

Annex A: Revenue methodology (online)

This extended annex outlines the various methodologies used to obtain estimates of public sector revenues in Wales.

In contrast to public sector expenditure, there is no generic best approach to estimating public sector revenue. Instead, around 112 revenue streams are estimated using separate methodologies. Where possible, the methodologies used replicate similar publications deemed as National and Official Statistics, for example, the GERS publication and HMRC's disaggregated taxes data.

Overview

The majority of public sector receipts raised in Wales are collected at the UK level by HM Revenue and Customs.

In some cases, revenue figures can be obtained for Wales directly, for example local government revenues. For most revenue streams this is not possible, and this report therefore uses a number of different methodologies to apportion revenues to Wales. In certain cases, a variety of alternative methodologies could be applied, each leading to different estimates.

For revenues without direct data for Wales, the estimates are produced in two stages. Firstly, the UK outturn figure for each revenue stream is obtained from ONS Public Sector Finance Statistics. In the second stage, Wales' share of the UK figure is estimated according to a specific apportionment methodology.

UK Revenue Figures

Figures for UK fiscal revenue streams are taken from the ONS Public Sector Finances. The detailed components, revenue by revenue, are taken from an ONS database (PSAT2) which is produced on a quarterly basis.

These data are presented on an accruals basis and separately identify revenue attributed to central government, local government and public corporations. The international standards for National Accounts and Government Finance Statistics use the accruals basis rather than a cash approach. This is because accruals accounting reflects a more accurate picture of when revenue is due and spending occurs than the more volatile alternative of cash, which, for example, records when bills are settled rather than when the expenditure occurs.

Included in the UK revenue figure is an accounting adjustment (like on the expenditure side), to ensure consistency on both sides of the fiscal balance calculations. The revenue accounting adjustment is very small and is included in the 'other taxes, royalties and adjustments' category.

Wales Revenue Figures

Table A.1 outlines the methodologies used to apportion each revenue source to Wales. The rest of the annex provides further detail on these methodologies.

Table A.1: Apportionment Methodologies and Data Sources for Public Sector Revenue in Wales

| Revenue | Apportionment Methodology | Source |
|---|--|---|
| Income Tax | Welsh share of UK income tax liabilities applied to income tax gross of tax credits. | Survey of Personal Income (SPI): HMRC and authors' analysis |
| Estimated Revenue from the Welsh Rate of Income Tax | See below. | Office of Budget Responsibility (OBR) |
| Corporation tax (excluding North Sea) | Analysis of HMRC administrative data on Corporation Tax (CT) and the ONS Inter-Departmental Business Register (IDBR). Most CT allocated according to sub-national split of enterprises' employment totals, or to the location of the registered office if employment data is unavailable. See HMRC publication for full methodology. | HMRC data |
| Capital gains tax | Actual outturns for Wales | HMRC data |
| National insurance contributions | Analysis of a sample of Pay-As-You-Earn data taken from the National Insurance Recording System. | HMRC data |
| VAT | Net VAT revenue apportioned according to HMRC analysis of various sectors paying VAT and survey data. | HMRC data |
| | Local Government refunds apportioned according to Wales' share of UK identifiable expenditure by Local Government. | Country and Regional Analysis, HM Treasury |
| | Central Government refunds - Ministry of Defence refunds apportioned according to population. NHS refunds apportioned according to Wales' share of UK TES on health. Other Gov. Departments refunds apportioned according to Wales' share of UK TES (excluding health). | Country and Regional Analysis, HM Treasury |
| Fuel duties | Wales' share of UK road traffic fuel consumption. Separate shares are calculated for petrol and diesel consumption. | Department of Energy and Climate Change (DECC) |

Table A.1: Apportionment Methodologies and Data Sources for Public Sector Revenue in Wales

