as significant as we anticipated. The Scottish economy was more resilient, with growth in Gross Domestic Product (GDP) of 14.2 per cent compared to our forecast of 7.5 per cent. There was an unexpected increase in inflation in 2021-22, further increasing nominal earnings growth compared to our forecasts. There also appears to have been strong growth in tax revenues from the top end of the income distribution, particularly among those paying tax via SA. These factors led to an underestimate of the amount of income tax collected in 2021-22 by £1,461 million. Importantly for the Scottish Budget, there was a similar scale and direction of error in the BGA based on forecasts by the Office for Budget Responsibility (OBR).

8 Comparing our January 2021 forecasts to the BGA suggested an income tax net position of £475 million with the funding for the 2021-22 Scottish Budget set based on this value. At the time, we cautioned that this high Budget setting net position arose because of the uncertainty around COVID-19 and its effects on the data and judgements used in our and the OBR's forecasts as well as issues with the timing of forecasts.[2] We did not expect Scottish tax revenues to perform significantly differently to the UK in 2021-22 and cautioned that a negative reconciliation was likely. We suggested a value of -£300 million if the net position was closer to the lower 2020-21 value.

9 Now that the outturn data have been published, we have a value for 2021-22 Scottish income tax revenues and a provisional value for the income tax BGA and we can assess the impact on the Scottish Budget, summarised in Figure 2. The net position is now estimated to be £85 million, less than the £475 million on which the Scottish Budget was set, leading to a reconciliation of -£390 million. This is broadly in line with the -£300 million we suggested in January 2021, given the uncertainties of the time.

Figure 2: Errors in the net effect on budget and reconciliation

£ million	Scottish income tax	BGA	Net position
Budget setting forecast	12,263	-11,788	475
Outturn	13,724	-13,639	85
Reconciliation			-390

Source: Scottish Fiscal Commission, HMRC (2023) Scottish Income Tax Outturn Statistics: 2021 to 2022 (link), Scottish Fiscal Commission (2021) Scotland's Economic and Fiscal Forecasts – January 2021 (link).
Figures may not sum because of rounding.

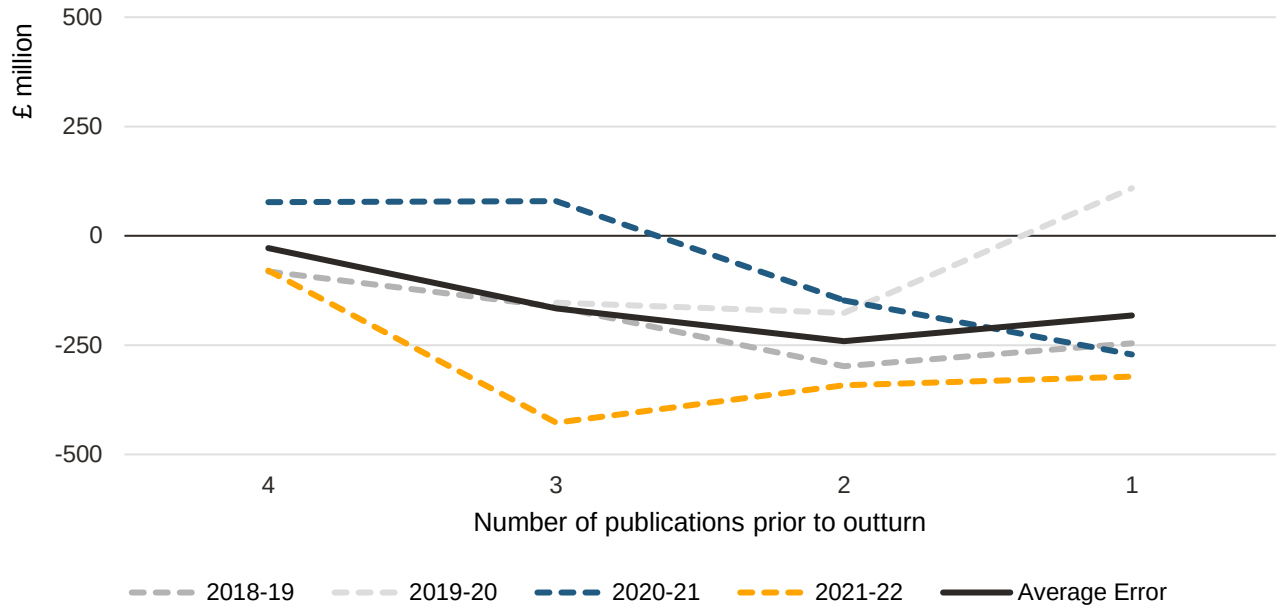
[1] SFC (2021) Scotland's Economic and Fiscal Forecasts – January 2021 (link).See for example paragraph 4.27 for a discussion of uncertainties affecting our income tax forecast.
[2] Scottish Fiscal Commission (2021) Scotland's Economic and Fiscal Forecasts – January 2021 (link), see paragraphs 2.8 and 2.22 to 2.26

Indicative reconciliation estimates

10 Indicative reconciliation estimates are derived ahead of the publication of outturn data by comparing ours and the OBR's latest forecasts. These estimates have been a source of some uncertainty, particularly for the latest 2021-22 outturn data. In Figure 3 we illustrate how these indicative reconciliation estimates have performed over time, by showing the difference between the estimates and the final outturn. The profile of the average error in these estimates is fairly flat, with no clear evidence of worsening or improving estimates over time.

Figure 3: Indicative reconciliation errors by number of publications before outturn is received

No clear evidence of worsening or improving estimates over time



Description of Figure 3: Line chart showing how the error in our indicative reconciliation estimates changes in each publication up until outturn is published. We show this for 2018-19 to 2021-22 and include a line showing the average error.
Source: Scottish Fiscal Commission.

11 Our May 2023 estimate of income tax revenues in 2021-22 and the latest BGA estimate suggested an indicative reconciliation estimate for 2021-22 of -£712 million. However, the provisional outturn reconciliation is in fact -£390 million.

12 The discrepancy mostly comes from the -£337 million difference between our estimate of Scottish income tax revenues and outturn data. This difference is explained by two factors. First, the Pay As You Earn (PAYE) outturn data were stronger than suggested by the PAYE Real Time Information (RTI) data we had used in our updated estimate of income tax revenues in 2021-22. Second, there were higher than expected Scottish income tax revenues at the top end of the income distribution, particularly through SA.

The effect of high earners and Self Assessment on our forecasts

13 Some of the unexpected strong growth in income tax revenues in 2021-22 appears to have been driven by higher and top rate taxpayers, many of whom pay tax via SA. In Annex A of this report, we discuss how the highest earners in Scotland account for a large share of income tax revenues and an even larger share of the variation in growth of income tax revenues over time.

14 The accuracy of our forecasts of growth in tax revenues from top rate taxpayers will clearly have a significant effect on our forecast error. However, the tax revenues paid by this group are highly variable and we have limited means to monitor the liabilities of this group until the outturn data are published.

15 The variation in tax revenue generated by the highest earners is likely to continue to be a source of uncertainty and forecast error. We will continue to work closely with HM Revenue and Customs (HMRC) to improve our understanding of what determines changes in tax revenues of the highest earners.

Economy forecast

16 Our December 2021 GDP forecast error for 2022-23 was relatively small. When we published our forecasts in December 2021, economic growth was mostly driven by the ongoing economic recovery from COVID-19. At that time, the Russian invasion of Ukraine or the subsequent energy price shock in early 2022 could not be factored in. Despite this, Scottish GDP in 2022-23 appears to have remained stable. This stability reflects the effect of the UK Government's energy support schemes and households running down savings.

17 While real or constant-price GDP in 2022-23 was largely flat, the impact of high inflation on the economy was felt in nominal or current price terms, feeding through to higher nominal GDP and earnings.

18 In December 2021, we underestimated employment growth for 2022-23. This is mainly because of the unexpected resilience of the labour market after the end of the furlough scheme. We also underestimated nominal average earnings growth for 2022-23 due to high inflation following the early 2022 inflation shock as well as ongoing tightness in the labour market.

Fully devolved taxes forecast

19 Total revenues from the fully devolved taxes, which includes Non-Domestic Rates (NDR), Land and Buildings Transactions Tax (LBTT) and Scottish Landfill Tax (SLfT), were 2 per cent higher than our December 2021 forecasts for 2022-23. This is mainly because LBTT revenues were higher than we expected.

20 Our NDR forecast was £2,809 million in December 2021. Provisional outturn for 2022-23 of £2,792 million means that our forecast error was £17 million, or 1 per cent. More revenue was lost to appeals than forecast, reducing revenue. Counteracting this, fewer reliefs were claimed than forecast, increasing revenue.

21 In December 2021, we forecast total LBTT revenues of £749 million for 2022-23. With outturn at £848 million, our overall LBTT forecast error was 13 per cent. The majority of the residential LBTT forecast error was a result of higher prices and a larger number of high value property transactions than we had forecast.

22 Our SLfT forecast error was £8 million, or 8 per cent. The largest component of the error was an overestimation of incineration capacity in 2022-23, which meant more waste entered landfill than we expected.

Social security forecast

23 Total spending on devolved social security in 2022-23 was £4,193 million. This is 3 per cent higher than our forecast of £4,065 million. This error has a similar scale and direction as in the last two years. The two biggest factors explaining this error are higher spending on disability payments and in-year policy decisions by the Scottish Government, both of which are recurring themes from previous years.

24 Total spending on the main disability payments, was £116 million (4 per cent) higher than our forecast. The bulk of this error is associated with more people than we had forecast receiving the payments. These recent trends appear to be a UK-wide effect and the OBR forecasts of spending on disability benefits in England and Wales have also increased. This means we expect the higher spending to be broadly matched through higher BGA funding. We have already seen £116 million of in-year reconciliations in 2022-23.[3]

25 It is still too soon for us to fully evaluate our estimates of the effect of the new Scottish disability payments but the evidence so far is in line with our judgements that they will cost more than the Department for Work and Pensions (DWP) payments they are replacing.

26 Since the 2022-23 Scottish Budget was set, the Scottish Government has made several in-year policy changes around child poverty and the cost of living. They implemented the extension of Scottish Child Payment eligibility to older children earlier than we had assumed. We estimate that these decisions increased spending by around £40 million and account for nearly one third of our total error.

27 Spending on the Scottish Child Payment was higher than our forecast but if we account for the in-year decision to increase the weekly rate to £25 and the earlier implementation of eligibility for older children, the underlying position is that the number of children receiving payment was lower than we had forecast, reducing spending by £18 million.

28 We cannot anticipate all in-year Scottish Government policy decisions. The upward trends in receipt of disability payments and lower numbers eligible for Scottish Child Payment had already been identified and acted on in recent forecasts, so the findings in this report do not have major implications for our next forecasts.

[3] Scottish Government (2023) Finance and Public Administration Committee: finance update and Spring Budget Revision 2022 to 2023 guide (link)

Chapter 1
Introduction

Background

1.1 This report provides an evaluation of the Commission's recent forecasts. We publish our forecast evaluation report to:

- provide transparency about our forecasts
- help users to understand the limitations and likely degree of accuracy of our forecasts
- learn lessons to improve our forecasts
- aid understanding of the effect of our forecast errors on the Scottish Budget, including reconciliations

What is forecast error?

1.2 Forecast error is defined as the difference between the outturn and the forecast for a particular variable. Relative forecast error is the forecast error as a fraction of the forecast value.

Definition of forecast error
Error = Outturn - Forecast
Definition of relative forecast error
Relative Error = (Outturn - Forecast) / Forecast

1.3 Forecast errors are inevitable and do not necessarily mean that the forecasting method was flawed. The future cannot be known with certainty and sometimes a sound method can produce a large forecast error because of unexpected changes.

1.4 To help users understand what represents a reasonable forecast error we provide comparisons based on the OBR's forecasting record as they produce forecasts of a similar range of variables.

1.5 Our aim is to reduce our average forecast error by learning lessons from previous forecasts.

1.6 Forecasts can differ from outturn for many reasons, including:

- **Data revisions**: Sometimes, the data on which we base our forecasts are revised, or new data are released that were not previously available. This can change our understanding of historical data and our judgement on future trends.
- **Modelling errors**: We use a large number of models to create our forecasts. These generally rely on identifying trends in historical data and use a combination of the historical patterns and theory to predict how these trends will change over time. Sometimes, we may incorrectly identify historical trends, or misjudge how a trend might change in the future.
- **Unexpected events**: Some events simply cannot be predicted in advance. The most obvious example for this year's report being the Russian invasion of Ukraine.

- **Incorrect judgements**: Forecasting relies on a large number of judgements. This is often done when there is limited evidence on which to base a forecasting decision. There are often events we know will affect our forecasts but for which we have limited information on the exact effects or timing. For example, our forecast error for Scottish Landfill Tax in 2022-23 was in part caused by an incorrect judgement of when new incineration sites would open.

- **Analytical mistakes and human error**: While we see simplicity as an asset in our models, some are necessarily large and complex. For example, our income tax model projects income tax records of thousands of individual taxpayers. With such models some relationships can be incorrectly specified which is analytical error. There can also be coding mistakes and incorrect cell referencing which is human error.

- **Changes in policy:** The Scottish or UK Governments may make changes to policies or funding after we have produced our forecasts. Social security spending in 2022-23 was affected by various Scottish Government decisions announced after our December 2021 forecasts were published. For example, the package of child poverty measures announced in March 2022. We cannot predict government policy in advance.

1.7 Where possible, we have tried to understand which categories have contributed to our forecast errors. However, in many cases, errors will be a result of several overlapping reasons. We may not always be able to disentangle how different factors have contributed to our overall forecast error. Nevertheless, attempting to identify the sources of forecast error is an important first step in making improvements and understanding what actions to take. For example, if we see modelling errors, we work to develop a better model. If the error was because of analytical mistakes, we would review our internal quality assurance processes.

1.8 We also compare some of our errors to measures of our historical performance. In some areas, we don't have a long forecasting record, particularly in social security where several payments are still relatively new and have changed substantially in recent years. For example, the Scottish Child Payment was not fully implemented for children under 16 until the second half of 2022-23.

1.9 Our use of the terms 'average error' and 'average absolute error' are best illustrated by example: a forecast with errors of +1 per cent and -1 per cent over the last two years would have an average error of 0 per cent, but average absolute error of 1 per cent.

1.10 We have published comprehensive forecast performance charts providing the full forecast history of the main forecasts included in this publication compared to the outturn data. We have made these charts available in the Supplementary Tables published on our website to accompany each chapter.

Chapter 2
Economy

Introduction

2.1 In this chapter, we evaluate our December 2021 economy forecast for the year 2022-23. Our December 2021 Gross Domestic Product (GDP) forecast error for 2022-23 was relatively small.

2.2 When we published our forecasts in December 2021, economic growth was mostly driven by the ongoing economic recovery from COVID-19. At that time, the Russian invasion of Ukraine or the subsequent energy price shock in early 2022 could not be factored in. Despite this, Scottish GDP in 2022-23 appears to have remained stable. This stability reflects the effect of the UK Government's energy support schemes and some households running down savings.

2.3 In December 2021, we underestimated employment growth for 2022-23. This is mainly because of the unexpected resilience of the labour market after the end of the furlough scheme. We also underestimated nominal average earnings growth for 2022-23 due to high inflation following the early 2022 inflation shock as well as ongoing tightness in the labour market.

Gross Domestic Product

Headline forecast error

2.4 In December 2021, we forecast GDP growth in Scotland of 2.2 per cent for 2022-23. The latest GDP outturn estimates published on 26 July 2023 show growth of 2.0 per cent for 2022-23, a forecast error of -0.2 percentage points. This is shown in Figure 2.1.

2.5 There have been larger than usual revisions to GDP growth since the pandemic and this uncertainty over the GDP data may continue to for some time.

Figure 2.1: Evaluation of December 2021 forecast of GDP growth in 2022-23

GDP	Per cent [1]
Forecast	2.2
Outturn	2.0
Error	-0.2
Historical average absolute error from HM Treasury and OBR [2]	1.4

Source: Scottish Fiscal Commission (2021) Scotland's Economic and Fiscal Forecasts – December 2021 (link), Scottish Government (2023) GDP Quarterly National Accounts: 2023 Quarter 1 (January-March) (link), OBR (2023) Historical official forecasts database (link).
Figures may not sum because of rounding.
[1] Error is expressed in percentage points.
[2] Average absolute error since 1983, based on calendar-year forecasts. Average absolute error since the creation of the OBR in 2010 is 1.5 percentage points.

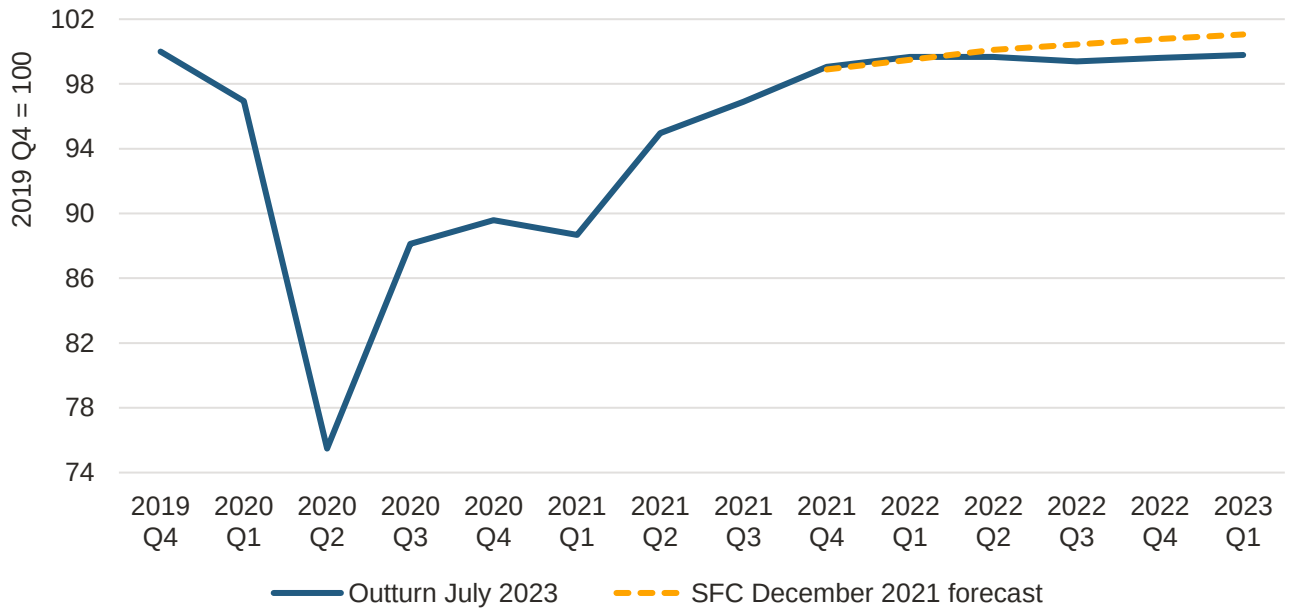
2.6 When we published our forecasts in December 2021, economic growth was mostly driven by the ongoing economic recovery from COVID-19. We expected GDP to regain its pre-pandemic level in the second quarter of 2022 and continue to grow steadily over the rest of 2022-23.

