From: [Redacted]
Sent: 16 May 2018 17:02
To: [Redacted] Grisewood A (Aidan); **[Redacted]**; Fuller S (Simon); **[Redacted]**
Cc: [Redacted] Ireland J (John); **[Redacted]**
Subject: OFFICIAL SENSITIVE – Final Forecasts and Fact-check – Economy – May 2018

All,

In accordance with the Protocol, the Commission is now formally sharing our final forecasts with the Scottish Government and sharing our report for fact-checking purposes. Please find below the final economy forecast. In the absence of a significant QA issue these forecasts will not change.

1.1.1 Table 2.1: SFC GDP forecasts, calendar year, % growth

	2016	2017	2018	2019	2020	2021	2022	2023
December 2017	0.4	0.7	0.7	0.9	0.6	0.9	1.1	
May 2018	0.2	0.8	0.7	0.8	0.9	0.9	0.9	0.9

The Scottish Government is invited to confirm the factual accuracy of the report, accompanying spreadsheets and the presentation of Scottish Government policy. As per the protocol we require any comments to be received by the end of Monday 21st May. For ease we are sending the report in sections directly to the relevant teams, please ensure that all relevant people in the Scottish Government are included on this copy list and have sight of the report.

This report and forecasts are being shared strictly for the purposes of commenting on the factual accuracy of the report and for the development of the Scottish Government's Medium Term Financial Outlook. The report and forecasts contains Scottish Fiscal Commission assumptions and determinants that are classified as OFFICIAL-SENSITIVE until the time of publication, they must be protected at all times and must not be shared beyond those requiring access for the purposes of fact-checking.

Please note that the report is still being finalised and the Commission retains the right to change any element of the report. As per the protocol the report will be shared with the Cabinet Secretary for Finance and the Constitution on Thursday 24th May. A final pre-release version will be shared with the Cabinet Secretary on Wednesday 30th May and the final version of the report will be published on Thursday 31st May.

<< File: Scotland's Economic and Fiscal Forecasts - May 2018 - Chapter 2 - Economy.docx >>
Please note that the section on forecast sensitivities has not been updated since December yet. We are hoping to do this by the end of the week and will share an updated version of the note in due course. The table and charts workbook covering the economy chapter is not yet ready but will be shared shortly.

We will also cover the economy in the summary section of the report, this is still in development as we work on the overall narrative of the report. We will provide this separately for fact-checking on the 22nd May, and invite comments on factual accuracy back from the Scottish Government by the morning of the 24th May. The final version of the report will be provided to the Cabinet Secretary for Finance and Constitution in the afternoon of the 24th May.

Kind Regards,
[Redacted]

_____

From: [Redacted]
Sent: 21 May 2018 15:44
To: [Redacted] Grisewood A (Aidan); **[Redacted]** Fuller S (Simon); **[Redacted]**
Cc: [Redacted]Ireland J (John); **[Redacted]**
Subject: RE: OFFICIAL SENSITIVE – Final Forecasts and Fact-check – Economy – May 2018

[Redacted]

Please find attached a word version of the chapter with SG comments included.

[Redacted]

Chapter 2
Economy

2. Introduction

2.1 This chapter outlines the Commission's economy forecasts, providing the headline forecasts set within the wider economic context for Scotland.

2.2 The economy forecasts are created for two reasons:

- To fulfil the Commissions remit of providing quarterly onshore GDP growth forecasts[1] for the next two years; and,
- To provide information on the economic variables that feed into the Commission's fiscal forecasts, such as wages, employment and hours worked that are used in the income tax forecast.

2.3 In constructing our forecast the Commission has considered the long run evolution of the economy, particularly productivity and potential output; the short run forecasts based on recent outturn and survey data; and how the short and long run forecasts are brought together in the medium run through the relationship between output and the output gap. The chapter proceeds as follows:

- Forecast context and summary
- Key assumptions and judgements
- Developments in the Scottish economy

[1] Onshore GDP is used as shorthand in referring to Scotland's GDP excluding the value of oil, gas and other hydrocarbons produced in the Scottish sector of the UK continental shelf as defined in the Scottish Fiscal Commission Act 2016 (link). This is the same basis as the headline GDP figures published by the Scottish Government (link).

- The long run: potential output and productivity
- Short run forecasts
- The medium term outlook and the output gap
- Second round effects
- Forecast sensitivities
- Comparison to previous forecasts
- Comparison to OBR UK forecasts

2.4 The methodology behind the Commission's economy forecasts have been discussed in two Occasional Papers published over the last year.[2] The Commission will look to continue to publish Occasional Papers to help users better understand our approach to forecasting and keep users up to date on developments in the methodology.

2.5 The economy forecasts were finalised on 11 May, with final data being accepted in to the forecasts on 1 May. New data and information published after this date are not included in the economy forecast. This cut-off is to allow a stable baseline on which the Government can finalise its Medium Term Financial Strategy. Box X in the introductory chapter provides further information on this data cut-off point and how the Commission handles new data and revisions published after the data cut-off.

Comment [IP1]: I don't think t his is correct. The SFC incorporated SG government spending figures provided on 8 May

3. Forecast context and summary

2.6 This section:

- Summarises developments since our previous forecasts
- puts the Commission's forecasts in the context of recent economic performance
- provides an overview of the Commission's economy forecasts
- provides key headline forecast numbers and an assessment of whether or not access to additional borrowing powers will be triggered by a Scotland-specific economic shock

2.7 In December 2017 the Commission published its first set of economic forecasts.[3] At the time, we described our outlook for economic growth as subdued. The Commission forecast growth in GDP to average 0.9 per cent

[2] Scottish Fiscal Commission (2017) Current Approach to Forecasting (link) and Scottish Fiscal Commission (2018) Forecasting the long-run potential of the Scottish economy March 2018 (link)

[3] Scottish Fiscal Commission (2017) Scotland's Economic & Fiscal Forecasts December 2017 (link)

over the five-year forecast period, well below historic norms. Developments and new data published since December have done little change the Commission's outlook, with growth remaining subdued and broadly in line with our expectations.

2.8 In December, we highlighted that the labour market was performing strongly, despite subdued growth in the wider economy. The labour market, and in particular total hours worked, have continued to diverge from GDP. With subdued growth in GDP and total income, a stronger performance in employment and hours worked implies weak or even negative growth in productivity and wages. While this was already a puzzle for trying to understand the Scottish economy in December, the divergence has continued to grow in scale. This is explored in more depth in Section X. New analysis of wage growth in Scotland, as well as new data, has led us to revise down our outlook for wages in this forecast.

2.9 In our previous report, the Commission set out its view on the performance of the Scottish economy over the last ten years. For example, we highlighted the role the oil and gas onshore supply chain had in providing support to onshore GDP growth during 2010 to 2014, how household consumption had been supported by a declining savings ratio, and the small boom in construction industry output in 2015. On balance, our view was that these temporary factors had provided positive cyclical support to GDP growth since 2010, and to an extent masked slower growth in the underlying trend in GDP and productivity.

2.10 Our view on these key factors which explain the Scottish economy's recent performance is largely unchanged since December. The discussion provided in our December report in the section "Underlying trends in the Scottish economy" stands as a good starting point for understanding the Commission's view on the underlying performance of the Scottish economy [*not to repeat again here?*].

2.11 The Commission's core view is that Scottish economic growth is well below the levels seen in the decades leading up to the 2008 financial crisis. The most important factor is slow growth in productivity. Without strong evidence to the contrary, we expect the factors leading to this lower level of growth to persist over the next five years.

2.12 The general slowdown in economic growth observed in recent years would, on its own, be sufficient to warrant a forecast lower in the near term than previous norms. The Commission also considers Scotland's specific circumstances over the next five years, looking at both the upside and downside uncertainties facing the economy. On balance, we judge that the downsides

outweigh the upsides. In the Commission's view, the period of slower growth is unlikely to come to an end in the near future. These downsides include the UK's changing relationship with the EU, weak demand from activity in the UK Continental Shelf driven by low oil prices, and Scotland's industrial and demographic structure.

2.13 Our forecasts of economic growth for Scotland are lower than forecasts of UK growth prepared by the OBR. Despite low economic growth, we do not forecast that a Scotland-specific economic shock, as defined by the Fiscal Framework, will be triggered.

2.14 With population growth in Scotland expected to slow in the coming years, and the labour market already at historic highs, there is limited room for these factors to contribute further to growth. Economic growth in Scotland will now have to be driven by productivity growth. Trend productivity growth has been slowing in Scotland since 2004. The Commission's judgement is that this slow growth in productivity will continue in the near term, before gradually starting to increase towards historic levels towards the end of the five-year forecast. As a result, the Commission expects growth in GDP to average 0.9 per cent over the five-year forecast.

2.15 Accompanying slower growth in productivity, wages have grown more slowly than might have previously been expected over the last decade. Real wage growth has been largely negative in both Scotland the UK since 2010, and real wage growth has been lagging behind productivity growth. The Commission's expectation is that real wage growth will start to increase in the coming years, albeit gradually. Real wage growth is expected to return to growth of around one per cent by 2022-23.

Comment [IP2]: The OBR publish two measures of the real wage: the real product wage and the real consumption wage.

Both of these have been growing on a calendar year basis since 2015, and in 4 of the last 5 years.

2.16 An outlook of slow growth is the Commission's core view. It is based on analysis of historic trends and a broad assumption that these trends continue in the near future. The Commission also makes a number of judgements about the impact of additional factors, such as the UK's future relationship with the EU. As with all forecasts, there is a significant degree of uncertainty, and the Scottish economy could surprise in either direction if the underlying trends change, or the outcome of certain events is different than expected. The final section of this chapter explores some of the key judgement sensitivities around the core forecast.

2.17 In general, we present our economic forecasts on a financial year basis, as this is required for the fiscal forecasts.[4] To aid comparisons with other

[4] Financial year basis is the four quarter period Q2 – Q1. For example, financial year 2018-19 is the period from 2018 quarter 2 to 2019 quarter 1.

forecasters we also provide calendar year forecasts for the headline economy forecasts. Table 2.1 presents our headline forecasts of GDP on a calendar year basis compared to our December 2017 forecast.

3.1.1 Table 2.1: SFC GDP forecasts, calendar year, % growth

	2016	2017	2018	2019	2020	2021	2022	2023
December 2017	0.4	0.7	0.7	0.9	0.6	0.9	1.1	
May 2018	0.2	0.8	0.7	0.8	0.9	0.9	0.9	0.9

Source: Scottish Fiscal Commission
Note: green shading shows outturn as available at time of publication

2.18 The supplementary economy tables published alongside this document provide key economy forecast series at calendar year, financial year and quarterly frequency. For the remainder of this chapter, the financial year basis is used.

2.19 Table 2.2 presents the Commission's headline annual economy forecasts focusing on GDP, the labour market and earnings on a financial year basis.

Table 2.2: Headline economy forecasts, constant prices, financial year (% change on previous financial year unless otherwise stated)

Headline	2017-18 Outturn	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
GDP	0.7	0.8	0.8	0.9	0.9	0.9	0.9
Output Gap (% of potential GDP)	0.7	0.9	0.9	0.8	0.6	0.4	0.1
Components of GDP							
Domestic Demand	-0.6	0.3	0.7	0.8	0.8	0.9	0.9
Household Consumption (1)	-1.4	0.1	0.6	0.8	0.9	1.0	1.2
Government Consumption	-1.4	0.5	0.8	0.8	1.1	1.1	0.9
Government Investment	9.1	0.0	2.8	2.8	1.3	0.6	0.2
Private investment (2)	-0.7	1.5	0.0	0.0	0.0	0.0	0.0
Exports	3.4	1.1	0.9	0.8	0.8	0.9	0.9
Imports	0.4	0.4	0.7	0.7	0.7	0.8	0.9
Net Trade (% of GDP)	-8.8	-7.3	-6.8	-6.7	-6.7	-6.6	-6.6
Labour market							
Nominal wages (3)	1.0	1.7	1.9	2.3	2.7	3.0	3.2
Real wages	-0.9	-0.5	0.1	0.3	0.7	0.9	1.2
Average earnings (4)	0.8	1.8	2.0	2.3	2.7	3.0	3.3
Total Population (thousands)	5,431	5,452	5,470	5,486	5,500	5,512	5,523
Population of working age (thousands)	3,494	3,495	3,492	3,488	3,481	3,472	3,463
Employment (thousands)	2,649	2,650	2,650	2,654	2,658	2,661	2,663
Unemployment (%)	4.1	4.3	4.5	4.5	4.5	4.5	4.5

Source: Scottish Fiscal Commission
1. Includes a statistical residual from deflating GDP(E) current prices data
2. Gross capital formation in the private sector

Comment [IP3]: These are not outturn figures, with the possible exception of employment and unemployment

3. Nominal wages is hourly pay, estimated as compensation of employees divided by total hours worked
4. Earnings is average annual earnings from employment, specifically the product of hourly pay and average annual hours worked

2.20 The Fiscal Framework provides additional borrowing powers for Scotland in the event of a Scotland-specific economic shock.[5] The Fiscal Framework defines an economic shock as annual GDP growth of below one per cent and GDP growth in Scotland one percentage point below GDP growth in the UK.

2.21 The Commission is required to present quarterly GDP growth figures for the first two years of the forecast and an assessment of whether or not a Scotland-specific economic shock, as defined by the Fiscal Framework, is expected to occur. Table 2.3 presents the Commission's forecasts of quarterly GDP growth and provides analysis of whether this would be considered a Scotland-specific economic shock.

- Criterion 1: 4Q-on-4Q growth in Scotland is below 1.0 per cent
- Criterion 2: 4Q-on-4Q growth in Scotland is 1.0 percentage point below the UK

Table 2.3: Assessment of Scotland-specific economic shock

4 Quarter Growth Periods		4Q on 4Q growth in GDP (%)		Criteria		Shock
4 quarter period	Compared to	SFC May 2018 Scotland	OBR Mar 2018 UK	1	2	
2017Q2 - 2018Q1	2016Q2 - 2017Q1	0.7	1.6	Y	N	N
2017Q3 - 2018Q2	2016Q3 - 2017Q2	0.8	1.6	Y	N	N
2017Q4 - 2018Q3	2016Q4 - 2017Q3	0.9	1.5	Y	N	N
2018Q1 - 2018Q4	2017Q1 - 2017Q4	0.7	1.5	Y	N	N
2018Q2 - 2019Q1	2017Q2 - 2018Q1	0.8	1.5	Y	N	N
2018Q3 - 2019Q2	2017Q3 - 2018Q2	0.8	1.4	Y	N	N
2018Q4 - 2019Q3	2017Q4 - 2018Q3	0.8	1.3	Y	N	N
2019Q1 - 2019Q4	2018Q1 - 2018Q4	0.9	1.3	Y	N	N
2019Q2 - 2020Q1	2018Q2 - 2019Q1	0.9	1.2	Y	N	N

Source: Scottish Fiscal Commission, OBR (2018) Economic and Fiscal Outlook March 2018 (link)

2.22 The Commission's assessment is that a Scotland-specific economic shock, as defined by the Fiscal Framework, is not expected to occur. While the Commission forecasts growth in Scotland to be below one per cent, we forecast the difference to the OBR's UK forecast to be less than one percentage point.

