Country and Regional Public Sector Finances: Scoping Study

February 2016

Author: Foyzunnesa Khatun

Office for National Statistics

Office for National Statistics

National Statistics and Official Statistics

National Statistics and Official Statistics are produced to high professional standards set out in the Code of Practice for Official Statistics. They are produced free from political influence.

About us

The Office for National Statistics

The Office for National Statistics (ONS) is the executive office of the UK Statistics Authority, a non-ministerial department which reports directly to Parliament. ONS is the UK government's single largest statistical producer. It compiles information about the UK's society and economy, and provides the evidence-base for policy and decision-making, the allocation of resources, and public accountability. The Director-General of ONS reports directly to the National Statistician who is the Authority's Chief Executive and the Head of the Government Statistical Service.

The Government Statistical Service

The Government Statistical Service (GSS) is a network of professional statisticians and their staff operating both within the Office for National Statistics and across more than 30 other government departments and agencies.

Contacts

This publication

For information about the content of this publication, contact: Foyzunnesa Khatun
Tel: 01633 651954
Email: foyzunnesa.khatun@ons.gsi.gov.uk

Other customer enquiries

ONS Customer Contact Centre
Tel: 0845 601 3034
International: +44 (0)845 601 3034
Minicom: 01633 815044
Email: info@statistics.gsi.gov.uk
Fax: 01633 652747
Post: Room 1.101, Government Buildings,
Cardiff Road, Newport, South Wales NP10 8XG
www.ons.gov.uk

Media enquiries

Tel: 0845 604 1858 Email: press.office@ons.gsi.gov.uk

Copyright and reproduction

Any enquiries regarding this publication should be sent to: info@statistics.gsi.gov.uk

This publication is available for download at: www.ons.gov.uk

Contents

Executive Summary

Increasing focus on the devolution agenda has highlighted the need for further statistics on a country and regional basis. An area where there is no single publication offering users country and regional statistics on a comparable basis are those related to public sector finances. There is a comprehensive suite of public finance statistics available at the UK level and a few at the country and regional (sub-UK) level. The producers of these statistics have agreed to work together to identify and where possible meet user demands for sub-UK public finances statistics. To this effect, ONS has conducted a scoping study to learn more about the existing sub-UK public finance statistics and assess their comparability for potential use in a Country and Regional Public Sector Finances publication, which would be an additional resource for users of the existing sub-UK public finance statistics.

ONS has identified four statistical publications that seek to provide public finance data by UK country and region, these are:

1. Country and Regional Analysis, HMT
2. Disaggregation of Tax Receipts, HMRC
3. Government Expenditure and Revenue Scotland, SG
4. Northern Ireland Net Fiscal Balance Report, DFPNI

The availability of public finance data on a sub-UK basis is limited; as such producing sub-UK estimates of public finances on a comparable basis is difficult. Methods have been introduced by the producers of these four publications to overcome these issues. The two main concepts are: 'who pays' and 'who benefits'. The 'who pays' concept apportions revenue on the basis of the location of those paying the tax. The 'who benefits' concept is used for estimating expenditure and is based on the location of those that benefit from the expenditure. It is envisaged that the data within these publications could form the basis of any future Country and Regional Public Sector Finances publication.

The methods used between these publications were found to be largely consistent, however some differences exist. These include:

1. Differences in the data sources and/or methods used for apportioning tax revenues from corporation tax; petroleum revenue tax; value added tax; stamp tax on shares and; air passenger duties.
2. Some differences in expenditure estimates between GERS and CRA – CRA forms the basis of GERS expenditure data; however a number of amendments are made in the GERS with the aim of better reflecting expenditure *for* Scotland.
3. HMRC's publication is on a cash basis, whereas GERS, NINFBR and CRA are on an accrued basis – which is in line with the UK Public Sector Finances publication.

In order for a Country and Regional Public Sector Finances publication to be produced, differences in methods will need to be harmonised and all tax revenue will be needed on an accrued basis. Additionally, the scoping study has highlighted some further considerations, these are:

1. Some revenue data is not available at a NUTS1 breakdown – currently the HMRC's publication produces estimates at a country level only. It is understood that to provide the same data disaggregated at the NUTS1 level would require establishing new methods of apportionment for certain taxes to avoid compromising the quality of the statistics.
2. Reconciliation between Country and Regional PSF and UK PSF – users would expect regional data to sum to the published UK totals. As such, when establishing the data sources and methods to be used for a Country and Regional PSF this will need to be taken into consideration.

This document forms part of the user consultation on sub-UK Public Sector Finances.

Key Terms

Term	Definition
Accruals/accrued recording	Financial recording based on when ownership transfers or the service is provided (sometimes different to when cash is paid).
Annually Managed Expenditure	Departments have separate resource and capital budgets. These are split into Departmental Expenditure Limits (DEL) and departmental Annually Managed Expenditure (AME). AME includes expenditure programmes that are not suitable for inclusion within firm four year plans set out in the Spending Review. For example, social security payments or debt interest.
Arm's Length Bodies	An arm's length body is an organisation that delivers a public service, is not a ministerial, government department, and which operates to a greater or lesser extent at a distance from Ministers. The term can include non-departmental public bodies (NDPBs).
Barnett Formula	The Barnett formula is used to determine changes in the level of public spending in Scotland, Wales and Northern Ireland. Under it, changes in Whitehall department's budget result in changes to Devolved Administration budgets according to the population size of each nation and which powers are devolved to them.
Cash recording	Financial recording based on when cash is paid or received. Net cash requirement is recorded on a cash basis and net debt is close to being a cash measure.
COFOG	Classification of the Functions of Government (COFOG) is a classification of government expenditure by function and is defined by the United Nations Statistics Division. These functions are designed to be general enough to apply to the government of different countries.
Consolidated Fund	The Consolidated Fund was first set up in 1787 as 'one fund into which shall flow every stream of public revenue and from which shall come the supply for every service'. It can be considered as the Government's general bank account.
Current budget balance	The gap between current expenditure and current receipts (having taken account of capital consumption).
Current budget deficit	The gap between current expenditure and current receipts (having taken account of capital consumption).
Current expenditure	Spending on government activities including: social benefits, interest payments, and other government department spending (excluding spending on capital assets).
Current receipts	Income mainly from taxes (e.g. VAT, income and corporation taxes) but also includes interest, dividend and rent income.
Departmental Expenditure Limits	Departments have separate resource and capital budgets. These are split into Departmental Expenditure Limits (DEL) and departmental Annually Managed Expenditure (AME). DELs are set in the Spending Review and include expenditure such as NHS or education.
Devolved Administrations	The governments associated with the devolved legislatures of Scotland, Wales and Northern Ireland – namely the Scottish Government, the Welsh Government and the Northern Ireland Executive.

ESA 2010	ESA 2010 (European System of Accounts 2010) is the European legal requirement for the production of National Accounts from September 2014.
Government Financial Reporting Manual (FReM)	The Government Financial Reporting Manual (FReM) is the technical accounting guide to the preparation of financial statements.
Maastricht Treaty	A treaty that is responsible for the creation of the European Union, signed in Maastricht, a city in the Netherlands. The Maastricht Treaty was signed on February 7, 1992, by the leaders of 12 member nations, and it reflected the serious intentions of all countries to create a common economic and monetary union.
Net borrowing	Measures the gap between revenue raised (current receipts) and total spending (current expenditure plus net investment). A positive value indicates borrowing while a negative value indicates a surplus.
Net debt	A measure of how much the government owes at a point in time. The measure is net of any liquid assets held.
Net Fiscal Balance	The difference between estimated total public sector spending and estimated total public sector revenue.
Net Investment	Spending on capital assets, e.g. infrastructure projects, property and I.T. equipment, both as grants and by public sector bodies themselves minus capital receipts (sale of capital assets).
Non-Departmental Public Bodies	A non-departmental public body (NDPB) is a classification applied by the Cabinet Office, Treasury, the Scottish Government and the Northern Ireland Executive to quangos (quasi-autonomous non-governmental organisations).
NUTS1	The Nomenclature of Territorial Units for Statistics (NUTS) is a geocode standard for referencing the subdivisions of the United Kingdom of Great Britain and Northern Ireland for statistical purposes.
Sub-UK	The Countries and Regions of the UK (NUTS1).
Trust Statement	A Trust Statement is a set of financial statements separate from a department’s normal accounts. Trust Statements are required for departments which collect taxation, fines and penalties, and therefore not all departments are required to prepare one.

Introduction

Statistics on public finances, such as public sector revenue, expenditure and debt, are used by the government, media and wider user community to monitor progress against fiscal targets. Demand for public finance statistics at the country and regional level (sub-UK) has been growing as a result of the increasing emphasis on devolution. In order to better understand these demands, ONS has undertaken a scoping study to learn more about the existing sub-UK public finance statistics and assess their comparability for potential use within a country and regional publication. This would give users access to sub-UK level public sector finances compiled using a set of agreed measures[1] and would be an additional resource to the sub-UK public finance statistics already produced.

There are a number of public finance statistics publications that provide information on the fiscal position of the UK Government, these include:

- Monthly UK Public Sector Finance Bulletin (PSF), Office for National Statistics (ONS);
- Quarterly EU Government Deficit and Debt return, ONS;
- Public Expenditure Statistical Analyses (PESA), HM Treasury (HMT);
- Public Spending Statistics (PSS), HMT;
- Tax Receipts and National Insurance Contributions for the UK, HM Revenue & Customs (HMRC);
- Whole of Government Accounts (WGA), HMT.

These statistics present various aspects of public finance statistics and are produced on different conceptual and accounting bases due to their differing purposes and focus. The UK PSF is the primary publication used by the UK Government to monitor fiscal policy targets, whereas the EU Government Debt and Deficit statistics are used by the European Commission to monitor the UK's fiscal performance against the Maastricht Treaty targets. The statistics contained in these publications are based on National Accounts concepts, as defined by the European System of Accounts 2010[2] (ESA 2010). Information is presented on an ESA 2010 transaction basis, for example taxes on income and wealth, which includes revenue raised from taxes such as income tax and corporation tax; or intermediate consumption, which includes expenditure that occurs in the process of departments delivering their services.

PESA and PSS statistics are presented on the basis of two HMT defined frameworks: the budgeting framework and expenditure on services. The budgeting and expenditure on services frameworks are both consistent with National Accounts concepts. However Departmental Accounts (those produced by departments themselves) are compiled using guidance in the Government Financial Reporting Manual[3] (FReM) and are consistent with International Financial Reporting Standards (IFRS). This results in some differences between departmental accounts and data in PESA and PSS[4]. Each framework in PESA and PSS can be broken down further into economic category (pay, procurement, grants etc), as defined by HMT for the budgeting framework or, by functions (health, education, defence etc), as defined by the United Nation's Classifications of the Functions of Government[5] (COFOG) for expenditure on services.

---

[1] Experimental public sector revenue and expenditure statistics, at a NUTS1 level, were published by SG in GERS 2013-14 (see pages 43 and 63).
[2] http://ec.europa.eu/eurostat/web/esa-2010
[3] https://www.gov.uk/government/publications/government-financial-reporting-manual
[4] Details of differences available in Annex A of the Consolidated Budgeting Guidance 2014-15
[5] http://unstats.un.org/unsd/cr/registry/regcst.asp?Cl=4

The WGA consolidates the audited accounts of around 5,500 public sector organisations and provides an accounts based picture of the financial position of the UK public sector, which is based on IFRS. The HMRC Tax Receipts and National Insurance Contributions (NICs) publication presents information on tax receipts and NICs collected by HMRC. It is based on the published accounts of HMRC, which are in turn based on IFRS as per the guidance in FReM.

ESA and IFRS are internationally agreed and established accounting standards; as such differences between the two are generally well understood and regular updates are made to both accounting standards to reflect changes in the economy, such as new financial instruments or economic transactions. In the context of public finance statistics, ESA and IFRS provide frameworks for measuring most aspects of public finances at a UK level. However, what is not available is an agreed approach for producing country and regional/sub-UK level public finance statistics that would allow users to make country and regional comparisons on a consistent basis.

There are difficulties associated with producing country and regional public finance statistics, these include:

- The existence of more than one measure for estimating public sector revenue and expenditure at the UK level: the difficulty arises when deciding which measure is most appropriate to use at the country and regional level.

