Scottish Fiscal Commission

Voluntary compliance with the Code of Practice for Statistics and Error policy

April 2022

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Foreword

This is the Scottish Fiscal Commission’s second Statement of Voluntary Compliance with the Code of Practice for Statistics. It reflects our experience over the past four years and also the newly revised Code.

We have found our Statement of Voluntary Compliance to be a helpful guide and discipline on a number of issues relating to transparency, such as the pre-announcement of our forecasts and other publications, and our approach to handling analytical errors and corrections.

We have had positive feedback including in our external review by the OECD. We were proud to be a winner of the prestigious Voluntary Application of the Code Award (now Award for Statistical Excellence in Trustworthiness, Quality and Value), given by the Office for Statistics Regulation in partnership with the Royal Statistical Society.

This revised statement covers the full scope of our first statement, including our approach to analytical errors and corrections, and also adds a new section on our approach to quality assurance.

Dame Susan Rice DBE

Professor Francis Breedon

Professor David Ulph

13 April 2022

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Chapter 1
Statement of Voluntary Compliance

1.1 The Commission seeks to adhere to the highest standards for analysis possible. As an Independent Fiscal Institution (IFI), we are guided by the OECD principles for such institutions.[1] While we produce forecasts rather than official statistics, the Commission and our work voluntarily complies as much as possible with the principles of the UK Statistics Authority's Code of Practice for Statistics.[2]

1.2 The Code of Practice has three pillars: Trustworthiness, Quality and Public Value. Figure 1.1 below shows how these pillars provide a framework for the Commission to demonstrate voluntary compliance with many parts of the Code, in line with the Guide for Voluntary Compliance.[3]

Figure 1.1: Voluntary compliance with the Code of Practice for Statistics

Pillars	How we comply
Trustworthiness – trusted people, systems and processes	• The Commission is accountable to the Scottish Parliament. The members of the Commission are appointed by the Cabinet Secretary for Finance and the Economy after being approved by the Scottish Parliament. • The Commission recruits professional analysts from a variety of different backgrounds, including the UK and Scottish Civil Service, academia and the private sector. We also work with the Government Statistical Service (GSS), to ensure professional statistical standards are maintained and continuous professional development is offered. • The Commission has a designated Lead Official responsible for ensuring voluntary adherence to the Code of Practice. • The Commission has robust processes to protect data confidentiality, to ensure legal obligations are met. • The Commission has published a joint Protocol with the Scottish Government, which sets out the way we interact with the Government in producing our forecasts and other reports.[4]
Quality – robust data, methods and processes	• The Commission has a statutory duty to make explicit all assumptions and risks that underpin our forecasts. • We are transparent about methods and data used, sources of uncertainty and the sensitivity of the forecasts to different assumptions. We publish spreadsheets and supplementary spreadsheets alongside all our reports with additional details of our forecasts and data used. • We draw on the best available sources of information, using statistics that are in the public domain and designated as

[1] OECD Recommendation on Principles for Independent Fiscal Institutions (link)
[2] UK Statistics Authority Code of Practice for Official Statistics (link)
[3] UK Statistics Authority A guide for the Voluntary Application of the Code of Practice for Statistics (link)
[4] Protocol for Engagement with the Scottish Government (link)

	National or Official Statistics where possible. We note any uncertainties or limitations in data sources used. • To ensure the quality of our models and judgements we consult with external experts such as academics or the Scottish Commission on Social Security.
Public Value – statistics that serves the public good	• The Commission's forecasts are used in the preparation of the Scottish Budget. They are used by Parliament in the scrutiny of the Scottish Budget, to inform debate and improve information on the public finances available to policy makers. • The Commission makes available all its forecasts, and determinants of its forecasts, in forms that encourage reuse. • We make our publications and website accessible to ensure they reach a wide audience. • We develop publications and analysis in response to user demand.