[5] See The Agreement Between the Scottish Government and the United Kingdom Government on the Scottish Government's fiscal framework (2016) (link)

4. Key assumptions and judgements

2.23 This section sets out the key assumptions and judgements we made as part of our forecasting process

4.1 Key judgements

2.24 Table 2.4 summarises the key judgements we make about the Scottish economy over the next five years and shows how these have changed since our previous forecast.

Table 2.4: Key economy forecast judgements

Issue	Judgement	Change since December 2017
1. The output gap	The economy is broadly on trend but operating slightly above capacity. That is, actual output is judged to be above potential output, with a small positive output gap of 0.7 per cent in 2017-18	Slight upward revision from +0.4 per cent
2. Trend productivity	Annual growth of 0.25 per cent in 2018-19, increasing linearly to 1.1 per cent by 2023-24	Annual growth in 2018-19 has been lowered from 0.5 to 0.25 per cent, in line with a broadly flat productivity trend observed in 2017. The previous pathway has been extended to 2023-24, with productivity growth of 1.1 per cent
3. Trend unemployment rate	Flat at 4.5 per cent over the whole forecast period	No change
4. Population projections	ONS 2016-based population projections 50 per cent EU migration variant	No change
5. Forecasts of the UK	OBR UK Spring Statement March 2018 forecasts	Updated from UK Autumn Budget 2017
6. Changing UK-EU relationship	Similar to the OBR: • The UK leaves the EU in March 2019 • New trading arrangements with the EU and others slow the pace of import and export growth • The UK adopts a tighter migration regime than that currently in place • Slower productivity growth	No change
7. Impact of UK Continental Shelf Oil & Gas activity on the onshore economy	Limited growth in capital and operational expenditure in the UKCS will mean that less demand will be generated in the onshore Scottish economy by offshore activities than in the period 2010 to 2014	No change
8. Savings ratio	Broadly flat over the forecast	No change
9. Second round effects	No second round effects are quantified in the economy forecasts	No change

Source: Scottish Fiscal Commission

5.

6. Developments in the Scottish economy

2.25 This section provides further information on the Commission's view of key issues in the Scottish economy today. Issues covered include:

- The apparent divergence in performance between the labour market and the rest of the Scottish economy
- The outlook for wages
- Outlook for the oil and gas industry
- The changing UK-EU relationship

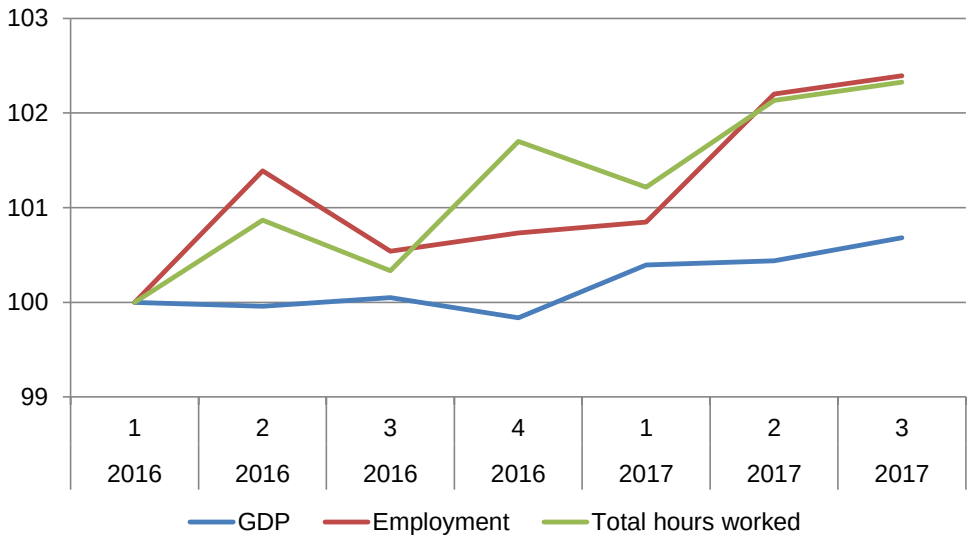
6.1 The labour market, wages and productivity in 2016 and 2017

2.26 Despite subdued growth in the economy over the last two years, the labour market has been robust. This is shown in Figure X. Since the start of 2016, the size of the economy has grown by around 0.7 per cent, while total employment and hours worked have grown by 2.3 per cent. Usually, with increasing productivity over time, one would expect to see the size of the economy growing more quickly than employment or hours worked. There appears to have been a disconnect between growth in output and incomes on the one hand, and growth in employment and hours worked on the other.

Comment [IP4]: 1.3% as of 4 April

This figure is inconsistent with that shown in Table 2.1

Figure X: GDP, employment and total hours worked index, 2016 Q1 = 100



Comment [IP5]: The total hours worked figure in this graph seems inconsistent with the published figures for Scotland

The GDP figure in this graph is out of date as of 4 April, and inconsistent with the figures in Table 2.1 and Table 2.7

2.27 While in isolation labour market growth is a positive for Scotland, it does create a puzzle. A direct interpretation of the available data leads to two related conclusions. Firstly, that productivity growth has been negative in Scotland, and secondly, that average hourly wage growth has also been weak

or even negative. While this was broadly the case when we published our previous forecasts in December 2017, the latest data have led to a further reduction in estimates of productivity and wage growth. As a result, the Commission has re-examined its judgements and modelling regarding productivity and wage growth.

Comment [IP6]: This statement does not follow directly as interpretation of the difference in labour market and GDP performance.

2.28 The Commission models both productivity and hourly wages by taking aggregate output or earnings data and dividing it by total hours worked. In the case of productivity, we divide GDP by total hours worked, and in the case of hourly wages, we divide Compensation of Employees (COE) by total hours worked. In both cases, a sharp increase in total hours worked has reduced our estimated values for these series in 2016 and 2017. The rest of this section looks in more depth at the available data and evidence on these issues; possible interpretations; the judgements the Commission is making and how this affects the outlook for the economy.

Productivity

2.29 To provide a longer term outlook for the economy, the Commission models and forecasts trend productivity growth.

2.30 Productivity data published by the Scottish Government shows productivity to have fallen between 2015 and 2017 by around 3.3 per cent.[6] As shown in Figure X, this is explained by a combination of weak GDP growth and unexpectedly strong growth in total hours worked.

2.31 The Commission's judgement is that this period of declining average productivity is due to one-off, temporary and cyclical issues rather than part of a new trend. These reasons are:

- **Buoyancy in the labour market and above trend average hours worked.** The Commission models and forecasts trend average hours worked in Scotland to be largely flat. Outturn data on average hours worked have however been volatile and are currently above the Commission's trend. The Commission expects average hours worked to decline to realign themselves with this trend in the coming quarters, and this should lead to some upwards adjustment in measured productivity. This appears to already be occurring in the latest available data.

- **Falling construction industry activity in 2016 and 2017.** Output in the construction sector has fallen by 9.3 per cent over the last 2 years since a peak in 2015 quarter 4, following strong increases in construction

[6] Scottish Government (2018) Labour Productivity 2017 Quarter 4 (link)

sector output in 2015. In the same way that the Commission controlled for the strong increases in construction sector output in 2015 to understand underlying trends in the economy, we see declines in construction sector output in 2016 and 2017 as cyclical.

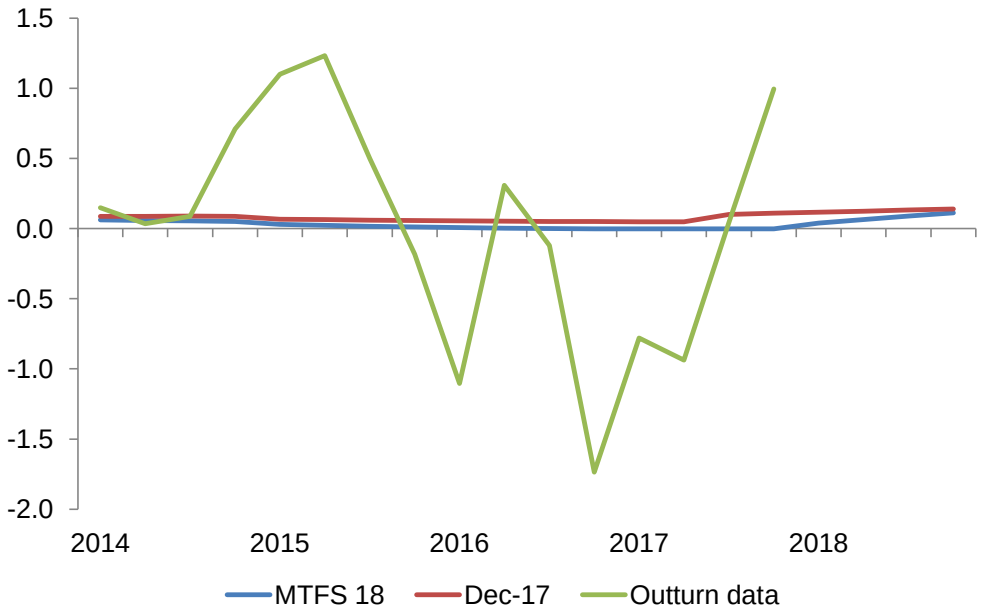
- **Weak demand from UKCS oil and gas activity.** Cyclical weakness over the last two years due to changes in the oil and gas support industries have suppressed GDP growth and are not expected to have a persistent effect on the growth rate.

2.32 In the Commissions view, generally negative productivity growth over the last two years is due to the combined effects of buoyant labour market data and weak GDP growth, neither of which is expected to be persistent. The Commission still believes productivity growth to be weak, and given the latest data weaker than it allowed for in its December 2017 forecasts, but still not as weak as the last two years of outturn data suggest. Figure X shows the Commissions position on trend productivity growth relative to the outturn data.

Comment [IP7]: The figures the SFC has provided to the SG for 'actual productivity' in the Forecast diagnostics spreadsheet show the latest data being stronger than the Commission forecast in December

It would be helpful if you could clarify which figures the SG should use when reporting on your productivity growth figures.

Figure X: Outturn and trend productivity, % growth



2.33 The Commission has slightly revised down its modelling and forecast of trend productivity growth during 2016 and 2017. However, as we see the reasons for recent negative productivity growth as primarily short-term and non-persistent, our outlook is still for increasing productivity growth from 2018-19 onwards. The Commission judges trend productivity growth to have been 0

per cent in 2016 and 2017. We expect actual and trend productivity growth to return to more positive values in the coming quarters.

Wages

2.34 To model and forecast wages, the Commission needs to take a different approach to modelling productivity. On productivity, the Commission is primarily concerned with longer term underlying trends, and attempts to control for shorter term cyclical movements in actual measured productivity. For wages, the Commission needs to model and forecast the movement of actual wages and earnings from year to year.

2.35 Earnings data for Scotland is more limited than is available for the UK. There are issues with both the timeliness and robustness of earnings data for Scotland.

2.36 Table X provides a summary of the available earnings and wages data in Scotland. These sources provide coverage of different time periods, cover different populations and measure earnings on different bases, meaning the figures are not always directly comparable. However, even given the varying comparability of each source, the available data appear to be showing a mixed picture on wage and earnings growth in Scotland in 2017.

2.37 ASHE, one of the largest surveys of earnings in Scotland, is currently only available covering up to April 2017, but does show a strengthening of gross hourly pay growth from 2016 in to 2017.[7] HMRC has started publishing Real Time Information (RTI) data from its PAYE income tax database, covering up to 2017 Q4. This also shows a slight strengthening of growth, but only provides information on average annual earnings reported through PAYE, and so is limited as a source of information about hourly wage growth.[8] Another measure of earnings in Scotland comes from the LFS labour market survey.[9] This shows gross weekly earnings falling in Scotland towards the end of 2017 on an annual quarter on quarter comparison. Finally, the Commission's measure of wages, which divides growth in Compensation of Employees from quarterly national accounts by total hours worked to get a measure of hourly wages, also shows a significant slowing of wage growth in 2017.

Comment [IP8]: Again, this is inconsistent with the figures that the SFC have provided for 'trend productivity' in the Forecasts Diagnostics spreadsheet, which show trend productivity growth of -1% between 2016 and 2017.

Please see previous comment for request for guidance on correctly interpreting SFC productivity figures.

Comment [IP9]: This is a summary of the available data at 1 May.

Clearly any forecast has a cut-off point. It may be helpful to note where new data have become available.

Comment [AN10]: The published HMRC data on earnings and PAYE employment only goes up to Jul-Sep 2017 so that would be Q2 of the financial year or Q3 of the calendar year.

[7] Link to ASHE

[8] Link to RTI

[9] Link to LFS

Table X: Sources of earnings information for Scotland, comparable annual growth rate (%)

Source	Variable	Time period	2016	2017
ASHE	Gross hourly pay	Year to April of reference year	2.6	3.2
RTI: PAYE	Average annual earnings	4Q on 4Q growth up to 2017 Q4	1.7	2.0
LFS: GWE	Gross weekly earnings, FT only	4Q on 4Q growth up to 2017 Q4	4.0	-1.5
QNAS: COE based measure	Total COE divided by total hours worked	4Q on 4Q growth up to 2017 Q3	3.6	0.8

Comment [AN11]: Data for the calendar year 2017 is only partial so this should be stated clearly where this is the case.

ASHE data is as at April 2017 so no information available for growth in the 2017-18 tax year.

Comment [IP12]: Gross hourly pay in the latest ASHE refers to pay in April 2017, not year to April

Comment [AN13]: Data goes up to Q3 of the calendar year, i.e. Jul-Sep 2017, and Q2 of the financial year. Son only covers part of the year.

2.38 As Table X shows, there is not a clear picture on earnings in Scotland, with two sources showing a strengthening in earnings in 2017, and two sources suggesting a slowing in earnings in 2017.

2.39 As with productivity, buoyancy in the hours worked data will form at least part of the explanation leading to slowing growth in the Commission's COE based measure of nominal wages in 2017. However, the LFS survey of earnings is independent of the measurement of hours worked, lending weight to a view of slowing wage growth in 2017.

2.40 This evidence of slowing nominal wage growth in 2017 must be balanced against the two other sources of earnings information which paint a more positive picture of strengthening earnings growth in 2017.

2.41 On balance, the Commission expects nominal hourly wage growth to have been around 1.0 per cent in 2017-18. This is below historic norms and is a notable downward revision to the Commission's view on hourly wages for 2017-18 published in December 2017. This also suggests that, with inflation of 2.0 per cent in 2017-18, real wage growth would have been negative at around -0.9 per cent.

2.42 The Commission is primarily concerned with the pathway of total annual earnings in Scotland. To an extent, slow growth in hourly wages in recent quarters has been offset by strong growth in hours worked, leaving total earnings less affected.