- Public finance data are not available always at the country and regional level: departmental expenditure is not planned by country or region and information on the residential location of a tax payer is not always collected. This requires the introduction of various apportionment methods to attribute UK revenue and expenditure to the countries and regions of the UK.

- Attributing revenue and expenditure to countries and regions of the UK: there is more than one way to apportion each tax or expenditure item; again, deciding on the most appropriate method can be difficult and subjective.

- Quality and meaningfulness of country and regional data: when apportioned at a country and regional level, certain taxes or expenditure items may lose meaning as a result of data becoming less reliable or robust at a smaller scale.

- Apportioning public sector debt to a country and regional level: there is no clear way to apportion UK Government debt and related financial transactions at a country and regional level. For this reason this study focuses only on the apportionment of public sector revenue and expenditure.

Devolved administrations and central government departments have attempted to overcome the first four issues listed above. Good progress has been made and they have been able to produce estimates of public finance statistics at a sub-UK level, these publications include:

- Country and Regional Analysis, HMT;
- Disaggregation of Tax Receipts, HMRC;
- Government Expenditure and Revenue Scotland, Scottish Government (SG);
- Northern Ireland Net Fiscal Balance Report, Department of Finance and Personnel Northern Ireland (DFPNI)

Each of these publications has different uses, as such some differences in data sources, methodology and concepts exist. Where possible, the producers of these statistics have worked together to align methodology.

Table 1: Summary of public finance publications and coverage

Publication	Producer	Frequency			Geography			Sector Coverage and Sub-Sector Breakdown				Accounting Basis		Presentation Basis			
		Annual	Quarterly	Monthly	UK	Countries	NUTS1	Public Sector[2]	Central Government	Local Government	Public Corporations	ESA	IFRS	ESA 2010 Transactions	Budgeting Framework	COFOG	Other
UK Public Sector Finance Bulletin	ONS / HMT[1]			x	x			x	x	x	x	x		x			
Quarterly EU Government Debt and Deficit return	ONS		x		x				x	x		x		x		x[5]	
Quarterly and Annual National Accounts	ONS	x	x		x				x	x	x	x		x			
Public Expenditure Statistical Analyses (PESA)	HMT	x			x			x	x	x		x			x	x	
Public Spending Statistics (PSS)	HMT		x		x			x	x	x		x			x	x	
Tax Receipts and National Insurance Contributions for the UK	HMRC[1]			x	x				x				x				x[7]
Whole of Government Accounts (WGA)	HMT	x			x			x					x				x[6]
Country and Regional Analysis (CRA)	HMT	x			x	x	x	x				x				x	
Disaggregation of Tax Receipts	HMRC	x			x	x		x					x				
Government Expenditure and Revenue Scotland (GERS)	SG[1]	x				x[3]		x				x				x	x[7]
Northern Ireland Net Fiscal Balance Report (NINFBR)	DFPNI[1]	x				x[4]		x				x				x	x[7]

1. Where ONS is Office for National Statistics; HMT is HM Treasury; HMRC is HM Revenue & Customs; SG is Scottish Government; DFPNI is Department of Personnel and Finance Northern Ireland; ESA is European System of Accounts; IFRS is International Financial Reporting Standards and; COFOG is Classifications of the Functions of Government.
2. Where Public Sector includes the sub-sectors Central Government, Local Government and Public Corporations.
3. The main estimates published in GERS relate to Scotland; however since 2015 the GERS has included experimental statistics on revenue and expenditure at a NUTS1 level for the purposes of comparing Scotland to other countries and regions across the UK. The GERS also includes a chapter on devolved and reserved revenue and expenditure splits, under the current arrangements as well as how they will change following the implementation of the Scotland Act 2012.
4. DFPNI produce estimates for Northern Ireland only.
5. The Quarterly EU Government Debt and Deficit return on a COFOG basis is only published annually
6. Revenue is broken down by each individual tax. The SG and DFPNI publications also present key public sector finance aggregates (total revenue, total expenditure, current budget balance and net fiscal balance) in a similar fashion to the UK Public Sector Finances Bulletin.
7. Accounts based presentation.

NUTS1 breakdown of the UK

Aims and Scope of the Study

The main objective of the scoping study is to compare the coverage, data sources and compilation methodologies of sub-UK public finance statistics that are already published. The purpose of this comparison is to:

(i) provide an overview of the similarities and differences in the current publications; and

(ii) highlight any likely difficulties or issues that would be faced in producing a Country and Regional Public Sector Finances publication (using the existing statistics) which covers the full territory of the United Kingdom.

This document summarises the finding of the study and forms part of the user consultation to identify user demands for a Country and Regional Public Sector Finances publication.

The scoping study has concentrated on the following four sub-UK publications:

- Country and Regional Analysis, HMT;
- Disaggregation of Tax Receipts, HMRC;
- Government Expenditure and Revenue Scotland, SG;
- Northern Ireland Net Fiscal Balance Report, DFPNI.

Information on each of these publications has been obtained both through a review of the published documents and through meetings and discussions with the statistical producers. In the process of understanding these statistics further, methods and concepts used between these publications have been compared and any differences highlighted. The study also highlights areas where data is either not available or not suitable for use within a Country and Regional Public Sector Finance publication.

The structure of the scoping study, and this document, is as follows:

- Overview of published public finance statistics whose presentation is at the a UK level;
- Overview of published public finance statistics whose presentation is at the sub-UK level;
- Comparison of data sources and methods used for producing the sub-UK statistics; and
- Summary of harmonisation issues between the sub-UK statistics.

The scope of the study was to only look at existing published statistics and as there are no official statistics related to public sector finances produced for geographic areas smaller than those of NUTS1 this document does not consider these smaller geographies. It should, however, be pointed out that given the apportionment methods required to produce country and regional expenditure and revenue data there must be considerable doubt as to whether producing country and regional statistics for small geographic areas (for example, NUTS2 geographies) would be meaningful.

UK Statistics

This section discusses public finance statistics that present the state of the public sector finances for the whole of the UK; many of these statistics form the basis of the existing sub-UK public finance data. For each publication an overview is provided and data sources and methods discussed; information in these sections has been obtained from the publications themselves and any further methodology documentation available.

ONS: Public Sector Finances and EU Government Debt and Deficit Publications

1. Overview

The Public Sector Finances (PSF) statistics are a compilation of statistics on the main aspects of the UK public sector finances, which give an indication of the current state of the government's financial position. PSF statistics are compiled and published monthly, jointly by the ONS and HM Treasury, in the *Public Sector Finances Statistical Bulletin*[6].

The statistical aggregates published in the PSF bulletin are defined using National Accounts concepts and rules. ONS produces the UK National Accounts on an internationally comparable basis, which is set out in the ESA 2010, which in turn is largely consistent with the United Nations 2008 System of National Accounts[7] (SNA08).

The four main fiscal measures published on a monthly basis are:

i. public sector current budget deficit (or surplus), which measures the gap between current receipts and current expenditure (including depreciation);
ii. public sector net borrowing, or net lending if there is a surplus, which measures the gap between total revenue raised and total spending;
iii. public sector net debt, which measures the total amount owed by the UK public sector, calculated as the total stock of public sector financial liabilities minus its liquid financial assets (mainly foreign exchange reserves and cash deposits);
iv. central government net cash requirement, a cash measure closely related to net borrowing, which measures the amount the government needs to raise in cash (e.g. through issuing gilts or running down liquid assets) in order to meet its spending obligations.

The PSF bulletin enables the government, the media, the public, economists and financial analysts to monitor public sector expenditure, revenue, investments, borrowing and debt. By comparing these data with forecasts from the Office for Budget Responsibility (OBR), the current UK fiscal position can be evaluated. The main users of the PSF statistics, within the public sector are HMT, OBR and the Bank of England (BoE); where this data forms a vital input into their policy and forecasting work[8].

6 http://www.ons.gov.uk/ons/rel/psa/public-sector-finances/november-2015/sum.html
7 http://unstats.un.org/unsd/nationalaccount/sna2008.asp
8 Further detail about the uses and users of the Public Sector Finances bulletin is available in *Public Sector Finances classification: Uses and Users of Government Finance Statistics*

ONS is also responsible for reporting, under European legislation, quarterly and annual Government Deficit and Debt statistics to the European Commission. The data transmitted to the Commission are summarised in a quarterly EU Government Debt and Deficit publication[9].

The two main fiscal measures published in the EU Government Debt and Deficit publication are:

i. General government net borrowing (known as, Maastricht deficit)
ii. General government gross debt (known as, Maastricht debt).

There are two key differences between the estimates published in the EU Government Debt and Deficit publication and those published in the Public Sector Finances bulletin, these are:

i. Maastricht deficit and debt covers central and local government only (general government), whereas the PSF bulletin covers the entire public sector;
ii. Maastricht debt is gross debt, that is, the total stock of financial liabilities of general government, whereas the PSF headline measure is net debt, that is, the financial liabilities minus liquid assets.

2. Data sources

The Public Sector Finances has a number of data sources to ensure there is sufficient coverage of all sub-sectors within the public sector as well as ensuring data are compliant with National Accounts concepts and EDP requirements. The data sources can be summarised as follows:

- **Central Government:** the main source of central government expenditure data is HM Treasury's public spending database – the Online System for Central Accounting and Reporting (OSCAR). The spending data from OSCAR are modified with a number of adjustments to meet National Accounts requirements. Most central government income is in the form of tax receipts, the vast majority of which are collected by HMRC.

- **Local Government:** most local government data are sourced from returns of expenditure and income which are compiled by local authorities and collected by the Department for Communities and Local Government (DCLG), Scottish Government, Welsh Government and the Northern Ireland Assembly via statutory surveys.

- **Public Corporations:** the majority of public corporations data comes from the Whole of Government Accounts (WGA) with some of the larger corporations providing direct data returns to ONS.

- **Public Sector Banks:** data for the public sector banking groups (such as Royal Bank of Scotland) are provided by the Bank of England from survey data they collect from UK financial institutions.

3. Methodology Summary

As mentioned in Section 1, the statistical aggregates published in the PSF and EU Government Deficit and Debt bulletins are defined using National Accounts concepts and rules and follow ESA 2010 and related guidance in the Manual on Government Debt and Deficit[10] (MGDD) published by Eurostat.

[9] http://www.ons.gov.uk/ons/rel/psa/maast-supplementary-data-tables/q2-2015/stb-maast-q2-2015.html

HMT: Public Expenditure Statistical Analyses (PESA) and Public Spending Statistics (PSS)

1. Overview

The PESA[11] and PSS[12] present a range of data on public spending, using two HMT defined concepts: the budgeting framework and expenditure on services framework.

The budgeting framework provides information on central government departmental budgets, It covers departmental own spending as well as support to local government and public corporations.

The expenditure on services framework is used in PESA and PSS for statistical analyses. It covers spending by the whole of the public sector; it therefore has wider coverage than the budgeting framework. Additionally, the expenditure on services framework is more stable over time due to budgeting aggregates being impacted by the restructuring of government departments and the movement of spending programmes between departments.

The primary use of the PESA and PSS publications is for budgeting and spending control by HMT. The budgeting system allows the government to control public expenditure in support of the government's fiscal framework; its purpose is to also provide good incentives for departments to manage spending well so as to provide high quality public services and offer value for money to the tax payer.

The PESA publication is published annually on a financial year basis and data are presented for the following breakdowns:

i. Budgets: this section has two main presentations:
   i. Departmental budgets – the key central government department budgets that the Government uses to control spending. Departments have separate resource and capital budgets. Each of these is divided into Departmental Expenditure Limits (DEL) and Annually Managed Expenditure (AME). Resource DEL is further divided into administration and programme; and
   ii. Budgets by economic category – this shows spending in budgets against categories such as pay, procurement and grants.
ii. Public Sector: based on the expenditure on services framework and is presented using the COFOG framework, which presents expenditure by different functions of government (for example health and education);
iii. Sectoral analysis: the sectoral analysis splits the data in the budget and public sector breakdowns, by sub-sector (central government, local government and public corporations);
iv. Country and regional analysis: spending data are presented by function/sub-function, country and English region – the lower level data are consistent with the CRA publication from the year before, however the PESA dataset includes updates to TME, debt interest, EU transactions and real terms tables are deflated using the most up-to-date GDP deflator figures.