2.7 In early 2022, the economy was faced with a large energy price shock following the Russian invasion of Ukraine. On a real or constant-price basis, the economy in 2022-23 remained stable despite the invasion and narrowly avoided a technical recession. This is because the effect of high inflation was reduced by the UK Government's energy support schemes and because some households used savings to support spending. The impact of high inflation on the economy was mainly felt in nominal or current price terms, leading to higher nominal GDP and earnings.

2.8 Although the level of real GDP in 2022-23 was largely flat, it grew by 2.0 per cent compared to 2021-22 when it was still catching up towards the pre-pandemic 2019 Q4 peak. The latest outturn data show the level of GDP in 2023 Q1 was 0.2 per cent below its pre-pandemic peak.

Figure 2.2: December 2021 GDP index, forecast and outturn

The December 2021 GDP forecast error for 2022-23 was relatively small



Description of Figure 2.2: Line graph showing the December 2021 forecast of Scottish GDP compared to the latest outturn, both indexed so that 2019 Q4 is equal to 100. The December 2021 GDP forecast for 2022-23 was reasonably accurate. Source: Scottish Fiscal Commission (2021) Scotland's Economic and Fiscal Forecasts – December 2021 (link), Scottish Government (2023) GDP Quarterly National Accounts: 2023 Quarter 1 (January-March) (link).

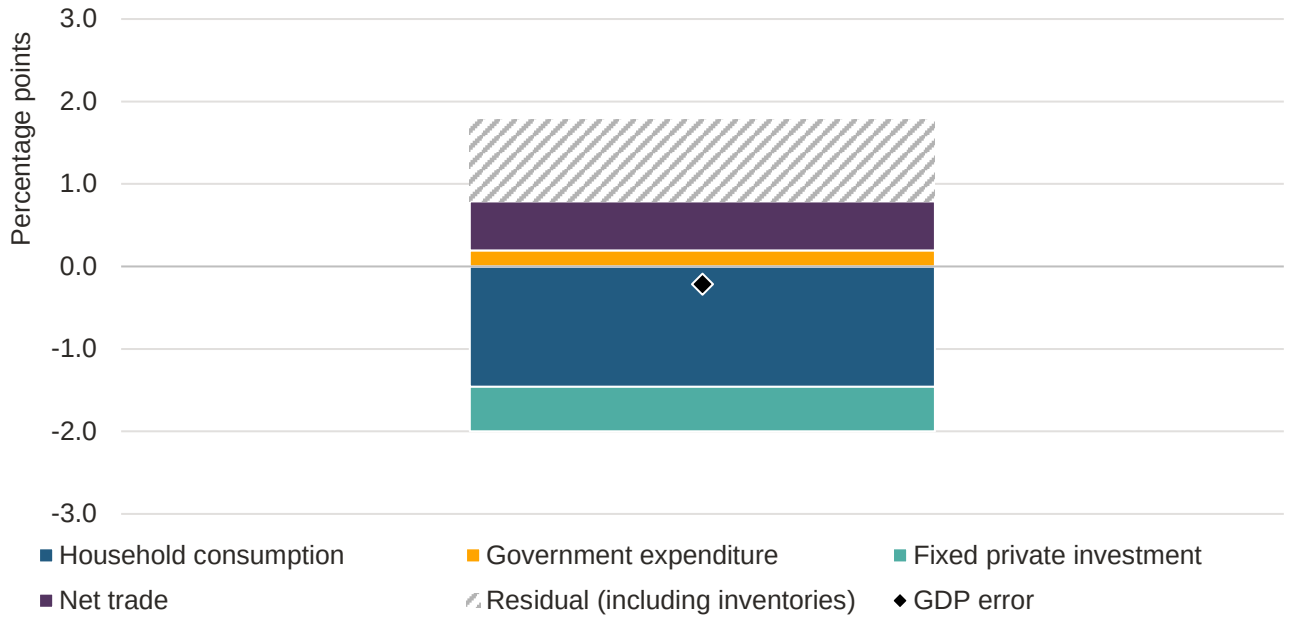
Understanding our forecast error

2.9 Our December 2021 GDP forecast error for 2022-23 by components of expenditure is shown in Figure 2.3. Household consumption made a relatively large negative contribution, but this was broadly offset by positive errors in net trade and in other residual factors including inventories.

2.10 Household and business spending increased in 2022-23 but growth was lower than expected, resulting in forecast errors of -1.5 percentage points for household consumption and -0.5 percentage points for fixed private investment (business and housing). These errors are explained by the rising costs of living and doing business following the early 2022 inflation shock, which had not been factored into our December 2021 forecasts. Our forecast error for net trade of 0.6 percentage points is mainly due to higher growth than expected in exports. In part, this may reflect the easing in global supply chain pressures, especially after the reopening of China's economy in late 2022. The error associated with Government expenditure was 0.2 percentage points.

Figure 2.3: Decomposition of December 2021 GDP forecast error for 2022-23

Overestimate in household consumption offset by underestimates in net trade and other factors



Description of Figure 2.3: Stacked bar chart showing the decomposition of the GDP forecast error. Household consumption has a relatively large negative error, broadly offset by positive errors for net trade and residual factors. Government expenditure and fixed private investment have smaller errors.
Source: Scottish Fiscal Commission (2021) Scotland's Economic and Fiscal Forecasts – December 2021 (link), Scottish Government (2023) GDP Quarterly National Accounts: 2023 Quarter 1 (January-March) (link).

Labour market

Headline forecast error

2.11 The error in our December 2021 forecasts of employment and nominal earnings growth for 2022-23 is shown in Figure 2.4. Employment and earnings are the most important determinants from our economy forecast as they feed into our forecast of Scottish income tax. In Figure 2.4 we also show a comparison to error in the OBR's October 2021 forecasts, as the budget setting income tax Block Grant Adjustment (BGA) for 2022-23 was based on the OBR's October 2021 forecasts.

Figure 2.4: December 2021 forecast error in employment and nominal earnings growth for 2022-23, and comparison with the OBR

Per cent	Determinant	Forecast	Outturn [1]	Error [2]
Scotland: SFC December 2021	Employment (RTI-based)	1.0	2.0	1.0
Scotland: SFC December 2021	Average earnings	2.6	4.0	1.4
Scotland: SFC December 2021	Total earnings	3.6	6.2	2.6
UK: OBR October 2021	Employment (LFS-based)	1.3	0.8	-0.5
UK: OBR October 2021	Average earnings	4.0	5.8	1.8
UK: OBR October 2021	Total earnings	4.8	6.6	1.8

Source: Scottish Fiscal Commission (2021) Scotland's Economic and Fiscal Forecasts – December 2021 (link), Scottish Fiscal Commission (2023) Scotland's Economic and Fiscal Forecasts – May 2023 (link), OBR (2021) Economic and fiscal outlook – October 2021 (link), OBR (2023) Economic and fiscal outlook – March 2023 (link).
Figures may not sum because of rounding.
[1] Outturn data as available at last forecast (SFC May 2023 and OBR March 2023). Average earnings are equal to total earnings divided by employees. Our source of total earnings is the Quarterly National Accounts for Scotland (QNAS). Our measure of employees is based on Real Time Information (RTI); this, together with the self-employment share of total employment from the Annual Population Survey (APS), gives our measure of employment. For 2022-23, the latest estimates from the Scottish Labour Force Survey (LFS) and APS show similar employment growth to our RTI-based measure.
[2] Error is expressed in percentage points.

Understanding forecast error for employment

2.12 As shown in Figure 2.4 we underestimated Scottish employment growth in 2022-23 by 1.0 percentage points, compared to the OBR's overestimate of -0.5 percentage points for UK employment growth. While our and the OBR's employment growth forecasts were similar, the difference between the two errors is due to different outturn data.

2.13 We underestimated the increase in the level of employment from 2021-22 to 2022-23 by around 26,000 people. The decomposition of this underestimate into population, participation, and unemployment is shown in Figure 2.5.

2.14 Unemployment is the main source of error, contributing around half of the total. In December 2021, we were too pessimistic about the outlook for unemployment after furlough ended. At that time, we noted that there were little data available on the post-furlough state of the labour market and that the near-term unemployment outlook was uncertain.

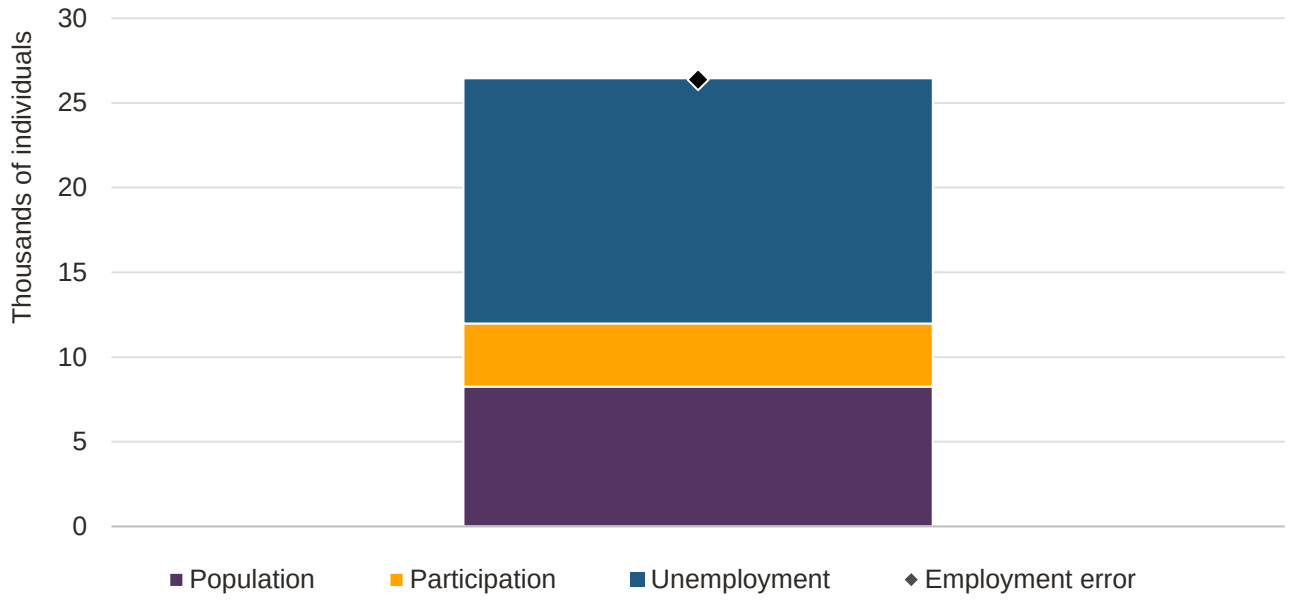
2.15 We took account of early evidence suggesting that the labour market had remained relatively resilient. As a result, we lowered our forecast of the peak in unemployment for the final quarter of 2021. However, we still expected some post-furlough job losses because of business closures, reduced demand, and labour market frictions. Outturn data showed that the predicted rise in

unemployment in the final quarter of 2021 did not materialise, with unemployment falling to a near-record low in 2021 Q4 despite the withdrawal of government support. As a result, our December 2021 forecast of Scotland's unemployment rate was 4.6 per cent for 2021-22 and 4.5 per cent for 2022-23, compared to outturn of 3.9 per cent and 3.2 per cent respectively.[4]

2.16 Around a third of the error in our forecast of the employment level change in 2022-23 is accounted for by our underestimate of population, particularly net international migration. In December 2021, in line with the OBR's October 2021 assumption, we used the Office for National Statistics (ONS) 'zero net EU migration' scenario for 2022-23. Since then, while net migration to the UK from EU countries has been roughly zero, there has been very high migration from the rest of the world.[5] We have reflected this in our latest projections of the Scottish population.[6]

Figure 2.5: Decomposition of December 2021 employment forecast error for 2022-23

Unemployment is the main source of employment forecast error, making up half of the error



Description of Figure 2.5: Stacked bar chart showing the decomposition of the employment forecast error into unemployment, population, and participation. Unemployment and population accounted for around half and one third, respectively, of the error. Source: Scottish Fiscal Commission (2021) Scotland's Economic and Fiscal Forecasts – December 2021 (link), Scottish Fiscal Commission (2023) Scotland's Economic and Fiscal Forecasts – May 2023 (link).

Understanding forecast error for average earnings

2.17 As shown in Figure 2.4 we underestimated Scottish nominal average earnings growth in 2022-23 by 1.4 percentage points. The OBR has a similar underestimate of 1.8 percentage points for the UK.

2.18 Higher inflation is the main reason why Scottish and UK nominal average earnings in 2022-23 grew at a faster rate than we and the OBR had forecast. This reflects workers bargaining for higher wages to compensate for the rising cost of living. The ongoing tightness in the labour market has also contributed to higher nominal average earnings growth than expected.

[4] Office for National Statistics (2023) HI11 Regional labour market: headline indicators for Scotland (link)
[5] ONS (2023) Long-term international migration, provisional: year ending December 2022 (link)
[6] Recent migration estimates from ONS have not included specific estimates for Scotland and the results of Scotland's Census 2022 are not yet available, so the population effect in Figure 2.6 is based on our current projections rather than hard data on Scottish population and migration.

2.19 In December 2021, our Consumer Price Index (CPI) inflation assumption for 2022-23 was 3.7 per cent, in line with OBR's October 2021 inflation forecast for the UK. Following the Russian invasion of Ukraine and the energy price shock, the rate of CPI inflation increased sharply, reaching 10.0 per cent in 2022-23. The underestimate of nominal average earnings growth is much smaller than that of inflation. This is because nominal pay growth did not keep pace with inflation, with real pay falling sharply in 2022-23.

Conclusions

2.20 Our December 2021 forecast of GDP growth for 2022-23 was reasonably accurate. When we published our forecasts in December 2021, economic growth was mostly driven by the ongoing economic recovery from COVID-19. At that time, the Russian invasion of Ukraine or the subsequent energy price shock in early 2022 could not be factored in. Despite this, Scottish GDP in 2022-23 appears to have remained stable. This stability reflects the effect of the UK Government's energy support schemes and some households running down savings.

2.21 While real or constant-price GDP in 2022-23 was largely flat, the impact of high inflation on the economy was felt in nominal or current price terms, feeding through to higher nominal GDP and earnings.

2.22 In December 2021, we underestimated employment growth for 2022-23. This is mainly because of the unexpected resilience of the labour market after the end of the furlough scheme. We also underestimated nominal average earnings growth for 2022-23 due to high inflation following the early 2022 inflation shock as well as ongoing tightness in the labour market.

Chapter 3
Tax

Introduction

3.1 In this chapter we evaluate our January 2021 forecast of Scottish income tax (SIT) for 2021-22. We also evaluate our December 2021 forecasts of Non-Domestic Rates (NDR), Land and Buildings Transactions Tax (LBTT), and Scottish Landfill Tax (SLfT) for 2022-23.

3.2 In Figure 3.1 we compare our forecasts against outturn. Scottish income tax outturn for 2021-22 was £13,724 million which was £1,461 million higher than our forecast of £12,263 million. For the devolved taxes, total revenue was £3,749 million which is £89 million or 2 per cent higher than our £3,659 million forecast.

Figure 3.1: Summary of tax forecast errors

Tax	Forecast (£ million)	Outturn (£ million)	Error (£ million)	Relative Error (per cent)
Income tax	12,263	13,724	1,461	12
Other devolved taxes, of which:	3,659	3,749	89	2
Non-Domestic Rates	2,809	2,792	-17	-1
Land and Building Transaction Tax	749	848	99	13
Scottish Landfill Tax	101	109	8	8

Source: Scottish Fiscal Commission – Scotland's Economic and Fiscal Forecasts (link), HMRC (2023) Scottish Income Tax Outturn Statistics: 2021 to 2022 (link), Scottish Government (2023) Non-domestic rates income statistics (link), Revenue Scotland (2023) Provisional Outturn Data 2022-23 (link).
The outturn figures for Non-Domestic Rates, Land and Buildings Transaction Tax, and Scottish Landfill Tax are provisional and may change once the final audited figures are available.
Figures may not sum because of rounding.

Income tax

3.3 In July 2023 HMRC published Scottish income tax outturn statistics for 2021-22.[7] In this section we evaluate our forecasts of Scottish income tax for 2021-22, in particular the budget setting forecast published in January 2021.[8] We also look in detail at indicative reconciliation estimates, including the one we published in May 2023.[9]

3.4 The tax paid by the highest earners, and particularly those paying tax via Self Assessment (SA), are a significant source of uncertainty and forecast error. We explore this issue in further detail in Annex A. We present our latest estimates of factors contributing to the income tax net position in Annex B.

[7] HMRC (2023) Scottish Income Tax Outturn Statistics: 2021 to 2022 (link)
[8] Scottish Fiscal Commission (2021) Scotland's Economic and Fiscal Forecasts – January 2021 (link)
[9] Scottish Fiscal Commission (2023) Scotland's Economic and Fiscal Forecasts – May 2023 (link)

Headline forecast error

3.5 In Figure 3.2 we compare our January 2021 budget setting forecast of income tax revenues in 2021-22 to the outturn data. When we produced our January 2021 forecast, we had to make a lot of assumptions around the outlook for COVID-19 and its effects on the economy. There was also uncertainty about the labour market data we were using, and the effects of the job support schemes.[10]

Figure 3.2: Headline evaluation – January 2021 Scottish income tax forecast and outturn

Forecast (£ million)	Outturn (£ million)	Error (£ million)	Relative Error (per cent)
12,263	13,724	1,461	12

Source: Scottish Fiscal Commission, Scottish Fiscal Commission (2021) Scotland's Economic and Fiscal Forecasts – January 2021(link), HMRC (2023) Scottish Income Tax Outturn Statistics: 2021 to 2022 (link).
Figures may not sum because of rounding.