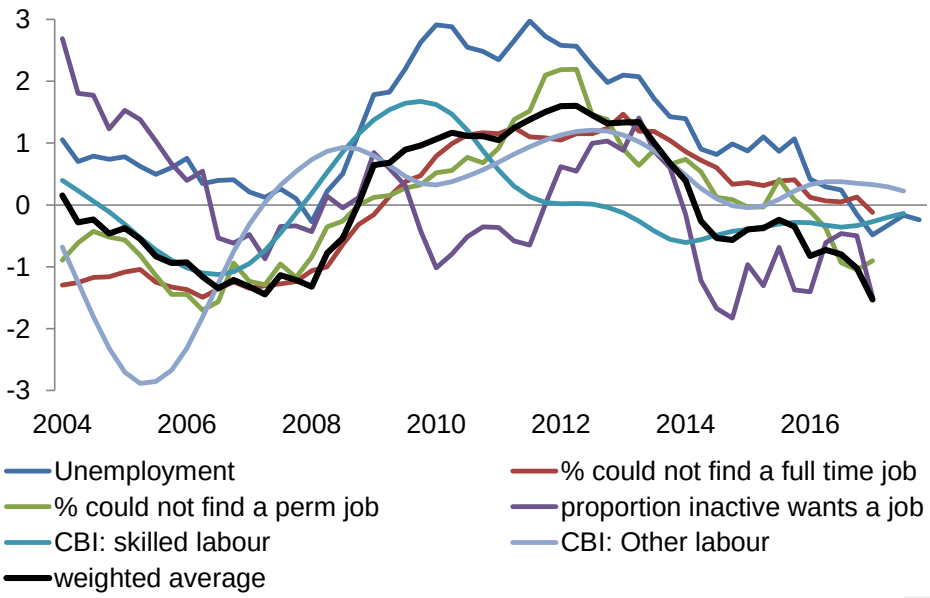
2.43 For this forecast the Commission has looked in more depth at wage growth in Scotland over the last ten years. These further developments in the Commission's analysis, as well as consideration of the latest data, has led the Commission to revise down its outlook for wage growth in Scotland relative to our December 2017 forecasts.

2.44 The Commission's judgement of 1.0 per cent nominal wage growth in 2017-18 is part of an ongoing trend of weak nominal and real wage growth. Real wage growth has been broadly negative since 2010 in Scotland, and it is important to understand the underlying reasons for this.

2.45 Wage growth is affected by a number of factors. In the long run, real wages are expected to grow in line with productivity. In the shorter term, real wages can be affected by labour market tightness, inflation, business profitability, uncertainty and some underlying structural factors.

2.46 The availability of labour is expected to have an impact on wages. When labour is in short supply, for example due to low unemployment, businesses have to compete to hire from a shrinking pool of potential employees, and may have to increase wages to attract talent. To explore this issue, the Commission has created a composite indicator of labour market slack. This is shown in Figure X below.

Figure X: Indicators of labour market slack and composite indicator



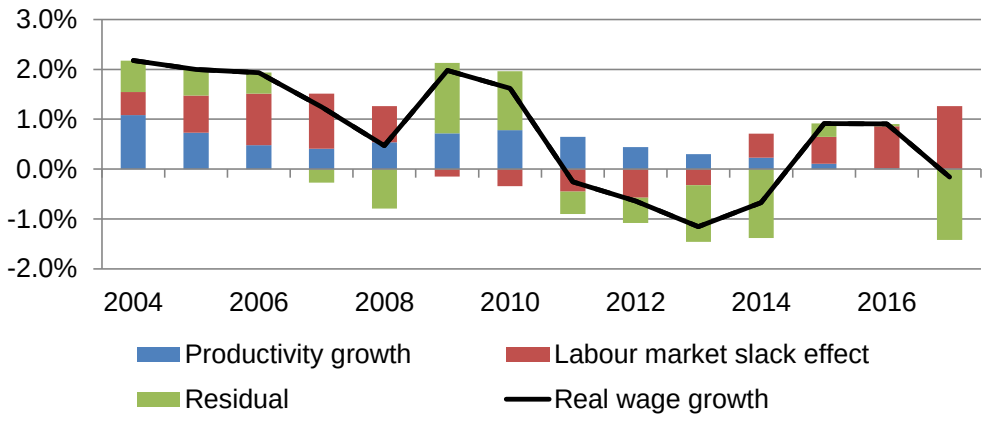
2.47 The Commission is using six different indicators of labour market slack from three different surveys. This includes the headline unemployment rate from the LFS, data from APS on individuals who aren't in permanent, full-time work but have indicated they wish to work more hours, and data from the CBI industrial trends survey on recruitment difficulties. In Figure X, all of these series are adjusted such that positive values indicate labour market slack, and negative values indicate relative labour market tightness. By weighting these series together, the Commission has created a composite indicator of labour market slack for Scotland.

Comment [AN14]: How are these weighted together?

2.48 All six available indicators show tightening in the Scottish labour market over the last five to eight years. Not only is unemployment at historic lows, but the number of individuals who are in part-time employment, temporary employment or economically inactive and say they would like to work more hours, are also near historic lows. Normally, such a degree of labour market tightness might be expected to lead to higher earnings growth, but this does not appear to be happening in Scotland. Figure X shows this in more detail.

Figure X: Contributions to real wage growth

Comment [AN15]: 2017 is a forecast year and not an outturn year so might fit better in the next chart?



2.49 Figure X illustrates how productivity and labour market slack have contributed to real wage growth in Scotland since 2004. Following the effects of the financial crisis, real wage growth has been largely negative since 2010. As discussed above, there are more factors that affect wage growth than just productivity and labour market slack, and these are captured in the residual category.

2.50 Since 2011, productivity growth in Scotland has slowed while the labour market has gradually tightened. For the most part, real wage growth has been significantly weaker than we would have expected given the movements in these two factors. This suggests that something else apart from productivity

and labour market slack, one or more of the factors in the residual category, have been acting to slow real wage growth in Scotland.

2.51 This holds apart from a short period in 2015 and 2016 where real wage growth in Scotland was positive and broadly in line with productivity and labour market slack. In these years, inflation dropped to near zero and was very slow until mid-2016. A degree of nominal wage stickiness and a slow response to lower inflation will explain much of the increase in real wage growth in these years. That is, nominal wage growth stayed broadly the same as in previous years, but very low inflation meant higher real wage growth. As inflation picked up again towards the end of 2016, nominal wage growth remained low and stable, leading to another period of declining real wages.

2.52 Taking a view of the period 2011 to 2017 as a whole, real wage growth has been weak and weaker than would have been expected given movements in productivity and labour market slack. This has important implications for the Commission's forecast. Whereas previously we may have expected a tightening labour market to contribute to higher real wage growth, the recent evidence suggests there are other factors playing a significant role in wage growth in Scotland at present, and these may continue to restrict wage growth irrespective of the degree of labour market tightness.

2.53 We expect the factors acting as an additional drag on real wage growth between 2011 and 2017 to include:

- Particularly in the early part of the period, the on-going impact of the financial crisis on businesses affecting business confidence; increasing uncertainty; and reducing profitability. Uncertainty and low profits will have limited wage settlements.
- Other more recent factors affecting business confidence and certainty such as the changing UK-EU relationship.
- Rising non-wage labour costs further reducing the scope for higher pay awards within tight budgets, including pensions auto-enrolment and the apprenticeship levy.
- A restructuring of the Scottish economy with the loss of high skill high pay jobs, particularly in the oil and gas supply chain and related industries following the fall in oil prices from 2014 and declining UKCS expenditure.
- The increasing role of automation and AI technologies in business processes. To some extent, this will have allowed businesses to avoid higher non-wage labour costs and recruitment difficulties by switching some functions towards more automated capital based processes, thus

avoiding the need to offer higher pay awards in the face of a tight labour market. Such increasing automation may mean higher productivity and GDP in the long run, but this may be reflected more in higher profits and return on capital rather than in the form of higher wages and compensation of employees.

- At the same time as a loss of medium and high-skill employment, an increase in more insecure and lower pay forms of employment, often described as an increase in the gig-economy.

- From 2016 onwards, sharp declines in construction sector output and activity, which is also relatively highly paid and highly skilled.

2.54 The outlook for real wage growth in Scotland depends on balancing the Commission's judgement on increasing productivity growth against the role of labour market slack and the impact of the factors discussed above. We expect real wage growth to be higher over the next five years than over the last five years, with real wage growth increasing from 2018-19 onwards. Our reasoning for this includes:

- Increasing levels of productivity over the next 6 years should start to feed through to real wage growth

- While the link between labour market tightness and real wage growth appears to be weak, we do expect on-going shortages of skilled labour to start to lead to some higher wage growth for higher earners

- For some lower earners, growth in the national living wage will have a significant effect on pay

- Higher public sector pay awards will lead directly to higher wage growth for those in the public sector. This may also spur higher wage growth in parts of the private sector where there is direct competition for labour

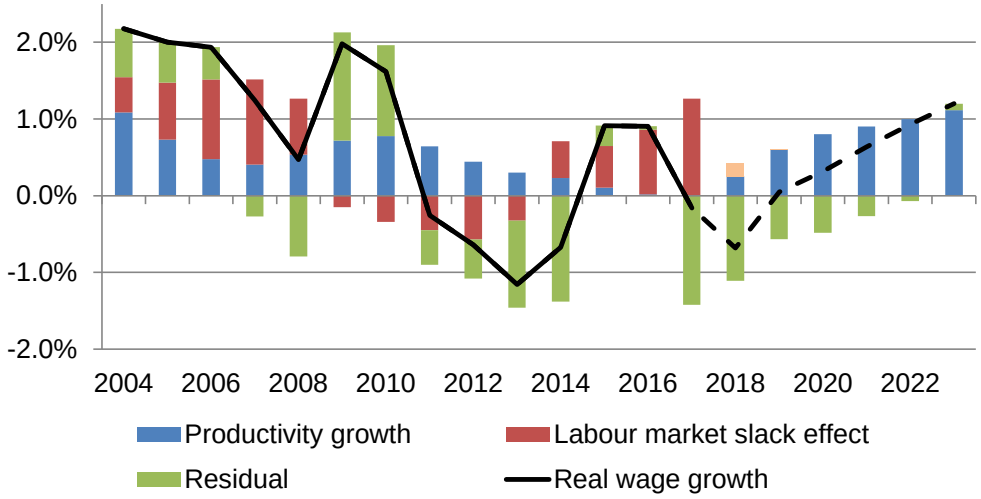
- Confidence and activity is starting to return to the oil and gas supply chain as prices have risen. While we do not think this is of sufficient magnitude to significantly alter the aggregate economic picture, this should lead to some pay growth within the sector

2.55 While these factors may lead to modest increases in real wage growth in the coming years, they will continue to be tempered by the factors listed in paragraph 2.53.

2.56 Figure X shows the Commissions forecast of real wages. In 2018-19, rising inflation, low productivity growth and the factors holding back wage growth

since 2010 are expected to lead to real wage growth remaining negative. From 2019-20 onwards, real wage growth is expected to start to increase due to the factors list above.

Figure X: Contributions to real wage growth, forecast %



2.57 Real wage growth has lagged trend productivity growth since 2010. We expect this is explained in part by capital deepening and businesses switching to greater automation of processes previously carried out by labour. Ongoing tightness in the labour market may only spur this process on. This has potentially significant implications for the way future economic growth is distributed between employees via wages and business owners via profits and dividends. An overall shift in the distribution of income from Compensation of Employees to dividends, for a given amount of economic growth, could act as a drag on future growth in Scottish NSND income tax liabilities. The Commission notes this as a downside risk to the outlook for real earnings.

6.3 UK Continental Shelf oil & gas activity

2.58 In our December 2017 forecast report we discussed our views on the outlook for the oil and gas supply chain industries in Scotland. Since our previous report, oil prices have steadily increased. However, oil prices are only one factor affecting the oil and gas supply chain, and our broad views on the outlook for this industry are unchanged. Our belief is that over the short to medium term the effect of UKCS activity on Scotland will largely be neutral, with potential downside risk should the levels of activity remain low and new investment in the basin limited.

2.59 As discussed at length in our previous report, and particularly in Box XX, prices, production, profits and tax revenues arising from UKCS activity does not directly affect onshore Scotland. Instead, it is the demand generated by UKCS activity in the onshore oil and gas supply chain, particularly via capital and operational expenditure, that affects our forecasts.

2.60 Perhaps the most notable development in the oil and gas sector recently has been movements in the oil price. Despite remaining highly volatile, oil prices have been on an upward trend since 2016, with Brent crude reaching about $75 per barrel in early 2018. This is shown in Figure XXX.

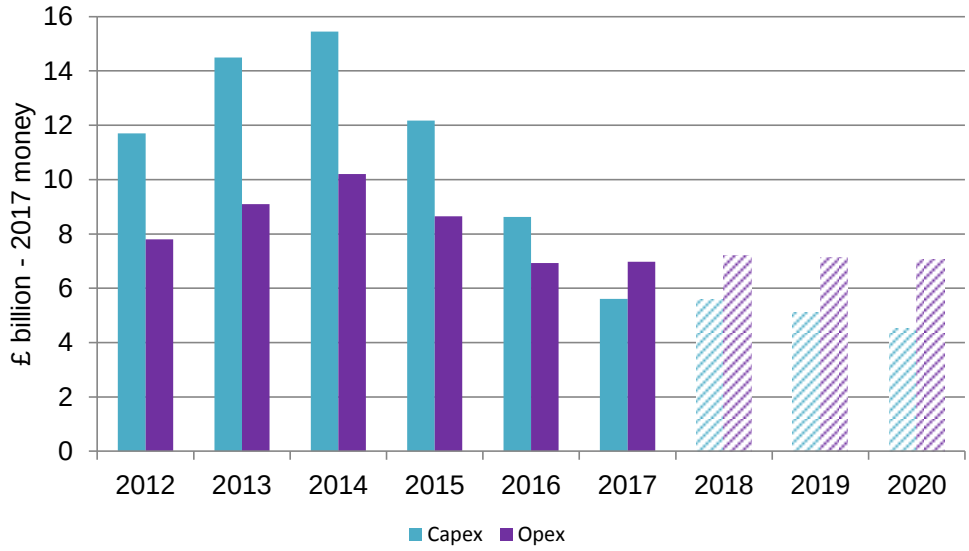
Figure XXX: Monthly Europe (ICE) Brent prices

Source: Intercontinental Exchange (ICE) (add link)

2.61 While the price increase may not have an immediate effect on revenues and expenditure, it is raising confidence within the industry. At the same time, the upward trend over the past two years could help ease concerns over volatility. These factors could help open up new investment in the basin.

2.62 As expected in the previous forecast, total expenditure in the UKCS continues to decline, as shown in Figure XXX. Following intense cost reduction since 2014, operating expenditure stabilised in 2017. Nominal operating costs increased marginally, from £6.93 billion in 2016 to £6.98 billion in 2017 and average unit operating cost rose to £11.7/boe from £11.6/boe in 2016. Operating expenditure is forecast to remain relatively stable, around £7 billion (£12/boe average unit operating cost), over the forecast horizon.

Figure XXX: UKCS capital and operating expenditure



Source: Oil and Gas UK (link), (need to update the link here)

2.63 Capital expenditures continue to decline as major projects are close to coming on-stream. Capex was estimated at £5.6 billion in 2017, down from £8.6 billion in 2016 and a high of £15.45 billion in 2014. The fall in capital expenditures is being driven by low levels of approvals well as the effect of efficiency gains implying less capital is required. The growing confidence in the sector and upward trending prices should help unlock new investment in the short to medium term, slowing down decline in capital expenditures.

2.64 Our overall assessment is that the period of declining capital expenditure is coming to an end. Recent increases in confidence will help capital expenditure to level out over the next few years, but we do not expect it to return to the high levels seen during 2010 to 2014.