---

[10] http://ec.europa.eu/eurostat/en/web/products-manuals-and-guidelines/-/KS-GQ-14-010
[11] https://www.gov.uk/government/collections/public-expenditure-statistical-analyses-pesa
[12] https://www.gov.uk/government/collections/national-statistics-release

The PSS is a quarterly publication and is released in February, April, July and November of each year. The July PSS is released a few days before PESA and features sectoral as well as country and regional tables. Major differences between the July PSS and July PESA are: PSS only contains outturn periods and no plans data; the PSS is missing Chapter 3 (Changes in Departmental Budgets); only four tables from Chapter 9 (CRA) are featured in the PSS; and no tables from Chapter 10. Following the July PSS release, in-year updates of this data are released in November, February and April.

2. Data Sources

Most expenditure data in PESA are taken directly from the HMT's OSCAR system[13].

For central government, data entered onto OSCAR by departments and devolved administrations cover: their own expenditure; the expenditure of agencies, Non-Departmental Public Bodies (NPDBs) and other Arms Length Bodies (ALBs); support for local government and public corporations; and capital expenditure of the public corporations they sponsor.

The Department for Education (DfE) supplies data on local government education spending in England[14]. The Department for Work and Pensions (DWP) supplies data on local government housing benefit payments in all countries except Northern Ireland. All other data on local government spending in England are supplied by DCLG. The devolved administrations provide local government spending data for Scotland, Wales and Northern Ireland.

3. Methodology Summary

As mentioned in section 1, the data presented in PESA are on two bases: the budgeting framework; and the expenditure on services framework. More information on these frameworks is available in the annexes of the PESA publication; however there are a few key points to highlight:

- Government departments budget and account for their spending in resource terms, which is based on International Financial Reporting Standards. A number of accounting adjustments are applied to OSCAR data to produce estimates on a consistent basis with Total Managed Expenditure (TME), a National Accounts concept.
- TME is the current and capital expenditure of the public sector on a National Accounts basis. Public sector expenditure on services is similar, but with minor divergences. The main difference from TME is that Total Expenditure on Services (TES) does not include general government fixed capital consumption (also known as depreciation) and does not reverse the deduction of Value Added Tax (VAT) refunds in the budget-based expenditure data. It also includes a small number of items that are in budgets but not in TME, for example the grant-equivalent element of student loans. Public sector expenditure on services is worth about 92% of TME.

[13] https://www.gov.uk/government/collections/hmt-oscar-publishing-from-the-database

[14] As of PESA 2015 current expenditure data, for education in England, was supplied by DfE whilst capital spend was taken from DCLG. Future publications such as PESA 2016 will take education spending figures, both current and capital, from the DCLG return.

HMRC: Tax Receipts and National Insurance Contributions for the UK

1. Overview

HMRC is responsible for collecting the majority of taxes in the UK; the Tax Receipts and National Insurance Contributions (NICs)[15] is a monthly publication that presents information on the taxes collected by HMRC. In addition to data on monthly tax and NICs receipts, a time series of receipts for each tax on a financial year basis is also published.

The data within this publication are on a cash basis and form the basis of the PSF tax revenue estimates, which are on an accruals basis. The data are used alongside the PSF bulletin and provide greater detail on tax receipts. Both publications are published on the same day.

2. Data Sources

The HMRC accounts, which are audited by the National Audit Office (NAO), form the basis of these statistics. Contained within the published accounts[16] are Trust Statement data; the Trust Statement reports the revenues, expenditures, assets and liabilities related to the taxes and duties for the financial year.

The HMRC accounts are published on an accruals basis and differ from the data within the Tax Receipts and NICs publication, where data are on a cash basis. At the end of each year, the monthly statistics are reviewed against the audited accounts.

3. Methodology Summary

Adjustments to the NICs figures from the HMRC accounts are made to ensure the definitions align with Eurostat requirements. Adjustments are made for amounts paid out in pension contributions and statutory sick/maternity/paternity pay recoveries. No adjustments are made to other taxes.

It is worth noting that the HMRC Receipts data in this publication includes all payments into the Consolidated Fund and all payovers of National Insurance Contributions, including those of Northern Ireland. HMRC receipts are also now reported gross of tax credits (expenditure) following the changes in ESA 2010.

The Consolidated Fund is essentially a general bank account for the government and the total paid over to the Consolidated Fund is the value received by HMRC. Total receipts are the amount recorded on the HMRC accounting system. The two figures are different due to varying methods of payment and the speed at which HMRC systems are updated.

[15] https://www.gov.uk/government/statistics/hmrc-tax-and-nics-receipts-for-the-uk

[16] https://www.gov.uk/government/publications/hmrc-annual-report-and-accounts-2014-to-2015

HMT: Whole of Government Accounts

1. Overview

The Whole of Government Accounts[17] (WGA) consolidates the audited accounts of approximately 5,500 organisations across the public sector in order to produce a comprehensive, accounts based picture of the financial position of the UK public sector. The WGA complements other spending analysis and provides additional information, not included in the budgeting and National Accounts presentation frameworks that provide insight into the public finances. The WGA are compiled by HMT in accordance with IFRS and are generally produced 12-18 months after the end of the financial year.

WGA data provides a comprehensive picture of the government's assets and liabilities, including 'off-balance sheet' liabilities that are not included in National Account measures. A number of key uses of the WGA data include:

- Allowing the government to make more informed decisions on, for example, how it uses property and financial assets and how it controls the build-up of liabilities;
- The underlying data gathered in the WGA production process are used by HMT as an additional tool to aid spending control;
- WGA data have also been used to look at the public sector asset base and challenge how assets are being used in the delivery of public services;
- HMT also uses the WGA to monitor fiscal risks, in particular contingent liabilities as these have the potential to impact public spending choices;
- The Office for Budget Responsibility (OBR) uses the WGA to set out broader analysis of the public finances and their future sustainability.

2. Data Sources

Each public sector entity publishes audited annual accounts consistent with its agreed accounting framework. The National Audit Office, audit bodies in the devolved administrations and private sector audit bodies scrutinise and challenge these accounts, producing an audit report on each. Finally, the WGA consolidates these accounts to produce a snapshot of the public sector financial position in a given year.

3. Methodology Summary

WGA provides an accounting standard based presentation which follows the IFRS. Whilst there are similarities between the UK Public Sector Finances and WGA, there are also substantive differences[18]. Two of the main measures in the Public Sector Finances are the current budget deficit and public sector net debt (PSND). Two of the main measures in WGA are net expenditure and net liabilities.

---

17 https://www.gov.uk/government/collections/whole-of-government-accounts

18 Information on the differences between WGA and National Accounts is available in ONS' *Comparison of Public Sector Finance measures from the National Accounts and Whole of Government Accounts* article.

Current Budget Deficit vs. WGA Net Expenditure:

- Income: the measurement of income is largely the same;
- Expenditure: the measurement of expenditure is largely the same but WGA expenditure also includes such items as impairments to assets and pension charges related to the public sector pension liability.
- Net Expenditure: WGA net expenditure can fluctuate even though the underlying position on income and expenditure relating to the year that feeds into National Accounts are the same. These fluctuations mean that WGA net expenditure can differ from the National Accounts measure on a year to year basis

Public Sector Net Debt (PSND) vs. WGA net liabilities

- Assets – PSND measures government cash and other liquid assets but WGA includes all assets owned by government such as property, plant and equipment, and amounts owed to the government from tax or loans.
- Liabilities – PSND measures government's direct borrowings, but WGA includes all amounts owed by government such as public sector pension liabilities and provisions for future cash expenditure, as a result of events that have already happened.

WGA aims to cover the entire UK public sector and to do so the National Accounts classification boundary of the public sector is applied. However, for timing and practical reasons:

- Royal Bank of Scotland (RBS) Group, whilst classified as a public financial corporation, is excluded from the WGA;
- Network Rail (NR), whilst classified in central government (under ESA2010), is to be included in the WGA for the first time in the 2014/15 accounts;
- Bradford & Bingley (B&B) and Northern Rock Asset Management (NRAM), whilst classified in central government as defeasance structures, are included in the WGA for the first time in the 2013/14 accounts.

Sub-UK Statistics

This section looks at existing public sector finance data that are already produced at a sub-UK level. These data sources could form the basis of any future Country and Regional Public Sector Finances publication produced. For each source an overview is provided, data sources are discussed and an overview of the methodology provided. Information in these sections has been obtained from the publications, methodology documentation and from discussions with the departments/devolved administrations.

'Who benefits' and 'who pays'

Throughout the publications mentioned in this section, two key concepts are used for attributing public sector revenue and expenditure to the NUTS1 regions of the UK. These are the 'who pays' and 'who benefits' principles; the 'who pays' principle is based on identifying the residential location of where the revenue is raised i.e. the location of the individual or enterprise who bears the tax burden, whereas assessing the country and regional element of the 'who benefits' principle is more complex.

For the 'who benefits' principle, there are two approaches to consider: these are:

i. Expenditure *for* a region: where spending is allocated to a given region if the benefit of the service or transfer derived from the expenditure is thought to accrue to residents and enterprises of that region;

ii. Expenditure *in* a region: where spending is allocated to the region in which the expenditure actually took place.

The similarities and differences between the *in* and *for* approaches are explained particularly well in the GERS publication using expenditure by NHS Scotland and government funding for national museums. The vast majority of health expenditure by NHS Scotland occurs *in* Scotland and is *for* patients resident in Scotland. Therefore, the *in* and *for* approaches would yield virtually identical assessments of 'who benefits'. Instances of where the *in* and *for* approaches yield different results include government funding for a national museum. The *in* approach would estimate expenditure based on the location of the museum, whereas the *for* approach would estimate expenditure based on the location of those that visited the museum i.e. the beneficiaries of the service provided.

From this point forward, it should be assumed that all public sector revenue is apportioned to the countries and regions of the UK using the 'who pays' approach and public sector expenditure is apportioned using the 'who benefits' approach - whether the *in* or *for* approach is used will be clarified in each section.

HMT: Country and Regional Analysis (CRA)

1. Overview

The CRA[19] presents analyses of public expenditure by country, region and function; it is published annually, usually in November or December of each year. Around 85% of total expenditure on services is presented at a country and region level. In addition to HMT to using the CRA for their own analytical purposes, the CRA is used by those interested in government expenditure on a country and regional basis, for example, MPs.

The country and regional analyses presented in the release show where the individuals and enterprises that benefited from public spending were located. Most public spending however is planned to benefit categories of individuals and enterprises irrespective of location.

The country and regional expenditure data is further broken down into COFOG function (education, health, defence etc) and sub-function (education split into primary, secondary etc).

It should be noted that the CRA is a purely statistical exercise and plays no part in resource allocation or the operation of the Barnett Formula.

2. Data sources

In order to provide information on the allocation of expenditure by country and region, the Treasury asks the UK government departments and devolved administrations to undertake an annual statistical exercise.

The exercise is based on devolved administration spending and the subset of departmental spending that can be identified as benefiting the population of individual regions. All UK departments are asked to provide a breakdown of their expenditure on services by country/region, covering the last five outturn years. These data are combined with (a) estimates of local authority spending by region from DCLG and the devolved administrations, (b) data on spending by the devolved administrations and other departments with a single territory jurisdiction.

3. Methodology Summary

The CRA data collection is based on the HMT's measure of 'expenditure on services'. The expenditure on services framework covers spending by the whole of the public sector. Further information on the expenditure on services framework is available in the annexes of the PESA publication.

For the country and regional analyses, expenditure on services is divided into two components:

- Identifiable expenditure: expenditure on services that can be identified as having been incurred for the benefit of individuals, enterprises or communities within a particular region;

[19] https://www.gov.uk/government/statistics/country-and-regional-analysis-2015

- Non-identifiable expenditure: expenditure on services that is incurred to benefit the UK as a whole and cannot be identified as benefiting a particular country or region of the UK. This is primarily defence spending.

Identifiable expenditure is attributed to a specific country or region using the *for* basis wherever possible. Where it is not possible to allocate spending to regions on a *for* basis, the *in* basis is used instead. For most spending, the *for* and *in* bases would in practice offer the same result. Non-identifiable expenditure is considered to be incurred for the benefit of the UK as a whole, as such is not attributed to regions.