Source: Scottish Fiscal Commission

1.3 Our commitment to the pillars of the Code of Practice for Statistics is entrenched in our strategic objectives, as set out in our Corporate Plan.[5] These are as follows:

- provide robust, independent, official forecasts of Scotland's economy, devolved tax revenues and social security spending
- explain what our forecasts and analysis mean for the Scottish Budget
- analyse and explain the medium and longer term risks to the Scottish Budget
- be an effective and efficient organisation with skilled, knowledgeable people

1.4 The Commission's Annual Report describes in detail how we ensure that these strategic objectives are met.[6]

1.5 Our organisation's values also reflect the pillars of the Code of Practice for Statistics. Everyone can trust our work because:

- we are independent – we are impartial, honest and objective
- we work well with others
- we are transparent and we promote transparency in Scottish public finances
- we explain complex matters clearly and make our work easy to access
- we produce quality work which informs public debate

1.6 We want to make sure that our work and our assessments can be trusted. Having the right values, and embodying them in all that we do, is essential for that. These principles guide how we go about everything we do and how we approach any new work, and they help us to be mindful of our longer term vision in our daily work.

[5] Scottish Fiscal Commission (2022) Corporate Plan 2022-25 (link)
[6] Scottish Fiscal Commission (2021) Scottish Fiscal Commission Annual Report and Accounts for the year ended 31 March 2021 – October 2021 (link)

1.7 Chapter 2 sets out our approach to handling analytical errors and corrections, also referred to as our error policy. This policy ensures we are transparent with our users about the source and impact of any analytical errors. We keep an internal record and review it regularly to ensure analytical errors are minimised and to improve our work.

1.8 We will review and update our statement of voluntary compliance and our error policy at least every three years.

1.9 As set out in the following sections, we also have some specific practical policies which describe how we seek to achieve voluntary compliance.

Approach to Forthcoming Publications

1.10 To ensure that all stakeholders are aware of when the Commission will be publishing reports, from February 2018 we have pre-announced forthcoming publications in news articles on our website and distributed it to our mailing list, setting out our publications for the next year.[7] We update the forthcoming publications each month, or in the event of confirmation of Scottish Government fiscal event dates.

1.11 These notices will comply with the following principles:

- The month of publications will be announced as far as possible in advance, up to a year if possible.
- The exact date of publications will be announced at least a month in advance where possible.
- Publications will be published at 9.30 am, unless there is a reason this is not possible, such as being tied to Parliamentary procedures. Our two forecast publications are usually published immediately following a Parliamentary statement by the Cabinet Secretary for Finance and the Economy.
- The notices will cover all the Commission's analytical publications and commentaries. We will not normally pre-announce our corporate and governance publications.
- The notice will be published in the first week of every month.

Approach to making information accessible

1.12 The Commission is committed to making our work accessible for a range of users and requirements, for example by producing summaries and infographics to explain complex matters clearly.

1.13 We are responsive to user needs and we survey our stakeholders and website users periodically to make sure we understand those needs. We also raise awareness of our work, for example through holding our own media conferences and open public events following the Scottish Budget.

1.14 The Commission launched a new website in 2019 and some areas of this were refreshed in 2021. There are still improvements to be made to ensure that our web content meets the requirements for accessibility as set out in the Public Sector Bodies (Websites and Mobile Applications) (No. 2) Accessibility Regulations 2018. We are committed to complying with these requirements by 31 March 2023.

Approach to quality assurance

1.15 This section sets out the Commission's approach to quality assurance (QA) of our products. Having rigorous QA procedures, in addition to an agreed error policy, is crucial to ensuring public confidence in our work. Our QA processes are aligned with UKSA guidance.[8]

[7] Scottish Fiscal Commission (2022) News (link)
[8] UK Statistics Authority guidance and resources (link)

1.16 For the purposes of quality assuring the output of our forecasting models, we follow a clear and stated model QA guidance and checklist. This is summarised in Figure 1.2.