2.65 Decommissioning activity has been growing in the last few years, and continued in 2017, with expenditure rising to £1.8 billion from £1.2 billion in 2016. Decommissioning expenditure is forecast to remain consistent around £1.7-£2 billion per year over the next 3-5 years. This reflects that although the UKCS is growing, efficiency improvements are extending the life of existing assets and hence mitigating the rush to decommission.

2.66 Notwithstanding the challenges with new investment as well as closure of the Forties Pipeline System late in December, the UKCS was able to maintain production of petroleum and other liquid fuels at the same levels as in 2016, producing 1.63 million boe/day. Production continues to be heavily driven by improved efficiency of existing assets. The short run outlook for production

remains positive through effective management of efficiency on existing assets. However, medium term supply is heavily dependent on new fields coming on-stream.

2.67 Looking at operating expenditure, despite the trend in prices since 2016 as well as sustained high levels of off-shore production, the onshore supply chain is yet to benefit and is still dealing with the consequences of the downturn. Turnover fell by 15.5% in 2016 and 2017 data[10] indicates on-going declines in turnover across the supply chain[11]. Additionally, the number of jobs supported by the industry fell in 2017, though at the slowest pace since 2014. The supply chain is currently operating around minimum capacity and likely to remain challenging for the foreseeable future.

2.68 The Commission's view on the UKCS and its impact on the Scottish onshore economy is largely unchanged from our previous forecasts. While acknowledging the trends in oil prices, resilience of production in UKCS and the gradual build-up of confidence in the oil and gas industry, the Commission also notes that uncertainty on the future of oil prices remains high and continues to hold investment. Additionally, movements in Sterling-US dollar exchange rates have worked to offset some of the potential benefits of the price rise. Notably, there is limited feed through to activity in the supply chain, which currently remains very low.

2.69 As a result, the Commission finds that recent developments in the oil and gas sector are as yet not sufficient to change its core outlook on UKCS activity, however there is a materially lower downside risk to the forecast from the oil and gas industry. The our view is that over the next five years, the oil and gas industry will have a limited impact on onshore growth, either positively or negatively.

6.4 Impact of the UK's changing relationship with the EU

2.70 On the 23 June 2016 the UK electorate voted to leave the EU. On 29 March 2017, the British Government invoked Article 50, triggering the process for the UK to begin leaving the EU by March 2019. At the time of preparation of our forecasts, with negotiations still taking place, the outcome of this process remains uncertain.

2.71 Since our previous forecasts, the UK Government and the European Union have agreed the terms of a 'transition period', scheduled to last from 30 March 2019 until 31 December 2020, during which the UK would remain part of the

[10] Preliminary reports based on the first 9 months of 2017.

[11] Reservoirs, wells, facilities, marine and subsea, support and services.

single market. However the deal will only come into effect if an overall withdrawal agreement is signed and ratified by March 2019.

2.72 The transition period would mean that there would be very little change in the UK's relationship with the EU prior to December 2020. Trade between the UK and the EU is expected to continue on current terms during this period. The UK will also be able to strike future trade deals with other non-EU countries, on the basis that these do not come into force until 1 January 2021. Freedom of movement will also be maintained. EU citizens and their families arriving during the transition period will be allowed to live, work and study in the UK on the same conditions as those who arrived before the referendum, but will need to register if they choose to remain for longer than three months. As under existing rules, they can apply to stay indefinitely by acquiring 'settled status' once they have been in the UK for five years.

2.73 Currently there are no firm plans about the UK's future immigration system and the new rules to control the number of EU migrants coming to the UK after the end of the transition period. The outcome will depend on further policy development by the UK authorities and on the continuing negotiations with the EU.

2.74 There is also ongoing uncertainty over the UK-EU permanent future economic partnership. While more information has become available since our last forecast about the respective trade negotiating positions, there continue to be a number of rapid political developments. The British Prime Minister remains committed to leaving the single market and the custom union, and has put forward proposals for a new kind of trade agreement which is different from existing trade models between the EU and other countries.[12] This aim of this bespoke agreement is to maintain the freest possible access to the single market for services and to avoid the creation of regulatory barriers, while allowing the UK to set up its own trade deals around the world. On the other hand, the EU guidelines approved by the European Council of 23 March offered a close future relationship based on a classic free trade agreement, which would maintain zero tariffs and quotas on goods but covering limited services and with controls for rules of origins likely to apply. Discussions on a number of key issues such as agricultural policy and regulatory co-operation are still underway. It therefore remains unclear what the new customs arrangements after Brexit will look like and how the economic ties between the UK and the EU will be affected.

[12] UK government (2018) Prime Minister's Speech on the future economic partnership with the European Union, 2 March 2018 (link)

2.75 At present, there is no meaningful basis for predicting any particular end-point of this process on which to base our forecast. Even given a particular end-point of the negotiation process, the economic and fiscal implications would remain highly uncertain.

2.76 In response to this uncertainty, the OBR uses broad-brush assumptions about the outcome of the negotiation process and the impact on the UK economy. These assumptions are that:

- The UK leaves the EU in March 2019;
- New trading arrangements with the EU and others slows the pace of import and export growth; and,
- The UK adopts a tighter migration regime than that currently in place.

2.77 For its December 2017 forecasts, the Commission adopted a similar set of assumptions about both the potential outcome of the negotiation process and the resultant impact on the economy. These reflect a range of potential outcomes and impacts. The Commission is not attempting to pinpoint the exact impact of UK-EU exit on the Scottish economy. Nor does the Commission consider a counter-factual case of no UK-EU exit. The Commission's focus is the impact on the economy over the forecast horizon of five years. The full impacts of the UK-EU exit, both positive and negative, are likely to play out over a much longer time horizon.

2.78 The Commission's judgement is that the OBR's broad-brush assumptions continue to provide a suitable starting point for capturing the potential impacts on Scotland. We have therefore retained the same basic assumptions about the possible impact of Brexit that we made in our December 2017 forecasts.

2.79 Following the existing basic assumptions, the Commission broadly captures the impact through three channels:

1. Impact on migration – the Commission uses the ONS 50 per cent EU migration variant, with projected lower EU migration than in the principal projection
2. Impact on productivity – the Commission forecasts slow growth in productivity
3. Impact on trade – Using OBR assumptions, the Commission forecasts slower growth in Scottish international trade

2.80 These are discussed in more depth in the next sections. The Commission's judgement on the UK-EU negotiations was formed based on information available up to the time of the economy forecasts closing on 11 May. New

information arising since this date and before publication of this report would not significantly alter the Commission's view.

2.81 On 25 April 2018, following a request of the Treasury Select Committee, the OBR has confirmed that it could incorporate a prospective October EU exit agreement in its December Budget forecast to inform the Parliament's vote on the agreement, moving beyond its current Brexit assumptions as necessary. The OBR will consider the scope and robustness of the additional analysis involved and will assess whether this timetable can be delivered. In the same way, the Commission will continue to monitor progress in the withdrawal negotiations and to keep its Brexit assumptions under review for future forecasts.

7. The long run, productivity and potential output

2.82 In order to forecast the economy over the longer term, we seek to identify underlying trends, rather than assess shorter-term volatility. Our outlook for long-run trend growth in Scotland is summarised in our assessment of the potential output of the economy.

2.83 Potential output describes the maximum amount of output the economy can sustainably produce. While the economy may vary above or below potential output from one year to the next, potential output acts as the anchor for our forecasts over the longer term.

2.84 To build a picture of potential output, the Commission separately forecasts population, the labour market and productivity. The Commission set out at length its approach to modelling and forecasting potential output in its March publication XXXXXX.[13] The approach used in these forecasts is largely unchanged since this March publication and the forecasts published by the Commission in December.

2.85 This section presents:

- An update on the Commission's outlook for productivity
- The Commission's judgement on long term potential output

Productivity

2.86 The growth rate of productivity appears to have been slowing since 2004, with the financial crisis exacerbating this trend. The Commission estimates that trend productivity in Scotland has grown at an average of 0.5 per cent per

[13] XXXXX

year since 2008, compared to an average growth rate of 1.6 per cent per year prior to 2008. The Commission's judgement on productivity is a balance between the more recent observations and the longer-term trend, as shown in Figure 2.9.

2.87 The Commission has reduced its assumption for trend productivity growth in 2018-19 from 0.5 per cent to 0.25 per cent. This is due to both new data released since our previous forecasts in December 2017 and further reflection on the overall pathway of productivity. As discussed in section X, productivity growth was largely negative in 2016 and 2017. However, we see this as a short-term, temporary issue. The Commission models trend growth in productivity in 2016 and 2017 of 0 per cent.

Comment [IP16]: See previous comment on para 2.33

2.88 Over the last two years, as discussed in Section X, the labour market in Scotland has been tightening, and we expect the labour market to now be near maximum capacity. Over this period of time, productivity growth has been exceptionally weak. Looking ahead, assuming capacity to hire labour is limited, businesses looking to expand would have to focus on increasing labour productivity, either through training or through capital investment. On the one hand, limited capacity in the labour market may spur a revival in productivity growth. On the other hand, the structural changes leading to the slowing of productivity growth since 2004 may continue to suppress productivity growth irrespective of the degree of labour market slack.

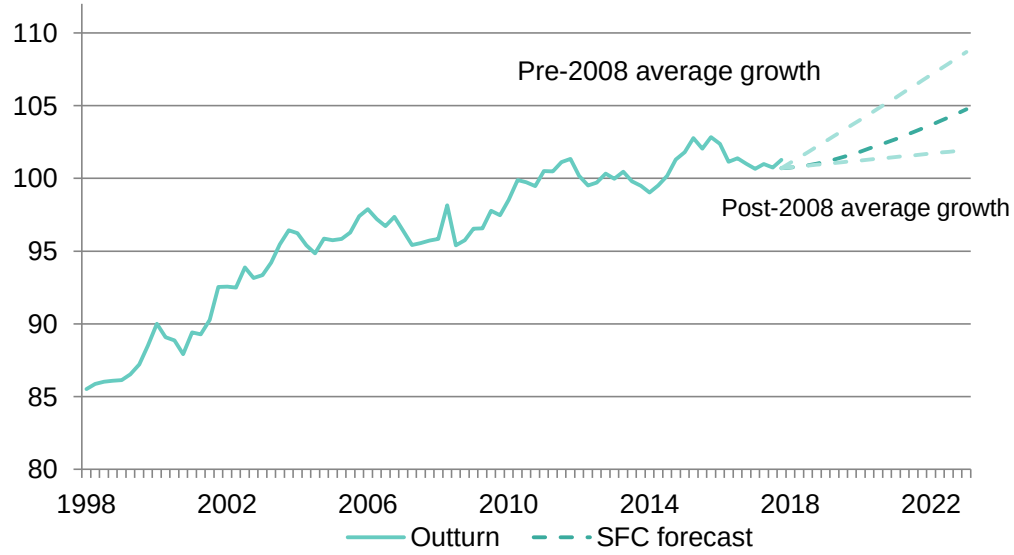
2.89 The Commission sees merit in both of these perspectives, and our outlook for productivity is a balance between the apparent longer term structural issues and the possible shorter term impact of tightening labour market conditions. We expect productivity growth to pick up to 0.25 per cent in 2018-19, before continuing to gradually increase over the next five years.

2.90 The Commission judges that the changing relationship between the UK and the EU will weigh on productivity growth. An open and trading economy, with strong flows of foreign labour and investment, is generally believed to provide for higher growth in productivity – all else equal. Lower levels of trade and migration, and a lower level of economic openness more generally, adds to the judgement that productivity in Scotland will grow at a slower rate than may otherwise have been the case over the next five years.

2.91 The Commission's core judgement on productivity is that the growth rate will remain at low levels in the near future before gradually returning towards historic levels. This would have been the case even without the additional impact of the UK-EU exit. The likely impacts of UK-EU exit reinforce our expectation of low productivity growth over the next five years.

2.92 From growth of 0.25 per cent in 2018-19, trend productivity growth is assumed to reach 1.1 per cent per year by the end of the forecast horizon. This is still someway below the pre-2008 average of 1.6 per cent. Growth in trend productivity is a key uncertainty in our forecasts and we present sensitivity analysis in Section X.

Figure 2.9: Historic productivity, low to high projections and forecast, constant prices (2014 = 100)

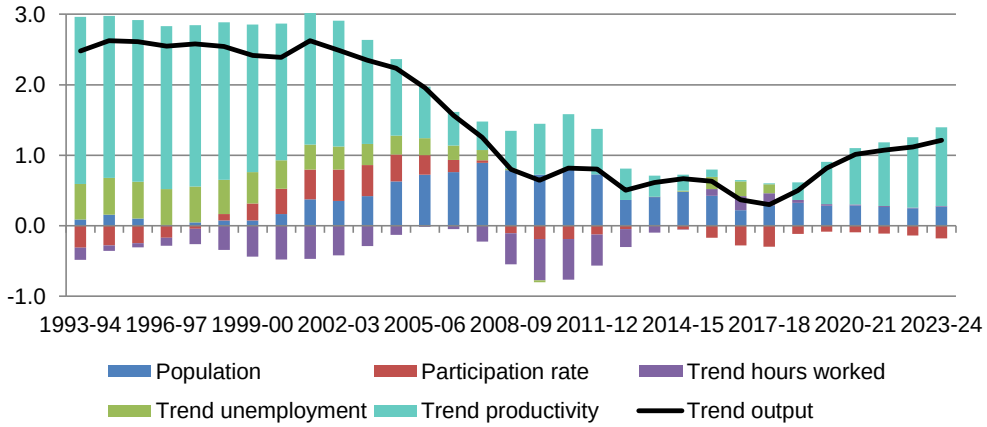


Source: Scottish Fiscal Commission

7.1.1 Forecast of potential output

2.93 Our forecast of potential output is shown in Figure 2.10 and Table 2.6, which includes the contribution of each of the components.

Figure 2.10: Potential output and contribution of components, financial year per cent growth



Source: Scottish Fiscal Commission

Table 2.6: Growth of potential output and contribution of components

	Potential output growth (%)	Component of potential output (%)				
		16+ population	16+ participation rate	Trend unemployment rate	Trend average hours worked	Trend productivity
2016-17	0.4	0.2	-0.3	0.2	0.2	0.0
2017-18	0.3	0.3	-0.3	0.1	0.2	0.0
2018-19	0.5	0.3	-0.1	0.0	0.0	0.3
2019-20	0.8	0.3	-0.1	0.0	0.0	0.6
2020-21	1.0	0.3	-0.1	0.0	0.0	0.8
2021-22	1.1	0.3	-0.1	0.0	0.0	0.9
2022-23	1.1	0.2	-0.1	0.0	0.0	1.0

Source: Scottish Fiscal Commission

7.2

8. Short-run forecasts

2.94 This section sets out our analysis on what is happening in the Scottish economy today and our forecast for the coming quarters. It is important to take caution when analysing short run economic performance as it is often significantly influenced by one-off events in sectors that experience high short run volatility in output.

2.95 Recent data releases indicate that the economy continues to grow below historic trends. Over the year, 2017 saw subdued economic performance with GDP growth of 0.8 per cent - which compares to our forecast of 0.7 per cent published in our last forecasts. This follows weak performance in 2016 when the economy grew by 0.2 per cent. The major drag to economic growth in 2017 has been construction, which fell by 3.8 per cent compared to 2016.