| | | |
|---------------------------|---|--|
| Stamp Duty Land Tax | Actual outturns for Wales. Also includes an estimated share of the Annual Tax on Enveloped Dwellings. | HMRC data |
| Stamp Duty on shares | Analysis of Welsh households that own stocks and shares. | Family Resources Survey, Department for Work and Pensions (DWP) |
| Tobacco duties | Analysis of weekly expenditure on tobacco by Welsh households, from survey data. | Family Spending Survey, ONS. (Editions covering years closest to each financial year used) |
| Alcohol duties | Analysis of weekly consumption of different alcoholic beverages by Welsh individuals, from survey data. | Family Food Survey, DEFRA |
| Betting and gaming duties | Analysis of weekly expenditure on gambling products by Welsh households, from survey data. | Family Spending Survey, ONS. (Editions covering years closest to each financial year used) |
| Air passenger duty | Analysis by HMRC of information on number of passengers from the Civil Aviation Authority. | HMRC data |
| Insurance premium tax | Analysis of expenditure on insurance by Welsh households, from survey data. | Family Spending Survey, ONS. (Editions covering years closest to each financial year used) |
| Landfill tax | Analysis by HMRC on Wales' proportion of tonnage sent to landfill in the UK. | HMRC data |
| Climate change levy | Revenue from electricity consumption apportioned to Wales on the basis of Wales' share of UK electricity consumption. | DECC data |
| | Revenue from gas consumption apportioned to Wales on the basis of Wales' proportion of total UK gas consumption. | DECC data |
| | Revenue from other fuels apportioned on the basis of Wales' share of UK GVA. | ONS Regional Accounts |
| Aggregates levy | Analysis of Wales' share of UK aggregate production of sand, gravel and crushed rock. | UK Minerals Yearbook 2014 |

Table A.1: Apportionment Methodologies and Data Sources for Public Sector Revenue in Wales

| | | |
|--|---|---|
| Inheritance tax | Actual outturns for Wales. | HMRC data |
| Vehicle excise duty | Wales' share of licensed vehicles in Great Britain. | Vehicle Licensing Statistics, from the Department of Transport |
| Non-domestic rates | Actual outturns for Wales used for the gross amount of NDR paid. Estimates of discretionary reliefs and costs of collection subtracted. Apportioned share of UK NDR paid by local government subtracted also. | https://statswales.wales.gov.uk |
| Council tax | Actual outturns for Wales. | https://statswales.wales.gov.uk |
| Other taxes, royalties and adjustments | Various methodologies. See below. | |
| Interest and dividends | For Public Corporations: Wales' share of public sector UK GVA. | ONS Regional Accounts |
| | For receipts of Local and Central Government: Wales' share of UK Population. | ONS |
| Gross operating surplus | Central Government - Share of UK non-market capital consumption. | ONS Regional Accounts |
| | Local Government - Share of UK non-market capital consumption. | ONS Regional Accounts |
| | Public Corporations - Share of UK public sector GVA. | ONS Regional Accounts |
| | Bank of England – Population. | ONS |

Table A.1: Apportionment Methodologies and Data Sources for Public Sector Revenue in Wales

| | | |
|----------------------------------|-----------------------------------|--|
| Rent and other current transfers | Various methodologies. See below. | |
| Other taxes on income and wealth | Various methodologies. See below. | |

Income Tax

UK figures for income tax revenue (gross of tax credits) are taken from ONS' database underlying the Public Sector Finances.

Wales' share of total UK income tax (gross of tax credits) is estimated from HMRC's Survey of Personal Incomes (SPI). The annual survey samples from HMRC's PAYE, Self-Assessment and Claims Databases, and covers the income assessable for tax in each tax year. It covers 1.8% of income tax payers with a sample of approximately 600,000 people in the UK. The latest SPI survey was published in March 2016 and provided data for 2013-14.

The Welsh share of UK income tax liabilities is applied to the total UK income tax figure provided in ONS' database. The resulting figure is used as an estimate of gross income tax revenues raised in Wales.

Small amounts of negative expenditure elements of some tax credits (relating to Mortgage Interest and Life Assurance Premium Relief) are deducted from this total. Wales is assigned a population share of the UK figure.

Methodology for Welsh Rate of Income Tax revenues estimates

The Office for Budget Responsibility produce estimates of Income Tax liabilities from the Welsh Rates of Income Tax (WRIT - assuming rates of 10p).¹ As other revenues in chapters 2 and 3 are on the basis of receipts and not liabilities, it was deemed appropriate to estimate WRIT revenues on this basis also for easier comparison.

The share of Non-Savings and Non-Dividends (NSND) Liabilities as a share of total UK Liabilities is estimated from HMRC Income Tax Liabilities Statistics. This share is then applied to the total UK Income Tax revenues from the ONS' database underlying the Public Sector Finances, to get an estimate of UK NSND Income Tax revenues. The WRIT share of UK NSND Liabilities (from the OBR) are then applied to these figures, in order to get an estimate of WRIT receipts.

Corporation Tax

The UK figure for total corporation tax is taken from ONS' database underlying the Public Sector Finances. Data obtained from HMRC on offshore corporation tax revenue is subtracted from this to get to a figure for total onshore corporation tax.

The Welsh share of UK onshore Corporation Tax is taken from HMRC's disaggregated taxes data.² This share is then applied to the UK onshore corporation tax figure.