Figure 1.2: Model QA checklist

Area	Description
Model instructions	• Description of model objectives, model scope and key outputs • List of data sources • Overview of model methodology • Key assumptions and judgements • Model schematic
Version control log	• Does the version control log enable forecast comparison and evaluation?
Structure	• Does the model have a clear layout? • Are the data, assumptions, calculations and outputs clearly identified? • Are the model code and calculations annotated? • Are key assumptions highlighted?
Formatting	• Is it clear which cells in the model need updated? (differentiation of input values and calculations by colour coding) • Does the model output follow a clear rounding convention?
Internal verifications	• Are there functions that check model output is correct and help identify any analytical errors? • Are calculations robust?
Data	• Is it possible to clearly identify when data were last updated and when next update is? • Are data sources clearly recorded? • Are data visualised to understand trends in historic data and identify outliers? • Are data limitations recorded?
Reporting	• Are outputs and analytical reports automatically generated by the model to minimise transcription error? • Is the model output assessed against other sources of analysis where available?
Model documentation	• Does the available documentation provide sufficient detail? • Are there any particular sections of the documentation that could be improved?

1.17 We undertake different rounds of QA on the final documents and spreadsheets for publication. This includes checking for:

- report readability
- internal document consistency
- consistency of the document with the Commission's style guide and with external references
- consistency between the document and supporting spreadsheets

1.18 We also share our near-final publications with external stakeholder organisations to comment on factual accuracy of relevant material in our reports.

Chapter 2
Approach to analytical errors and corrections

Introduction

2.1 Broadly speaking, analytical error is when we have made a mistake in our forecasting process, for example because data were incorrectly transcribed. This is distinct from forecast error, the difference between our forecasts and outturn data, which is a natural part of the forecasting process. All forecasts will contain a degree of forecast error because the future cannot be perfectly predicted. For clarity we describe these terms below:

- **Forecast error:** the difference between our forecasts and outturn data
- **Forecast revisions:** any changes in our forecasts over time
- **Analytical error:** when a mistake is made in the process of creating our forecasts
- **Corrections:** when an analytical error is corrected

2.2 Our quality assurance process means that analytical errors are infrequent. However, analytical errors will at times contribute to our overall forecast error.

2.3 This chapter sets out our approach to handling analytical errors and corrections. While we aim for this policy to be as clear as possible, it is not possible to account for every scenario which may occur and a degree of judgement may be required when classifying errors and determining the appropriate response.

2.4 Our approach to corrections is guided by the following principles:

- be transparent with users about the source and impact of the analytical error
- minimise the impact of analytical errors on decision making
- ensure our response is proportionate and orderly, and does not unfairly call into question other figures produced by the Commission

Forecast error or analytical error?

2.5 Figure 2.1 provides examples to help differentiate between forecast errors and analytical errors.

Figure 2.1: Forecast errors and analytical errors

Sources of forecast errors
Data revisions: the data we base our forecasts on can often get revised over time.
Model specification: all models rely on necessary approximations and simplifications to the real world. These simplifications can be a source of error. More accurate modelling can be done at a later date as more or different data and information becomes available, for example benefit start dates.
Incorrect judgements and assumptions: we need to make a number of judgements and assumptions in our forecasting process. These won't always be correct.
Unexpected events: events that simply cannot be predicted and controlled for in advance.
Analytical error: analytical error may sometimes contribute to overall forecast error.
Sources of analytical errors
Mechanical error: wrong cell referencing, typos, coding errors or other mechanical errors.
Omission: data or information we should have accounted for but have not included, if there is information available in the public domain which could have been used.
Flawed models: all models are imperfect and need to be developed and improved over time. However, when there is a significant failure in the logic, theory or structure of a model, this may be considered an analytical error, for example a tax calculation incorrectly specified.

2.6 Forecasting is an inherently uncertain process and we clearly flag the risks of forecast error arising from our models and judgements. When our models and judgements are based on sound reasoning, but still result in forecast error, we wouldn't consider this to be an analytical error, though we would still think about how to make improvements in the future. If our models or judgements have failed to take account of available information, then this may be classified as analytical error.

Approach to revisions

2.7 Our forecasts are revised each time we publish, as we adjust our outlook in line with the latest available data and information. Revisions to previously published forecasts can result from different factors, including: the availability of more and fuller data or information on which to base our forecasts; updates to our assumptions and judgements, and improvements to statistical methods leading to revisions in the historic data which feed into our models.