Expenditure financed by EU receipts can be classified as identifiable or non-identifiable depending on the characteristics of the expenditure itself. Receipts from the EU are treated as non-identifiable within TES. Expenditure financed by the EU that is included within functional service lines by country and region (much of which is related to expenditure on the Common Agricultural Policy) is considered identifiable expenditure. Payments to the EU are attributed to 'outside UK' as these are transfer payments that the EU then spends. Local government spending is assumed to benefit the area of the spending authority.

Some issues exist that can limit the ability of the analyses to provide a complete picture of the 'who benefits' principle. These include:

- practical difficulties such as geographical problems, where spending such as public service pension spending can be allocated on the basis of postcodes of recipients, while other apportionment methods require a higher degree of estimation;
- conceptual problems such as who the beneficiary of a subsidy is – the producer or final consumer;
- data collection issues such as variation in the interpretation of the 'who benefits' principle, or, departments not having the relevant information for allocating expenditure to its regions;

HMT and departments involved in the CRA data collection exercise take steps to tackle these issues and ensure that data is of sufficient quality. Further details are in the CRA publication.

HMRC: Disaggregation of Tax Receipts

1. Overview

The Disaggregation of Tax Receipts[20] estimates total UK tax receipts, NICs, tax credits and benefit payments administered by HMRC to England, Wales, Scotland and Northern Ireland; it is published annually. The publication aims to measure the true economic incidence of taxation, based on the underlying activity which can differ from how or where the tax receipts are collected.

---

[20] https://www.gov.uk/government/statistics/disaggregation-of-hmrc-tax-receipts

2. Data sources

The HMRC accounts, which are audited by the National Audit Office (NAO), form the basis of these statistics. Contained within the published accounts[21] are Trust Statement data; the Trust Statement reports the revenues, expenditures, assets and liabilities related to the taxes and duties for the financial year.
The HMRC accounts are published on an accruals basis and differ from the data within the Disaggregation of Tax Receipts publication, where data are on a cash basis. At the end of each year, the statistics are reviewed against the audited accounts.

This publication also uses various ONS aggregate indicators, such as population or GVA statistics, to provide the basis for splits by country for some tax receipts.

3. Methodology Summary

The general approach for each tax is to first estimate the proportion of total UK tax receipts that should be apportioned to England, Wales, Scotland and Northern Ireland. Total UK receipts are then allocated in line with these proportions.

Where possible, HMRC's administrative data is used, however this is not always available at the required level of geographical disaggregation; in those cases, HMRC attempts to allocate receipts as closely as possible to the underlying activity that generates them. For some taxes this is relatively straightforward, but for others it is quite complex, as revenues are not necessarily reported where they are generated and there may be different interpretations on the underlying activity or how to capture it. For example, disaggregated HMRC administrative data is readily available for Capital Gains Tax but arriving at VAT estimates is more complicated as different sources are used for the sectors that make up VAT receipts.

Further details on the methodology used within the Disaggregation of Tax Receipts publication are available in Annex 2 and comparisons to the methods used in the Scotland and Northern Ireland publications are made in the next section.

SG: Government Expenditure and Revenue Scotland (GERS)

1. Overview

The GERS[22] publication estimates the contribution of revenue raised in Scotland towards expenditure on the goods and services provided for the benefit of Scottish residents. The GERS estimates are on a consistent basis with the PSF bulletin, and thus ESA 2010.

The main estimates published in GERS are:

i. public sector revenue, which is estimated for taxes where a financial burden is imposed on residents and enterprises in Scotland;
ii. public sector expenditure, which is estimated on the basis of spending incurred for the benefit of residents and enterprises in Scotland.

---

[21] https://www.gov.uk/government/publications/hmrc-annual-report-and-accounts-2014-to-2015
[22] http://www.gov.scot/Topics/Statistics/Browse/Economy/GERS

For the first time the GERS 2013-14 publication included experimental statistics showing public sector receipts and expenditure at a NUTS1 level, allowing users to compare Scotland to the other countries and regions of the UK[23].

2. Data sources

The primary data source used to estimate Scottish public sector expenditure in GERS is the CRA data published by HMT.

The source of the revenue data in GERS is ONS's Public Sector Finances Bulletin, which provides a breakdown of UK public sector revenue by the type of revenue raised. GERS also makes use of the estimates of Scottish Gross Domestic Product (GDP) in current market prices published in the Quarterly Nationals Accounts Scotland (QNAS).

3. Methodology Summary

Administrative data for all tax receipts and expenditure items are generally not available at a regional level. As such the GERS publication uses a number of methods to apportion revenue and expenditure from the UK level to Scotland.

The GERS estimates of revenue and expenditure are based upon principles of 'who pays' and 'who benefits', respectively. To apply the 'who pays' principle, GERS uses a number of apportionment methods to attribute UK revenue to Scotland. These methods include the use of surveys to obtain Scotland's share of UK indirect taxes or income tax, using population estimates or using Scotland's share of UK GVA. It should be noted that in certain cases a variety of alternative methodologies could be applied each leading to variations in estimates. To estimate Scotland's revenue, the proportions obtained through the apportionment methods are applied to the relevant UK totals.

Further details on the revenue methodology used in GERS are available in Annex 2 and comparisons to the methods used in the HMRC and Northern Ireland publications are made in the next section.

As the objective of GERS is to estimate a set of public sector accounts for Scotland, it therefore identifies the expenditure in a given year that was incurred for a full range of public services that were provided *for* the people of Scotland. The benefit of this approach is that it considers the location of recipients of services or transfers that government expenditure finances, irrespective of where expenditure takes place. For expenditure on services that are provided as a national 'public good', e.g. defence, the *for* methodology operates on the premise that the entire UK population benefits from the provision of the service. Accordingly, this type of expenditure is apportioned to Scotland on a population basis.

The primary data source used to estimate Scottish public sector expenditure is the CRA, published by HMT. For further detail on the data sources, apportionment methodologies and issues on CRA, please refer to the relevant section of this document.

[23] Methodological information on the GERS NUTS1 estimates are available in the methodology document.

DFPNI: Northern Ireland Net Fiscal Balance Report (NINFBR)

1. Overview

The Northern Ireland Net Fiscal Balance Report[24] (NINFBR) provides an overview of public sector finances in Northern Ireland. The methodology applied to produce these estimates is largely consistent with GERS, as such are on a consistent basis with the PSF bulletin, and thus ESA 2010.

The main estimate published in the NINFBR is:

i. net fiscal balance for Northern Ireland, estimated as aggregate public sector revenue less aggregate public sector expenditure.

2. Data Sources

The primary data sources used to estimate Northern Ireland's public sector expenditure in the NINFBR are the CRA data published by HM Treasury.

The source of the revenue data in the NINFBR is ONS's PSF Bulletin, which provides a breakdown of UK public sector revenue by the type of revenue raised.

3. Methodology Summary

Similarly to GERS, estimates of revenue and expenditure in the NINFBR are based upon principles of 'who pays' and 'who benefits', respectively.

In some cases, revenue figures can be directly attributed to Northern Ireland and require no further estimation. Examples include inheritance tax revenue and national insurance contributions. However, the majority of public sector revenues are collected centrally and their distribution by region is often unavailable. In these instances, UK figures are apportioned to Northern Ireland using specific methodologies; similarly to GERS, apportionment methods use data from various surveys. It should be noted that in certain cases a variety of alternative methodologies could be applied each leading to variations in estimates. To estimate Northern Ireland's revenue, the proportions obtained through the apportionment methods are applied to the UK totals as published in the Public Sector Finances.

Further details on the revenue methodology used in the NINFBR are available in Annex 2 and comparisons to the methods used in the Scotland and HMRC publications are made in the next section.

The primary data source used to estimate Northern Ireland's public sector expenditure is the CRA, published by HMT. For further detail on the data sources, apportionment methodologies and issues on CRA, please refer to the relevant section of this document.

---

24 https://www.dfpni.gov.uk/publications/northern-ireland-net-fiscal-balance-report-2012-13-and-2013-14

Comparison of methods

In this section apportionment methods are compared between GERS, NINFBR, HMRC's Disaggregation of Tax Receipts and the CRA. Although methods are largely consistent, some differences remain that prevent the estimates within the data being fully comparable. Further details of the methods used within these publications are available in the annex.

A key difference between these publications is that GERS, NINFBR, CRA are all produced on an accrued basis (in line with PSF) whereas the Disaggregation of Tax Receipts data are produced on a cash basis. GERS and NINFBR use UK totals as published in the PSF bulletin, whereas within the Disaggregation of Tax Receipts the UK totals come from published HMRC accounts. This means that revenue within GERS and NINFBR are not comparable with the Disaggregation of Tax Receipts.

1. Revenue

In most cases, the apportionment methods used for revenue in the Disaggregation of Tax Receipts, GERS and NINFBR publications are mostly consistent. Differences in data sources and/or methods exist for: corporation tax; petroleum revenue tax; value added tax; stamp tax on shares and; air passenger duty.

The table below contains a summary comparison of the apportionment methods used within the HMRC, GERS and NINFBR publications, differences in particular are explained. Further details of revenue methodology are provided in Annex 2. Note that CRA and PSF are not mentioned in this section because they do not include sub-UK breakdowns of revenue.

Revenue	Methodology
Income Tax	Very similar
Capital Gains Tax	Very similar
Corporation Tax (onshore)	NI and GERS estimate corporation tax based on shares of profits (less holding gains), of all public and private corporations – this proportion is applied to the UK total. For The HMRC estimates, the majority of taxable profits are trading profits and these are allocated to countries according to the sub-national split of enterprises' employment totals, or to the registered office if no employment data is available. Other taxes are allocated to sub-UK areas based on the location of the registered office – details of which are obtained from HMRC's corporation tax administrative system (COTAX).
Corporation Tax (offshore)	Both GERS and HMRC use the same geographical boundary established by the Scottish Adjacent Waters Boundaries Order 1999, meaning there is no difference in the allocation of oil and gas fields between England and Scotland. Similarly, the underlying field data is provided by North Sea operators, which is then calibrated to the production data provided by Oil and Gas Authority (OGA). The differences arise from the allocations of taxable profits to each field over time, which is determined by the parameters within the models. HMRC and SG suggest that the main differences between the estimates are difference in oil and gas prices and the allocation of non-field costs. As mentioned in HMRC's publications, since 2011 HMRC has estimated field level "achieved" prices of oil and gas whilst the GERS analysis has access to field level data and information on "achieved"

	prices. Whereas HMRC allocates non-field costs at company level, GERS estimates are based on data that provides information at field level. The HMRC field level modelling is aggregated together at company level which takes into account group relief and ring fenced losses whereas the GERS modelling is at field level only. Both models are built on commercially confidential data as such only aggregate inputs and outputs can be compared from the two models, meaning that exact causes for differences cannot be identified. NI do not record any revenue from offshore corporation tax.
Petroleum Revenue Tax	Both GERS and HMRC use the same geographical boundary established by the Scottish Adjacent Waters Boundaries Order 1999, meaning there is no difference in the allocation of fields between England and Scotland. Similarly, the underlying field data is provided by North Sea operators, which is then calibrated to the production data provided by OGA. As stated in HMRC's publication, the differences arise in estimating the PRT liability for each field. The HMRC analysis is based on assessment data provided by field operators to HMRC, therefore these estimates relate to actual PRT liability. The GERS figures are estimated using a model developed by the University of Aberdeen. The model processes production and expenditure data at an individual field level to simulate the tax regime. The underlying data comes from a detailed field-by-field survey provided by operators which covers production, capital expenditure, operating expenditure and decommissioning costs. NI do not record any revenue from PRT.
Other North Sea Revenue	North Sea revenue in GERS comes from four sources: petroleum revenue tax, corporation tax, licence fees, and the emissions trading scheme, whereas HMRC include petroleum revenue tax and corporation tax only. NI assume a zero share of North Sea oil revenue in their main estimates as NI's activity in North Sea oil fields is unclear.
National Insurance Contributions	Very similar
Value Added Tax	Methods are broadly similar between the publications. Differences exist where VAT refunds are concerned. VAT refunds are not included in receipts, as such are not included in the HMRC estimates. NI and SG use the same methods for apportioning central and local government refunds.
Stamp Duties	There are three types of stamp duty: stamp duty land tax, stamp tax on shares and, annual tax on enveloped dwellings. Differences between the publications occur when estimating stamp tax on shares. GERS and NINFBR use data from the Family Resources Survey on the ratios of UK adults owning stocks and shares, and assume that the Scottish and NI proportions of stamp tax on shares are based on these proportions. HMRC however allocate stamp tax on shares not on the basis of the geographic location of the share purchaser, but on the location of the incorporation (as Stamp Tax on Shares is payable on the purchase of shares in a company incorporated in the UK).
Inheritance Tax	Very similar
Fuel Duties	Very similar
Tobacco Duties	Very similar
Alcohol Duties	Very similar
Betting & Gaming Duties	Very similar