The HMRC data is based on analysis of administrative data on Corporation Tax and the ONS Inter-Departmental Business Register (IDBR). Most Corporation Tax is allocated according to sub-national split of enterprises' employment totals, or to the location of the registered office if employment data is unavailable. See HMRC publication for full methodology.

Payments from UK public corporations are deducted from this total figure. A Welsh estimate of these payments is subtracted from the Welsh figure using the same share as for total Corporation Tax.

¹ Available at: http://budgetresponsibility.org.uk/docs/dlm_uploads/Devolved-taxes-forecast.pdf

² Available at: <https://www.gov.uk/government/statistics/disaggregation-of-hmrc-tax-receipts>

Capital Gains Tax

The UK figure for total Capital Gains Tax is taken from ONS' database underlying the Public Sector Finances.

HMRC produce estimates of the amount of revenue raised from capital gains tax in Wales for each financial year. The proportion of UK revenue raised in Wales from these figures is applied to the total UK figure for Capital Gains Tax.

National Insurance Contributions

The UK figure for total National Insurance Contributions is taken from ONS' database underlying the Public Sector Finances.

The Welsh share of UK National Insurance Contributions is taken from estimates produced by HMRC. This estimate is produced using a 1% sample of National Insurance Recording System (NIRS) data. The latest sub-national proportions available are for 2011-12, and later years are assumed to be constant for later years.

Value Added Tax

The UK figure for total VAT revenues is taken from ONS' database underlying the Public Sector Finances. This total figure is made up of three main parts: net VAT, local government VAT refunds and central government VAT refunds.

The Welsh share of UK VAT (net of refunds) is taken from estimates produced by HMRC, based on analysis of various sectors paying VAT and survey data.

Local Government refunds are apportioned according to Wales' share of UK identifiable expenditure by Local Government, taken from the Country and Regional Analysis publication (HM Treasury).

Central Government refunds are split into three categories:

- VAT refunds to the Ministry of Defence are assigned according to Wales' population share of the UK.
- VAT refunds to the NHS are assigned according to Wales' share of UK Total Expenditure on Services (TES) on health (CRA, HM Treasury)
- VAT refunds to other government departments are assigned according to Wales' share of total UK TES on services (excluding MoD and NHS spending).

VAT is presented in the report as gross of VAT refunds. VAT refunds then also appear as expenditure (see accounting adjustment).

Fuel Duties

The UK figure for total fuel duties is taken from ONS' database underlying the Public Sector Finances. Data from HMRC's Hydrocarbon Oils Duties bulletin is used to estimate the duty paid on petrol and the duty paid on diesel.

In line with the methodology developed in GERS for Scottish estimates, the estimation of revenues raised from excise duties in Wales is based on the premise that the burden of duty is borne by the final consumer.

Fuel duty revenues are apportioned to Wales by estimating Wales' share of UK fuel consumption. UK road traffic fuel consumption and a regional breakdown, based on weighted traffic flows on a sample of roads across the UK, are published by the Department of Energy and Climate Change (DECC), from which Wales' share of UK petrol and diesel consumption is derived. These estimates are then applied to the figure for UK revenue from each source to estimate Wales' share of total fuel duty.

Stamp Duty Land Tax

The UK figure for total Stamp Duty Land Tax revenue is taken from ONS' database underlying the Public Sector Finances.

HMRC publish estimates of land and property stamp duty raised in Wales. Outturn estimates are available up to and including 2014-15.

Added to this tax in this report is revenue from the Annual Tax on Enveloped Dwellings. This is apportioned to Wales according to estimates produced by HMRC.

Stamp Duty on Shares

The UK figure for total Stamp Duty Land on Shares revenue is taken from ONS' database underlying the Public Sector Finances.

The annual Family Resources Survey, produced by the Department for Work and Pensions (DWP), contains an estimate of the share of households in Wales and the UK who own stocks and shares. This is used to estimate the proportion of UK households that own stocks and shares that are in Wales. This proportion is then applied to the UK total revenue figure.

Tobacco Duty

The UK figure for total tobacco duties revenues are taken from ONS' database underlying the Public Sector Finances.

Expenditure on tobacco products is estimated using the Family Spending Survey, produced by the ONS. Average weekly household expenditure for Wales and the UK is scaled up by the number of households to estimate total weekly expenditure on tobacco in Wales and the UK. The Wales/UK ratio of total weekly expenditure on tobacco is used to apportion UK tobacco duty revenue to Wales.

Editions of the survey that cover the years closest to each financial year are used.

Alcohol Duties

The UK alcohol duty revenues are taken from ONS' database underlying the Public Sector Finances. These are specified for Spirits, Cider and Perry, Wine and Beer. Wales' share of total UK private household consumption of these different alcohol products is then used to derive the proportion of duty attributable to Wales.