2.96 On a quarterly basis, the economy picked up modestly in the final quarter of the year, growing by 0.3 per cent in 2017 Q4 after registering 0.2 per cent growth in 2017 Q3. The quarterly outturn data compares to our previous forecasts of 0.1 per cent and 0.2 per cent for Q3 and Q4 respectively. Following the performance in 2017, our expectations for Scottish economic growth remain modest for 2018.

2.97 In spite of the sluggish aggregate economic performance, the Scottish labour market performed robustly in 2017 and going into 2018. However, on a quarterly basis, it was slightly weaker in Q4 compared to Q3; the employment rate fell by 0.4 percentage points in Q4 while the unemployment rate rose by 0.2 percentage points. Over the year, the average employment rate in Scotland averaged 74.7 per cent in 2017, compared to 73.7 per cent in 2016. The unemployment rate remains very low averaging 4.2 per cent in 2017. The increase in the employment rate has mainly been driven by a fall in economic inactivity.

2.98 The headline CPI inflation rate in the UK increased rapidly over the last year; annual inflation averaged 2.7 per cent in 2017 compared to 0.7 per cent in 2016. In the last quarter of 2017 inflation peaked at 3 per cent. Depreciation of Sterling was the primary cause of the rapid rise in inflation. The value of Sterling seems to be stabilising in 2017 Q4 and the beginning of 2018. As a result the effect of the depreciation is washing out. Inflation has started to fall at the beginning of 2018, with recent releases showing annual inflation of 2.5 per cent in the year to March 2018, the lowest in a year. The Commission's view is that inflation will continue soften in 2018.

2.99 As discussed in Section X of this report there have been mixed signals on wage growth in 2017 from different data sources. The Commission expects nominal wage growth to have been 1.0 per cent in 2017, weaker than the 3.0 per cent nominal wage growth in 2016. Despite tightness in the labour market,

nominal wage growth is expected to only gradually increase in the coming year as real wages gradually rise.

2.100 While the fall in the value of sterling has increased inflation, it has provided some support to net trade in the last year. Scotland has seen stronger growth in the value of exports to the rest of the world than imports from the rest of the world in 2017. This will have also been supported by growth recorded in international export markets. While most of Scotland's trade is with the rest of the UK, and net trade has been on average detracting from GDP growth since 2010, we expect net trade to make a positive contribution to growth in 2018-19 on the back of the sterling depreciation and global export market growth.

2.101 Moving in to 2018, economic data for 2018 Q1 will be marked by the impact of severe weather in early March. Heavy snowfall meant travel was severely restricted, affecting operations of a large number of businesses and organisations. Sectors such as construction and retail would have been particularly hard hit. Offsetting this, a large number of people worked from home, and some lost spending and activity will have been shifted to later in the quarter or in to the next quarter. Despite a slight pick-up in growth towards the end of 2017, we forecast quarter on quarter growth of 0.1 per cent for 2018 Q1, with the growth rate picking up in later quarters.

2.102 The impact of the severe weather events aside, unofficial Scottish economic indicators show resilience in economic activity at the beginning of 2018. The Bank of Scotland headline Purchasing Managers Index (PMI) indicates a marginal increase in the first three months of 2018. Output bounced back to growth in March after a slight contraction in February, driven largely by expansion in the service sector. The Scottish Chambers of Commerce (SCC) Quarterly Economic Indicator survey for 2018 Q1 reported strong business investment growth over the quarter and increased optimism across most sectors, with a positive outlook for sales, investment and job creation. The survey however cautioned that construction activity will remain fragile and recruitment difficulties persist. 2018 Q1 retail sales index for Scotland showed that both retail sales volumes and sales values grew by 0.5 per cent.

2.103 The Scottish Consumer Sentiment Indicator remained on a negative balance in Q1 of -1.8, however compared to the previous quarter the indicator rose by 2.4 points implying improving sentiment. The latest CBI Industrial Trends Survey of Scottish manufacturing firms signalled contraction in output, total new orders and employment in the first quarter of 2018. Scottish Engineering Quarterly Review signalled increasing optimism in the Engineering and Manufacturing sector. Domestic and overseas orders, output and staffing levels all increased in Q1 2018.

2.104 Table 2.7 presents the Commission's short run quarterly economic forecasts. Given the short run forecasts, we estimate GDP growth to be 0.8 per cent in 2018-19.

Table 2.7: Quarter on quarter growth rates, outturn and forecast, (%)

Quarter	GDP	Employment	Nominal wages
2017 Q1	0.6	0.1	0.4
2017 Q2	0.0	1.3	0.5
2017 Q3	0.2	0.2	-0.0
2017 Q4	0.3	-0.3	0.4
2018 Q1	0.1	0.2	0.4
2018 Q2	0.2	0.1	0.5

Source: Scottish Fiscal Commission, Scottish Government (2018) Quarterly National Accounts Scotland Quarter 4 2017 (link), ONS (2018) Labour Force Survey April 2018 (link), Note: Shaded cells are outturn

Comment [IP17]: 0.1. There are rounding issues when deriving the growth rate from the publication.

9.

The medium term outlook and the output gap

2.105 This section presents further detail on forecasts of:

- The output gap today
- The labour market
- Wages, earnings and household income
- Growth in GDP by component of expenditure
- Pathway of the output gap over the forecast horizon

9.1 The current output gap

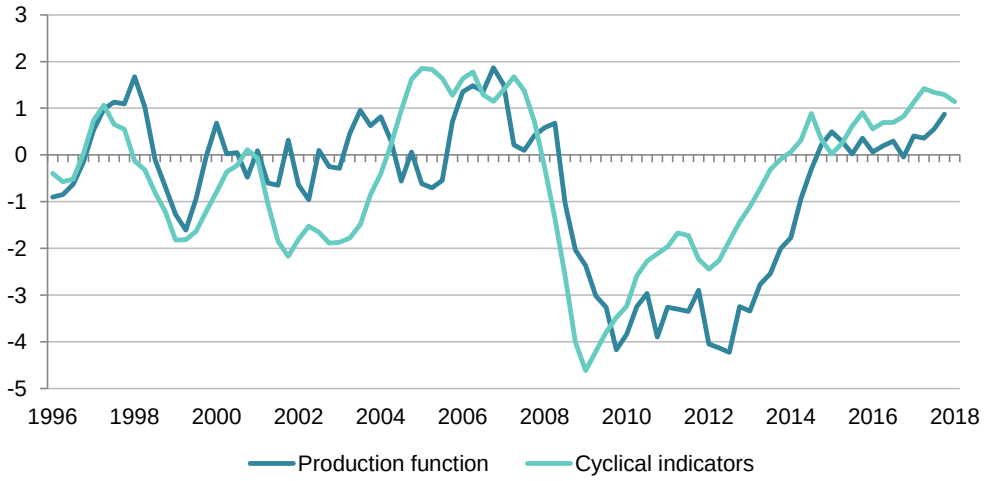
2.106 Potential output is the maximum amount of goods and services the economy can sustainably produce given sufficient demand. We estimate potential output directly by considering trends in the population, the labour market and productivity.

2.107 The difference between the Commission's estimates of potential and actual output determines the output gap in the economy. Our forecasts assume that the output gap will narrow over the forecast horizon, broadly returning actual GDP to its estimated long run trend.

2.108 As highlighted in our December 2017 forecast, the low unemployment rate, the low savings ratio, the temporary boom in the construction industry and slow productivity growth are all factors supporting a judgement that the economy is operating somewhat above capacity. Our modelling of recent trends, which we call our production function approach, suggests a positive output gap in 2017-18 of 0.7 per cent. This is a slight upward revision from 0.4 per cent since our previous forecast, and reflects weaker-than-expected trend productivity and lower potential output in 2017-18.

2.109 We compare this implied output gap against market intelligence and the available surveys of spare capacity in the economy. At present, surveys of businesses in Scotland suggest they are operating above capacity. We aggregate the results of these surveys together as an alternative indicator of the output gap in Scotland. This is called the cyclical indicators approach. Both of our approaches to estimating the output gap in Scotland suggest a positive output gap today as shown in Figure 2.11.

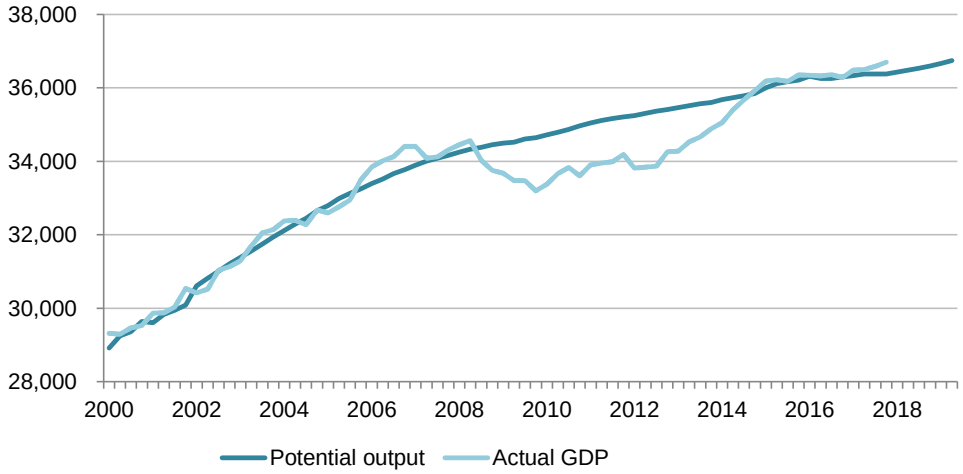
Figure 2.11: Scottish output gap comparison, % of trend GDP



Source: Scottish Fiscal Commission

2.110 While we place more weight on our production function approach to estimate the output gap, analysis of cyclical indicators gives us additional confidence in our judgement. Figure 2.12 shows actual output and our estimates of potential output.

Figure 2.12: Actual GDP and potential output, quarterly £ million 2015 constant prices



Source: Scottish Fiscal Commission, Scottish Government (2018) Quarterly National Accounts Scotland Quarter 3 2017 (link)

2.111 Our judgement is that the economy, after a period below potential, is now operating close to capacity, with a small but positive output gap. That is, the economy is understood to currently be operating slightly above its potential. The scale of the output gap is significantly less than that seen just before the financial crisis.

2.112 Growth of potential output and the size of the output gap today are both critical judgements for the five year forecast. For the positive output gap to close over the forecast horizon, the growth rate of actual GDP must, on average, be below the growth rate of potential GDP, and this is what the Commission's forecasts reflect.

9.2 The labour market

2.113 The unemployment rate in Scotland is near an historic low of around 4.1 per cent, which is unlikely to be sustainable as businesses struggle to find labour. For example, the latest set of quarterly economic indicators published by the Scottish Chamber of Commerce highlighted that recruitment difficulties continue to be a concern in a number of sectors.

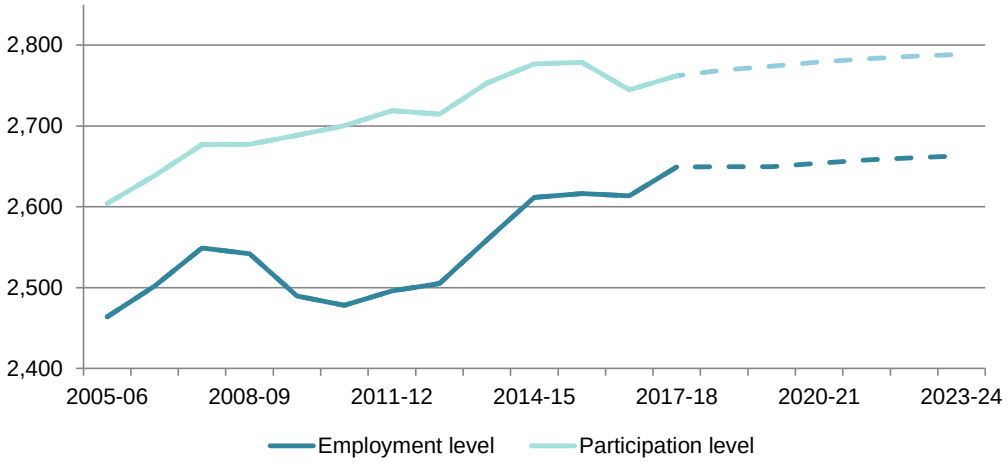
Comment [IP18]: Current figure is 4.3%

2.114 Given the recent very low levels of unemployment, the Commission has retained its judgement on the long run trend rate of unemployment to 4.5 per cent.

2.115 We assume the unemployment rate will gradually return to this trend rate over the forecast horizon. Despite this slight increase in the unemployment rate

from 4.0 per cent, because of the increasing size of the labour force, the employment level is expected to increase over the forecast horizon, as shown in Figure 2.13.

Figure 2.13: Employment and participation level, outturn and forecast, thousands of individuals



Source: Labour Force Survey (link), Scottish Fiscal Commission

2.116 Due to the current low level of unemployment and slower growth in the participation level, the employment level is expected to increase modestly compared to recent years.

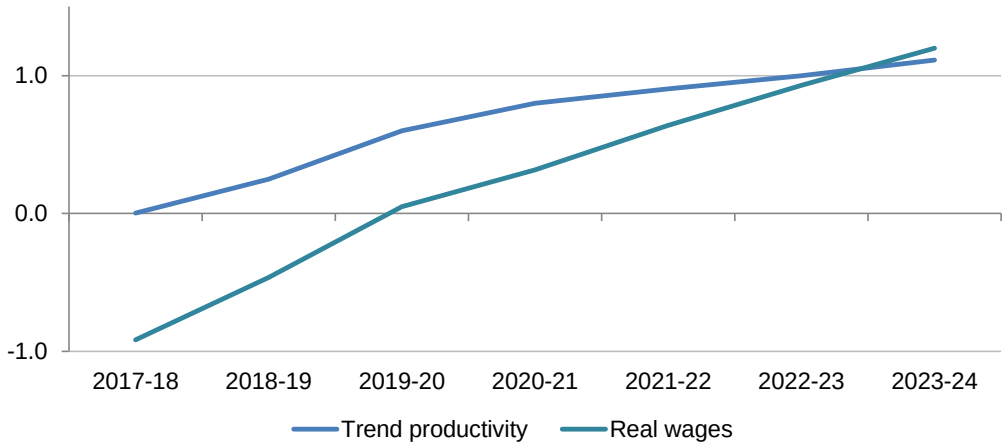
9.3 Wages, earnings and household incomes

2.117 Wages are the hourly pay of those in employment. Average earnings are the total average annual pay of those in employment and they are therefore also determined by average hours worked. Household incomes are affected not just by earnings, but also the proportion of individuals in employment, taxes, and by other sources of income such as income from wealth and from social security. Wages and employment are the main determinants of household income.

2.118 Section X set out our view on the outlook for real wage growth in Scotland. Real wage growth has been weak since 2010, with negative real wage growth in most years. Slow wage growth is explained in part by slow growth in productivity. However, wage growth has been slower still than might be expected given growth in productivity. Wage growth has failed to increase in recent years despite tightening labour market conditions.