3.6 The 2021-22 Scottish Budget was set using our January 2021 income tax forecast of £12,263 million. Compared to our thinking at the time, the lockdown in early 2021 was not as significant as we anticipated, and the Scottish economy was more resilient, with growth in GDP of 14.2 per cent compared to our forecast of 7.5 per cent.[11] In addition, there was an unexpected increase in inflation in 2021-22, further increasing nominal earnings growth compared to our forecasts. These factors led to an underestimate of the amount of income tax collected in 2021-22 by £1,461 million.

Understanding the January 2021 forecast error

3.7 In January 2021 we had income tax outturn data for 2018-19. To forecast the income tax for 2021-22 we used our economy forecasts for earnings and employment for the period 2019-20 to 2021-22. This was the first forecast where we used Real Time Information (RTI) data on Pay As You Earn (PAYE) income tax. In Figure 3.3 we show how our economy forecasts for 2021-22 compare to the outturn economy data that are now available.

Figure 3.3: Growth rates of key economic determinants between 2019-20 and 2021-22, SFC

Determinant	Forecast (per cent)	Outturn (per cent)	Difference (percentage points)
Employment	-3.9	-2.7	1.2
Average earnings	9.0	12.1	3.0
Total earnings (Compensation of Employees)	6.8	8.9	2.1

Source: Scottish Fiscal Commission, Scottish Fiscal Commission (2021) Scotland's Economic and Fiscal Forecasts – January 2021 (link), Scottish Fiscal Commission (2023) Scotland's Economic and Fiscal Forecasts – May 2023 (link).
Figures may not sum because of rounding.

3.8 We forecast employment to fall in 2021-22 largely because of the pandemic and while there was a decrease it was smaller than expected. At the time, we expected the furlough scheme to end on 30 April 2021 but it was subsequently extended until 30 September 2021 which supported employment as the economy re-opened during 2021.

[10] SFC (2021) Scotland's Economic and Fiscal Forecasts – January 2021 (link). See for example paragraph 4.27 for a discussion of uncertainties affecting our income tax forecast.
[11] Scottish Government (2023) GDP Quarterly National Accounts: 2023 Quarter 1 (January to March) (link)

3.9 Outturn data for 2021-22 show average earnings and total earnings growth was higher than we originally forecast. In the first half of 2021-22 average earnings in Scotland were increased by COVID-related factors. Part of this was a compositional effect, as lower paid jobs were lost which had the effect of increasing average pay, and as those who had reduced pay on furlough returned to work at normal pay. In the second half of 2021-22 as the economy picked up, higher inflation, low unemployment and high levels of vacancies put upward pressure on nominal pay.

3.10 In Figure 3.4 we provide a breakdown of our forecast error. We have used the outturn economy figures to re-run our income tax forecast and we estimate that the error in our economy determinants explains £714 million of our income tax forecast error. The remaining forecast error is largely because of an unexpected growth in the number of taxpayers as well as high growth at the top end of the income distribution. As we note in Annex A, a small number of high earners in Scotland pay a large share of income tax revenues and incomes tend to be more variable from year to year for higher earning groups.

Figure 3.4: Disaggregation of 2021-22 Scottish income tax forecast error

Component	£ million
SFC forecast January 2021	12,263
Economic forecast	714
Other [1]	747
HMRC Outturn July 2023	13,724
Total error	1,461

Source: Scottish Fiscal Commission, HMRC (2023) Scottish Income Tax Outturn Statistics: 2021 to 2022 (link), Scottish Fiscal Commission (2021) Scotland's Economic and Fiscal Forecasts – January 2021 (link).
[1] Other includes changes in the distribution of taxpayers as well as high growth at the top end of the income distribution. Figures may not sum because of rounding.

3.11 The distribution of taxpayers in our model is based on 2018-19 outturn data and grown using our economy forecasts from 2019-20 onwards. This has not fully captured changes in the taxpayer distribution which highlights the difficulties of forecasting when there have been a series of economic shocks – the effects of Brexit, the pandemic, and a period of high inflation.

3.12 As shown in Figure 3.5 there was a 5.1 per cent increase in taxpayers in 2021-22 compared to 2020-21. This was unexpected as outturn statistics from HMRC show that the number of taxpayers in Scotland remained steady between 2016-17 and 2020-21.[12] HMRC noted in their accompanying report that fiscal drag has resulted in the increases in the proportion of intermediate, higher, and top rate taxpayers in Scotland.

3.13 There has also been a similar increase in England and Northern Ireland, with the number of taxpayers increasing by 5.2 per cent in 2021-22.[4] This suggests that the reasons for the increase are UK-wide. We are continuing to collaborate with HMRC to understand this better and we will also have a clearer picture once HMRC publish the Survey of Personal Incomes for 2021-22 next year. Annex A discusses how higher and top rate taxpayers can have a very large effect on income tax revenues and why data on these taxpayers are more limited via SA.

[12] HMRC (2023) Scottish income tax outturn statistics: 2021-22 (link)

Figure 3.5: Change in taxpayer numbers between 2020-21 and 2021-22 in HMRC outturn data

Taxpayers	2020-21	2021-22	Difference	Growth (per cent)
Starter rate	246,900	245,700	-1,200	-0.5
Basic rate	1,052,000	1,054,200	2,200	0.2
Intermediate rate	862,200	931,000	68,800	8.0
Higher rate	362,100	418,700	56,600	15.6
Top rate	14,700	18,000	3,300	22.4
All bands	2,537,900	2,667,700	129,800	5.1

Source: Scottish Fiscal Commission, HMRC (2023) Scottish Income Tax Outturn Statistics: 2021 to 2022 (link).
Figures may not sum because of rounding.

Effect on Scottish Budget

3.14 Funding in the 2021-22 Scottish Budget depended in part on our January 2021 forecast of Scottish income tax revenues and the corresponding Block Grant Adjustment (BGA). The BGA was based on the OBR's November 2020 forecast of income tax revenues in the rest of the UK. The OBR noted in paragraph 3.6 of their report "[the] sheer scale of the economic and fiscal shock precipitated by the pandemic means that the central forecasts are subject to much more uncertainty than usual."[13]

3.15 Comparing our forecasts to the BGA, suggested an income tax net position of £475 million, and funding for the Scottish Budget was set based on this value. At the time, we cautioned that the high Budget setting net position of £475 million largely arose because of the significant uncertainty around COVID-19 and its effects on the data and judgements used in our and the OBR's forecasts, as well as issues with the timing of forecasts.[14] We did not expect Scottish tax revenues to perform significantly differently to the UK in 2021-22. We cautioned that a negative reconciliation was likely, suggesting a value of -£300 million if the net position was closer to the lower 2020-21 value.

3.16 Now that we have the outturn data for 2021-22 Scottish income tax revenues and the income tax BGA, we can assess the impact on the Scottish Budget, summarised in Figure 3.6.[15] The provisional net position is now £85 million, less than the £475 million on which the Scottish Budget was set. This leads to a reconciliation of -£390 million which is broadly in line with the value we suggested back in January 2021, given the circumstances.

[13] Office for Budget Responsibility (2020) - Economic and fiscal outlook - November 2020 (link)
[14] Scottish Fiscal Commission (2021) Scotland's Economic and Fiscal Forecasts – January 2021 (link), see paragraphs 2.8 and 2.22 to 2.26
[15] The BGA figure is provisional as the population estimates for 2021 are not yet available on a consistent basis and will be revised once the Scottish Census 2022 results are available (link)

Figure 3.6: 2021-22 Scottish income tax and BGA forecast errors and reconciliation

Source (£ million)	Scottish income tax	BGA	Net position [1]
Budget setting forecast	12,263	-11,788	475
Final outturn	13,724	-13,639	85
Forecast error [1]	1,461	-1,851	-390

Source: Scottish Fiscal Commission, HMRC (2023) Scottish Income Tax Outturn Statistics: 2021 to 2022 (link), Scottish Fiscal Commission (2021) Scotland's Economic and Fiscal Forecasts – January 2021 (link), Office for Budget Responsibility (2020) Economic and fiscal outlook – November 2020 (link).
Figures may not sum because of rounding.
[1] The -£390 million is the reconciliation that can be calculated by either comparing the forecast error or the net position values.

3.17 We can also look at the individual forecast errors in our income tax forecasts and the BGA. The budget setting forecast error was an underestimate of £1,461 million, so funding from income tax revenues should have been that much higher in the 2021-22 Scottish Budget. The income tax BGA was underestimated by £1,851 million, so the downward adjustment to funding for the Scottish Budget related to the income tax BGA should have been higher by £1,851 million. As the forecast errors were both underestimates, they largely offset each other. The net effect of the forecast errors is a negative income tax reconciliation of £390 million.

Indicative reconciliation estimates

3.18 In this section we look at the indicative reconciliation estimates we have published over recent years. We start by looking in detail at our May 2023 forecast and the indicative reconciliation estimate for 2021-22 of -£712 million, compared to the provisional outturn figure of -£390 million.[16] We then look more broadly at the historic pattern of indicative reconciliation estimates and how these have compared to outturn. Finally, we discuss potential alternative approaches to estimating future reconciliations.

May 2023 forecast for 2021-22

3.19 Our May 2023 forecast of income tax in 2021-22 was the final forecast before receiving outturn data in July 2023. There were no changes to the economy forecast, so we only made a small update to our forecast for 2021-22 based on revisions to PAYE RTI data and judgements around SA growth. In Figure 3.7 we show that our forecast was £337 million lower than the outturn figure. This is explained by two factors. First, the PAYE outturn data were higher than suggested by the PAYE RTI data we had used in our forecast. Second, there were higher than expected income tax revenues at the top end of the income distribution, particularly through SA.

3.20 We can attribute £263 million of our forecast error to the difference between our estimate of PAYE growth using RTI and outturn PAYE growth in 2021-22. The remaining £74 million error is largely explained by growth in income tax collected through SA, which grew by an unexpectedly high 20.1 per cent in 2021-22. Income tax paid through SA has increased as a proportion of total Scottish income tax, rising from 12.4 per cent of total revenues in 2020-21 to 13.0 per cent in 2021-22. Annex A discusses these data in further detail.

[16] Scottish Fiscal Commission (2023) Scotland's Economic and Fiscal Forecasts – May 2023, (link)

Figure 3.7: Disaggregation of May 2023 income tax forecast error for 2021-22

Component	£ million
SFC forecast May 2023	13,387
PAYE outturn	263
Other [1]	74
HMRC outturn July 2023	13,724
Total error	337

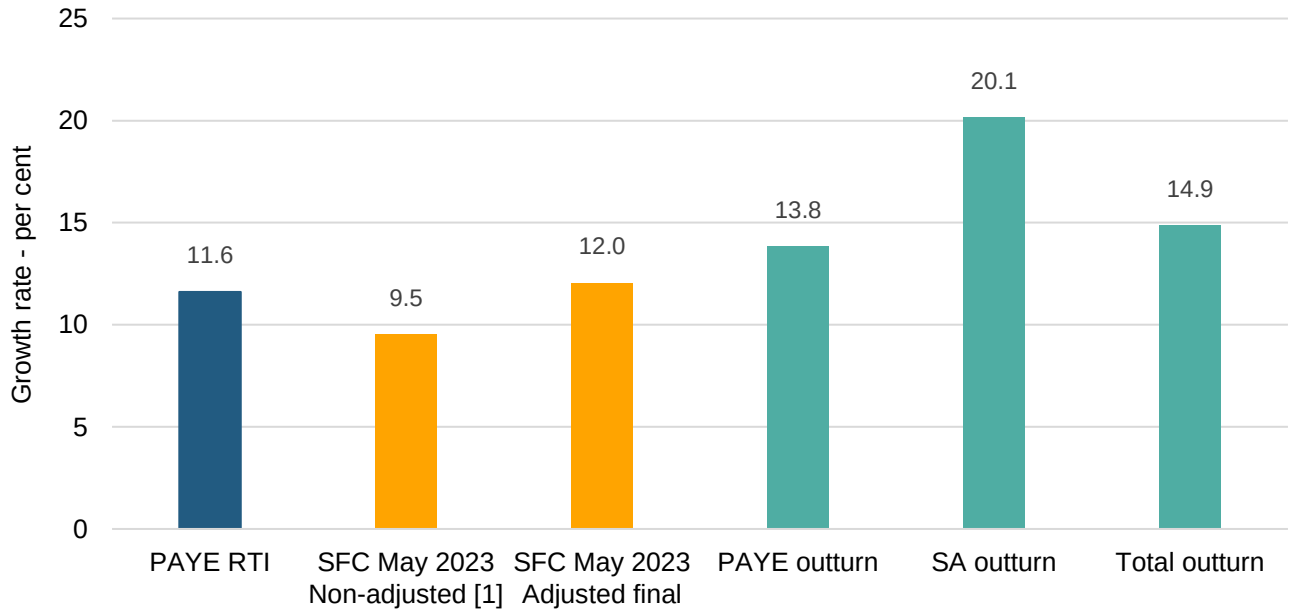
Source: Scottish Fiscal Commission, HMRC (2023) Scottish Income Tax Outturn Statistics: 2021 to 2022. (link), Scottish Fiscal Commission (2023) Scotland's Economic and Fiscal Forecasts – May 2023, (link).
Figures may not sum because of rounding.
[1] Other mainly explained by growth in income tax collected through Self Assessment.

3.21 When making our May 2023 forecast of income tax revenues in 2021-22, we had outturn data for 2020-21. We used complete PAYE RTI data for 2021-22 to align our forecast. We also received some indicative information from HMRC on SA growth for individuals that had filed SA returns up to February 2023. We used these data to adjust our forecast with the most timely data available.

3.22 As shown in Figure 3.8, PAYE RTI data suggested growth in income tax revenues in 2021-22 of 11.6 per cent. After adjustments, we forecast that income tax revenue would grow by 12.0 per cent in 2021-22. Outturn shows growth of 14.9 per cent, which was 2.9 percentage points more than we anticipated. Compared to PAYE RTI growth of 11.6 per cent, outturn data show growth in PAYE of 13.8 per cent.

Figure 3.8: Income tax revenue growth in 2021-22 from RTI, SFC May 2023 forecast and HMRC outturn

Growth in PAYE outturn and Self Assessment outturn is higher than in our May 2023 forecast



Description of Figure 3.8: Bar chart showing forecast and outturn growth rates for income tax revenue in 2021-22.
Source: Scottish Fiscal Commission (2023) Scotland's Economic and Fiscal Forecasts – May 2023 (link), HMRC (2023) Scottish Income Tax Outturn Statistics: 2021 to 2022 (link).
[1] The income tax forecast before we adjust for PAYE RTI data and include judgements on SA.

3.23 As shown in Figure 3.9 there were much higher than expected income tax revenues from top rate taxpayers in line with the unexpectedly high SA growth. Revenues from higher rate and intermediate rate taxpayers were also higher than expected but this was mostly cancelled out by lower revenues from basic rate taxpayers.

Figure 3.9: Change in income tax revenue in 2021-22 from May 2023 forecast to July 2023 outturn, by tax band

Rate (£ million)	May 2023 forecast	July 2023 outturn	Difference
Starter rate	51	46	-5
Basic rate	1,418	1,300	-118
Intermediate rate	3,745	3,801	56
Higher rate	6,005	6,093	88
Top rate	2,169	2,484	315
All bands	13,387	13,724	337

Source: Scottish Fiscal Commission, HMRC (2023) Scottish Income Tax Outturn Statistics: 2021 to 2022 (link).
Figures may not sum because of rounding.

Role of RTI

3.24 In January 2021 we made the decision to align our forecasts to better reflect HMRC's RTI data. We made this change because of the uncertainty from COVID-19 and the demonstrated historic consistency of the RTI tax data with PAYE data.

3.25 The RTI tax data are a monthly snapshot from the HMRC PAYE administration system and does not represent the final tax position of individuals, particularly for those who also or only file a SA tax return. It only reflects the tax residency for each individual when the data are compiled, so some individuals may become, or cease to be, a Scottish taxpayer by the time their liability is determined after the end of the tax year.[17]

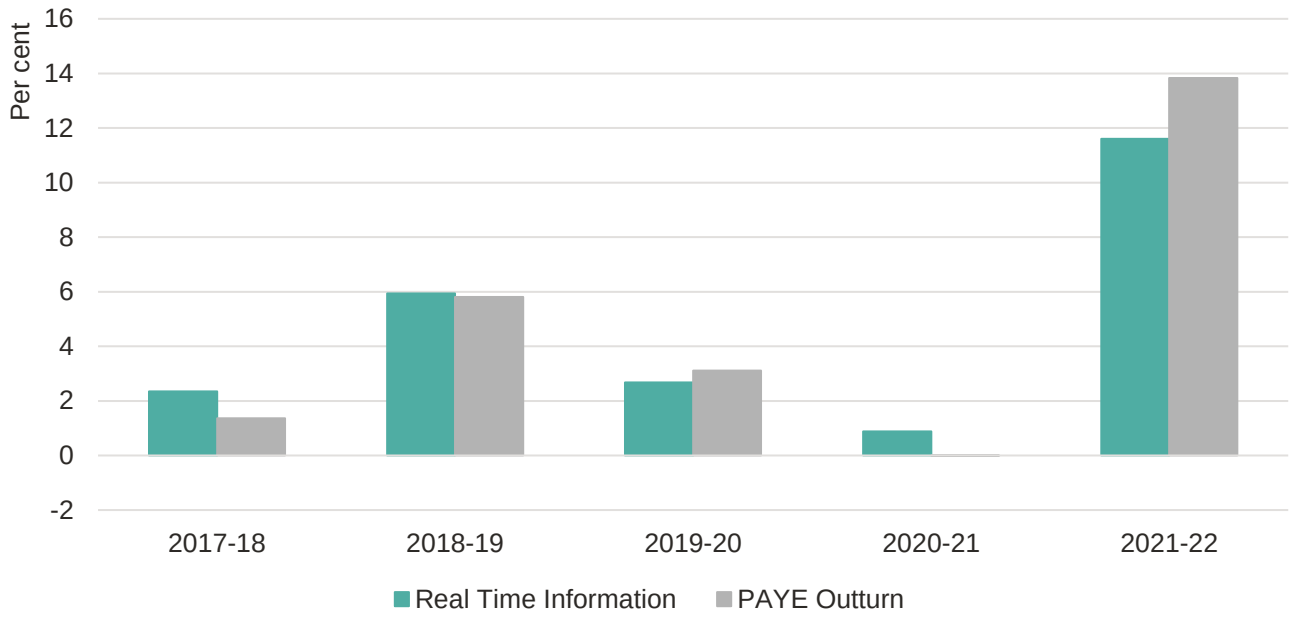
3.26 However, the data are timely and frequent, and we use trends in these data to adjust our forecast. As shown in Figure 3.10 RTI has some predictive power and can be used to improve our forecasts. Despite this, RTI remains an imperfect indicator of the eventual income tax outturn figures. We are working with HMRC to understand why this difference was not captured in RTI.