Expenditure on alcohol products is estimated using the Family Food Survey, published by DEFRA. Average weekly household expenditure for Wales and the UK on different alcohol products is scaled by population to estimate total weekly expenditure in Wales and the UK. The Wales/UK ratio of total weekly expenditure on spirits, cider and perry, wine, and beer are then applied to the relevant UK revenue figures.

Betting & Gaming Duties

The UK betting and gaming duty revenues are taken from ONS' database underlying the Public Sector Finances.

Expenditure on gambling products is estimated using the Family Spending Survey, produced by the ONS. Average weekly expenditure for Wales and the UK is scaled up by the number of households to estimate total weekly expenditure on gambling in Wales and the UK. The Wales/UK ratio of total weekly expenditure on gambling is then applied to the total UK betting and gaming duty revenue figure.

Editions of the survey that cover the years closest to each financial year are used.

Air Passenger Duty

The UK figure for total Air Passenger Duty is taken from ONS' database underlying the Public Sector Finances.

The share of Air Passenger Duty for Wales is taken from estimates produced by HMRC. These estimates are based on information on number of passengers from the Civil Aviation Authority.

Insurance Premium Tax

The UK figure for total Insurance Premium Tax revenue is taken from ONS' database underlying the Public Sector Finances.

The estimation of revenues raised in Wales is based on the premise that the burden of duty is borne by the final consumer.

Expenditure on insurance is estimated using the Family Spending Survey, produced by the ONS. Average weekly expenditure for Wales and the UK is scaled up by the number of households to estimate total weekly expenditure on insurance in Wales and the UK. The Wales/UK ratio of total weekly expenditure on insurance is then applied to the total UK revenue figure.

Editions of the survey that cover the years closest to each financial year are used.

Landfill Tax

The UK figure for total landfill tax is taken from ONS' database underlying the Public Sector Finances.

The share of Landfill Tax for Wales is taken from estimates produced by HMRC. These estimates are based on the Wales' proportion of tonnage sent to landfill in the UK. The data comes from the Northern Ireland Municipal Waste Management Statistics, the Scottish Environment Protection Agency, the Environment Agency for England and National Resources Wales. The latest available year of data was 2013.

Climate Change Levy

The UK figure for climate change levy revenue is taken from ONS' database underlying the Public Sector Finances.

Data from HMRC's climate change levy bulletin on the levy declared on trader returns is used to estimate the proportion of revenue raised from three fuel types: electricity, gas, and solid and other fuels. These proportions are applied to the ONS total.

Climate change levy revenues from electricity consumption are apportioned on the basis of Wales' share of UK electricity consumption by commercial and industrial users. Data from DECC is used to estimate Welsh electricity consumption. The UK figure is obtained by combining regional figures published by DECC for England, Wales, Scotland and Northern Ireland.

Revenue from gas consumption is apportioned to Wales on the basis of Wales' proportion of total UK gas consumption. Figures on sales of gas (in GWh) to commercial and industrial users are used as proxies for consumption. Estimates of Welsh consumption are from DECC data. Data is also available for England and Scotland. An estimate was made of consumption in Northern Ireland based on its GVA. These figures were combined for the total UK figure.

UK revenue from consumption of other fuels is apportioned to Wales using Wales' share of UK GVA (less extra regio).

Aggregates Levy

The UK figure for total aggregates levy revenue is taken from ONS' database underlying the Public Sector Finances.

Data from the United Kingdom Minerals Yearbook 2014 is used to estimate the proportion of UK aggregate production of sand, gravel and crushed rock that takes place in Wales each year. This is used as a proxy for Wales' share of the revenue derived from aggregates levy. For years before 2011-12 Wales' share of aggregate production in Great Britain is used. This is to account for a relief in the duty rate for certain customers in Northern Ireland from 2002 to 2010. The latest available data covers 2013 and we assume proportions remain the same for 2014.

Inheritance Tax

The UK figure for total inheritance tax is taken from ONS' database underlying the Public Sector Finances.

HMRC produce estimates of the amount of revenue raised from inheritance tax in Wales. The proportion of UK revenue raised in Wales based on these figures is applied to the total UK figure obtained from the ONS' database.

VED

The UK figure for vehicle excise duty from households and businesses are taken from ONS' database underlying the Public Sector Finances.

Vehicle Licensing Statistics from the Department of Transport are used to estimate Wales' proportion of licensed vehicles in Great Britain.

Wales' proportion of licensed vehicles in Great Britain is then applied to UK VED revenues excluding revenue from the Northern Ireland Vehicle Agency.