2.119 Section X sets out a number of reasons why we expect real wage growth to start to increase over the forecast horizon, including growth in productivity and on-going labour market tightness. We expect real wage growth to remain negative in 2018-19 at -0.5 per cent, gradually increasing to 1.2 per cent by 2023-24. This is stronger real wage growth than in recent years, but still below typical levels of historic real wage growth of around 2 per cent. This is shown in Figure X.

Figure X: Real wages and productivity, annual growth (%)



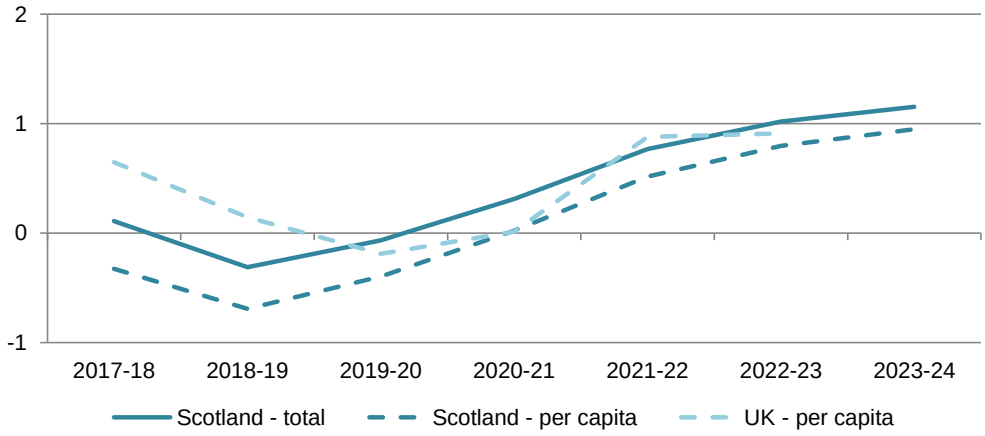
2.120 With inflation broadly flat at around 2 per cent, we expect nominal wage growth to pick up from 1.7 per cent in 2018-19 to 3.2 per cent in 2023-24.

2.121 Average hours worked in Scotland has been falling for some time, though this trend is expected to flatten out over the forecast horizon. Changes in average hours worked are not expected to have a significant impact on total household earnings.

2.122 Real disposable household income (RDHI) takes into account income from employment, from other sources such as dividends and the impact of changes in direct household taxes and social security transfers including pensions. Limited growth in real wages and employment means limited growth in average RDHI, shown in Figure 2.15

Figure 2.15: Real disposable household income, Scotland and OBR UK forecasts, total and per capita, financial year growth (%)

Comment [PS(19]: Total RDHI UK to add when available



Source: Scottish Fiscal Commission, OBR (2018) Economic and Fiscal Outlook November 2018 (link), Scottish Government (2018) Quarterly National Accounts Scotland Quarter 3 2017 (link)

2.123 In line with the OBR, we forecast very limited growth in RDHI per capita driven by slow growth in real wages and employment. However, because of slower population growth in Scotland, growth in total RDHI is only slightly above growth in RDHI per capita.

2.124 Growth of RDHI is the main determinant of aggregate consumption.

9.4

9.5 GDP and the components of expenditure

2.125 The Commission forecasts consumption, investment, government spending and net trade separately. These sum to create a pathway for GDP.

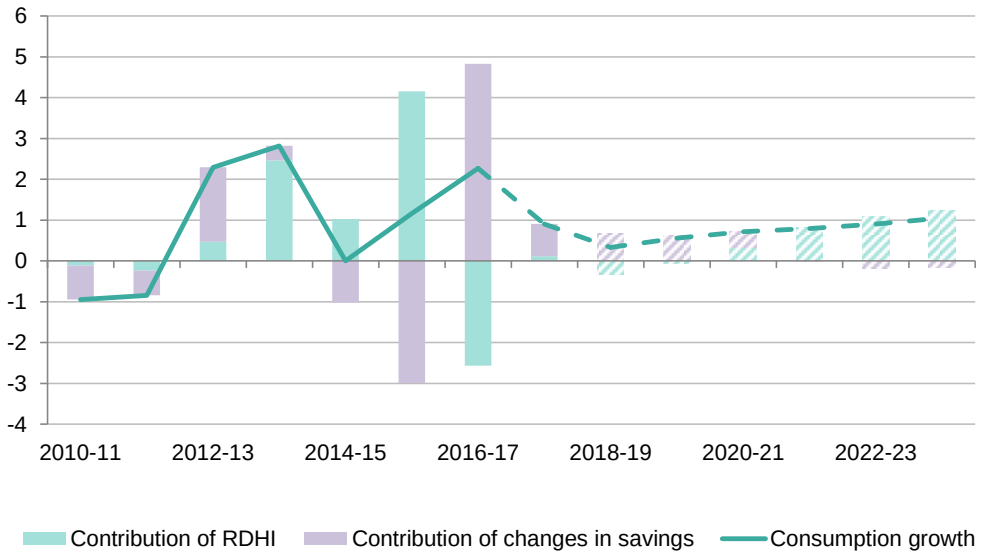
9.5.1 Consumption

2.126 During the period 2010-11 to 2016-17, consumption growth has been supported by households reducing their savings, or running down their financial assets or borrowing more. In our previous forecast we expected the rate of decline in the savings ratio to slow down in 2018-19 and remain flat for the rest of the forecast. Our view on the pathway for the savings ratio is broadly unchanged from December 2017. As shown in Figure 2.16, while we expect dis-saving to continue supporting consumption growth at the start of the forecast horizon, the positive contribution of changes in savings becomes increasingly smaller.

2.127 With growth in RDHI near zero and the savings ratio already close to an historic low, growth in consumption was slow in 2017-18 and is forecast to

remain close to this low level for the next two years. As the growth rate of RDHI picks up from 2020-21 onwards, consumption will start to recover. However, this growth will be tempered relative to previous years because of the neutral role of the savings ratio.

Figure 2.16: Consumption by contribution of components: RDHI and dis-saving, outturn and forecast, financial year growth rate (%)



Source: Scottish Fiscal Commission

9.5.2

9.5.3 Investment (private gross capital formation)

2.128 Private sector gross capital formation (GCF), more loosely referred to as investment, is a historically volatile component of GDP. Investment historically is a small component of GDP growth, contributing on average 0.2 percentage points to annual GDP growth.

2.129 Investment has been weak in Scotland in recent years, largely falling since 2015. After recent contractions we expect a small bounce-back effect in 2018-19, with investment making a small but positive contribution to GDP growth in this period.

2.130 For the five-year forecast horizon, on-going economic uncertainty, driven by weakness in the UKCS and UK-EU exit, is likely to limit investment growth in Scotland. In the later years of the forecast, investment is therefore expected to

flatten at the level achieved in 2018-19, neither contributing to or detracting from GDP growth from 2019-20 onwards.

9.5.4 Government

2.131 The public sector, including consumption and investment spending, accounts for over a quarter of the economy. Government spending is driven less by the economic cycle, and more by UK Government and Scottish Government policy decisions. The Commission models UK and Scottish Government spending plans to estimate the impact on GDP. The impact of changes in direct household taxes and social security policy is captured through its impact on RDHI, as discussed in the previous section.

2.132 For UK Government and local authority spending in Scotland, the Commission utilises OBR forecasts from March 2018.

2.133 For Scottish Government spending, the Commission asked the Scottish Government for its five-year spending plans as outlined in the 2018 Medium-Term Financial Strategy (MTFS). The baseline set of spending projections provided by the Scottish Government, covering the period up to 2022-23, are shown in Table XXX.

2.134 Table XXX also illustrates the Commission's forecasts of General Government consumption expenditure and General Government capital investment in current prices, after combining the Scottish Government spending projections from the MTFS with the Commission's forecasts of UK Government and local authority spending in Scotland. The constant-price forecasts of public sector output, also reported in Table XXX, are obtained using the OBR's assumption that, for any given forecast of nominal government consumption or investment growth, around half will be reflected in real growth and half in the implicit deflator.

2.135 The MTFS capital spending figures include the support of capital borrowing available under the provisions of the Scotland Act 2016. The Scottish Government has provided confirmed borrowing plans up to 2019-20, while decisions on whether and how much to borrow beyond this point will be taken in future budgets. For the economy forecasts we adopted the same judgements on borrowing plans from 2020-21 onward as discussed in Chapter X, assuming maximum possible borrowing over the five-year forecast period. We therefore expect that the Scottish Government will continue to borrow the annual limit of £450m in every year up to 2022-23 (taking our assumed repayment schedule into account) and to borrow a further £144m in 2023-24 to reach the overall £3 billion cap. The reduction in capital borrowing in 2023-

Comment [IP20]: The OBR does not publish forecasts of UK Government spending in Scotland (or, technically, local authority spending in Scotland), but rather spending by Scottish local authorities).

Comment [IP21]: The figures in the table below were provided to the SFC on 8 May, and were based on the R2 economy and income tax forecasts. As such, they are not consistent with the figures which will be published in the MTFS.

Comment [IP22]: See previous comment

24 is partly reflected in a GDP growth rate of 0.9% in 2023-24, revised down from 1.0% in our previous forecast.

Table XXX: Scottish Government's MTFS public sector spending plans and SF forecasts (£million)

	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
MTFS18 SG resource spending excl. Social Security (current £million)	26,159	26,750	27,570	27,737	28,057	28,858	29,521	*30,045*
SFC General Govt Consumption (current £million)	34,559	34,983	35,955	36,297	36,722	37,751	38,572	39,257
SFC General Govt Consumption (2015 £million)	37,998	37,466	37,641	37,930	38,229	38,648	39,078	39,449
MTFS18 SG capital spending incl. borrowing (current £million)	3,224	3,616	3,863	4,376	*4,545*	*4,536*	*4,676*	*4,*
SFC General Govt Investment (current £million)	5,886	6,137	6,121	6,885	7,205	7,230	7,454	7,378
SFC General Govt Investment (2015 £million)	9,905	10,801	10,806	11,106	11,419	11,566	11,636	11,654

Source: MTFS, Scottish Fiscal Commission, Scottish Government (2018) Quarterly National Accounts Scotland Quart (link)

Notes: figures in italics indicate the Commission's projections of MTFS plans into 2023-24. Resource spending in 2023-24 is grown in line with OBR forecasts of UK Government spending in Scotland, while capital spending in 2023-24 is based on its pre growth rate. We also assume capital borrowing of £450m from 2020-21, down to £144m in 2023-24.

With regards to General Government Investment, the figure for 2016-17 in current prices is taken from the Scottish Gov 2017 Q3 QNAS publication. The 2016-17 figure in constant prices which provides the starting point for our level forecasts is taken directly from our core forecasting model, therefore the constant-price forecasts in this table can differ from deflated nominal values.

9.5.5 Net trade

Comment [IP23]: See earlier comments. These figures are not consistent with those the MTFS

Comment [IP24]: As above

Comment [IP25]: As above

Comment [IP26]: Financial transactions form part of SG capital spending. They are not included in these figures

Comment [IP27]: As earlier comments

Comment [IP28]: I am unaware of any OBR forecasts for UK Government spending in Scotland, or of any OBR forecasts for 2023-24.

2.136 Historically, on average net trade has had a net negative impact on Scottish GDP growth, with growth in imports exceeding growth in exports. Net trade is made up of both trade with the rest of the UK as well as international trade. Trade with the rest of the UK is by far the larger component of Scottish trade. These two components are dealt with in turn.

Comment [IP29]: To note that there are no official estimates of the contribution to trade of real GDP growth. In nominal terms, the trade deficit has narrowed as a % of GDP since 1999.

This statement is therefore a matter of SFC judgement.

2.137 The changing UK-EU relationship is likely to have an impact on Scottish international trade. The Commission uses the OBR's forecasts of UK trade, reflecting the OBR's Brexit assumptions, as a starting point for modelling Scottish international trade. Changing trade agreements, possibly leading to the UK and Scotland being more closed to trade, will have a negative impact on both gross exports and gross imports, reducing the total volume of trade, but with an ambiguous impact on net trade. In addition, an on-going lower Sterling level is likely to support exports and limit import growth, while weakness in household spending power will limit import growth. In aggregate, Scotland's net international trade is expected to be broadly neutral for GDP growth over the forecast horizon.

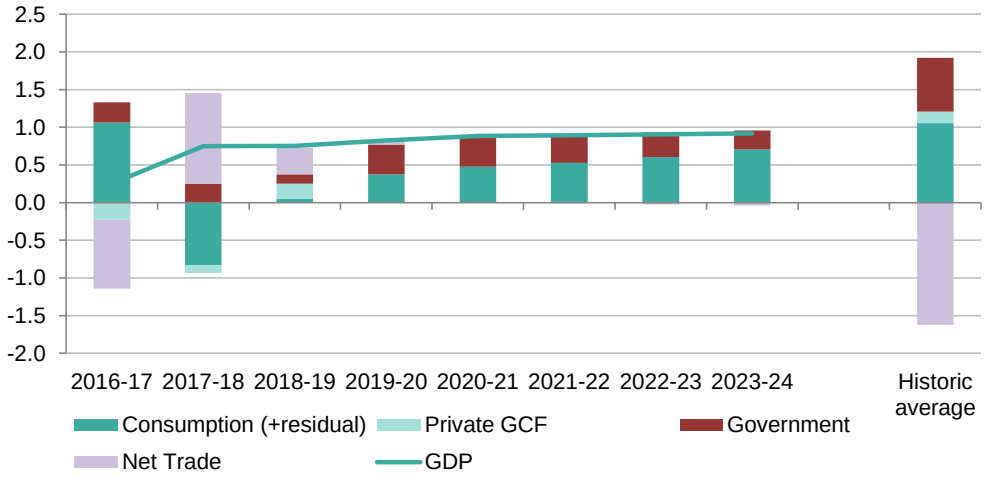
2.138 Scotland has long had a negative trade balance with the rest of the UK and this gap has been widening rapidly in recent years, with a negative effect on growth in GDP. Households in Scotland are expected to have slower growth in incomes than their counterparts in the rest of the UK over the next five years. The likely effect will be to slow the growth of the negative trade balance with the rest of the UK. We therefore forecast net trade with the rest of the UK to flatten out over the next five years.

2.139 Overall, Scottish net trade is expected to play a minor role in GDP over the forecast.

9.5.6 GDP

2.140 Figure 2.17 shows the contribution of each of these components to growth in GDP.

Figure 2.17: GDP and contributions by component, financial year growth (%)



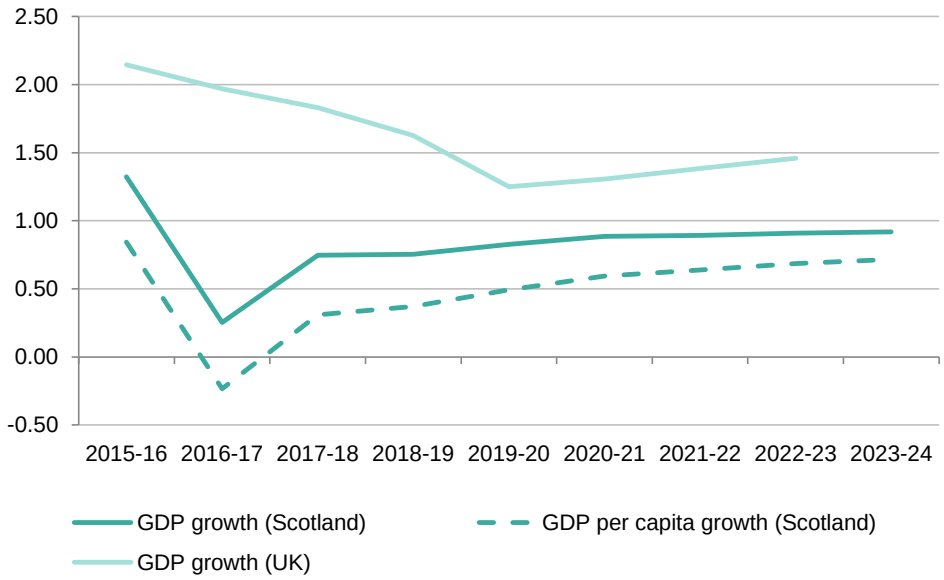
Source: Scottish Fiscal Commission
Note: Historic average is based on growth from 1998 to 2017

2.141 Compared to the OBR's forecasts for the UK, we forecast slower GDP growth for Scotland. As shown in Figure 2.18, this is in part because of slower population growth. Comparing growth in GDP per capita, we still forecast slower growth in Scotland than in the UK, though the size of the growth gap is significantly reduced.