3.27 For the SA component of growth in income tax, we assume that tax paid via SA grows in line with PAYE. However, in recent forecasts we have used judgement to make further adjustments. We discuss SA and the effect on our forecasts further in Annex A.

[17] Scottish Fiscal commission (2021), Scotland's Economic and Fiscal Forecasts - January 2021 (link)

Figure 3.10: Growth rate of Scottish income tax RTI and Scottish income tax PAYE outturn

RTI has some predictive power but is not a perfect indicator of eventual outturn figure



Description of Figure 3.10: The bar chart shows Scottish Income Tax revenues and Block Grant Adjustments from the Budget setting forecast in January 2021 to the outturn figures in July 2023.
Source: Scottish Fiscal Commission, HMRC Scottish Income Tax Outturn Statistics: 2021 to 2022 (link).

Indicative reconciliation estimate of -£712 million

3.28 In May 2023 we published an indicative reconciliation estimate of -£712 million for 2021-22. Provisional Outturn Data show that for 2021-22 the reconciliation is actually £322 million lower than we and the OBR expected, as shown in Figure 3.11. Most of this difference can be explained by higher than expected Scottish income tax revenues as the BGA forecast was very close to the provisional estimate. The difference between our May forecast of income tax and outturn data is mostly attributable to strong PAYE and SA revenue growth that was not captured in RTI.

Figure 3.11: Scottish income tax outturn and BGA compared to May 2023 forecast

Source (£ million)	May 2023 forecast	July 2023 outturn	Change since May 2023
Revenues	13,387	13,724	337
BGA	-13,624	-13,639	-15
Net position	-237	85	322
Reconciliation	-712	-390	322

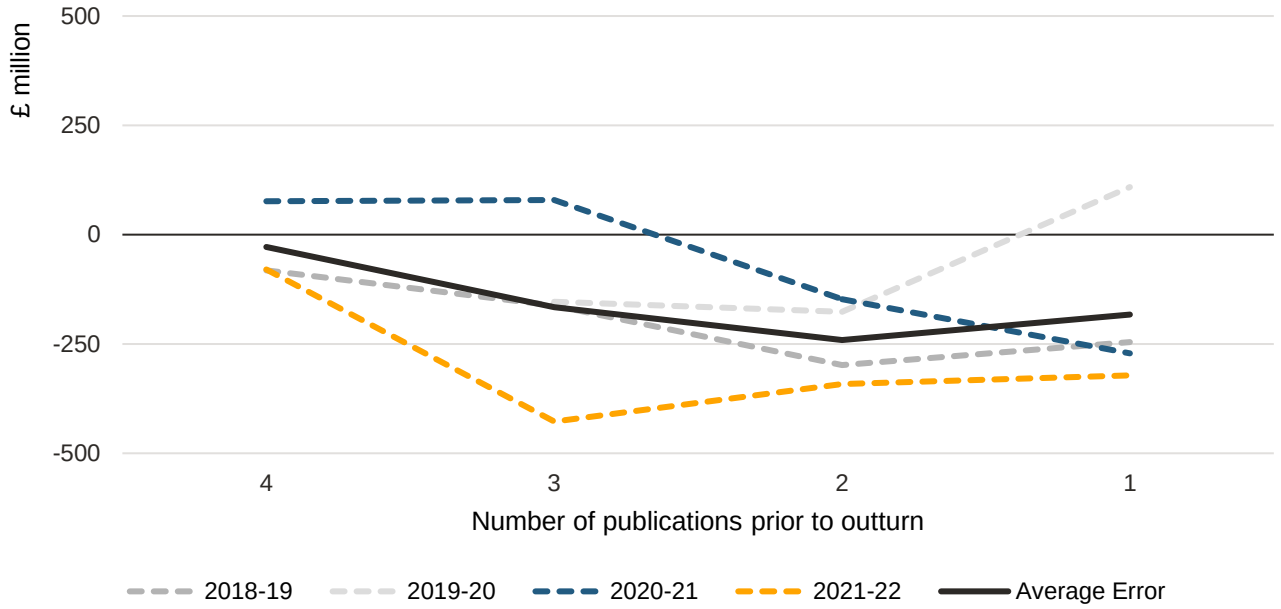
Source: Scottish Fiscal Commission, HMRC (2023) Scottish Income Tax Outturn Statistics: 2021 to 2022 (link), Scottish Fiscal Commission (2023) Scotland's Economic and Fiscal Forecasts – May 2023 (link)

Historic patterns in indicative reconciliation errors

3.29 Indicative reconciliation estimates are derived ahead of the publication of outturn data by comparing ours and the OBR's latest forecasts. In Figure 3.12 we show how these indicative reconciliation estimates have performed over time by showing the difference between the estimates and the final outturn. The profile of the average error in these estimates is fairly flat, with no clear evidence of worsening or improving estimates over time.

Figure 3.12: Indicative reconciliation errors by number of publications before outturn is received

No clear evidence of worsening or improving estimates over time



Description of Figure 3.12: Line chart showing how the error in our indicative reconciliation estimates changes in each publication up until outturn is published. We show this for 2018-19 to 2021-22 and include a line showing the average error. Source: Scottish Fiscal Commission.

Alternative approaches to estimating future reconciliations

3.30 We are exploring alternative approaches to producing and reporting on indicative reconciliation estimates, including an RTI based approach. This would involve taking growth rates for Scotland and the rest of the UK (rUK) calculated from the latest RTI data and applying them to the latest outturn data for Scottish income tax and the BGA, respectively. We estimate that this would have reduced the average error in the previous reconciliation estimates by between 10 and 20 per cent. However, in some cases the error would have been larger. Deriving indicative reconciliation estimates using RTI data may result in small improvements in indicative reconciliation estimates, but the final reconciliation numbers will continue to be a source of uncertainty.

Non-Domestic Rates

3.31 In this section we evaluate our December 2021 forecast of NDR revenue in 2022-23.

Figure 3.13: Headline evaluation – NDR December 2021 forecast for 2022-23

Forecast (£ million)	Provisional Outturn (£ million) [1]	Error (£ million)	Relative Error (per cent)	OBR average absolute error (per cent) [2]
2,809	2,792	-17	-1	3

Source: Scottish Fiscal Commission (2021) Scotland's Economic and Fiscal Forecasts – December 2021 (link), Scottish Government (2023) Non-domestic rates income statistics (link), OBR (2023) Historical official forecasts database (link). Figures may not sum because of rounding.
[1] The outturn figure may change once the final audited figures are available. The average annual difference between provisional outturn and final audited figures between 2010-11 and 2020-21 was £1.8 million.
[2] The OBR average is based on the average percentage forecast error for business rates (forecast one year ahead) over the period 2010-11 to 2019-20. 2020-21 and 2021-22 forecast errors have been omitted because of the effect of the COVID-19 pandemic.

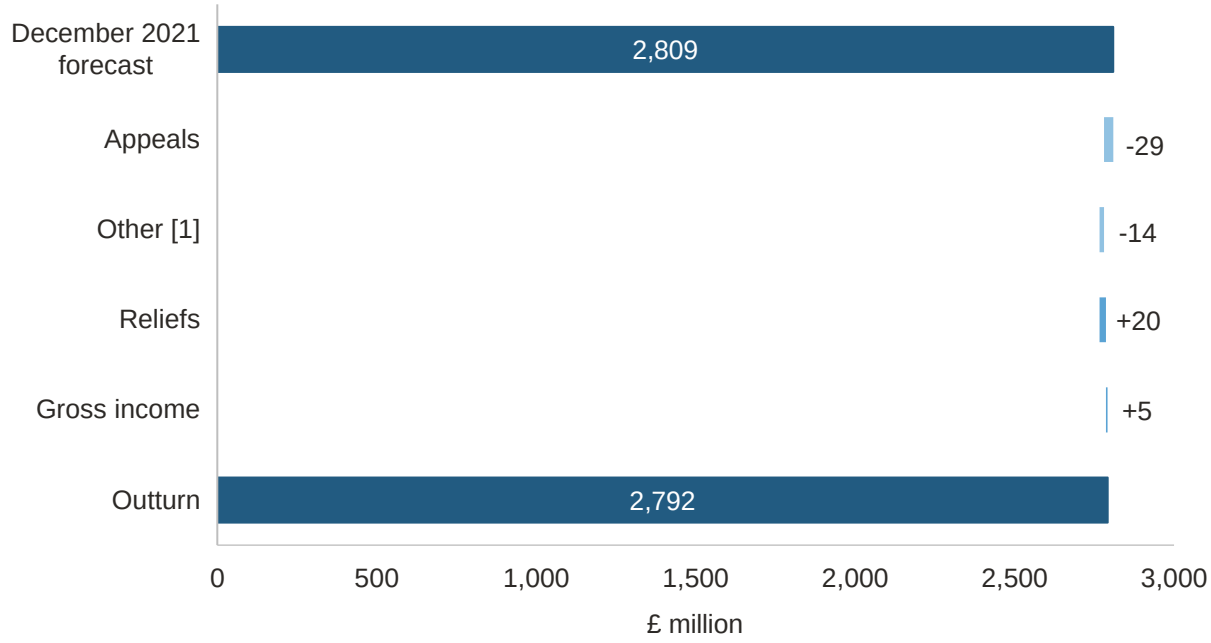
3.32 NDR revenue for 2022-23 was £2,792 million based on provisional data from notified returns, which is 1 per cent lower than our December 2021 forecast of £ 2,809 million. This error is similar to both the average one-year-ahead error of 1 per cent from our previous forecasts and the OBR's average one-year-ahead absolute forecast error of 3 per cent for UK-wide Business Rates.

3.33 The main reason for this forecast error is that more revenue than we expected was lost to successful appeals while less revenue than expected was lost to reliefs claimed.

Understanding our forecast error

Figure 3.14: Decomposition of December 2021 NDR forecast error for 2022-23

The major components are greater appeals losses and fewer reliefs claimed than forecast



Description of Figure 3.14: Decomposition bar chart shows major component of difference between forecast and outturn is that more revenue was lost to appeals than was forecast.
Source: Scottish Fiscal Commission (2021) Scotland's Economic and Fiscal Forecasts – December 2021 (link), Scottish Government (2023) Non-domestic rates income statistics (link).
Figures may not sum because of rounding.
[1] Other error includes written-off rates, late additions and deductions from the roll, and back-dated reliefs among other small adjustments to NDR revenue.

3.34 We published our forecast of NDR revenues for 2022-23 in December 2021[18].

3.35 Since December 2021 we have changed our forecast as data updates on the provisional contributable amount and mid-year estimates became available. We also received new data on appeals losses. The lower revenue than forecast appears to have been partially driven by appeals losses during 2022-23 which were £29 million greater than forecast. Since December 2021 we have changed our assumed appeals loss rate for the 2017 revaluation cycle twice. We increased it from 5 per cent to 6 per cent in May 2022. We then reduced it to 5.5 per cent for the December 2022 and May 2023 forecasts.

[18] Scottish Fiscal Commission (2021) Scotland's Economic and Fiscal Forecasts – December 2021 (link)

Box 3.1: Non-Domestic Rating Account

The SFC forecasts the contributable amount of NDR, which can be thought of as the amount collected by local authorities that flows to the Scottish Government. The contributable amount is pooled at a national level before being redistributed by the Scottish Government as part of the local government finance settlement. The amount of NDR income redistributed to local authorities is known as the distributable amount.

In December 2021, we provided an illustrative projection of the balance of the Non-Domestic Rating Account in 2022-23 of -£128 million. This was based on our forecast of the contributable amount, and the distributable amount set by the Scottish Government for the 2022-23 budget. The difference between our projection and the final balance of the rating account is shown in Figure 3.15. The provisional balance is based on the most recent figures.

Figure 3.15: Provisional balance of the Non-Domestic Rating Account in 2022-23

Component (£ million)	SFC illustrative projection	Provisional outturn	Difference
Provisional contributable amount (A)	2,809	2,829	20
Net effect of prior year adjustments (B)	21	54	33
Distributable amount (C)	2,766	2,766	0
Annual balance (D) = (A + B - C)	64	117	53
Cumulative balance (E) = (E from year before + D)	-128	-83	45

Source: Scottish Fiscal Commission (2021) Scotland's Economic and Fiscal Forecasts – December 2021 (link), Scottish Government (2021) Scottish Budget 2022-23 (link), Scottish Government (2023) Non-domestic rates income statistics (link).
Figures may not sum because of rounding.

The balance of the rating account is affected by several factors. Contributions are determined by local authorities' own estimates of collections for the year ahead, which are submitted to the Scottish Government shortly after the start of the financial year. The net effect of prior year adjustments (B) is determined by the difference between the provisional contributable amount and the final audited NDR figures from the previous financial year. The distributable amount (C) is set at each Scottish Budget and is unchanged. Differences between the provisional contributable amount and final audited outturn in 2022-23 are carried forward as prior year adjustments into 2023-24.

In the provisional outturn for 2022-23 the cumulative balance is -£83 million, compared to our projection of -£128 million. This reduction in the cumulative balance deficit is a result of the provisional contributable amount for 2022-23 being larger than forecast and the net effect of prior year adjustments for 2021-22 also being larger than expected.

Conclusion

3.36 Our NDR forecast had a reasonably low overall forecast error. We have identified the main sources of these errors in our estimates of appeals losses and relief claims.

3.37 Our appeals loss assumption has increased for the 2017 revaluation cycle which should adjust for that source of forecast error. However, the appeals process has changed for the 2023 appeals cycle and a new valuation roll was published on 1 April 2023. This is likely to lead to further changes in our methods and assumptions.

Land and Buildings Transaction Tax

3.38 This section evaluates our December 2021 forecast of LBTT revenue in 2022-23 using Provisional Outturn Data from Revenue Scotland. We forecast three components of LBTT: residential LBTT, Additional Dwelling Supplement (ADS), and non-residential LBTT.

Figure 3.16: Headline evaluation – December 2021 forecast of 2022-23 LBTT revenues

Tax	Forecast (£ million)	Outturn (£ million)	Error (£ million)	Relative Error (per cent)
Residential LBTT	390	465	75	19
Additional Dwelling Supplement	133	163	30	22
Non-Residential LBTT	226	220	-6	-3
Total	749	848	99	13
OBR Average Relative Absolute Error (one-year-ahead)				10

Source: Scottish Fiscal Commission (2021) Scotland's Economic and Fiscal Forecasts – December 2021 (link), Revenue Scotland (2023) Provisional Outturn Data 2022-23, Revenue Scotland (2023) LBTT Forecasting Data – June 2023 – SFC (link), Office for Budget Responsibility (2023) Historical official forecast database (link). LBTT revenue is net of ADS repayments, excludes penalties and interest, and also excludes revenue losses.
Figures may not sum because of rounding. The OBR average is based on the average one-year-ahead forecast error for property transaction taxes (SDLT, LBTT, LTT, ATED) over the period 2011-12 to 2021-22.

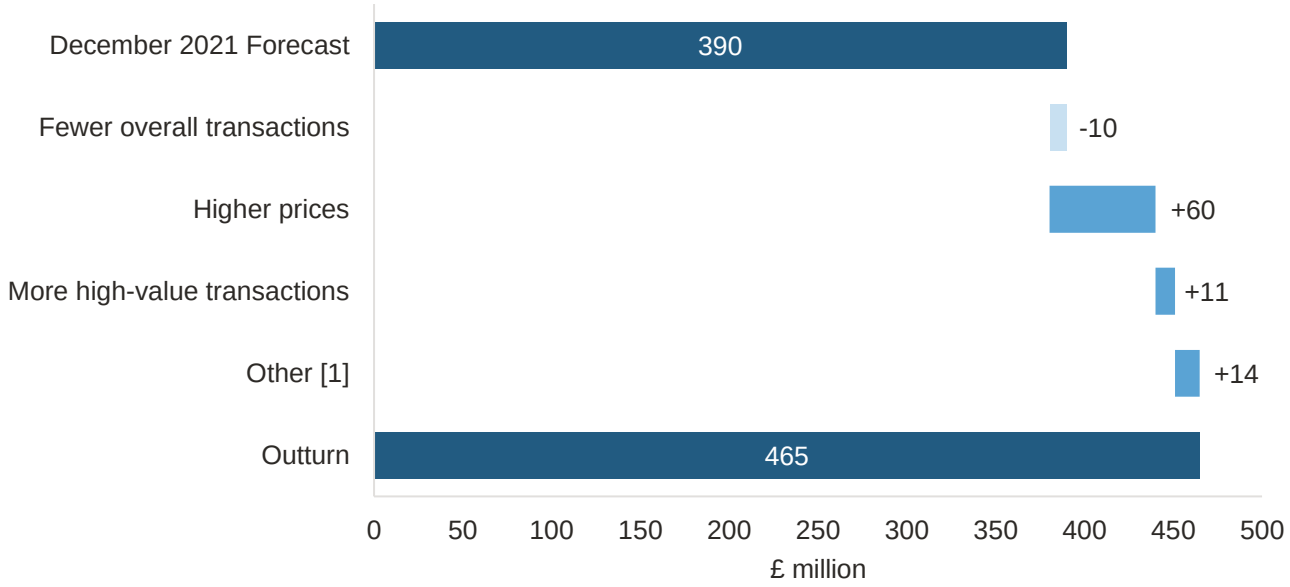
3.39 We forecast total LBTT revenues of £749 million for 2022-23 in December 2021. With outturn at £848 million, our overall forecast error was 13 per cent. The relative forecast errors for residential LBTT and ADS revenues are 19 per cent and 22 per cent, respectively. The relative forecast error for non-residential revenue is -3 per cent.

Residential LBTT

3.40 Our forecast error for residential LBTT was £75 million, giving a relative forecast error of 19 per cent. In Figure 3.17 we present a decomposition of this forecast error.

Figure 3.17: Decomposition of December 2021 residential LBTT forecast error for 2022-23

Average house price growth and the number of high-value transactions higher than forecast



Description of Figure 3.17: Decomposition bar chart shows major component of difference between forecast and outturn is that the average house price was higher than forecast.
Source: Scottish Fiscal Commission (2021) Scotland's Economic and Fiscal Forecasts – December 2021 (link), Revenue Scotland (2023) Provisional Outturn Data 2022-23, Revenue Scotland (2023) LBTT Forecasting Data – June 2023 – SFC (link).
[1] Other includes error in forecast of residential relief and residual error.