2.8 Our approach to revisions is guided by the following principles:

- to ensure the Commission is transparent with users about the source and impact of any revisions
- to ensure that decisions are not based on significantly superseded information
- to ensure the orderly revision of time series within the Commission's publications

2.9 We provide detailed information in our Scotland's Economic and Fiscal Forecasts (SEFF) and Forecast Evaluation Report (FER) publications to help users understand how and why our forecasts have changed, explaining the cause of the revisions and their effect on the forecasts.

Handling analytical errors and corrections

2.10 When an analytical error is identified we consider a number of factors to determine the best course of action which are set out below.

Did the analytical error affect any of our published information?

2.11 Analytical errors which did not affect our published information will be reviewed and managed through our internal quality assurance processes.

Figure 2.2: Published or unpublished error?

Published errors	Unpublished errors
Errors which are included in our publications and not found until after the publication has been made available.	Any other errors, including: errors found during quality assurance, before the document is made public, and errors occurring during our pre-publication process.

What's the scale of the analytical error?

2.12 We assess the scale of each analytical error when determining our response. We do this based on materiality and importance. We usually consider analytical errors individually, but if multiple analytical errors have occurred for one area it may also be appropriate to consider these together. Analytical errors should be classified within both categories: as material or non-material and as important or non-important.

- **Materiality:** this is based on the financial impact of the analytical error on the Scottish Budget, using our materiality thresholds. We classify analytical errors over our threshold to be material and analytical errors under our threshold to be non-material. For income tax and Non-Domestic Rates, we use our 'small' threshold (£5 million). For other taxes and social security, we use our 'negligible' threshold (£2 million).

- **Importance:** this allows a degree of judgement to be introduced into the classification. We classify analytical errors as important if they might have led to different decisions being made in the Scottish Budget, or if they are particularly high-profile or politically sensitive.

2.13 Analytical errors which are difficult to classify will be discussed within teams and, where appropriate, with our senior management team or Commissioners to ensure the correct response is taken.

2.14 Our error log lists all published analytical errors and states whether each was assessed as material or important.

Correcting analytical errors

2.15 We respond to errors in a number of ways, depending on their materiality and importance, as set out in Figure 2.3 below.

Figure 2.3: Materiality and importance matrix

Responses	Material and important	Material and non-important	Non-material and important	Non-material and non-important
Record in error log	Yes	Yes	Yes	Yes
Analyse and correct error at next opportunity (for example, SEFF publication) explaining its source and impact [1]	Yes	Yes	Yes	Yes
Inform the Scottish Government	Yes	Yes	Optional	No
Inform other interested stakeholders	Yes	Yes	Optional	No
Publish a correction notice [2]	Yes	Optional	Optional	No

[1] Scotland's Economic and Fiscal Forecasts (SEFF) is our main publication which we publish biannually setting out our five-year forecasts.
[2] A correction notice is placed in a re-issued version of the affected publication and a log of changes is published separately.

2.16 Our error log is a document to store a record of errors, the assessment made, and any responses. This document allows us to review errors and update quality assurance processes to reduce the chances of a similar problem recurring in the future.

Additional information

Abbreviations

FER	Forecast Evaluation Report
GSS	Government Statistical Service
IFI	Independent Fiscal Institution
OECD	Organisation for Economic Cooperation and Development
QA	Quality Assurance
SEFF	Scotland's Economic and Fiscal Forecasts
SFC	Scottish Fiscal Commission
SG	The Scottish Government
UK	United Kingdom
UKSA	United Kingdom Statistics Authority

A full glossary of terms is available on our website:

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

Professional Standards

The Commission is committed to fulfilling our role as an Independent Fiscal Institution, in line with the principles set out by the Organisation for Economic Cooperation and Development (OECD).[9]

Correspondence and enquiries

We welcome comments from users about the content and format of our publications. If you have any feedback or general enquiries about this publication or the commission, please contact info@fiscalcommission.scot. Press enquiries should be sent to press@fiscalcommission.scot.

For specific enquiries on our analytical policies and procedures, including our voluntary compliance with the Code of Practice for Statistics, please contact:

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[9] OECD (2014) Recommendation on Principles for Independent Fiscal Institutions (link)

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