Figure 2.18: **Forecast growth in GDP and GDP per capita, Scotland as forecast by the SFC and UK as forecast by the OBR**

Comment [IP30]: To note that these figures are out of date.

They were superseded by the GDP publication on 4 April.

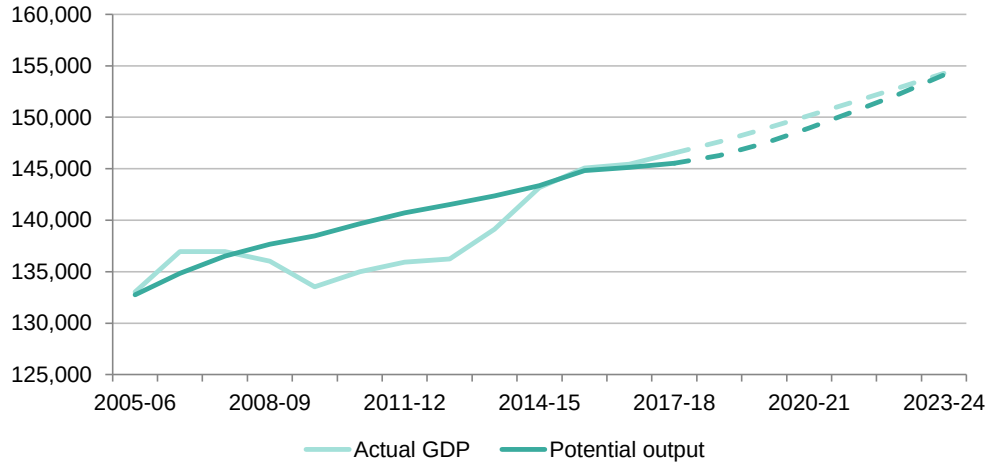


Source: Scottish Fiscal Commission, OBR (2018) Economic and Fiscal Outlook March 2018 (link), Scottish Government (2018) Quarterly National Accounts Scotland Quarter 3 2017 (link)

9.6 Pathway of the output gap over the forecast horizon

2.142 The Commission estimates that actual GDP is currently broadly in line with its trend, with a positive but small output gap. Based on the analysis described above the growth rate of GDP is expected to be broadly in line with potential output. The output gap is forecast to gradually close over the forecast horizon.

Figure 2.19: Potential output and actual GDP, outturn and forecast, financial year, £ million, 2015 constant prices



Source: Scottish Fiscal Commission

10.

11.

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17. Second round effects

2.143 Second round effects are recently announced changes in Scottish or UK Government policy that are judged to be of sufficient magnitude to affect the economy forecasts. Second round effects primarily capture any feedback from a change in policy on the economic determinants underlying the tax forecasts.

2.144 The impact of fiscal policies on the macroeconomy are hard to judge, often have long time-scales involved for any impact to be fully realised and will only

have a secondary indirect impact on tax revenues. Therefore, the Commission will only include such effects where it judges them to have a significant impact on tax revenues.

2.145 In this publication we have provided costings for two new policy changes announced by the Scottish Government. There has been a change to uprate the Carer's Allowance Supplement in line with inflation and the New Start relief has been removed for Non-Domestic Rates. Please refer to Annex A for further information on these policy costings.

2.146 In aggregate, these policies will affect the aggregate fiscal position of the Government by less than £10 million per year. These policies are not considered to be of sufficient magnitude to include as second round effects in the economy forecast.

2.147 There were a number of policies announced at Budget 2018-19, particularly on income tax and public sector pay. At the time, the Commission did not consider second round effects of these policies. These policies are now part of our baseline economy forecast, and so there is no specific economy forecast adjustment to take account of them.

18. Forecast sensitivities

Comment [u31]:
To be updated

2.148 The Commission is required to present a single set of forecasts for the economy, but in reality these represent a central point within a broad range of possible outcomes. The forecasts are primarily based on assuming recent underlying trends continue, with adjustments where evidence or judgement dictates. It is likely that in some instances the underlying trends the Commission has identified will change in unexpected ways in the coming years and the outcome for the economy will be different.

2.149 The Commission had to make a number of judgements about the likely future pathways of the economy. To capture uncertainty and illustrate the impact of these judgements, the Commission runs illustrative sensitivity analysis around its key judgements. This section presents the impact of variants of four key judgements in the forecast: migration, trend unemployment, average hours and productivity.

2.150 The Commission uses the 50 per cent EU migration population variant as its population forecast. The impact of higher migration is illustrated using the ONS' principal projection and similarly the impact of lower migration is illustrated using their low migration variant.

2.151 Trend unemployment is another uncertainty in the forecast and has a significant impact on the long run employment level. While the Commission judges that the trend unemployment rate has fallen recently, different variants are presented. These are for a trend unemployment rate of 4.0 per cent in a low scenario to 5.0 per cent in a high scenario.

2.152 Average hours worked are expected to stay flat over the forecast. The high average hours scenario assumes convergence of Scottish average hours with UK average hours over the forecast horizon. This represents an increase of 0.6 hours worked to 32.2 weekly hours by 2022-23. The Commission considers a symmetric fall of 0.6 hours by the end of the forecast horizon for the low hours scenario, which is approximately the fall in average over the historic period up to the financial crisis.

2.153 In the forecast, the growth rate of productivity is assumed to gradually increase from its current growth rate of around 0.5 per cent per year to reach growth of 1.0 per cent per year by 2022-23. In the low productivity variant presented here, the growth rate of productivity is assumed to remain at its current level of 0.5 per cent per year for the whole forecast. In the high productivity growth variant, the growth rate of productivity is assumed to be

close to 2.0 per cent per year in every year of the forecast, in line with growth rates seen prior to 2004.

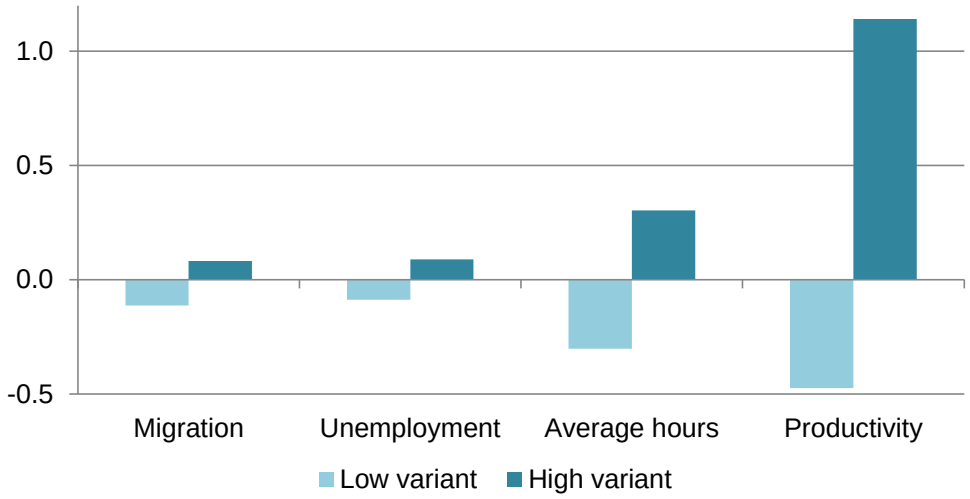
2.154 The impact of these variants on GDP, employment, and average earnings are shown in Table 2.8 and Figures 2.20 to 2.22. The impact on income tax revenues of these variants is shown in Chapter 3.

Table 2.8: Economic forecast variants, average growth rates of GDP, employment and average earnings from 2017-18 to 2022-23 (%)

	Forecast		Low variant	High variant
GDP	0.8	Migration	0.7	0.9
		Unemployment	0.8	0.9
		Average hours	0.5	1.2
		Productivity	0.4	2.0
Employment	0.4	Migration	0.2	0.4
		Unemployment	0.3	0.4
		Average hours	0.4	0.4
		Productivity	0.4	0.4
Average earnings	2.5	Migration	2.5	2.5
		Unemployment	2.5	2.5
		Average hours	2.2	2.8
		Productivity	2.0	3.7

Source: Scottish Fiscal Commission

Figure 2.20: Economy forecast variants, average deviation from central forecast of annual GDP growth from 2017-18 to 2022-23, percentage points



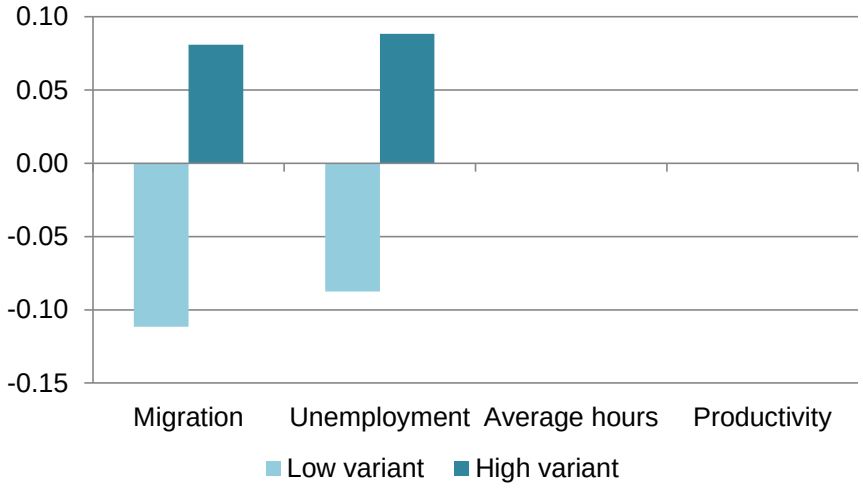
Source: Scottish Fiscal Commission

2.155 The central forecast is for GDP to grow at an average rate of 0.8 per cent per year from 2017-18 to 2022-23.

2.156 The migration and unemployment variants have a limited impact on GDP growth. The high and low average hours worked variants have a larger impact on GDP growth, up to an annual average of 0.3 percentage points over the forecast horizon.

2.157 The varying productivity assumptions have by far the greatest impact on the GDP growth rate. The Scottish economy would grow by an annual average of 1.1 percentage points more under the high productivity scenario, while it would grow by about 0.5 percentage points less under the low productivity scenario.

Figure 2.21: Economy forecast variants, deviation from central forecast of average employment growth from 2017-18 to 2022-23, (%)



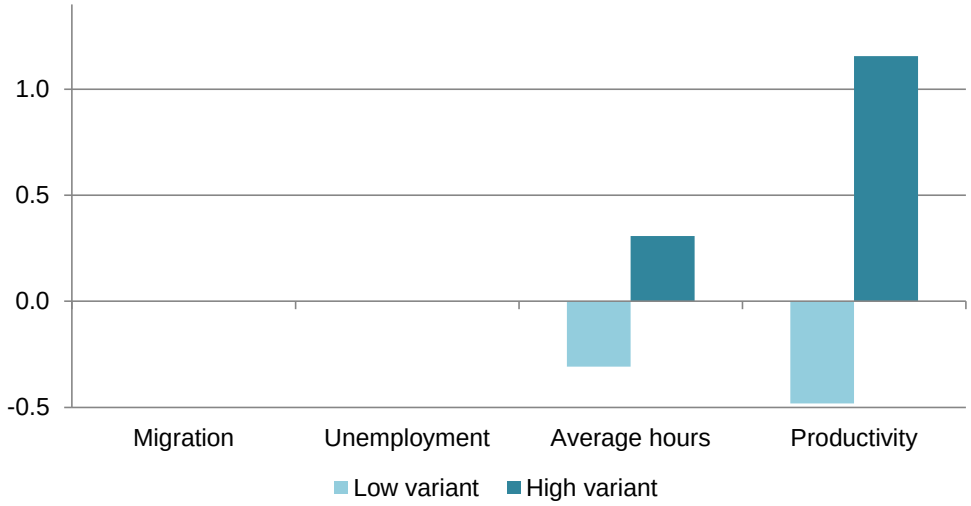
Source: Scottish Fiscal Commission

2.158 The central forecast for average annual growth in employment is 0.4 per cent. The employment level growth is affected by our migration and unemployment variants, with productivity and average hours having no direct impact in our model. [14]

2.159 The impact of migration and unemployment variants on employment is the same as the impact on GDP growth. The impact of migration and unemployment on GDP comes directly from their impact on employment level growth.

Figure 2.22: Economic forecast variants, average deviation from central forecast of average nominal earnings growth from 2017-18 to 2022-23, (%)

[14] This is unrealistic as a higher level of productivity is likely to increase wages and draw more individuals into the labour market. Such secondary effects are not captured in these simple sensitivity scenarios; the variants only illustrate the direct impacts on trend growth of the variants. Such considerations do not alter the broad message of the forecast sensitivities.



Source: Scottish Fiscal Commission

2.160 The central forecast for average annual growth in nominal earnings is 2.5 per cent over the forecast horizon.

2.161 Contrary to employment level growth, productivity and average hours variants have a significant impact on average nominal earnings growth. The migration and unemployment variants have no direct impact on the growth rate of average nominal earnings.

2.162 The impact of average hours and productivity variants on average nominal earnings is similar to their impact on GDP growth.

19. Comparison to previous forecasts

2.163 This is the second edition of economy forecasts published by the Commission. It updates our previous forecasts which were published in December 2017 to inform the Scottish Government's Draft Budget 2018-19.[15] Table 2.9 compares key variables from the December 2017 economy forecasts and our latest forecasts.