3.41 We estimate that £60 million of our forecast error can be attributed to house prices rising by more than expected as shown in Figure 3.17. As shown in Figure 3.18 we had forecast the average Scottish house price growth would be 2.7 per cent in 2022-23 as we expected housing market demand to ease. However, outturn house price growth was 7.1 per cent in 2022-23.

Figure 3.18: Annual percentage growth in average house price, Scotland, 2020-21 to 2022-23

Series	2020-21	2021-22	2022-23
Forecast	6.7	0.3	2.7
Outturn	6.7	4.0	7.1

Sources: Scottish Fiscal Commission (2021) Scotland's Economic and Fiscal Forecasts – December 2021 (link), Registers of Scotland (2023) Property Market Report 2022-23 (link).

3.42 Residential LBTT is a progressive tax and revenue is affected by the proportion of transactions within each tax band. As shown in Figure 3.17 there is an £11 million error associated with more high-value transactions taking place than anticipated. In December 2021, we expected that 10 per cent of transactions would be for properties sold for over £325,000. Outturn data show this figure was 17 per cent. Further detail on the residential market distribution can be found in Figure 3.19.

3.43 In Figure 3.17, the remaining £14 million of "Other" error is explained by error in our forecast of residential reliefs and residual error.

Figure 3.19: Distribution of residential property transactions by LBTT band, Scotland, 2022-23

Property price	Marginal tax rate within band (per cent)	Forecast transactions	Outturn transactions	Forecast transaction share (per cent)	Outturn transaction share (per cent)
£0-145k	0	48,600	37,500	46	37
£145-250k	2	36,300	33,000	34	32
£250-325k	5	11,400	14,200	11	14
£325-750k	10	9,700	16,800	9	16
£750k+	12	700	1,200	1	1
Total		106,700	102,600	100	100

Source: Scottish Fiscal Commission (2021) Scotland's Economic and Fiscal Forecasts – December 2021 (link), Revenue Scotland (2023) LBTT Forecasting Data – June 2023 – SFC (link), Revenue Scotland (2023) Provisional Outturn Data 2022-23.
Figures rounded to nearest 100. Figures may not sum because of rounding.

Additional Dwelling Supplement

3.44 Our forecast error for ADS was £30 million, giving a relative forecast error of 22 per cent. Despite sharing the same determinants as residential LBTT in our model, ADS revenues can change at a different rate to residential LBTT revenues. This is because the distribution of transactions that pay ADS is different to residential LBTT. as buyers' motivations may differ (for instance, buy-to-let or holiday homes rather than intending to live in the new property as a main residence).

3.45 There are two components in our ADS forecast: gross ADS and repayments. A buyer can reclaim ADS if they sell their previous main residence within 18 months. The difference between these figures gives our published net ADS forecast.

Figure 3.20: Components of December 2021 ADS forecast error, Scotland, 2022-23

Component	Forecast (£ million)	Outturn (£ million)	Error (£ million)	Relative error (per cent)
Gross ADS	185	211	26	14
ADS repayments	52	48	-4	-7
Net ADS	133	163	30	22

Source: Scottish Fiscal Commission (2021) Scotland's Economic and Fiscal Forecasts – December 2021 (link), Revenue Scotland (2023) Provisional Outturn Data 2022-23, Revenue Scotland (2023) LBTT Forecasting Data – June 2023 – SFC (link).

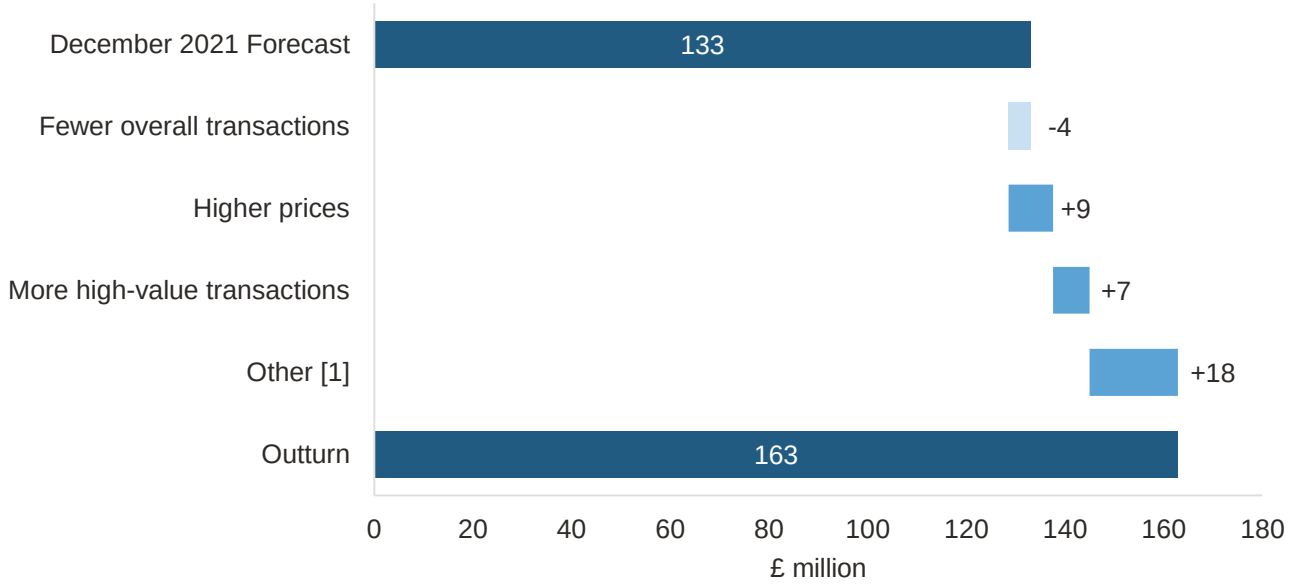
3.46 As shown in Figure 3.21 £18 million of our forecast error is attributed to "Other". We believe this is largely explained by a policy change introduced during 2022-23 which was unanticipated at the time of our December 2021 forecasts. In December 2022, the Scottish Government announced that the rate of ADS would increase from 4 per cent to 6 per cent with immediate effect. As part of our May 2023 publication, we had estimated that this would increase ADS revenues in 2022-23 by £12 million.[19] Outturn does not show how much this policy change has affected revenues, but we believe it explains most of the "Other" error.

[19] Scottish Fiscal Commission (2023) Scotland's Economic and Fiscal Forecasts – May 2023 (link)

3.47 We estimate that £9 million of our forecast error can be attributed to average house prices rising by more than expected and an additional £7 million error explained by a larger number of high-value transactions. An overestimate of the total number of transactions accounted for negative £4 million of the error.

Figure 3.21: Decomposition of December 2021 residential ADS forecast error for 2022-23

ADS revenue forecast error is mostly explained by the increase in ADS rate in December 2022



Description of Figure 3.21: Decomposition bar chart shows major component of difference between forecast and outturn is the increase in the ADS rate in December 2022 which is included in other error.
Source: Scottish Fiscal Commission (2021) Scotland's Economic and Fiscal Forecasts – December 2021 (link), Revenue Scotland (2023) Provisional Outturn Data 2022-23, Revenue Scotland (2023) LBTT Forecasting Data – June 2023 – SFC (link).
[1] Other error includes error from ADS policy change as well as residual error.

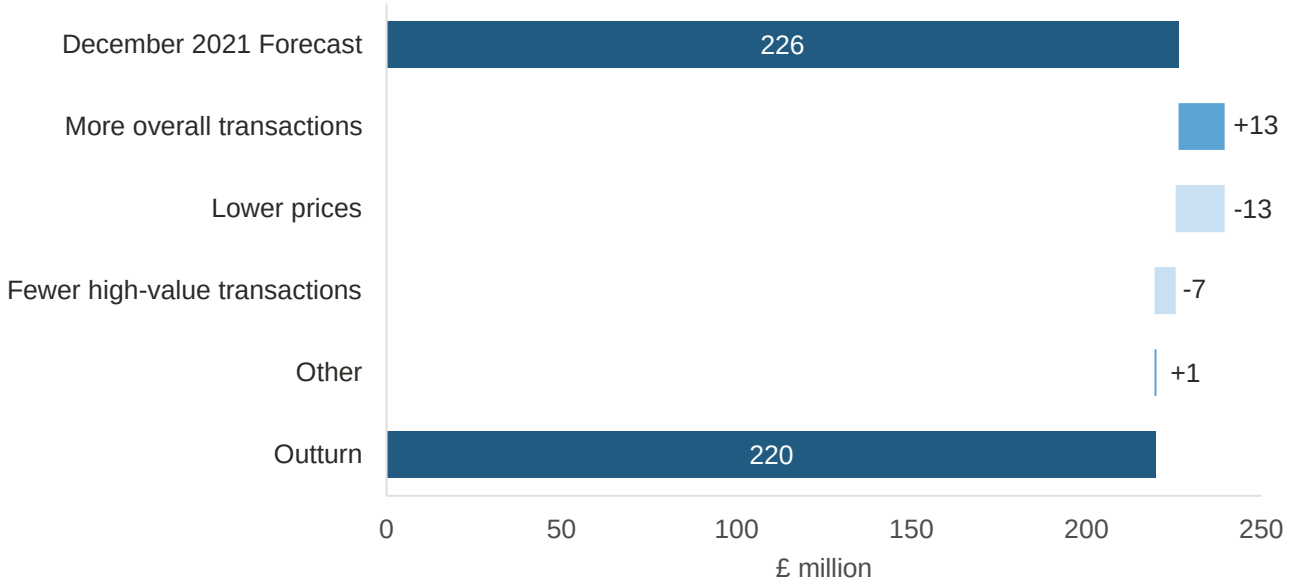
Non-Residential LBTT

3.48 Our forecast error for non-residential LBTT was negative £6 million, giving a relative forecast error of -3 per cent. In Figure 3.22 we present a decomposition of the forecast error.

3.49 Compared to our forecast of just over 6,500 non-residential transactions in 2022-23, outturn data suggest there were more than 7,000. This explains the positive £13 million error attributable to higher-than-expected overall transactions volume shown in Figure 3.22. On the other hand, we had forecast more high-value transactions than was observed in 2022-23, explaining the negative £7 million error presented in Figure 3.22. Historically, 1 per cent of transactions accounted for 28 per cent of non-residential LBTT revenue, meaning total tax revenue is sensitive to a small number of high value transactions.

Figure 3.22: Decomposition of December 2021 non-residential LBTT forecast error for 2022-23

Errors from more overall transactions and lower than expected price growth offset one another



Description of Figure 3.22: Decomposition bar chart shows major component of difference between forecast and outturn is that the number of high-value transactions was lower than forecast.
Source: Scottish Fiscal Commission (2021) Scotland's Economic and Fiscal Forecasts – December 2021 (link), Revenue Scotland (2023) Provisional Outturn Data 2022-23, Revenue Scotland (2023) LBTT Forecasting Data – June 2023 – SFC (link).

Conclusion

3.50 Our overall forecast of LBTT revenue for 2022-23 was £749 million and outturn revenue was £848 million, which gives an overall relative forecast error of 13 per cent.

3.51 The largest source of error was residential house prices which increased much more than we expected. At the time of our forecast, we had seen a large increase in house prices continue into 2021-22. We were expecting the housing market to start easing, causing price growth to slow. We continue to monitor the monthly data to determine whether this level of market activity will continue or whether it will slow or decline in response to changing economic conditions. We are particularly interested in this now that interest rates have risen to their highest levels since 2008.

3.52 One factor that has made forecasting LBTT more difficult is our approach of using 2019-20 as the base year for residential LBTT and ADS, and a base year for non-residential LBTT reflecting an average of the financial years 2018-19, 2019-20 and 2020-21. The market has changed substantially since then, and this is not reflected in our choice of base year. As of our December 2022 forecast publication, we have rebased our forecasts to 2021-22.

Scottish Landfill Tax

3.53 In Figure 3.23 we compare the 2022-23 provisional outturn data for SLfT with our December 2021 forecast for 2022-23.

Figure 3.23: Headline evaluation – December 2021 forecast of 2022-23 SLfT revenues

Forecast (£ million)	Provisional Outturn [1] (£ million)	Error (£ million)	Relative Error (per cent)	OBR average absolute error [2] (per cent)
101	109	8	8	8

Source: Scottish Fiscal Commission (2021) Scotland's Economic and Fiscal Forecasts – December 2021 (link), Revenue Scotland (2023) Provisional Outturn Data 2022-23 (link), OBR (2023) Historical official forecast database (link).
Figures may not sum because of rounding.
[1] The outturn figure may change once the final audited figures are available.
[2] The OBR average is calculated over the period 2011-12 to 2022-23.

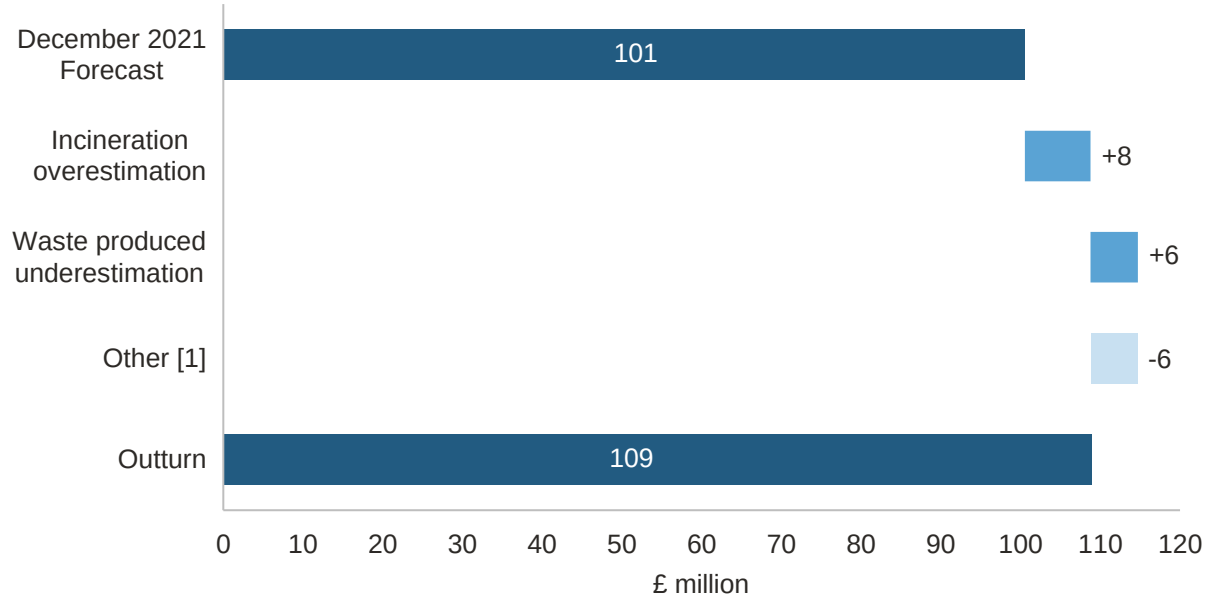
3.54 Provisional SLfT outturn revenue for 2022-23 was £109 million which is 8 per cent higher than the £101 million we forecast in December 2021. Our forecast error is similar to the OBR's average relative absolute one-year-ahead forecast error of 8 per cent for all UK landfill taxes.

Understanding our forecast error

3.55 The main sources of error in our December 2021 forecast of SLfT revenue for 2022-23 are shown in Figure 3.24. The main reasons were our overestimation of the amount of waste that would be incinerated and underestimation how much waste would increase from our base year.

Figure 3.24: Decomposition of the December 2021 SLfT forecast error for 2022-23

Largest source of forecast error came from overestimating incineration



Description of Figure 3.24: Decomposition bar chart shows major component of difference between forecast and outturn is more revenue was made as there was less incineration capacity and more waste produced than was forecast.
Source: Scottish Fiscal Commission (2021) Scotland's Economic and Fiscal Forecasts – December 2021 (link), Revenue Scotland (2023) Provisional Outturn Data 2022-23 (link).
[1] Other error is made up of error from SLCF adjustments, off model adjustments to account for differences in provisional and outturn revenues as well as residual error.

3.56 We overestimated incineration capacity in 2022-23 meaning an additional 80,000 tonnes of waste was landfilled and not burnt. While our overall forecast error is smaller than last year, our incineration error is larger. This error can mostly be explained with the new Energy from Waste (EfW) sites becoming operational later than we expected.

3.57 Over the years we have been observing SLfT, there is a tendency for incineration sites to come into service later than scheduled. Our forecast for incineration capacity is vulnerable to error as it is difficult to predict when new EfW facilities will begin operating and whether established incineration sites will run at full capacity throughout the year. We monitor the construction of new EfW sites and the capacity of existing EfW sites to mitigate this error.

3.58 We underestimated how much waste would be produced in Scotland leading to an error of £6 million for 2022-23. Usually, this figure is calculated by using our in-year forecast as a base and then using economic determinants to forecast future waste production in Scotland. In our December 2021 SLfT forecast for 2022-23, we did not include the 2021-22 in-year forecast that was available at the time as we did not expect the high amount of waste produced in 2021-22 to continue in future years. Instead, we used 2020-21 as a base. This expectation was partly correct; although the full amount of the increase in waste in 2021-22 did not continue into 2022-23, a portion did, leading to forecast error.

3.59 Our “Other” category error is also larger than in our previous Forecast Evaluation Report. This error consists of two adjustments and residual error. One adjustment is for the Scottish Landfill Community Fund (SLCF), and the other is for differences between provisional and final outturn. It is important to note that outturn figures are accounting figures. Therefore, this year’s figures could include the results of tribunals and relate to previous years. This means final outturn figures can change as can this component of the overall forecast error.

Conclusion

3.60 Our December 2021 forecast error is mainly a result of overestimating how much waste would be incinerated in 2022-23. This has been a common error with our SLfT forecast. We are aware that forecasting incineration capacity is difficult and will review current methods of forecasting this element of SLfT.

3.61 In our December 2021 forecast, we did not use our 2021-22 in-year forecast as a base for subsequent years. This meant our forecast has a smaller error than it otherwise would have had. Despite this, we still underestimated the amount of overall waste that would be produced in Scotland in 2022-23.

3.62 The remaining error can be attributed to our off-model adjustments. Once we receive finalised figures for SLfT revenue in 2022-23, we will reassess how useful these adjustments are in forecasting SLfT.

Chapter 4
Social security

Introduction

4.1 This is the fifth evaluation of our social security forecasts and compares provisional outturn spending in 2022-23 against the December 2021 forecasts which informed the 2022-23 Scottish Budget.

4.2 Our forecasts cover 'devolved social security expenditure' as defined in the Scottish Fiscal Commission Act. This includes nearly all of the payments run by Social Security Scotland or administered on their behalf by the Department for Work and Pensions (DWP), some payments made by local authorities, and spending on the Fair Start Scotland employability service.