Insurance Premium Tax	Very similar
Air Passenger Duties	Apportionment methods for APD vary amongst the three publications. NI apportions the UK total on a population share basis. HMRC and GERS estimates are not directly comparable as they are calculated using different data, as such use different apportionment methodologies. GERS estimates for APD uses data from the Civil Aviation Authority (CAA) surveys of Scottish airports and Scottish passenger numbers from Scottish Transport Statistics to estimate the number of Scottish passengers by each air passenger duty band on the basis of their final destination. HMRC use data from ONS' International Passenger Survey (IPS) in addition to data from the CAA (based on aircraft departure location and destination). As the CAA data that HMRC used is based on aircraft locations and not passenger destinations, further adjustments are needed.
Landfill Tax	Very similar
Climate Change Levy	Very similar
Aggregates Levy	Very similar
Vehicle Excise Duty	Not collected by HMRC, as such not included in their estimates. Actual data used by NINFBR (published by the Driver and Vehicle Licensing NI) and apportionment method used by GERS.
National Non-Domestic Rates (Business Rates)	Not collected by HMRC, as such not included in their estimates. Similar methodology between GERS and NINFBR.
Council Tax	Not collected by HMRC, as such not included in their estimates. Similar methodology between GERS and NINFBR.
Bank Levy	Very similar
Bank Payroll Tax	HMRC apportion by sub-UK Compensation of Employees (CoE) within the 'Financial and Insurance Activities' sector. GERS however apportion using data from the Business Register Employment Survey (BRES).
Swiss Capital Tax	Very similar
Other Taxes on Income and Wealth	Not applicable to HMRC estimates. GERS and NINFBR largely consistent.
Other Taxes and Royalties	Not applicable to HMRC estimates. Some differences between GERS and NINFBR exists – see annex.
Interest and Dividends	Not collected by HMRC, as such not included in their estimates. Similar methodology between GERS and NINFBR.
Gross Operating Surplus	This is not a revenue item collected by HMRC, as such is not included in their publication. For central and local government both Scotland and NI apportion using their shares of UK CG and LG non-market capital consumption. For public corporations however, SG identify PCs that only operate in Scotland, such as Scottish Water, and assign all their revenue to Scotland; for PCs not classified to Scotland, their revenue is apportioned on the basis of their estimated activity in Scotland. NI follow the GVA method for all PCs.
Rent and Other Current Transfers	This is not a revenue item collected by HMRC, as such is not included in their publication. In GERS, CG rents and other current transfers are apportioned using a number of methods (see annex). UK revenues from rents and other current transfer from LG and PCs are apportioned to Scotland on the basis of Scotland's share of UK public sector GVA. For the NINFBR, the UK estimates are taken directly from GERS and apportioned to NI according to its share of UK public sector GVA.

2. Expenditure

The primary data source for both GERS and NINFBR is the CRA published by HMT. The estimates of public spending published in the CRA are calculated on the basis of TES. TES is produced on a different basis to TME, which is the primary measure of total public spending reported in the PSF.

Expenditure methodology therefore is mostly consistent, with the exception of a few amendments made in the GERS publication only; these amendments are in relation to:

- Nuclear decommissioning
- Research council spending
- Railways expenditure
- 2012 Olympics
- Public sector pensions
- Other minor amendments

For further details on expenditure methodology please refer to Annex 3.

Summary and Issues Identified

The focus of this scoping study has been to understand the data and methodology behind the following four publications:

- Country and Regional Analysis (CRA), HMT;
- Disaggregation of Tax Receipts, HMRC;
- Government Expenditure and Revenue Scotland (GERS), SG;
- Northern Ireland Net Fiscal Balance Report (NINFBR), DFPNI.

These publications cover two key aspects of the public finances: public sector revenue and expenditure. The CRA allows users to compare public sector expenditure between the NUTS1 regions of the UK on a consistent basis; the Disaggregation of Tax Receipts allows users to compare (most) public sector revenue between the England, Wales, Scotland and Northern Ireland on a consistent basis; the GERS publication gives users greater detail on the fiscal aggregates of Scotland and is largely comparable to the UK PSF and the NINFBR; similarly, the NINFBR gives users greater detail on the fiscal aggregates of Northern Ireland and is largely comparable to the UK PSF and GERS.

Each of these publications has a different use or purpose meaning that some differences between data sources and methods exist in order to cater to a variety of user needs. The producers of these statistics have made great efforts to align methods and data sources where possible.

Differences that exist are:

1. Differences in data sources and/or methods for apportioning tax revenues from corporation tax; petroleum revenue tax; value added tax; stamp tax on shares; and air passenger duties exist between GERS, NINFBR and the Disaggregation of Tax Receipts.

2. Although methods are largely consistent between the Disaggregation of Tax Receipts, GERS and NINFBR, the underlying data are however based on different concepts. The HMRC data are based on cash principles, whereas the data in GERS and NINFBR are based on accruals principles. This means that revenue/receipts data are not comparable.

3. CRA forms the basis of expenditure data in GERS and the NINFBR, however in GERS a number of adjustments are made to provide an alternative picture of expenditure *for* Scotland.

4. The above publications are not always comparable to the UK Public Sector Finances (PSF):
   a) The PSF is on an accruals basis, as such the HMRC data is not comparable to PSF (it should be noted that HMRC receipts data at the UK level forms the basis of PSF revenue data)
   b) The CRA is based on the Expenditure on Services framework which is broken down by COFOG, whereas PSF is presented an ESA 2010 transaction basis, therefore CRA and PSF are not exactly comparable. However each produces an estimate of TME, which is comparable between publications.

5. The GERS and NINFBR apply their apportionment methodology to totals taken from the UK PSF; as such the three publications are largely comparable, with the exception of some small accounting adjustments made in GERS and the NINFBR.

Further issues exist that would need to be considered in the context of a Country and Regional Public Sector Finances publication, these are:

1. HMRC Revenue data is not always available at a NUTS1 breakdown. It is understood that to provide the same data disaggregated at the NUTS1 level would require applying apportionment methods for certain taxes.

2. Reconciliation between Country and Regional PSF and UK PSF – users would expect country and regional data to sum to the published UK totals. As such, when establishing the data sources and methods to be used for a Regional PSF this will need to be taken into consideration.

3. Reconciliation with CRA, Disaggregation of Tax Receipts, GERS and NINFBR – as with PSF, users would expect a Country and Regional Public Sector Finances publication to be reconcilable with these four publications. As such, work would need to be done to harmonise methods where possible and quantify and explain any differences where not possible.

Should a Country and Regional Public Sector Finances be established, and the above data sources used to form the basis of such a publication, then the issues highlighted here should be the first areas to resolve.

ANNEX 1: Glossary of Taxes

Tax	Definition
Income Tax	Income tax is a tax paid on income. It is paid on income from employment; profits from self-employment; some state benefits; most pensions; interest on savings and pensioner bonds; rental income; benefits received from employment; income from a trust and dividends from company shares. Income tax is only due on taxable income above the Personal Allowance, which is currently £10,600, due to increase to £11,000 from April 2016. After expenses and allowances, the amount of Income tax currently due is 20% for the first £31,785 above the Personal Allowance, 40% for taxable income up to £150,000 and 45% thereafter. In April 2016 the Scottish Rate of Income Tax will commence and Scottish residents may pay a different rate of income tax.
Capital Gains Tax	Capital Gains Tax (CGT) is a tax on the gain or profit made on the sale or disposal of assets such as shares or property. The annual tax-free allowance is currently £11,100 for all assets except trusts, which have a tax-free allowance of £5,500. The amount of Capital Gains Tax paid by an individual can either be 18% or 28% dependent on their rate of income tax. For trustees or businesses the rate is 28% and for sole traders or partnerships whose gains qualify for Entrepreneurs' Relief, their rate is 10%. Companies are not generally chargeable to CGT but pay Corporation Tax on their chargeable gains.
Corporation Tax (onshore)	Corporation Tax (CT) is a tax on the taxable profits of limited companies and some organisations including clubs, societies, associations, co-operatives, charities and other unincorporated bodies. Taxable profits include trading profits, investment profits (except dividend income which is taxed differently) and capital gains (known as 'chargeable gains' for CT purposes). As of 1 April 2015, there is now only one rate of CT at 20% (there was previously a 'main rate' and a lower rate for 'smaller profits'). This new single rate is set to fall to 19% in 2017-18 and further to 18% from 2020-21.
Corporation Tax (offshore)	Oil and gas production companies operating in the UK and on the UK's Continental Shelf (UKCS) are subject to normal CT rules but with some modifications. Ring Fence Corporation Tax (RFCT) is calculated in a similar way to normal CT, but with the addition of a 'ring fence' which prevents taxable profits from oil and gas extraction in the UK and UKCS being reduced by losses from other activities or by excessive interest payments. Oil and gas extraction activities are ring fenced as a separate trade, distinct from other activities carried out by the company. Any Petroleum Revenue Tax paid by a company is an allowable deduction against RFCT. Rates of RFCT differ from those of CT with the main rate currently at 30 per cent.
Petroleum Revenue Tax	Petroleum Revenue Tax (PRT) is a tax on the profits from oil and gas production in the UK or on the UKCS . Tax is only paid on profits from fields that were approved before 16 March 1993. These are known as 'taxable fields'. The rate of PRT as of 2015-16 is 50% and is is paid every 6 months for 'chargeable periods' ending on 30 June and 31 December. From January 2016 the rate of PRT will be 35%.
National Insurance Contributions	National Insurance Contributions (NICs) are payable by employees (primary Class 1 contributions) earning more than £155 a week and under state pension age; their

	employers (secondary Class 1 contributions) and self-employed people earning more than £5,965 a year (Class 2 and Class 4 contributions). The current rate of Class 1 NICs is 12% for income £155 to £815 a week and 2% for income over £815 a week. Class 3 contributions are voluntary contributions.
Value Added Tax	Value Added Tax (VAT) is charged on most goods and services supplied by VAT-registered businesses in the UK. It is also charged on goods and some services that are brought into the UK from other European Union (EU) countries or those imported from countries outside the EU. There are three rates: standard rate of 20% that is charged on most goods (prior to 4 Jan 2011 this was 17.5%, with a temporary reduction to 15% between 1 Dec 2008 and 31 Dec 2009); a reduced rate of 5% charged on goods and services such as children’s car seats and home energy and; a zero rate that is charged on goods such as children’s clothes and most food.
Stamp Duty Land Tax and Scottish Land and Buildings Tax	Stamp Duty Land Tax (SDLT) is payable on the purchase or transfer of property over a certain price in England, Wales and Northern Ireland. The current threshold is £125,000 for residential properties and £150,000 for non-residential properties. SDLT is charged as a percentage of the amount paid for the property and the percentage paid depends on whether the property is a residential or non-residential property. Since April 2015, purchases or transfers of property in Scotland have been subject to the Scottish Land and Buildings Tax. The current threshold in Scotland is £145,000 for residential properties and £150,000 for non-residential properties.
Stamp Tax on Shares	The rate of Stamp Duty and Stamp Duty Reserve Tax on the transfer of shares and securities is 0.5 per cent. If shares are bought electronically then Stamp Duty Reserve Tax is paid and if shares are bought using a stock transfer form then stamp duty is only paid if the transaction exceeds £1,000. Stamp Tax on Shares is payable on the purchase of shares in a company incorporated in the UK – a UK company or a foreign company with a UK share register.
Inheritance Tax	Inheritance Tax is due on the net value of a person’s estate transferred at death above a certain threshold (currently £325,000). The current rate is 40% and is reduced to 36% if 10% or more of the estate is left to charity. Some exemptions and reliefs apply and there is also a separate treatment when properties are settled in trusts.
Fuel Duties	All motor and heating fuel, whether imported or home-produced, is liable to excise duty at either the full or rebated rates. Fuel Duty is payable at varying rates depending on the type of fuel and its use.
Tobacco Duties	Tobacco Duty is included in the price paid for cigarettes, cigars and other tobacco products. Rates vary by the type of tobacco product.
Alcohol Duties	Alcohol duties are included in the price paid for beer, cider or sherry, wine or ‘made-wine’, and spirits. Made-wine is any alcoholic drink made by fermentation that isn’t beer, cider, sherry, spirits or wine. Duties paid vary by product.
Betting & Gaming Duties	There are seven excise duties: Bingo Duty (paid by those who hold a bingo premises licence); Gaming Duty (paid by the casino gaming operator); General Betting Duty (paid by bookmakers who operate betting shops, online betting or telephone betting); Lottery Duty (charged on the purchase price of a UK lottery ticket); Machine Games Duty (charged on playing dutiable machine games in the UK); Pool Betting Duty (paid by those who hold a pool betting permit); Remote Gaming Duty (charged on online gaming providers). The rates paid depend on the type of gambling.
Insurance Premium Tax	Insurance Premium Tax (IPT) is a tax on general insurance premiums received by