Table 2.9: Comparison of SFC May 2018 economy forecasts with SFC December 2017 economy forecasts, financial year

		2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
GDP	SFC Dec 17	0.7	0.8	0.9	0.6	1.0	1.2	
	SFC May 18	0.7	0.8	0.8	0.9	0.9	0.9	0.9
Employment	SFC Dec 17	2,655	2,658	2,658	2,661	2,666	2,670	

[15] Scottish Fiscal Commission (2017) Scotland's Economic and Fiscal Forecasts (link)

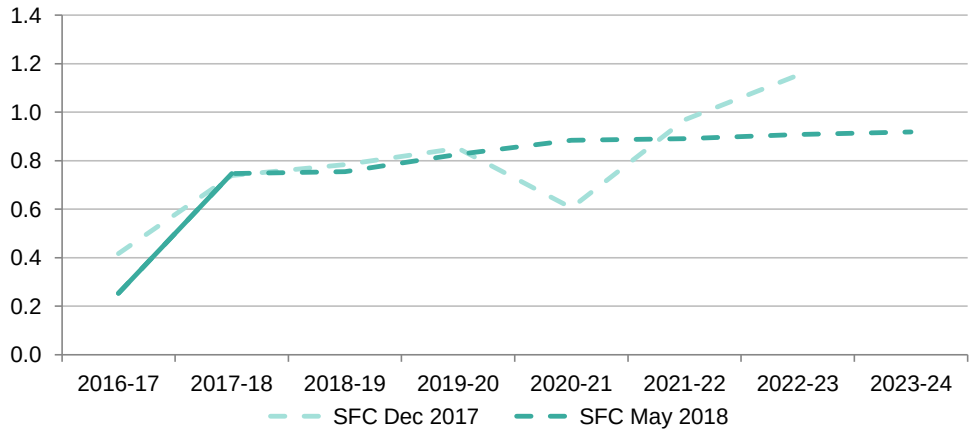
('000s)	SFC May 18	2,649	2,650	2,650	2,654	2,658	2,661	2,663
Unemployment	SFC Dec 17	3.9	4.2	4.4	4.5	4.5	4.5	
	SFC May 18	4.1	4.3	4.5	4.5	4.5	4.5	4.5
Nominal wages	SFC Dec 17	2.0	2.3	2.4	2.6	2.9	3.2	
	SFC May 18	1.0	1.7	1.9	2.3	2.7	3.0	3.2
Inflation	SFC Dec 17	2.4	2.1	1.9	2.0	2.0	2.0	
	SFC May 18	2.0	2.2	1.9	2.0	2.0	2.0	2.0
Real wages	SFC Dec 17	-0.4	0.2	0.5	0.6	0.9	1.2	
	SFC May 18	-0.9	-0.5	0.1	0.3	0.7	0.9	1.2
Hours	SFC Dec 17	-0.2	0.0	0.0	0.0	0.0	0.0	
	SFC May 18	-0.2	0.1	0.0	0.0	0.0	0.0	0.0
Average annual earnings	SFC Dec 17	1.8	2.3	2.4	2.6	2.9	3.2	
	SFC May 18	0.8	1.8	2.0	2.3	2.7	3.0	3.3

Source: Scottish Fiscal Commission and Scottish Fiscal Commission (2017) Scotland's Economic and Fiscal Forecasts (link)

2.164 The grey shaded cells in Table 2.9 show outturn data. Outturn data are shown as was available at the time each forecast was made. These values are subject to revision.

2.165 Figure 2.23 compares GDP growth rates from the two forecasts.

Figure 2.23: Forecast comparison, GDP financial year growth rate (%)

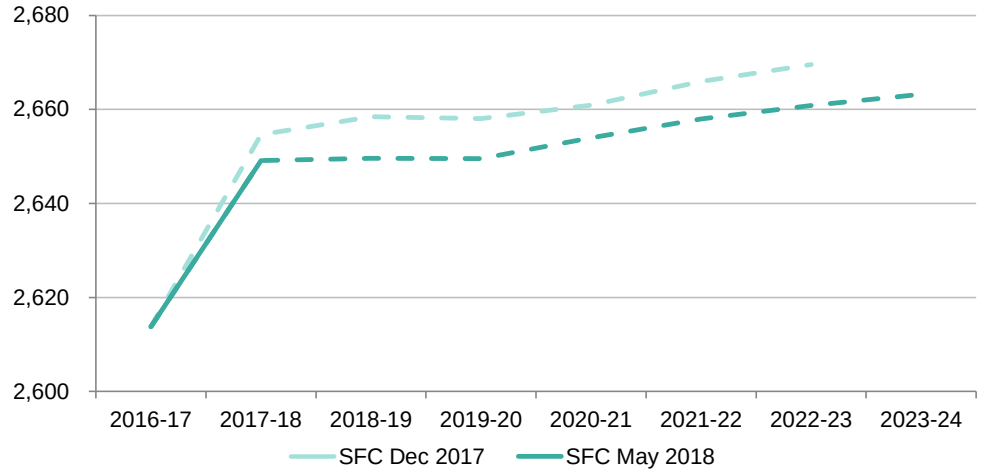


Source: SFC and Scottish Fiscal Commission (2017) Scotland's Economic and Fiscal Forecasts (link)

2.166 The latest forecasts by the Commission show a flatter profile for GDP growth than in the previous forecasts, reflecting a smoother pathway for the output gap as this closes over the forecast horizon.

2.167 Growth in employment and average earnings are the most important economic determinants in forecasting income tax. Figure 2.24 shows comparisons of employment forecasts.

Figure 2.24: Forecast comparison, employment level financial years (thousands)

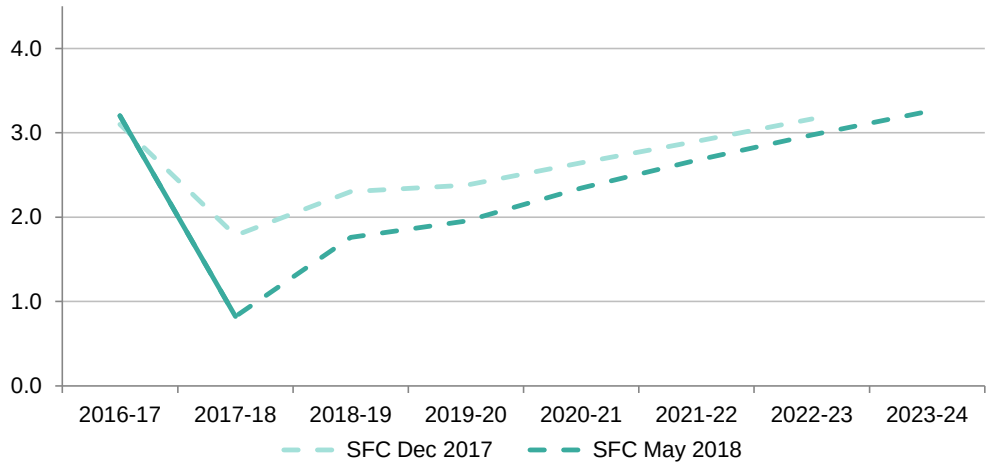


Source: Scottish Fiscal Commission and Scottish Fiscal Commission (2017) Scotland's Economic and Fiscal Forecasts (link)

2.168 The Commission forecasts the employment level to grow at a similar rate to its previous forecasts, though starting from a slightly lower base because of outturn data.

2.169 Figure 2.25 compares forecasts of average nominal earnings.

Figure 2.25: Forecast comparison, average nominal earnings, financial year growth rate (%)



Source: Scottish Fiscal Commission and Scottish Fiscal Commission (2017) Scotland's Economic and Fiscal Forecasts (link)

2.170 The Commission has revised down growth in average nominal earnings over the forecast period to reflect our view on the outlook for nominal and real wage growth as described in Section X. This has led to a weaker forecast of income tax revenues.

2.171 The impact of these changes on the fiscal forecasts are set out in Chapter 3.

20. Comparison to OBR UK forecasts

2.172 This section compares our economic forecasts for Scotland with OBR's forecasts for the UK.

2.173 We are forecasting a weaker economic outlook for Scotland compared to the OBR's forecast for the UK. This is primarily because of slower growth in population and slower growth in productivity than the UK.

2.174 Table 2.10 summarises the forecasts for Scotland and the UK by the Commission and the OBR for five of the main economic determinants: GDP growth, GDP per capita growth, employment level, real hourly wage growth and nominal annual average earnings growth.

Table 2.10: Comparison of SFC May 2018 Scottish economy forecasts with OBR March 2018 UK economy forecasts, calendar year, % year on year growth unless otherwise stated

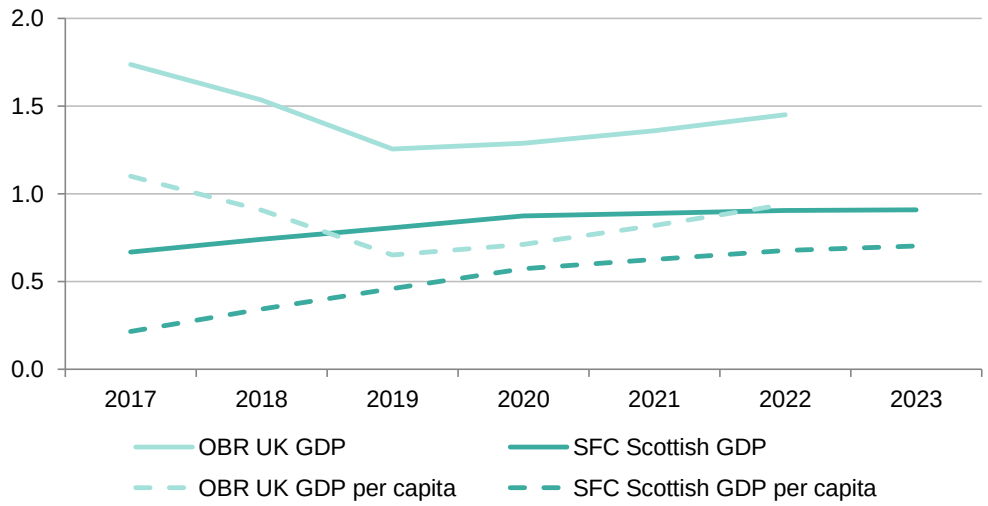
		2017	2018	2019	2020	2021	2022	2023
GDP	OBR March 2018	1.7	1.5	1.3	1.3	1.4	1.5	

	SFC May 2018	0.7	0.7	0.8	0.9	0.9	0.9	0.9
GDP per capita	OBR March 2018	1.1	0.9	0.7	0.7	0.8	0.9	
	SFC May 2018	0.2	0.3	0.5	0.6	0.6	0.7	0.7
Employment	OBR March 2018	32.1	32.2	32.4	32.5	32.6	32.7	
(millions)	SFC May 2018	2.6	2.6	2.6	2.7	2.7	2.7	2.7
Real hourly	OBR March 2018	0.9	0.4	0.8	0.6	0.7	0.9	
wages	SFC May 2018	-1.0	-0.5	0.0	0.2	0.6	0.9	1.2
Nominal annual	OBR March 2018	2.6	2.7	2.4	2.5	2.8	3.0	
average earnings	SFC May 2018	1.1	1.6	1.9	2.2	2.6	2.9	3.2

Source: Scottish Fiscal Commission and OBR (2018) Economic and Fiscal Outlook March 2018 (link)

2.175 Growth in Scottish GDP is expected to be significantly lower than in the UK. This is primarily because of slower population growth in Scotland. Growth in per capita GDP in Scotland is expected to converge with the UK, but to remain below the UK because of productivity growth also being slower in Scotland. This is shown in Figure 2.26.

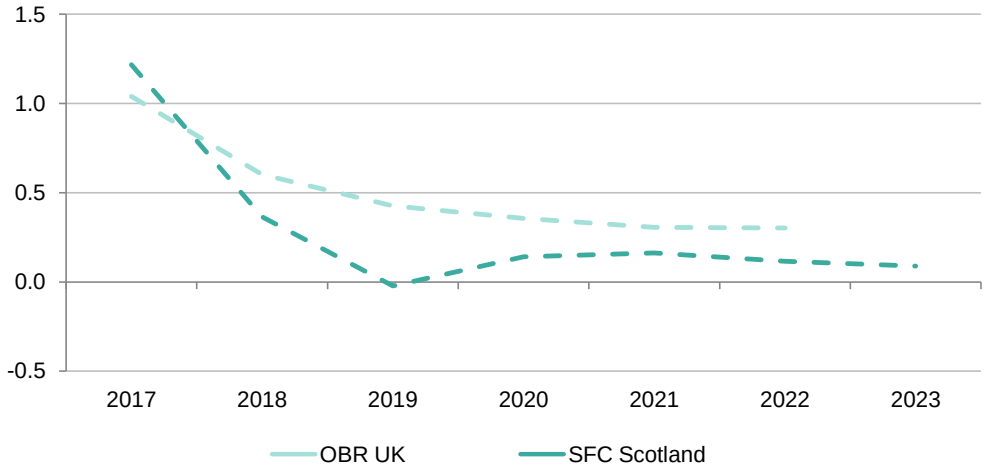
Figure 2.26: SFC May 2018 Scotland and OBR March 2018 UK forecast comparison, GDP and GDP per capita, calendar year growth rate (%)



Source: Scottish Fiscal Commission and OBR (2018) Economic and Fiscal Outlook March 2018 (link)

2.176 As shown in Figure 2.27, the Commission forecasts employment growth in Scotland below the OBR's forecast for the UK. Again, this is mainly because population is forecast to grow faster in the UK.

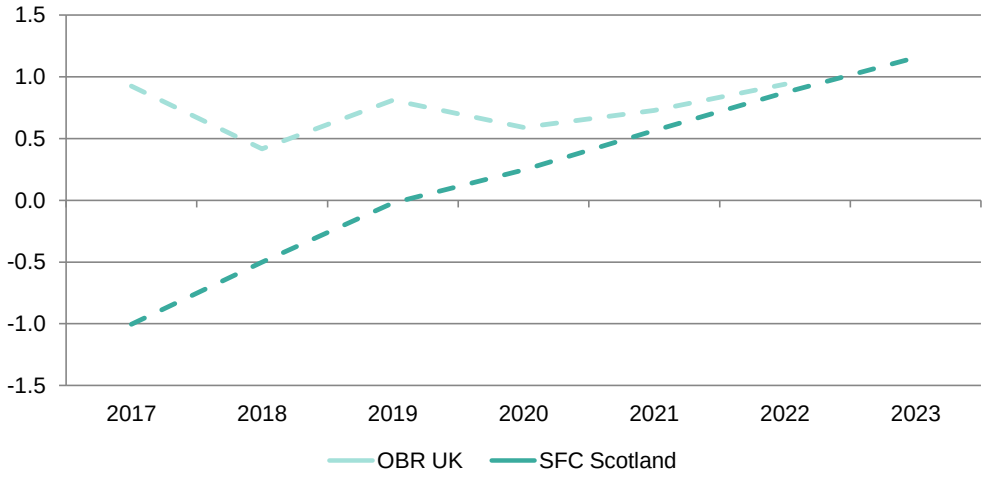
Figure 2.27: SFC May 2018 Scotland and OBR March 2018 UK forecast comparison, employment level, calendar year growth rate (%)



Source: Scottish Fiscal Commission and OBR (2018) Economic and Fiscal Outlook March 2018 (link)

2.177 Real wage growth in Scotland was negative in 2017, reflecting weak growth in productivity and nominal wages. It is expected to turn positive in 2019 and to grow in a similar manner as in the UK for the rest of the forecast period. This is shown in Figure 2.28.

Figure 2.28: SFC May 2018 Scotland and OBR March 2018 UK forecast comparison, real wages, calendar year growth rate (%)



Source: Scottish Fiscal Commission and OBR (2018) Economic and Fiscal Outlook March 2018 (link)

2.178 Forecasts for the UK are an important component in the Commission's forecasts for Scotland. We will continue to monitor developments in the UK as a whole and reflect on what these mean for the outlook for Scotland.