4.3 For payments administered by local authorities our forecasts only include spending by the Scottish Government. We do not include funding for administration, or additional spending on these payments by councils above what they receive from the Scottish Government.

4.4 We do not forecast Young Carer Grant, which falls below our materiality threshold, or Job Start Payment, which is outside the definition of 'devolved social security' set out in legislation.

4.5 The social security outturn figures quoted in this report are provisional and may change when Social Security Scotland publish their audited Annual Report and Accounts.[20]

4.6 Total spending on devolved social security in 2022-23 was £4.2 billion. This is 3 per cent higher than our forecast of £4.1 billion. This is a similar scale of error as in the last two years. The two biggest factors this year are higher spending on disability payments and in-year decisions by the Scottish Government, both of which are recurring themes from previous years.

4.7 The forecast, outturn and error for each of the devolved social security payments that we cover are shown in Figure 4.1, with three sub-totals covering:

- The benefits funded through Block Grant Adjustments (BGAs), where spending was £111 million (3 per cent) higher than forecast. The forecast error here is mainly associated with trends seen across the UK and is mirrored by similar changes in the OBR forecasts for England and Wales, and by higher BGA funding.
- The other payments administered by Social Security Scotland, where spending was £20 million (7 per cent) higher than forecast, mainly because of the child poverty measures and uprating decisions announced by the Scottish Government in March 2022.
- Other devolved social security spending, mainly administered by local authorities, where spending was £3 million (2 per cent) lower than forecast, with the dominant effect being changes to the eligibility criteria and payment amount for Self-Isolation Support Grant (SISG).

[20] Last year there was a relatively large reduction of around £70 million between the provisional and audited figures and we published an updated evaluation, but we do not expect significant changes this year.

Figure 4.1: Summary of December 2021 social security forecast errors for 2022-23

Benefit	Forecast (£ million)	Outturn (£ million)	Error (£ million)	Relative Error (per cent)
Payments funded by Block Grant Adjustments, of which:	3,626	3,737	111	3
Adult Disability Payment [1]	1,948	2,027	78	4
Child Disability Payment [2]	265	292	27	10
Disability Living Allowance (Adult) [3]	445	446	2	0
Attendance Allowance	545	554	9	2
Carer's Allowance	315	314	-1	0
Industrial Injuries Disablement Scheme	81	78	-3	-3
Severe Disablement Allowance	6	6	0	-4
Winter Heating Payment	21	20	-1	-6
Other Social Security Scotland payments, of which:	286	306	20	7
Scottish Child Payment	197	213	16	8
Best Start Foods	13	13	0	-4
Best Start Grant	18	21	3	16
Funeral Support Payment	12	10	-2	-18
Carer's Allowance Supplement	42	44	2	5
Child Winter Heating Assistance	4	6	2	41
Other devolved social security, of which:	154	150	-3	-2
Discretionary Housing Payments	79	81	2	2
Scottish Welfare Fund	36	38	3	7
Fair Start Scotland	24	24	0	1
Self-Isolation Support Grant	15	8	-7	-49
Total Social Security	4,065	4,193	127	3

Source: Scottish Fiscal Commission (2021) Scotland's Economic and Fiscal Forecasts – December 2021 (link), Scottish Government, Social Security Scotland.
Outturn figures are provisional and may change when Social Security Scotland publish their audited accounts.
Figures may not sum because of rounding.
[1] Adult Disability Payment figures include Personal Independence Payment.
[2] Child Disability Payment figures include our estimate of spending on children still receiving Disability Living Allowance.
[3] Disability Living Allowance (Adult) figures are based on our estimated split of DLA spending between children and adults.

Understanding our forecast error

What did we know and assume in our December 2021 forecasts?

4.8 When we finalised our December 2021 forecasts, we had monthly financial data for most payments up to October 2021. Statistical data were available up to late 2021 for Social Security Scotland payments and Personal Independence Payment but only to spring 2021 for the other disability and carer payments still administered by DWP.

Uprating

4.9 At the time of the 2022-23 Scottish Budget, the Scottish Government did not intend to uprate payments where there was no statutory duty to do so, except for Child Winter Heating Assistance which was due to increase by 5 per cent. The Scottish Government had also confirmed that the April 2022 uprating of most payments with a statutory requirement would be in line with September 2021 Consumer Price Index (CPI) inflation of 3.1 per cent.

Scottish Child Payment changes

4.10 The new Scottish Child Payment had been paid at £10 per week for children under six since February 2021. Our forecasts included the doubling to £20 per week from April 2022, and assumed that eligibility would be extended to children over six from December 2022, with the uprating that would normally take place in April 2023 brought forward to happen at the same time. Under forecast inflation of 3.9 per cent for Q3 of 2022 this would have increased the payment amount to £20.80. We judged that the doubling of the payment value would be likely to lead both eligibility and take-up to increase and that the changes to the Universal Credit taper rate and Work Allowances announced in the October 2021 UK Autumn Statement would further increase eligibility.

New disability payments

4.11 Child Disability Payment had just had its national launch in November 2021, and Adult Disability Payment was assumed to launch nationally in summer 2022, following a pilot from March 2022. Our forecasts included costings of additional spending for Child Disability Payment and Adult Disability Payment above what would otherwise be spent on Personal Independence Payment and Disability Living Allowance. The data issues that we raised in our Statement of Data Needs last year were not an issue for the forecasts we are evaluating here.[21]

The COVID-19 pandemic

4.12 Our forecasts were finalised before the emergence of the Omicron variant and assumed that after April 2022 the success of the vaccination programme would allow the pandemic to start to be managed through guidance and voluntary measures, with minimal restrictions on activity and no lockdowns. We assumed that the SISG would be available until October 2022, in line with the timing of the Coronavirus (Discretionary Compensation for Self-isolation) Bill.

Economy and labour market

4.13 The furlough scheme had recently closed at the end of September 2021. Unemployment was forecast to rise to nearly 5 per cent in the final quarter of 2021, then to start to drift back down, averaging 4.5 per cent in 2022-23. CPI inflation was expected to average 3.7 per cent over the year.

[21] Scottish Fiscal Commission (2022) Statement of Data Needs – August 2022 (link)

Population

4.14 Our population forecasts started from the estimates for mid-2020 and assumed very low levels of international migration over the pandemic period, followed by low migration based on the '0 per cent EU' scenario, consistent with the OBR's view of the UK Government's new migration policy announced earlier in 2021.

How did policy, the economy and the pandemic differ from our assumptions?

Scottish Government policy changes

4.15 There were several changes to social security policy which were announced after our forecasts were completed. We estimate these changes added nearly £40 million to spending in 2022-23.[22]

4.16 In March 2022, the Scottish Government announced that several payments would be uprated by 6 per cent from April 2022 in response to cost of living pressures.[23] This added a total of £3 million to spending on Best Start Grant, Funeral Support Payment, Carer's Allowance Supplement and Child Winter Heating Assistance.

4.17 In March 2022, the Scottish Government announced several new measures as part of its plans for tackling child poverty:[24]

- A further increase of Scottish Child Payment to £25 per week which was implemented from November 2022. We estimate this cost £17 million more than would have been spent if the payment had been uprated in line with inflation.
- Automation of Early Learning and School Age Best Start Grant payments, also implemented in November 2022. We estimate this cost £4 million.
- A new commitment to Benefit Cap mitigation which added £1 million to Scottish Government spending on Discretionary Housing Payments.[25]

4.18 In September 2022 the Programme for Government included a commitment on local authority support for energy bills. This was implemented as an additional £5 million of funding for local authorities, split equally between Discretionary Housing Payments and the Scottish Welfare Fund.[26]

4.19 In September 2022 the Scottish Government published the legislation extending Scottish Child Payment eligibility to children over six and announced that this would take effect from 14 November 2022.[27] This was in line with the stated policy commitment to implement the extension by the end of 2022, but was around two weeks earlier than we had assumed. We estimate that this led to an additional £10 million of spending covering eligibility in late November.

[22] This figure does not include in-year changes to the operation and value of the Self-Isolation Support Grant.
[23] Scottish Government (2022) Increase in social security benefits (link)
[24] Scottish Government (2022) Best Start, Bright Futures: tackling child poverty delivery plan 2022-2026 (link)
[25] This is the amount of additional funding provided to local authorities by the Scottish Government to cover Benefit Cap mitigation in the final quarter of 2022-23. Total spending on Benefit Cap mitigation in 2022-23 was around £2.5 million.
[26] Scottish Government (2022) A stronger and more resilient Scotland: the Programme for Government 2022 to 2023 (link)
[27] This legislation also implemented the Best Start Grant automation and the increase of the Scottish Child Payment weekly amount to £25 that had been announced in March.

4.20 Both the UK and Scottish Governments changed the residency requirements for access to some social security benefits to ensure people arriving under the Ukraine visa schemes could quickly access support. When they were first announced we thought these measures were unlikely to lead to a material increase in spending, but in light of the large number of arrivals in Scotland under the Ukraine visa schemes, it is possible that they have contributed materially to our forecast error.

4.21 There were also some small changes during the year to the details of eligibility criteria for Winter Heating Payment, Child Winter Heating Assistance, Best Start Foods, Best Start Grant and Scottish Child Payment. We do not think these changes have had a material effect on spending.

The economy and labour market

4.22 Earnings growth has been higher than forecast. Unemployment has fallen to very low levels and did not increase in late 2021. These factors are likely to have contributed to the continued fall in estimated eligibility for Scottish Child Payment.

4.23 Economic inactivity because of ill health has been rising across the UK, as have the numbers of applications for disability payments.

4.24 Inflation has been much higher than forecast. This has not directly affected social security payments this year, as the bulk of spending was on benefits which were uprated in line with the September 2021 CPI inflation figure of 3.1 per cent, which was known at the time of the Budget. The September 2022 CPI inflation rate of 10.1 per cent would have led to a higher rate for Scottish Child Payment in late 2022-23 but was superseded by the decision to increase the weekly amount to £25. The higher cost of living has indirectly contributed to higher social security spending through the Scottish Government's decision to uprate some payments by 6 per cent. This may be one of the drivers of higher UK-wide applications for disability payments.

Population

4.25 Scottish population estimates for mid-2021 and UK level statistics up to the end of 2022 suggest international migration since mid-2020 has been high. The judgement that there would be very low net migration from EU countries was correct, but migration from the rest of the world was higher, including from Ukraine. Visa data suggest a relatively large proportion of Ukrainians entering the UK have come to Scotland. The results of Scotland's Census 2022 are due to be released later this year and may give a different view, but in our latest projections Scotland's population in 2022 was around 40,000 higher than we expected in our December 2021 forecasts, with higher migration partly offset by higher mortality.

The COVID-19 pandemic

4.26 The Omicron variant of COVID-19 was declared a variant of concern in late November 2021, just after we had closed our forecasts. The spread of Omicron led to very high rates of infection and spending on the SISG over winter 2021-22. In 2022-23 infection rates and public health guidance were broadly in line with our December 2021 assumptions and higher spending on the SISG was limited to spring 2022. From May 2022 spending was lower than forecast because of the reduction in the payment value and the phasing out of the Test and Trace programme.

4.27 In Figure 4.2 we summarise how reality has compared to our December 2021 judgements and assumptions.

Figure 4.2: Summary of assumptions and outcomes for 2022-23

Area	View in December 2021	Outcome in 2022-23
Uprating	Payments without statutory uprating requirement to be fixed at 2021-22 rates, except Child Winter Heating Assistance. Main disability and carer payments to be uprated by 3.1 per cent.	Scottish Government announced in March that several payments would be uprated by 6 per cent. Main disability and carer payments uprated by 3.1 per cent as expected.
Scottish Child Payment changes	Payment to be doubled to £20 per week from April 2022, which we judged would increase both eligibility and take-up. Eligibility to be extended to older children from December 2022, with uprating to £20.80 per week at the same time.	Take-up rate for children under six does appear to have increased. Eligibility has been lower than we expected, and we do not see clear evidence that the higher amount led to more children being eligible. Extension to older children was implemented from mid-November 2022 and weekly amount increased to £25.
Unemployment	Unemployment was expected to rise following the end of furlough, and to average 4.5 per cent in 2022-23.	Unemployment has fallen since 2021 and averaged 3.2 per cent in 2022-23.
Earnings growth	Average earnings growth for 2022-23 was forecast to be 2.6 per cent.	Actual earnings growth was 4.0 per cent.
Inflation	CPI inflation was forecast to average 3.7 per cent over 2022-23	CPI inflation averaged 10 per cent over 2022-23.
Population and migration	Net annual international migration to Scotland was assumed to be around 4,000, in line with '0 per cent EU' scenario. Mortality was assumed to return to the level of the principal ONS assumptions in 2022-23.	Scottish migration figures are not yet available beyond 2021, but at UK level migration is now known to have been high, and a large share of arrivals under the Ukraine visa schemes have come to Scotland. Mortality remained high through 2022-23, particularly over Christmas and New Year.
COVID-19 pandemic	Vaccine programmes would allow restrictions to be phased out, and Self-Isolation Support Grant (SISG) would end in October 2022.	The Omicron variant did lead to higher spending on SISG in spring 2022, but restrictions were moved to a voluntary basis from May 2023. SISG was kept until January 2023, but with a reduced value and limited eligibility from May 2023.
Disability payments	Adult Disability Payment assumed to launch in summer 2022 after a pilot in March, and to be accompanied by a 'spike' in applications.	ADP was piloted from March 2022 and launched nationally in August 2022. The number of applications in Scotland does appear to have increased more than in the rest of the UK, which is consistent with our expectations.

Source: Scottish Fiscal Commission.

4.28 The Russian invasion of Ukraine and some changes in UK Government policies were not included in our December 2021 forecast. Some of their effects are captured in the table above but are worth also considering separately.

Consequences of the invasion of Ukraine

4.29 While we cannot determine the precise effect the consequences of the invasion of Ukraine may have had on devolved social security spending, there are three main routes through which some increase in spending could have arisen:

- Higher energy prices were a major driver of inflation in 2022 and may have led more people to apply for some forms of social security support.
- The Scottish Government's response to this higher cost of living, including the 6 per cent uprating of devolved payments and additional funding for Discretionary Housing Payments and the Scottish Welfare Fund.
- The Ukraine visa scheme and the associated easements of social security residence criteria may have led to higher caseloads for some payments.

UK Government policy changes

4.30 During 2022-23 changes to National Insurance were announced in the March 2022 Spring Statement and the 2022 Growth Plan. The threshold from which employees pay National Insurance was increased to match the income tax personal allowance in July. The 1.25 percentage point increase in the National Insurance rate which had been introduced in April 2022 was reversed from November 2022. These changes will have slightly reduced the number of families receiving Universal Credit, reducing eligibility for Scottish Child Payment and other low-income payments, but they are unlikely to have had a material effect on spending in 2022-23.

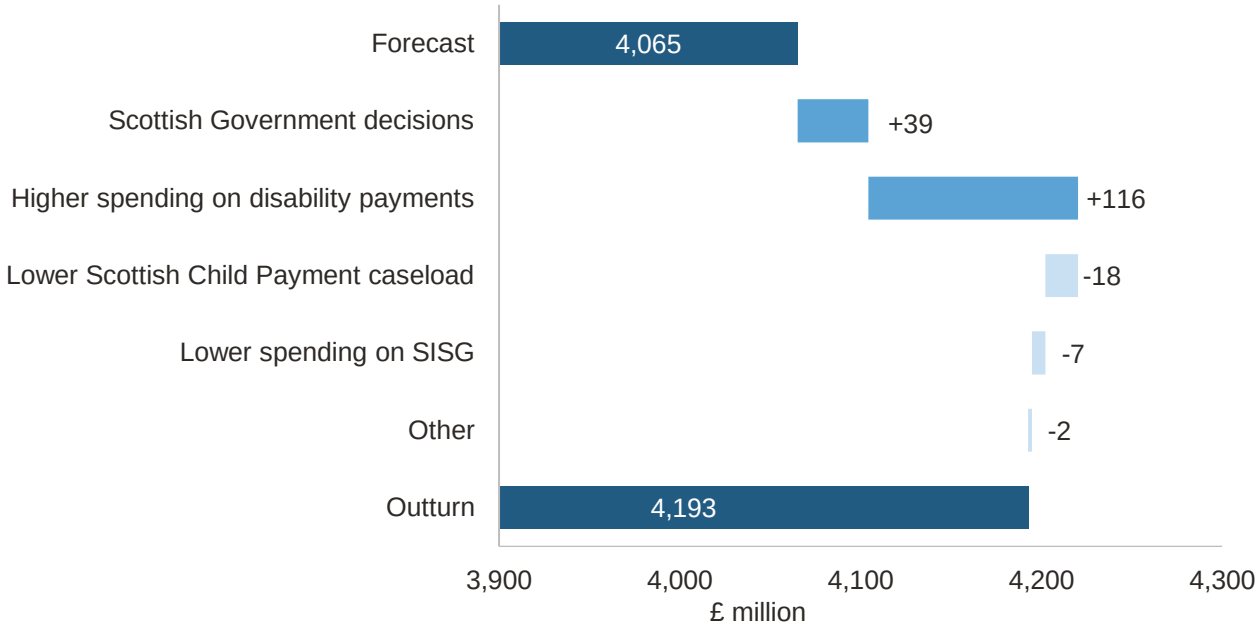
4.31 The UK Government also announced various Cost of Living Payments in response to rising energy bills following the invasion of Ukraine. These did not directly affect devolved Scottish social security, but they may have put some upward pressure on applications for disability payments, and on eligibility for devolved low-income payments.

Breakdown of the resulting forecast error

4.32 The major sources contributing to the total error of £127 million in our forecast of 2022-23 social security spending are shown in Figure 4.3.

Figure 4.3: Decomposition of social security forecast error for 2022-23

Error was mainly due to higher spending on disability payments and in-year Scottish Government decisions



Description of Figure 4.3: Chart illustrating how social security forecast error is explained by Scottish Government decisions and higher spending on disability payments, offset by lower Scottish Child Payment caseload and lower spending on SISG. Source: Scottish Fiscal Commission (2021) Scotland's Economic and Fiscal Forecasts – December 2021 (link), Scottish Government, Social Security Scotland.

Scottish Government decisions

4.33 The in-year child poverty and cost of living measures, and the slightly earlier implementation date than we had assumed for the extension of Scottish Child Payment increased spending by £39 million, accounting for around a third of the total forecast error.