	insurers under contracts covering taxable UK risks, There are currently two rates of insurance premium tax: a standard rate of 9% (prior to Nov 2015 this was 6%) and a higher rate of 20% for travel insurance and insurance arranged by the supplier (rather than an insurance company) for some vehicles, electronic goods and household appliance. There are no exemptions to insurance premium tax.
Air Passenger Duties	Air Passenger Duty (APD) is an excise duty which is payable by aircraft operators. The amount of APD payable is based on the number of passengers on board their aircraft when they take off from UK airports. There are 12 different APD duty rates and the APD amount due per passenger depends on the final destination of the passenger and class of travel – a combination of 4 destination bands and 3 classes of travel. The geographical distance of the capital city of the destination country from London determines into which destination band a passenger falls. Intra-UK domestic flights are always Band A. Since APD applies to the journey as a whole, connected flights are considered as one journey. Hence, passengers that are departing and arriving inter-UK and solely taking international connections from a UK airport as well as passengers departing inter-UK and arriving intra-UK taking domestic connections from a UK airport are excluded from APD liabilities. The power to set APD rates on direct long haul flights from Northern Ireland has been devolved to the Northern Ireland Assembly.
Landfill Tax and Scottish Landfill Tax	Landfill tax is an environmental tax and is paid by businesses when they dispose of waste using landfill sites. There are two rates of landfill tax: the lower rate (currently £2.60 per tonne) and the standard rate (currently £82.60 per tonne) – the lower rate applies to some less polluting waste such as rock and sub-soil. Some exemptions apply and some tax credits are given is waste is sent from landfill to be recycled, incinerated or reused. Since April 2015, disposal of waste to landfill in Scotland has been subject to the Scottish Landfill Tax. The current rates are the same as for the rest of the UK.
Climate Change Levy	Climate Change Levy is a UK-wide environmental tax. There are two rates: the main rates and, from 1 April 2013, the Carbon Price Support rates. The main rates of climate change levy is a tax on the taxable supply of specified energy products (e.g. electricity, gas and coal) for use as fuels (that is for lighting, heating and power) by business consumers. It does not apply to energy products supplied for use by domestic consumers or to charities for non-business use. The carbon price support rates are payable by businesses using fossil fuels to generate electricity and form part of the Carbon Price Floor. The carbon price floor was introduced in April 2013 and applies to England, Scotland and Wales. Some exemptions and reduced rates apply.
Aggregates Levy	Aggregates levy is an environmental tax on sand, gravel and rock that has been dug from the ground, dredged from the sea in UK waters or imported. The rate of tax is £2 per tonne of sand, rock or gravel and less is paid on smaller amounts e.g. £1 on half a tonne.
Vehicle Excise Duty	Vehicle Excise Duty is a tax which must be paid on most types of registered vehicles that are to be used on public roads in the UK. The rate paid depends on the CO2 emissions of the vehicle and if registered vehicles are not being used on the road then a Statutory Off Road Notification (SORN) must be made. A new Vehicle Excise Duty system will apply to vehicles registered on or after 1 April 2017.
National Non-Domestic Rates (Business Rates)	National non-domestic rates (NNDR) is a tax on properties which are not used for domestic purposes. Such as shops, offices, pubs, warehouses, factories and

	holiday rental homes. NNDR is collected by local authorities and are a way for those occupying non-domestic properties to contribute to the cost of local services. All businesses have a rateable value which is set by the Valuation Office Agency (VOA) and this is multiplied by the 'business rates multiplier', set by Central Government, to calculate the amount of NNDR due by a business in England and Wales. Some exemptions and reliefs apply and business rates are calculated slightly differently for Scotland and Northern Ireland.
Council Tax	Council tax is a tax on properties used for domestic purposes and is collected by local authorities. For each local authority, council tax bands are set by property value and each band is charged a different rate; generally the higher the property value, the higher the amount of council tax due. Discounts and exemptions apply dependent on circumstances.
Bank Levy	The bank levy is an annual levy based on banks' balance sheets that applies to large UK banking groups and overseas banking groups carrying out business in the UK. The levy is based on total liabilities of the bank (both short term and long term). The bank levy is only liable when the aggregate liability of banking institutions and groups exceeds £20bn. The levy is not deductible for corporation tax purposes and the rate of the bank levy is lower for long term liabilities than for short term liabilities
Bank Payroll Tax	The Bank Payroll Tax was a temporary tax where a tax rate of 50% was applied to discretionary bonuses of or above £25,000 that were awarded to individual employees between 9 Dec 2009 and 5 April 2010. This temporary tax applied only to banks and building societies and members of banking groups. This tax was not deductible in computing the taxable profits of affected banks and building societies.
Swiss Capital Tax	On 1 January 2013 an agreement between the UK and the Swiss Confederation on co-operation in the area of taxation came into force. Under the terms of the agreement banking deposits of UK residents held in Swiss banks became liable for taxation

ANNEX 2: Summary of Revenue Methodology of the Disaggregation of Tax Receipts, GERS and NINFBR

Revenue	HMRC Methodology	GERS Methodology	NINFBR Methodology
Income Tax	Data from the SPI is used to compute tax liabilities using HMRC's Personal Tax Model (PTM). Data from the Trust Statement is then apportioned to England, Scotland, Wales and Northern Ireland on the basis of the residential postcode of individuals within the SPI.	UK total from PSF apportioned to Scotland using sub-UK proportions obtained from the SPI. The negative elements of tax credits received in Scotland are then deducted to produce an estimate of net income tax for Scotland. Negative expenditure elements of WTC and CTC apportioned using Scotland's share of UK total spend on tax credits.	UK total from PSF apportioned to Scotland using sub-UK proportions obtained from the SPI.
Capital Gains Tax	Self-assessment returns include the postcode of the taxpayer and these are used to attribute Capital Gains accruals to a geographic area.	HMRC produce estimates of revenue raised from capital gains tax in Scotland for each financial year. These annual figures are converted to quarterly estimates and the proportion of UK revenue raised in Scotland based on these figures is applied to the total UK figure obtained from ONS' Public Sector Finances bulletin.	The UK capital gains tax figure is apportioned to NI according to its share of UK GVA (less extra-regio).
Corporation Tax (Onshore)	All category (i) profits are allocated to the location of the registered office. Category (ii) profits, which make up the majority of taxable profits, are allocated to countries according to the sub-UK split of enterprises' employment totals, or to the registered office if no employment data is available. Company level Corporation Tax liabilities are taken to be in line with the distribution of company level taxable profits. The sum of the sub-UK level Corporation Tax liabilities are then converted to a receipts basis using historic patterns of lags between when liabilities arise and payment is received by HMRC. The final step is to calibrate to the actual figures for total UK onshore receipts.	UK corporation tax apportioned based on the economic activity undertaken in Scotland and not the location of companies' headquarters. Public corporations' and North Sea corporation tax revenues are excluded from the analysis and are apportioned to Scotland separately. Scotland's share of UK corporation tax (excluding North Sea) is then estimated by calculating Scotland's share of profits of all public and private corporations in the UK (less extra-regio) as reported in the ONS Regional Accounts. This ratio is applied to the total UK corporation tax figure.	Estimate of NI corporation tax excludes North Sea corporation tax. NI's share of profits, of all public and private corporations is applied to the total UK figure in order to estimate NI's corporation tax.
North Sea Revenue	North Sea Revenue in the disaggregation of tax receipts come from corporation tax and petroleum	North Sea revenue in GERS comes from four sources: petroleum revenue tax, corporation tax,	N/A

	tax revenue. There are two approaches for attributing receipts: geographic and by population share. The geographic approach allocates on a field by field basis to either England or Scotland using the boundary set out in the Scottish Adjacent Waters Boundaries Order 1999. No fields are allocated to Wales or Northern Ireland. For Corporation Tax, taxable profits from each field are estimated using HMRC's established North Sea Oil and Gas tax receipts forecasting model. Estimates of Petroleum Revenue Tax are based on assessment data supplied by operators to HMRC's Large Business Directorate twice a year. As this is field level data HMRC is able to identify and split the liability between fields in England and Scotland.	licence fees, and the emissions trading scheme. In addition to zero share (non-North Sea) estimates, the GERS report adopts two other estimates: geographic and population shares. GERS uses the geographical boundary established by the Scottish Adjacent Waters Boundaries Order 1999. In order to estimate this share, GERS draws upon academic research carried out by Professor Alex Kemp and Linda Stephen from the University of Aberdeen. In summary, Kemp and Stephen's model estimates share of tax revenue from Petroleum Revenue Tax, Ring Fenced Corporation Tax and the Supplementary Charge using a detailed financial model of the North Sea oil and gas sector.	
Bank Levy	Disclosure rules prevent HMRC from using administrative data to apportion Bank Levy receipts. Instead, they are apportioned by sub-UK GVA within the 'Financial and Insurance Activities' sector. Sub-UK banking specific GVA estimates are not available.	UK total apportioned using the share of bank fees, commission, and interest income, provided to the ONS by the Bank of England.	N/A
Bank Payroll Tax	Disclosure rules prevent HMRC from using administrative data to apportion Bank Payroll Tax receipts. Instead, they are apportioned by sub-UK CoE within the 'Financial and Insurance Activities' sector. Sub-UK banking specific CoE estimates are not available.	UK Total apportioned using data from BRES.	N/A
Swiss Capital Tax	Population basis.	Population basis.	N/A
National Insurance Contributions	The sub-UK splits of NICs are obtained on the basis of the residential postcodes of individuals within a one per cent sample of Pay-As-You-Earn data from the National Insurance and PAYE Service (NPS).	Scotland's share of classes 1, 2 and 3 provided by HMRC, class 4 calculated using the same proportion as class 2 - these are applied to the UK figure. The latest data available are 2011-12 for class 1, 2010-	NI's share of employer and employee contributions in HMRC's 1 per cent sample of National Insurance Recording System, is applied to the UK NICs figure to estimate NICs in NI.

		11 for class 2, 2008-09 for class 3.	
Value Added Tax	Using ONS' LCF survey, disaggregated totals for the household sector are obtained by multiplying the average annual spend on goods and services by the number of households in each sub-UK area. VAT refunds to local and central government departments are not included in receipts and are assumed to make up the same proportion in all areas. Government sector spending between the sub-national areas is in line with PESA estimates. For non-identifiable spending, such as UK-wide defence spending, population splits are used. Sub-national GVA data is used to apportion VAT receipts that are paid by these exempt industries on their inputs.	Scotland's share of UK household VAT revenues is estimated based on average weekly household expenditure data in ONS' LCF. These average VAT revenues per household are then scaled up by the number of households to estimate total VAT revenues in Scotland and the UK. Scotland/UK ratio of total VAT revenues is then applied to apportion UK VAT receipts to Scotland. Scotland's share of business and housing sector VAT is apportioned by Scotland's share of UK GVA. VAT paid by Government is apportioned by Scotland's share of UK government expenditure.	NI's share of UK household VAT revenues is estimated based on average weekly household expenditure data in the ONS Family Spending Report publications. These average VAT revenues per household are then scaled up by the number of households to estimate total VAT revenues in NI and the UK. NI/UK ratio of total VAT revenues is then applied to apportion UK VAT receipts to NI. NI share of business and housing sector VAT is apportioned by NI share of UK GVA. VAT paid by Government is apportioned by NI share of UK government expenditure.
Stamp Duties	Stamp tax on shares: All FTSE 100 companies and around 2000 non-FTSE 100 companies are allocated to an area based on the address reported to the London Stock Exchange at the time of admission and registered Companies House address, respectively. The total value of share turnover is calculated from companies in a given area and STS receipts are then apportioned in the same proportion. Land tax: Disaggregated receipts are published by HMRC from the Land Transaction Return. The split of revenue and transactions between the sub-UK areas is based on the location of the property being transacted. HMRC publish estimates of receipts from this tax in	Actual outturns for Scotland obtained from HMRC for land and property stamp duty. Stocks and shares stamp duty: the Scotland/UK ratio of adults owning shares as reported in DWP's FRS, and then weighted to the Scotland population. HMRC publish estimates of receipts from this tax in Scotland based upon the share of transactions of residential property value over £1 million (to meet disclosure rules) for annual tax on enveloped dwellings.	Estimated based on NI's share of UK revenue raised from (1) land and property stamp duties and (2) stocks and shares stamp duties. These shares are applied to UK totals. NI's share of UK households who own stocks, shares, unit trusts, PEPs and ISAs as recorded in the FRS, is used to estimate stamp duty from stocks and shares in NI.