Higher spending on disability payments

4.34 Total spending on the main disability payments, Adult Disability Payment, Personal Independence Payment, Child Disability Payment, Disability Living Allowance and Attendance Allowance was £116 million (4 per cent) higher than our forecast.

4.35 Most of this error is associated with higher caseloads than we had forecast. As we discussed in our May 2023 SEFF report, this appears to be a UK-wide effect, with similar increases in applications also seen in England and Wales and similar changes made to OBR forecasts. Where Scottish trends are similar to what is happening in England and Wales, higher spending will tend to be matched by higher BGA funding.

4.36 The evidence so far is in line with our judgement that Adult Disability Payment would be accompanied by a 'spike' in applications, but it is still too soon to fully assess whether the effects of the new Child Disability Payment and Adult Disability Payment are in line with our policy costings, and this is made more difficult by these UK trends.

Lower Scottish Child Payment caseload

4.37 Spending on Scottish Child Payment was higher than we had forecast, but this is because of the increase to £25 per week and the earlier implementation data for the expansion to children over six. Without these changes spending would have been £18 million lower than our forecast because the number of children receiving payment was lower.

4.38 The lower caseload is mainly because the number of children we estimate to have been eligible has fallen since 2021 and is lower than we had assumed, for both children under six and the newly eligible group aged six to fifteen. There are several factors contributing to this:

- The economy has performed better than forecast, with unemployment falling since late 2021, and higher earnings growth.
- We judged that the doubling of the payment amount to £20 per week would increase eligibility by encouraging families to apply for, or remain on, Universal Credit. We do not see strong evidence that this has happened.
- We expected a significant increase because of the late 2021 changes to Universal Credit tapering and work allowances. This effect appears to be smaller than we had estimated.

4.39 Our latest view of the take-up rate for children under six is over 90 per cent. This is higher than our original assumption of 82 per cent and partly offsets the lower eligibility. There are several factors which could be driving this difference:

- A general increase in take-up over time, driven by rising awareness of Scottish Child Payment, and new applications for the 2022-23 School Age Payment.
- A response to cost of living pressures.
- The response to the doubling of the rate to £20 may have been larger than we had assumed.
- The expansion to older children and increase to £25 may have encouraged some additional take-up for younger children.
- The ongoing fall in eligibility may in the short term be associated with a higher take-up rate, if eligibility is falling among groups who were previously receiving Universal Credit or Tax Credits but not claiming Scottish Child Payment.

4.40 For children over six, who became eligible from 14 November 2022, the take-up rate for the period from mid-November to March appears to be around 70 per cent, lower than our December 2021 forecast of 75 per cent. This is the Commission's own estimate based on averaging the spending since mid-November out over the period that the payment was available to children over six. This implies an average of around 290,000 children of all ages were paid in relation to eligibility over this period. Official statistics report that the caseload had reached 303,000 by March 2023 so it is likely that the take-up rate was higher by the end of 2022-23.[28,29]

[28] Social Security Scotland (2023) Scottish Child Payment: high level statistics to 31 March 2023 (link)

[29] We expect the Scottish Government will produce the next in their planned annual series of take-up estimates in the autumn.

Lower spending on Self-Isolation Support Grant

4.41 Spending on the SISG was £7 million lower than our forecast, with higher spending in the spring because of the Omicron variant offset by the phasing out of the Test and Trace programme and the reduction of the grant value from £500 to £225.

Comparison against OBR forecasts and BGA funding

4.42 The OBR will report on their forecast accuracy later in the year. Comparison of their October 2021 forecasts against the DWP Annual Report and Accounts suggests that their forecast error for disability and carer payments had a similar scale and direction as our December 2021 forecasts, due to higher caseloads for disability payments for both children and adults.

4.43 This means that the higher spending on these payments in Scotland is likely to be broadly matched by reconciliations to the corresponding BGA funding. Final BGAs and reconciliations for 2022-23 are not yet available, but funding for 2022-23 has already been increased by £116 million through in-year reconciliations based on the OBR's November 2022 forecasts.[30]

Performance of our later forecasts

4.44 Since December 2021 we have produced three further forecasts. At each of these we have had more data and policy information. All three of these later forecasts had errors of less than 0.5 per cent. Our May 2022 forecasts included costings for the March 2022 uprating and child poverty announcements, and significant increases to our forecast for Adult Disability Payment. We did not fully reflect the trends in disability payments for children until our May 2023 forecast.

Figure 4.4: Performance of later social security forecasts for 2022-23

Forecast	Forecast (£ million)	Error (£ million)	Relative Error (per cent)
December 2021	4,065	127	3.1
May 2022	4,173	19	0.5
December 2022	4,187	6	0.1
May 2023	4,208	-16	-0.4

Source: Scottish Fiscal Commission – Scotland's Economic and Fiscal Forecasts (link).

Conclusions

4.45 Around one third of the forecast error came from decisions announced by the Scottish Government after the Budget. We cannot pre-judge policy changes or implementation dates, so there are no direct lessons for our forecast methodology from these errors, though we will keep our baseline assumptions on uprating under review.

4.46 Our recent forecasts already include responses to most of the other factors seen in this chapter. We have increased our forecasts for Adult Disability Payment and Child Disability Payment to account for rising demand. We have also reduced our forecasts of children eligible for Scottish Child Payment.

[30] Scottish Government (2023) Finance and Public Administration Committee: finance update and Spring Budget Revision 2022 to 2023 guide (link)

4.47 It is still too early to make a detailed assessment of the effect of the introduction of Child Disability Payment or Adult Disability Payment, but the evidence so far is broadly in line with our judgements that they will lead to additional spending over and above what would have been spent on the payments they replace. We will continue to work with Social Security Scotland to ensure we have the necessary data and keep these assumptions under review as we work on our next forecasts to support the 2024-25 Scottish Budget.

Annex A: High income taxpayers and Self Assessment

A.1 As has been highlighted in recent forecasts and in the income tax section of this report, higher earners, particularly those paying tax via Self Assessment (SA), are a significant source of forecast uncertainty and error.[31] This is largely due to three interrelated points.

- A small number of high earners in Scotland pay a large share of income tax revenues.
- Incomes tend to be more variable from year to year for higher earning groups, increasing the difficulty of accurately forecasting the tax revenues paid by this group.
- Many higher earners and anybody earning over £100,000 per year will submit an SA return. Because of the timing of SA, we have the least timely data to monitor and understand what is happening with this group.

A.2 In this annex we discuss the relationship between higher earnings and growth in total tax revenue. We then look at how we information is gathered on higher earnings via SA. We then conclude by discussing how this affects our forecasts and likely forecast errors.

High earners and tax revenues

A.3 As shown in Figure A.1, a relatively small number of higher and top rate taxpayers account for a large share of total income tax revenues paid. The accuracy of our forecasts of the tax paid by these individuals will have a major effect on our forecast error.

Figure A.1: Number of taxpayers and tax revenues by band in Scotland

Small number of higher and top rate taxpayers pay a large share of tax revenues

Tax band	Number of taxpayers (thousands)	Proportion of all taxpayers (per cent)	Tax revenues (£ million)	Proportion of all tax revenues (per cent)
Starter	246	9.2	46	0.3
Basic	1,054	39.5	1,300	9.5
Intermediate	931	34.9	3,801	27.7
Higher	419	15.7	6,093	44.4
Top	18	0.7	2,484	18.1
Total	2,668		13,724	

Source: Scottish Fiscal Commission, HMRC (2023) Scottish Income Tax Outturn Statistics: 2021 to 2022 (link)
Figures may not sum because of rounding.
Taxpayers are classified to a band by their highest marginal rate paid.

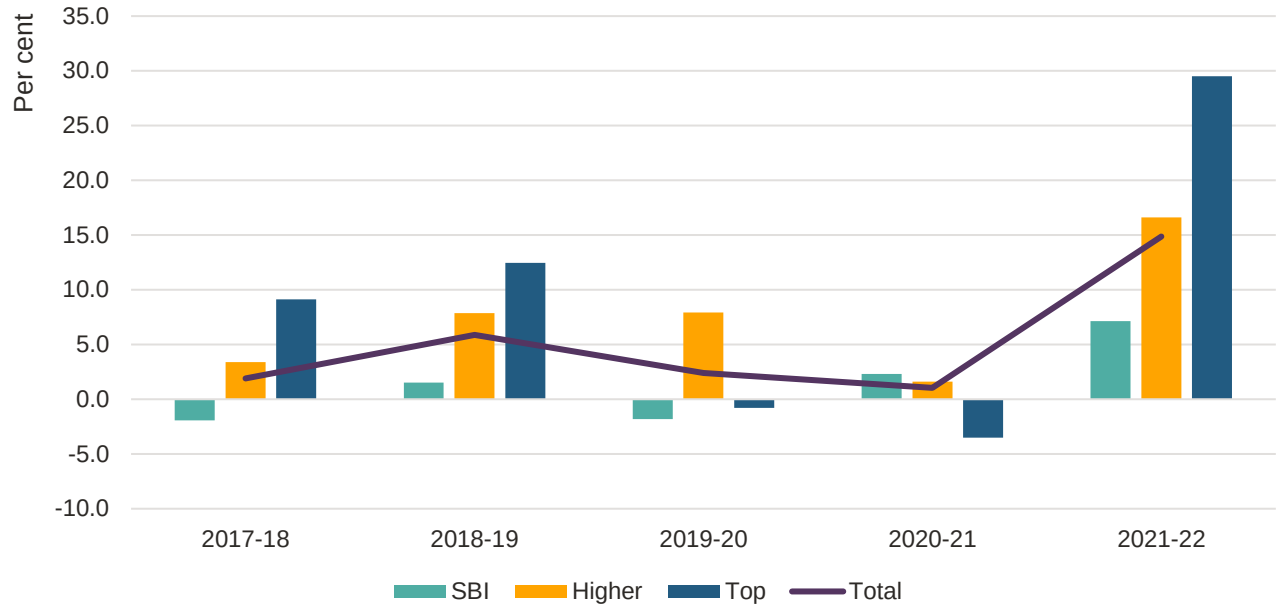
A.4 Higher tax bands also tend to show more variation in tax revenues. How tax revenues by tax bands have varied over time[32] is shown in Figure A.2. Tax revenues from higher and top rate taxpayers vary far more from year to year than tax revenues from starter, basic and intermediate (SBI) taxpayers. While total tax revenues have grown every year, the tax revenues paid by top rate

[31] Throughout this report we are always referring to the Non-Savings Non-Dividends (NSND) part of income tax that has been partially devolved to the Scottish Government. For brevity we simply refer to "income tax".
[32] We haven't stripped out the effect of policy changes here which also influence tax paid by band, but the broad point stands.

taxpayers have actually fallen in two years. In the other three years, tax revenues from the top rate band grew more quickly than any other band. The growth rate of tax revenues in the top rate band has a standard deviation of 11.7 percentage points, compared to 5.2 percentage points for higher rate taxpayers and only 3.3 percentage points for SBI taxpayers.

Figure A.2: Change in tax revenues paid by band

Greater variability in tax revenues paid by higher and top bands



Description of Figure A.2: The bar chart shows the annual growth rate of different tax bands' revenue between 2017-18 and 2021-22.
Source: Scottish Fiscal Commission, HMRC (2023) Scottish Income Tax Outturn Statistics: 2021 to 2022 (link).

A.5 The high proportion of tax revenues paid by the top band combined with the high variability of tax revenues paid by the top band mean that the top band contribute significantly to variation in total tax revenue growth. Over the five years for which we have outturn data, we estimate that nearly 60 per cent of the variation in total tax revenue growth is accounted for by top rate taxpayers alone. The remaining variation is split roughly equally between higher and SBI taxpayers, accounting for around 20 per cent of the variation each.

The Self Assessment process and data

A.6 HMRC collects income tax through two primary routes, Pay-As-You-Earn (PAYE), and SA. For most employees, their income tax is deducted directly from their pay by their employer and passed to HMRC via the PAYE system, usually on a monthly basis. Rich and timely information on PAYE is available via HMRC Real Time Information (RTI) statistics.

A.7 Individuals with higher or more complicated incomes must complete an SA tax return. This includes:

- Anyone earning over £100,000 in a tax year
- The self-employed or those in a business partnership
- Anyone with income from another source such as renting out a property, tips and commissions, income from savings, investment and dividends, or foreign income

A.8 All top rate taxpayers will complete an SA tax return. Many higher rate taxpayers will also complete a SA tax return.

A.9 Some employees will pay tax on their earnings from employment throughout the year via PAYE, but if they also fit into one or more of the categories above, would also have to complete an SA return. This is important when it comes to illustrating how many taxpayers or how much tax revenue are classified as PAYE or SA.

A.10 While PAYE is due monthly, the timescales for SA are a lot longer. The deadline for filing an SA tax return and paying any tax owed is typically the 31 January after the end of the tax year. For the current 2023-24 financial year, the SA filing and payment deadline will be 31 January 2025. Not all taxpayers will file and pay on time, and in a small number of cases tax bills for an individual taxpayer for an individual year could remain in dispute for several years.

A.11 There is an additional component to SA which is payments on account. Within the financial year, anyone who paid over £1,000 via SA in the previous financial year is expected to make two payments to HMRC worth half of their previous year's total SA tax bill.

What data are available on Self Assessment

A.12 Data on SA liabilities in Scotland are only available with a much longer lag than PAYE. Once SA tax returns are filed, it will take HMRC time to process these returns. Currently, the first and only data we get on SA tax revenues in Scotland is when the outturn data are published, usually the summer following the January filing deadline and around 16 months after the end of the tax year.

A.13 The Commission and the Scottish Government have been talking to HMRC about alternative ways of monitoring SA tax revenues. However, options are very limited.

A.14 HMRC publishes monthly data on SA cash receipts at the whole of the UK level, which the OBR uses in its forecasts of UK income tax receipts.[33] However, these data are of limited value for us to monitor SA liabilities in Scotland. Firstly, as far as we are aware, it is not possible to split this UK level SA cash receipts data by region. Secondly, these figures include final SA payments, payments on account plus late payments and fines. At the UK level, it is possible to make inferences about SA liabilities in previous financial years from this SA cash receipts data.[34] However, the mixture of payment types, plus the complexity of payments on account, means such inferences are challenging and will always have a degree of error. Thirdly, the data cover all income tax, with no disaggregation available for non-savings non-dividends tax revenues.

A.15 As noted, some individuals who complete an SA return will also pay tax via PAYE during the tax year. In Scotland, around 70 per cent of tax revenues from people who complete SA returns are collected via PAYE. These SA tax revenues collected via PAYE will be included in the RTI data we receive. However, it is not possible to disaggregate the RTI data between taxpayers who also complete SA and those who don't. It will also tend to be the additional tax paid by SA taxpayers not via PAYE that will be the most variable component of their tax bills.

A.16 Given the current timing and nature of SA, it is unlikely we will get earlier or better insight into Scottish SA liabilities than what becomes available with SA outturn. In the future, Making Tax Digital (MTD) may allow for earlier and better monitoring of Scottish SA liabilities. MTD is due to be phased in from 2026, and we will continue to discuss with HMRC what possibilities there may be to improve Scottish tax data from broader developments in how tax is managed.

[33] HMRC (2023) HMRC tax receipts and National Insurance contributions for the UK (link)

[34] We can think about tax revenues on either a liabilities or cash receipts basis. The liabilities basis considers which financial year the liability for the tax arose. In contrast, the cash receipts basis shows when HMRC received the tax revenue. This distinction is important for SA, as cash receipts will have a long lag compared to when the liabilities arose. For the fiscal framework and our forecasts, everything is done on a liabilities basis.

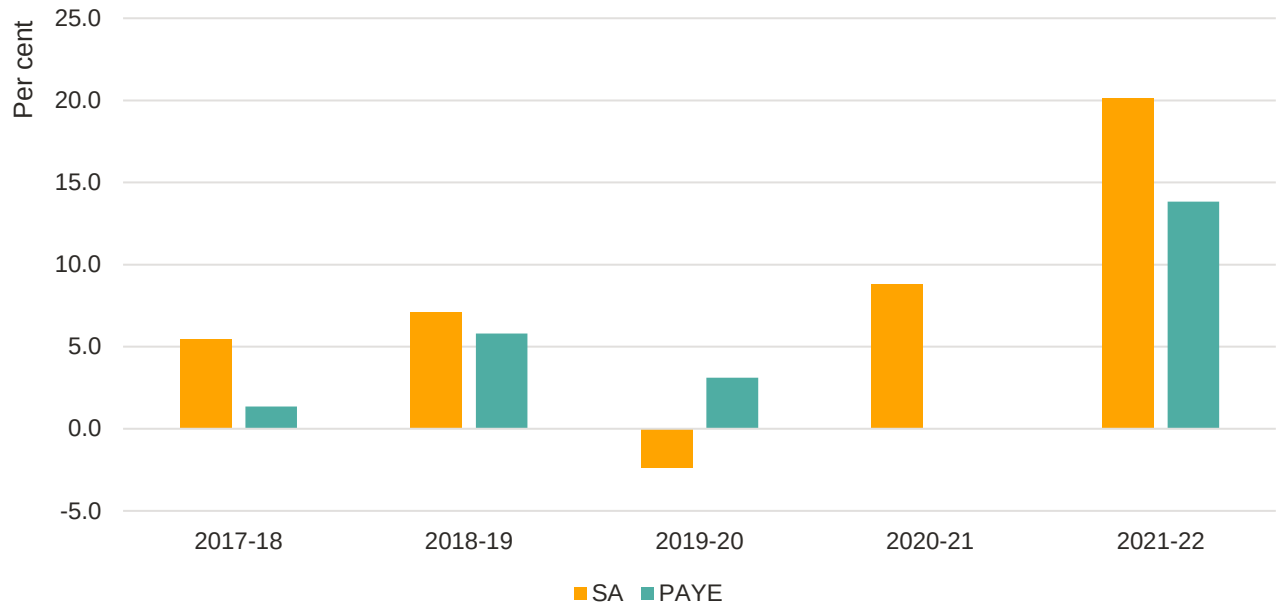
What the SA data show – comparing SA to PAYE

A.17 HMRC outturn data on SA and PAYE tax revenues are presented in two different ways. The "by collection method" approach shows how much tax revenue is collected through the PAYE and SA systems. For taxpayers who pay some tax through both systems their total tax bill will be split between the two systems. The "by established liability" approach effectively assigns all tax revenue collected from taxpayers who file SA to an SA group irrespective of whether the revenue was paid through PAYE or SA. For the established liability data, the PAYE group only includes taxpayers who exclusively pay tax through PAYE. It can be of value to understand and look at both these breakdowns.

A.18 Figure A.3 compares growth in Scottish SA and PAYE revenue on a collection basis. Since 2016-17, SA revenues have shown far greater variability than PAYE revenues, and the two can sometimes move in opposite directions.

Figure A.3: Growth in Scottish annual SA and PAYE revenue by collection basis

Growth in SA revenue more variable than PAYE



Description of Figure A.3: The bar chart shows the annual growth rate of PAYE and the annual growth rate of SA from 2017-18 to 2021-22.
Source: Scottish Fiscal Commission, HMRC (2023) Scottish Income Tax Outturn Statistics: 2021 to 2022 (link).

What the SA data show – comparing Scotland and the UK

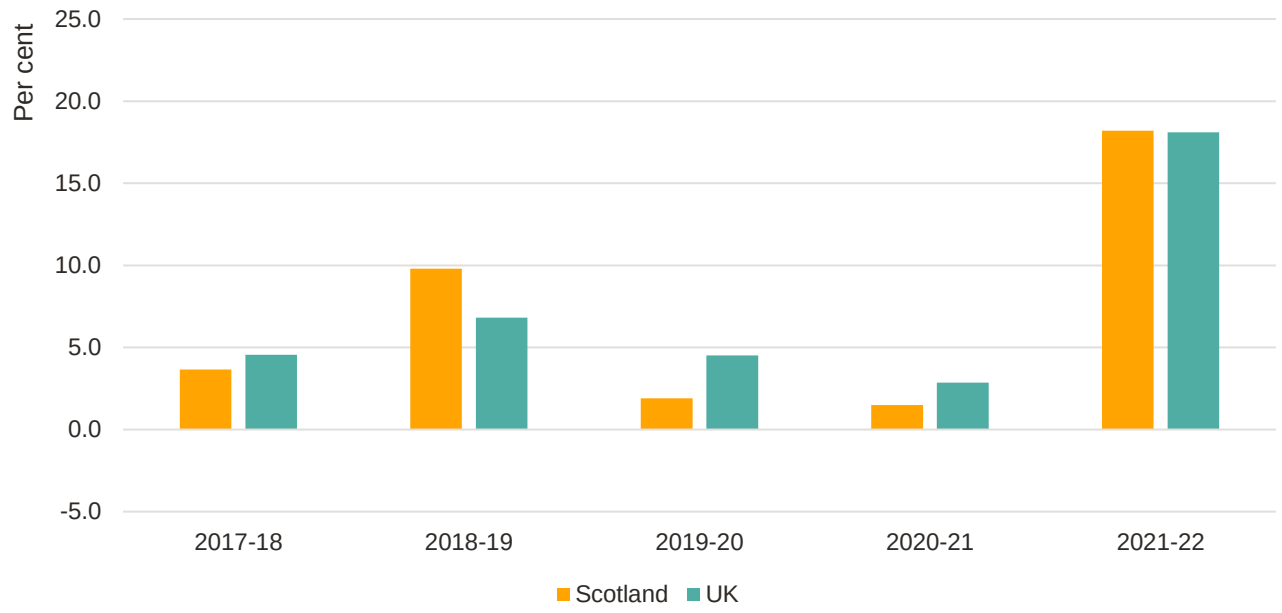
A.19 Since income tax was devolved in 2016-17, Scotland has tended to have more variability in SA tax revenues than the UK.

A.20 In Figure A.4 we show growth in annual SA revenues in Scotland and the rest of the UK (rUK) on an established liability basis.[35] Between 2017-18 and 2020-21, Scottish SA growth was more variable, with a standard deviation of 3.3 per cent compared to 1.4 per cent in the rUK. However, there is a reasonable degree of coherence in the data, with years of higher growth in Scotland mirroring years of higher growth in the rUK. Some of this information will already be captured via RTI statistics, given a significant proportion of SA revenue is collected via PAYE.

[35] For rUK we look at growth rates for England, Wales and Northern Ireland between 2016-17 and 2019-20. From 2019-20 onwards, following devolution of income tax to Wales, rUK figures cover England and Northern Ireland only.

Figure A.4: Growth in annual SA revenue by established liability

Scottish SA revenue growth somewhat more variable than in rUK

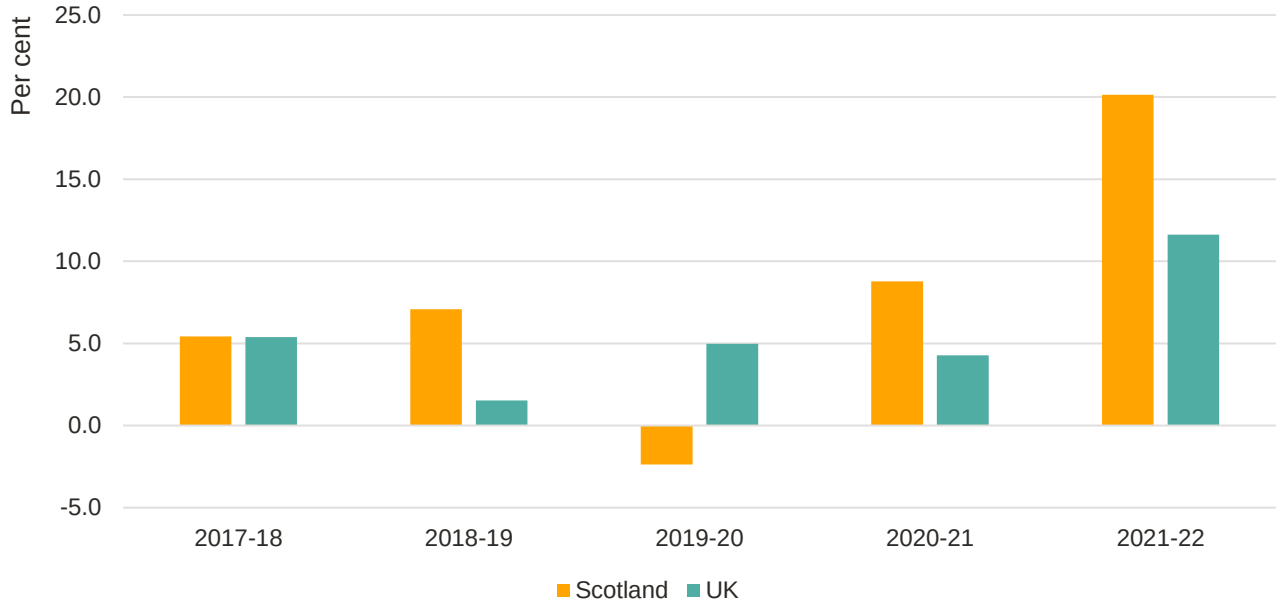


Description of Figure A.4: The bar chart shows the annual growth rate of SA in Scotland and the annual growth rate of SA in the UK from 2017-18 to 2021-22.
Source: Scottish Fiscal Commission, HMRC (2023) Scottish Income Tax Outturn Statistics: 2021 to 2022 (link).

A.21 The same figures but on a collection method basis are shown in Figure A.5. This shows greater variability in Scottish SA revenues both in absolute terms and relative to the rUK. By collection method, the standard deviation of Scottish growth rises to 4.3 per cent, compared to 1.5 per cent in the rUK, more similar to the variation in the established liability approach. In addition, there is less coherence between the Scottish and rUK figures, with years of higher growth in Scotland pairing with years of lower growth in the rUK and vice versa.

Figure A.5: Growth in annual SA revenue by collection method

Scottish SA revenue growth significantly more variable than in the rUK



Description of Figure A.5: The bar chart shows the annual growth rate of SA in Scotland by collection method and the annual growth rate of SA in the UK by collection method from 2017-18 to 2021-22.
Source: Scottish Fiscal Commission, HMRC (2023) Scottish Income Tax Outturn Statistics: 2021 to 2022 (link).

A.22 This higher variation in Scotland in the by collection method data is informative. This can be seen as the SA information that is missing from the RTI data. It suggests that the component of SA tax revenues not collected through PAYE is the most variable component in Scotland, and it is the component that diverges most from the rUK. It is also the component on which we have the least information until outturn data are published.

Effect on our forecast

A.23 The first section of this annex showed that the highest earners in Scotland account for a large share of income tax revenues and an even larger share of the variation in growth of income tax revenues over time. The second section discussed the main source of information we have on these taxpayers – SA outturn data and contrasted Scottish SA data with PAYE and with rUK SA data, showing considerable variation between them.

A.24 For our income tax forecasts, the accuracy of our forecasts of growth in tax revenues of top rate taxpayers will clearly have a significant effect on our forecast error. However, the tax revenues paid by this group are highly variable. We have very limited means to monitor the earnings or tax liabilities of this group until the point that outturn data are published.

A.25 RTI, income tax outturn and the SPI-PUT data we use to construct our income tax forecast are the best and most timely data we have on income tax revenues in Scotland, and we are already fully exploiting them in our forecasting process. Alternative sources of data on earnings and tax revenues such as LFS, ASHE, AWE or HMRC tax receipts data are either less timely or don't provide the breakdowns necessary for monitoring the highest earners in Scotland, or both.

A.26 The variation in tax revenue generated by the highest earners is likely to continue to be a source of significant uncertainty and forecast error, with very limited data available on this group. In the future, HMRC's MTD project may improve the situation.

A.27 To continue to improve our forecasts, we will focus on better understanding what determines changes in tax revenues of the highest earners.

Annex B: Income tax net position analysis

Income tax net position

B.1 The income tax net position shows how much funding the Scottish Government receives from Scottish income tax revenues minus the income tax Block Grant Adjustment (BGA). The BGA is calculated based on growth in UK Government tax revenues per head in England and Northern Ireland.

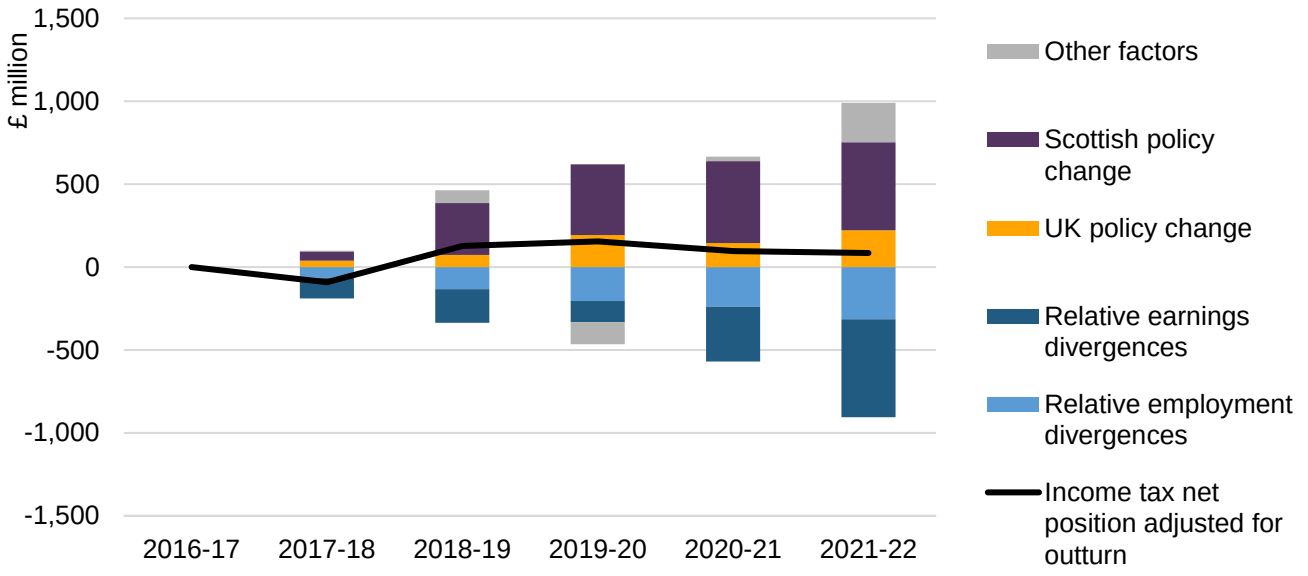
B.2 The income tax net position is influenced by the relative growth of per person income tax revenues in Scotland and the rest of the UK. If Scottish income tax revenues per head grow faster than in the rest of the UK, the net position increases and there is more funding available for the Scottish Budget. Conversely, if Scottish income tax revenues per head grow more slowly than in the rest of the UK, the net position decreases and there is less funding available for the Scottish Budget.

B.3 Growth in income tax revenues is driven by the underlying performance of the economy and by divergences in Scottish and UK income tax policy. Over the last six years, Scotland's relative lower growth in employment and earnings have had a negative effect on the income tax net position. Successive changes to income tax policy in Scotland have so far largely offset these negative economic effects. Changes in UK Government income tax policy, such as above inflation increases in the higher rate threshold between 2016-17 and 2019-20, have also generally reduced UK Government revenues and therefore contributed to moving the net position in a positive direction.

B.4 In this section, we present illustrative analysis to demonstrate how changes in each of these factors relative to the UK are estimated to have contributed to the net position in the outturn. This analysis is illustrative as the exact contribution of each factor to the net position cannot be known with certainty and there may be overlaps in the contribution of different factors.

Figure B.1: Illustrative contributions to the income tax net position

UK and Scottish policy contribute positively to net position with relative earnings and employment divergences contributing negatively.



Description of Figure B.1: the chart illustrates the different factors which have contributed to the income tax net position between 2016-17 and 2021-22, with relative earnings and employment divergences contributing negatively, and Scottish and UK policy change as well as other factors contributing positively.
Source: Scottish Fiscal Commission.
Behavioural effects are not considered when calculating the effect of Scottish policy changes.

B.5 As shown in Figure B.1 slower Scottish earnings and employment growth have contributed negatively to the net position. This is offset by divergence in Scottish and UK income tax policy which has helped keep the net position positive in most years. In 2021-22 there was higher than expected relative growth in income tax paid by individuals at the top of the income distribution, which largely explains the 'Other factors' component in Figure B.1. We discuss this further in Annex A.

B.6 We estimate that, in the absence of Scottish and UK income tax policy differences, the net position would have been -£667 million in 2021-22. By having relatively higher tax rates in Scotland and lower thresholds for higher rate taxpayers, the income tax net position shifts to an expected £85 million in 2021-22.

Economy factors

B.7 Since 2016-17, nominal average earnings have grown slower in Scotland than in the UK. Applying this earnings growth to the existing distribution of taxpayers in Scotland, we expect this to reduce the income tax net position by £590 million in 2021-22. We have also seen that growth in the number of adults in employment in the UK has been higher than in Scotland. We estimate that relatively slower employment growth in Scotland reduces the net position by £314 million in 2021-22.

B.8 The long-term structural decline in North Sea oil and gas activity feeds through to lower activity in the onshore oil and gas supply chain and has acted as a drag on Scotland's overall pay growth. Scotland's lagging earnings growth since 2016-17 has been exacerbated by much stronger earnings growth in the financial services sector in London and the South East in 2021-22.

B.9 The employment divergence is driven by lower population growth as well as different labour force participation trends. The participation rate for those aged 16 and over fell in Scotland between 2014 and 2021, while being broadly flat for the UK. Scottish employment linked to activity in the North Sea has also fallen, lowering the average participation rate in Scotland. These jobs lost were generally high paying, which has likely contributed to the divergence in average earnings between Scotland and the UK.

Policy factors

B.10 Since 2017-18, the Scottish Government has increased the higher rate threshold by less than it has risen in the UK, meaning more income in Scotland is taxed at the higher rate of 41 per cent. The five-band system introduced in 2018-19 means that lower income taxpayers in Scotland have paid slightly less than they would in the rest of the UK, while higher income taxpayers paid more.[36] These policy changes have further increased tax revenues in Scotland relative to the UK.

B.11 We do not account for changes in the personal allowance as a policy divergence as they apply in Scotland and the rest of the UK. We do however note the agreement between the UK and Scottish Government that the UK Government's policy to increase the personal allowance above inflation had a spillover effect on Scottish income tax revenues. The two governments agreed a payment of £375 million for the spillover covering 2017-18 to 2021-22. This spillover has not been included in the net position or this analysis.

B.12 We estimate that higher tax rates and the changes to the higher rate threshold in Scotland have added £753 million to the net position in Scotland in 2021-22, with most of this coming from Scottish Government policy changes.

Other factors

B.13 We have outturn data on Scottish employment and earnings growth and can make reasonably accurate estimates of the effect of policy divergences to illustrate the effects on the net position. There remains a small part of the net position which cannot be explained by divergences in average earnings, employment and policy. These factors can be difficult to measure and may include information missing from our taxpayer data. This can include changes in the shape of the income distribution, for example large bonuses at the top of the income distribution, and changes in taxpayer behaviour such as avoidance or evasion.

B.14 We estimate that other factors increased the net position by £237 million in 2021-22 which is largely explained by higher than expected income tax revenue from those at the top of the income tax distribution. Outturn show there was much higher growth in income tax paid through Self Assessment (SA) in 2021-22 than we expected. There was a 20.1 per cent increase in Scotland compared to an 11.6 per cent increase in the rest of UK. We discuss SA further in Annex A.

[36] Scottish Government (2018) Scottish income tax 2018-19: rates and bands (link)

Additional information

Abbreviations

ADS	Additional Dwelling Supplement
ASHE	Annual Survey of Hours and Earnings
AWE	Average Weekly Earnings
BGA	Block Grant Adjustment
CPI	Consumer Price Index
DLA	Disability Living Allowance
DWP	Department for Work and Pensions
GDP	Gross Domestic Product
HMRC	HM Revenue and Customs
LBTT	Land and Buildings Transaction Tax
LFS	Labour Force Survey
MTD	Making Tax Digital
NDR	Non-Domestic Rates
NSND	Non-Savings and Non-Dividends
OBR	Office for Budget Responsibility
OECD	Organisation for Economic Cooperation and Development
ONS	Office for National Statistics
PAYE	Pay As You Earn
PUT	Public Use Tape
RTI	Real Time Information
rUK	rest of the UK
SA	Self Assessment
SEFF	Scotland's Economic and Fiscal Forecasts
SFC	Scottish Fiscal Commission
SISG	Self Isolation Support Grant
SLCF	Scottish Landfill Community Fund
SLfT	Scottish Landfill Tax
SPI	Survey of Personal Incomes

A full glossary of terms is available on our website:

https://www.fiscalcommission.scot/explainers/glossary/

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All charts and tables in this publication have also been made available in spreadsheet form on our website. For technical enquiries about the analysis and data presented in this paper please contact the responsible analyst:

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[37] OECD (2014) Recommendation on Principles for Independent Fiscal Institutions (link)
[38] Scottish Fiscal Commission (2018) Compliance with the Code of Practice for Official Statistics (link)

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