	Scotland based upon the share of transactions of residential property value over £1 million (to meet disclosure rules) for annual tax on enveloped dwellings.		
Inheritance Tax	HMRC administrative on tax accrued by the domiciled location of the deceased individual is used.	HMRC produce estimates on the amount of revenue raised from inheritance tax in Scotland. The proportion of the UK revenue raised in Scotland based on these figures is applied to the total UK figure.	Provided directly by HMRC.
Fuel Duties	Road consumption transport statistics produced by DECC are used to calculate proportions. The receipts of other fuels – fuel oil, gas oils, gas for road fuels and other rebated oils – are apportioned on the same basis as petrol consumption. It is assumed that busses and Heavy Goods Vehicles solely use diesel while motorbikes solely use petrol.	UK fuel duty revenue from HMRC is apportioned to Scotland according to its share of UK fuel consumption. Fuel consumption estimates are published by DECC. The estimated Scotland/UK ratio of petrol and diesel consumption is then applied to apportion UK fuel duty to Scotland.	UK fuel duty revenue from HMRC is apportioned to NI according to its share of UK fuel consumption. Fuel consumption estimates are published by DECC. The estimated NI/UK ratio of petrol and diesel consumption is then applied to apportion UK fuel duty to NI.
Tobacco Duties	Average weekly household expenditure on tobacco (from ONS' LCF) is weighted to the number of households in NI to estimate total weekly expenditure. The NI/UK ratio is then applied to the UK total figure.	Average weekly household expenditure on tobacco (from ONS' LCF) is weighted to the number of households in Scotland to estimate total weekly expenditure. The Scotland/UK ratio is then applied to the UK total figure.	Average weekly household expenditure on tobacco (from ONS' LCF) is weighted to the number of households in NI to estimate total weekly expenditure. The NI/UK ratio is then applied to the UK total figure.
Alcohol Duties	Average weekly per person consumption of alcohol (from DEFRA's FFS) is weighted to the number of households in NI to estimate total weekly expenditure. The NI/UK ratio is then applied to the UK total figure.	Average weekly per person consumption of alcohol (from DEFRA's FFS) is weighted to the number of households in Scotland to estimate total weekly expenditure. The Scotland/UK ratio is then applied to the UK total figure.	Average weekly per person consumption of alcohol (from DEFRA's FFS) is weighted to the number of households in NI to estimate total weekly expenditure. The NI/UK ratio is then applied to the UK total figure.
Betting & Gaming Duties	Average weekly household expenditure on betting and gambling (from ONS' LCF) is weighted to the number of households in NI to estimate total weekly expenditure. The NI/UK ratio is then applied to the UK total figure.	Average weekly household expenditure on betting and gambling (from ONS' LCF) is weighted to the number of households in Scotland to estimate total weekly expenditure. The Scotland/UK ratio is then applied to the UK total figure.	Average weekly household expenditure on betting and gambling (from ONS' LCF) is weighted to the number of households in NI to estimate total weekly expenditure. The NI/UK ratio is then applied to the UK total figure.
Insurance Premium Tax	Average weekly household expenditure on insurance premium tax (from ONS' LCF) is weighted to the number of households in NI to estimate total weekly expenditure. The NI/UK ratio is then applied to the UK total figure.	Average weekly household expenditure on insurance premium tax (from ONS' LCF) is weighted to the number of households in Scotland to estimate total weekly expenditure. The Scotland/UK ratio is then applied to the UK total figure.	Average weekly household expenditure on insurance premium tax (from ONS' LCF) is weighted to the number of households in NI to estimate total weekly expenditure. The NI/UK ratio is then applied to the UK total figure.

Air Passenger Duties	Data from the Civil Aviation Authority (CAA) is used; it contains details on the total number of passengers flying from England, Scotland, Wales and Northern Ireland from 2006 to 2012 and aircraft destination. This data is not publicly available. ONS' International Passenger Survey (IPS)is also used. Since the CAA data list the data destination of the aircraft instead of the final destination of the passenger, it does not perfectly reflect APD payable. APD is overestimated for passengers who are arriving in the UK and then transferring to another destination and APD is underestimated for passengers departing a UK airport and then transferring from the first destination.	Estimates of the number of Scottish passengers by each air passenger duty band are obtained from the Civil Aviation Authority (CAA) surveys of Scottish airports in 2005, 2009 and 2013 as well as Scottish passenger numbers from Scottish Transport Statistics. These are combined with HMRC figures on UK APD liable passengers travelling in each duty band to estimate Scotland's share of UK passengers by duty band. Data for the years between 2005 and 2009, and 2009 and 2013 are interpolated to provide estimates for intervening years. These shares are combined with HMRC figures for air passenger duty revenues by band to derive an estimate of Scotland's share of total UK revenues.	UK total is apportioned to NI on population share basis.
Landfill Tax	Three data sources are used: the Northern Ireland Municipal Waste Management Statistics, the Scottish Environment Protection Agency and the Environment agency for England and Wales. Landfill tax receipts are apportioned by the same proportion as the tonnages sent to landfill for each sub-UK area.	The proportion of the UK total tonnage of waste sent to landfill in Scotland is used to apportion total UK landfill tax to Scotland - these data are provided by the Scottish Environment Protection Agency. The quantity of waste sent to landfill in the UK as a whole is taken from figures for England and Wales (from the Environment Agency), figures for Northern Ireland and for Scotland.	UK total apportioned to NI based on the ratio of NI to UK landfill tax calculated from landfill tax data in the HMRC Disaggregated Tax Receipts publication.
Climate Change Levy	Climate Change Levy (CCL) receipts are apportioned by the same proportion as the gas and electricity consumption in each sub-UK area. Gas and electricity consumption statistics for England, Scotland and Wales are available from DECC are used. For Northern Ireland, previously published consumption estimates in Budget 2011 are used; actual Northern Ireland data is not published due to disclosure rules. Although the Carbon Price Floor (CPF) has a different tax base to CCL, receipts currently cannot	The UK total is apportioned based on Scotland's consumption of electricity, gas and solids and other fuels are considered. Consumption data are available from DECC. UK revenues from consumption of gas and solids & other fuels are apportioned on the basis of Scotland's share of UK GVA (less extra regio).	The UK total is apportioned based on NI's consumption of electricity, gas and solids and other fuels are considered. Consumption data are available from DECC. UK revenues from consumption of gas and solids & other fuels are apportioned on the basis of NI's share of UK GVA (less extra regio). Until 31 March 2011, supplies of gas in NI have been exempt from CCL.

	be separated as they are part of the same tax return. Therefore, total CCL and CPF receipts are currently being apportioned using the CCL methodology from last year.		
Aggregates Levy	Data from the UK Minerals Yearbook, published by the UK Geographical Survey, is used to calculate the tonnage of crushed rock, sand and gravel mined in each sub-UK area. Aggregates Levy receipts are split in the same proportion as total mining activity in each area. However, Northern Ireland activity has smaller weights applied.	Data from the United Kingdom Minerals Yearbook 2013 is used to estimate the proportion of UK aggregate production of sand, gravel and crushed rock that takes place in Scotland each year.	The UK total apportioned to NI according to its share of GVA (less extra regio). The NI figure does not reflect the impact of the suspension of the Aggregates Levy Credit Scheme on 1st December 2010.
Vehicle Excise Duty	N/A	Data obtained from the DVLA on Scotland's proportion of GB's total value of licences (less exemptions) for households and for businesses are used to estimate Scotland's share of the two elements of GB vehicle excise duty.	NI vehicle excise duty (VED) is recorded net of refunds in annual reports published by the Driver and Vehicle Licensing NI (DVLNI).
Customs Duties	Receipts from Customs Duties are apportioned in line with sub-UK GVA. Since Customs Duties are collected by HMRC on behalf of the EU, they do not form part of the UK public finances.	N/A	N/A
National Non-Domestic Rates	N/A	The figure for Scotland is derived from the Scottish data in the ONS Public Sector Finances dataset.	NI domestic and non-domestic rates revenues for 2009-10 to 2013-14 were provided by the Department of Finance and Personnel (DFP) officials in Rating Policy Division (RPD) and require no further estimation. Splits between domestic and non-domestic rates for 2008-09 onwards are estimated.
Council Tax	N/A	Council tax receipts for Scotland are taken directly from the Scottish Government's Council Tax Collection Statistics 2013-14.	
Other Taxes/Other Taxes on Income and Wealth/Other Taxes and Royalties	Included under 'Other Taxes' are: Swiss Capital Taxes and a miscellaneous category that consists of old legacy taxes and repayments. Both of these are apportioned on a population basis.	See later tables.	See later tables.
Interest and Dividends	N/A	UK public corporation revenue from interest and	The UK Public Corporation figure for interest and

		dividends is apportioned to Scotland using Scotland's share of UK public sector GVA.s. UK local government and central government revenues from interest and dividends are apportioned to Scotland using Scotland's share of UK population.	dividends is apportioned to NI by share of UK public sector GVA. UK Local government and central government interest and dividend figures are apportioned using NI's share of UK population.
Gross Operating Surplus	N/A	CG and LG GOS are apportioned to Scotland according to Scotland's share of UK NMCC for CG. For PCs operating only in Scotland, all of their revenue is assigned to Scotland. For those not classified to Scotland, the UK figure is apportioned to Scotland on the basis of their estimated activity. Gross trading surpluses relating to artistic originals is apportioned to Scotland on a population basis. For HRA, figures were obtained directly from ONS, while holding gains are apportioned on the GVA basis.	Central Government and Local Government GOS figures are apportioned to NI based on NI's share of UK CG and LG Non-Market Capital Consumption (NMCC) respectively. Public Corporation figures are apportioned to NI according to its share of public sector GVA.
Rent and Other Current Transfers	N/A	Central government rents and other current transfers are apportioned as follows: • Rents on land: public sector GVA • Water abstraction: public sector GVA • Other spectrum revenues: public sector GVA • Court fines: Separate identification of 'Scotland' and 'Non-Scotland' revenues • Other, e.g. speed camera fines, charitable contributions to NHS trusts: public sector GVA • 3G and 4G spectrum receipts: GVA UK revenues from rents and other current transfers from Local Authorities and Public corporations are each apportioned to Scotland on the basis of Scotland's share of UK's public sector GVA.	The UK figure for rent and other current transfers is taken directly from GERS and is apportioned to NI according to its share of UK public sector GVA.

Other Taxes on Income and Wealth

The UK figure for other taxes on income and wealth is comprised of a number of small revenues. UK figures for the revenues listed below are taken from the PSF bulletin and separate apportionment methods are used in GERS and NINFBR to allocate revenues to Scotland and NI – all methods are consistent.

As the HMRC disaggregated tax receipts publication is not based on ESA concepts, there are no 'other taxes on income and wealth' to report. However, they do have a 'Other Taxes' category, within which Swiss Capital Taxes and other legacy taxes and repayments are included. These are apportioned on a population basis.

Public Sector Revenue	Apportionment Methodology (GERS)	Apportionment Methodology (NINFBR)
Company income tax receipts, net of repayments	GVA	GVA
Household charitable donations via gift aid and covenant tax reliefs	As for income tax (SPI)	As for income tax (SPI)
Betting and gaming duty (those elements of the duty that are classed as tax on income)	As for betting and gaming duty	As for betting and gaming duty
OFGEM tax on Non-Fossil Purchasing Agency renewable energy income	As for other renewable energy obligations	As for other renewable energy obligations
Inland Revenue: Company IT withheld	As for corporation tax	As for corporation tax
Horserace betting levy board	As for betting and gaming duty	As for betting and gaming duty
Central government contributions to payroll giving to charities	GVA	GVA
Tax credits – Insurance and Pension Funds	As for income tax (SPI)	As for income tax (SPI)
Corporation tax credit expenditure	As for corporation tax	As for corporation tax
Company tax credits	As for corporation tax	As for corporation tax
Non-Profit Institutions Serving Households tax credits	As for income tax (SPI)	As for income tax (SPI)

Other Taxes and Royalties

Other taxes and royalties comprise a number of relatively small public sector revenue sources. Each is apportioned separately, methodology in the table below.

Revenue	**Methodology (GERS)**	**Methodology (NINFBR)**
Fossil Fuel Levy	Based on GVA share	GVA share basis
Consumer Credit Act fees	Population share basis	Population share basis
To levy funded bodies	Scotland share of agriculture GVA.	NI/UK share of agricultural GVA from ONS' Regional Accounts Publication
Regulatory fees	Population share basis	Population share basis
Milk super levy	Apportioned to Scotland on the basis of Scotland's proportion of UK agricultural GVA.	N/A
National lottery	Method as for betting and gaming duty – using Scotland's proportion of estimated UK spend on betting etc as estimated by the Living Costs and Food Survey.	NI/UK share of expenditure on gambling from ONS' 'Family Spending Survey' publications
Rail franchise premia	On the advice of ONS, took 20 per cent of GNER revenue (the only rail franchise then operating in Scotland) – the 20 per cent being an estimate of the amount of route in Scotland.	N/A
Fishing licences	None for Scotland	Population share basis
Passport fees	Apportioned to Scotland on the basis of Scotland's proportion of the UK population.	Population share basis
TV licences	Apportioned to Scotland on the basis of Scotland's proportion of the UK's estimated number of private households.	NI/UK share of private households from ONS' 'Family Spending Survey' publications
Renewable energy obligations	Historic shares for Scotland provided directly by ONS	NI/UK share of electricity consumption, taken from DECC's publication.

ANNEX 3: Summary of Expenditure Methodology of GERS, Disaggregation of Tax Receipts & NINFBR

The primary data source used to estimate public sector expenditure in the GERS and NINFBR publications is the Country and Regional Analysis (CRA), published by HM Treasury. The CRA presents analyses of public expenditure by country, region and function.

For the country and regional analyses, total public spending is divided into two components:

- Identifiable expenditure: expenditure on services that can be identified as having been incurred for the benefit of individuals, enterprises or communities within a particular region;

- Non-identifiable expenditure: expenditure on services that is incurred to benefit the UK as a whole and cannot be identified as benefiting a particular country or region of the UK.

As government departments do not allocate spending based by region, in a separate data collection exercise, they are asked by HMT to apportion their expenditure to regions based on the location of those that benefit from their expenditure. Further details on CRA are available earlier in this document.

This annex is divided into three further sections: amendments to CRA, accounting adjustment, non-identifiable expenditure, and EU transactions.

Amendments to CRA

In GERS, a number of amendments are made to CRA data to ensure that the public sector expenditure figure for Scotland captures as accurately as possible expenditure for the benefit of Scotland. A summary of these amendments are listed below:

- Nuclear Decommissioning and Related Expenditures: In the CRA, expenditure on nuclear decommissioning is classed as identifiable to where nuclear facilities are located. This is based on the interpretation that only Scottish residents benefit from decommissioning of nuclear facilities in Scotland. In GERS however, nuclear decommissioning and associated expenditure is apportioned on a population basis, as the value added from the nuclear facilities benefited all UK residents.

- Research council spending: In the CRA, research council spending is apportioned to regions using the location of the academic institution that receives the grant. In GERS, research council spending is treated as a public good, and Scotland is apportioned a population share of UK spending.

- Railways expenditure: within GERS, railways expenditure is apportioned to Scotland on an *in* basis. Amendments are made to the underlying CRA data[25] which affect the expenditure by London and Continental Railways, and the Channel Tunnel Rail Link. GERS also apportions expenditure in

[25] For the latest CRA, DfT have provided a country and regional split for HS2 (previously deemed to be non-ID). Page 9 of the CRA release bulletin provides further methodological information.

relation to High Speed 2, in line with the country and regional breakdown of its benefits reported within the *The Economic Case for HS2*, published by the Department for Transport.

- 2012 Olympics: Although some Olympics expenditure was assigned to London in the latest CRA, not all were identified that way. In GERS, all Capital expenditure associated with the Olympics has been allocated the rest of the UK and not to Scotland, on the basis that Scotland will not receive a lasting benefit from the infrastructure and regeneration associated with the games. Current expenditure associated with the Olympics has been assigned across the countries and regions of the UK using the estimated regional distribution of the associated increase in tourism expenditure.

- Public Sector Pensions: In GERS, all expenditure by the Scottish Office Pension Agency outside of the UK is apportioned to Scotland rather than a population share as is standard for other outside UK expenditures.

- Other Amendments: GERS makes a number of minor amendments are made to the CRA data to correct asymmetries in the country and regional attribution of expenditures related to consumer protection, civil aviation, tourism and libraries amongst others.

Accounting Adjustment

The estimates of public spending published in the CRA are calculated on the basis of Total Expenditure on Services (TES). TES is produced on a different basis to Total Managed Expenditure (TME), which is consistent with National Accounts and is the primary measure of total public spending reported in the PSF.

The main difference between TES and TME is that expenditure on services does not include general government capital consumption and does not reverse the deduction of certain VAT refunds in the budget-based expenditure data. It also includes a small number of items that are in budgets but not in TME.

Accounting adjustments are therefore introduced into both GERS and NINFBR to ensure that estimates of total public spending for Scotland, NI and the UK are reported on the same basis of TME. Full details of these accounting adjustments are available in the respective publications. It is important to note that the accounting adjustments present a challenging aspect of producing these sub-UK statistics and require further collaborative work to be better understood.

Non-identifiable expenditure

In GERS and NINFBR, the methodology to apportion non-identifiable expenditure and identifiable expenditure which occurs outside the UK to Scotland varies according to the particular expenditure estimated. The methodologies used and listed in the following tables.

Non-identifiable expenditure in GERS

	Non-Identifiable UK Expenditure[1,2]	Outside the UK
General public services		
Public and common services	Population	Population
International services	Population	Population
Public sector debt interest	Population	n/a
Defence	Population	n/a
Public order and safety	Population	n/a
Economic affairs		
Enterprise and econ development	Population	Population
Science and technology	GVA	Population
Employment policies	n/a	Population
Agriculture, forestry and fisheries	Population	Population
Transport	GVA	Population
Environment protection[3]	GVA & Population	Population
Housing and community amenities	Population	n/a
Health	Population	Population
Recreation, culture and religion	Population	Population
Education and training	n/a	Population
Social protection	Population	Population
Accounting adjustments	Various	Various

Non-identifiable expenditure in NINFBR

	Methodology	
Elements of Non-ID Expenditure	**Non-identifiable**	**Outside the UK**
Public and common services	Population	Population
EU transactions	Actual	GVA
International services	Population	Population
Debt interest	Population	N/A
Defence	Population	N/A
Public order and safety	Population	N/A
Enterprise and economic development [1]	Population	Population
Science and technology	GVA	Population
Employment policies	N/A	Population
Agriculture, fisheries and forestry	Population	Population
Transport	GVA	Population

EU Transactions

As a member of the European Union (EU) the UK contributes to the EU budget and receives funding from the EU via a number of programmes. As discussed in Annex E of HMT's PESA, under National Accounts, these expenditures are reported as direct payments from the EU to enterprises and households, rather than being included within departmental budgets. In the transition to TME, these spending lines are therefore included as negative spending, to remove them from departmental spending.

In NINFB, figures for actual receipts from the EU to NI are provided by the EU Division within the Department of Finance and Personnel (DFP). UK payments to the EU are apportioned to NI according to its share of UK GVA (less extra regio).

In GERS, figures for actual receipts from the EU to Scotland are taken from the Scottish Government Consolidated Accounts. Other elements of EU transactions are apportioned to Scotland as set out in the table below:

EU Transaction	Apportionment Methodology
Contributions to the EU Budget	
GNI based own resource	Ratio of Scottish to UK onshore GDP
VAT based own resource	Scotland's share of UK VAT receipts
Traditional Own Resource (TOR)	Scotland's share of UK VAT receipts
Rebate[1]	Population
Receipts from the EU Budget	
Public sector receipts[2]	Taken from Scottish Government accounts
External assistance[3]	Population

1: Since 1985, the UK has received a rebate broadly equal to 66% of the UK's net contribution in the previous year – where the net contribution is the difference between the UK's share of VAT contributions and its share of expenditure allocated to Member States.

2: Expenditure specifically for Scotland as reported in the Scottish Government's Consolidated accounts, such as payments under the Common Agricultural Policy.

3: Provides state aid outside the EU. A share of this expenditure is attributed to the UK based on its contribution to the EU budget

List of Abbreviations

ALB	Arm's Length Bodies
AME	Annually Managed Expenditure
B&B	Bradford & Bingley
BoE	Bank of England
CG	Central Government
COFOG	Classifications of the Functions of Government
CRA	Country and Regional Analysis
DCLG	Department for Communities and Local Government
DEFRA	Department for Environment, Food & Rural Affairs
DEL	Departmental Expenditure Limits
DfE	Department for Education
DFPNI	Department of Finance and Personnel Northern Ireland
DWP	Department for Work and Pensions
ESA 2010	European System of Accounts 2010
EU	European Union
FFS	Family Food Survey
FReM	Government Financial Reporting Manual
FRS	Family Resources Survey
GDP	Gross Domestic Product
GERS	Government Expenditure and Revenue Scotland
GVA	Gross Value Added
HMRC	HM Revenue & Customs
HMT	HM Treasury
IFRS	International Financial Reporting Standards
LCF	Living Costs and Food Survey
LG	Local Government
MGDD	Manual on Government Deficit and Debt
NAO	National Audit Office
NDPB	Non-Departmental Public Bodies
NICs	National Insurance Contributions
NINFBR	Northern Ireland Net Fiscal Balance Report
NRAM	Northern Rock Asset Management
NUTS1	Nomenclature of Territorial Units for Statistics
OBR	Office for Budget Responsibility
ONS	Office for National Statistics
OSCAR	Online System for Central Accounting and Reporting
PC	Public Corporations
PESA	Public Expenditure Statistical Analyses
PSF	Public Sector Finances
PSNB	Public Sector Net Borrowing
PSND	Public Sector Net Debt
PSS	Public Spending Statistics
QNAS	Quarterly National Accounts Scotland
RBS	Royal Bank of Scotland
SG	Scottish Government
SNA08	System of National Accounts 2008
TES	Total Expenditure on Services
TME	Total Managed Expenditure
UKCS	UK Continental Shelf
VAT	Value Added Tax
WGA	Whole of Government Accounts

References

1. Public Sector Finances statistical bulletin
2. EU Government Deficit and Debt statistical bulletin
3. Hobbs et al (2012) 'Monthly statistics on the Public Sector Finances: A methodological guide'
4. Public Expenditure Statistical Analyses annual publication
5. Public Spending Statistics statistical bulletin
6. Tax Receipts and National Insurance Contributions for the UK annual publication
7. Whole of Government Accounts annual report
8. Country and Regional Analysis annual publication
9. Country and Regional Analysis Guidance
10. Disaggregation of Tax Receipts annual publication
11. Disaggregation of Tax Receipts: methodological note
12. Government Expenditure and Revenue Scotland annual publication
13. Government Expenditure and Revenue Scotland methodology notes
14. Northern Ireland Net Fiscal Balance Report
15. Daffin & Hobbs (2010) 'Comparison of Public Sector Finance measures from National Accounts and Whole of Government Accounts'
16. Consolidated Budgeting Guidance
17. Government Financial Reporting Manual