Business Rates (non-domestic rates)

Actual outturns for Wales are used for the gross amount of Non-Domestic Rates paid are taken directly from statswales.

Deductions are made from this total to be consistent with the NDR figure for the UK as a whole that feeds into the ONS' database underlying the Public Sector Finances. Estimates of discretionary

reliefs and costs of collection are subtracted. Wales is apportioned a share of UK NDR paid by local government (according to Wales' share of gross NDR), which is also subtracted away.

Council Tax (domestic rates)

Council tax receipts for Wales are taken directly from statswales.

Other Taxes, Royalties and Adjustments

The UK figure for other taxes and royalties is comprised of a number of small revenues. Each of these is apportioned to Wales separately. The individual taxes and royalties and the relevant apportionment methodology are shown in table A.2.

Included in the UK revenue figure is an accounting adjustment (like on the expenditure side), to ensure consistency on both sides of the fiscal balance calculations.

Also included in this category is an accounting adjustment to ensure consistency on both sides of the fiscal balance calculations. Wales is apportioned a population share of this adjustment.

| Table A.2: Other Taxes & Royalties and apportionment methodology | |
|--|---|
| Revenue | Apportionment Methodology |
| Consumer credit act fees | Population |
| NI Domestic Rates paid by households | Zero for Wales |
| To Levy Funded Bodies | Regional Accounts: Agriculture GVA share |
| Regulatory Fees | Population |
| National Lottery | Family Spending: Betting and gaming expenditure |
| Renewable Energy Obligations | Share of electricity consumption (as Climate Change Levy) |
| Rail franchise premia | Population |
| Fishing licences | Population of Wales/England and Wales |
| TV licences | Share of UK households |
| British Transport Police Service Agreements | CRA: share of BTP spending |
| Community infrastructure levy | Population of Wales/England and Wales |
| Light Dues | Population |
| Passport fees | Population |
| Bank Levy | Share of UK Financial Industry GVA |
| Carbon reduction commitment payments | Share of electricity consumption (as Climate Change Levy) |
| Emissions trading scheme | Share of electricity consumption (as Climate Change Levy) |
| Cross-rail business rates supplement | Zero for Wales |
| Vehicle Registration Tax | DVLA: share of VED licences |
| CG fines and penalties (including forex trading fines) | Population |
| Air Travel Organiser License Fees | Population |

Interest & Dividends

UK figures for interest and dividend revenue received by public corporations, local government and central government, are obtained from ONS' database underlying the Public Sector Finances.

UK public corporation revenue from interest and dividends is apportioned to Wales according to Wales' share of UK public sector GVA from the ONS' regional accounts publications. Public sector GVA is estimated from Industry GVA data – taking industry groups 'Public administration and defence', 'Education' and 'Health and social work'. UK local government and central government revenues from interest and dividends are apportioned to Wales using Wales' share of UK population.

Gross Operating Surplus

Gross operating surplus (GOS) refers to the operating (or trading) surpluses (or losses) of central government, local government and public corporation trading activity.

By definition, general government GOS is equal to general government non-market capital consumption (NMCC). This is a measure of the amount of fixed capital resources used up in the production process (i.e. depreciation). Since this is a public sector receipt, that does not raise actual funds, it is balanced by an offsetting item within public expenditure. This means it has no effect on the overall net fiscal balance.

Figures for UK GOS from central government, local government and public corporations are taken from ONS' database underlying the Public Sector Finances.

In calculating GOS for Wales, separate figures are estimated for:

1. Central government – apportioned according to Wales' share of UK non-market capital consumption
2. Local government – apportioned according to Wales' share of UK non-market capital consumption
3. Public corporations – apportioned according to Wales' share of UK public sector GVA (as described above in the Interest and Dividends methodology section).
4. Bank of England – apportioned according to Wales' share of UK population.

Rent and other Current Transfers

Most categories of rents and other current transfers are apportioned to Wales according to Wales' share of UK public sector GVA (as described above in the Interest and Dividends methodology section).

Accrued receipts for spectrum use in relation to 3G and 4G mobile telephone licences are apportioned according to Wales' share of UK GVA.

Data were only available for the latest five years.

Other Taxes on Income and Wealth

Other taxes on income and wealth include a number of small taxes. The UK figure for other taxes on income and wealth is taken from ONS' database underlying the Public Sector Finances.

The other taxes on income and wealth and the relevant apportionment methodologies are outlined in table A.3.

Table A.3: Other Taxes on Income and Wealth and apportionment methodologies

| Public Sector Revenue | Apportionment Methodology |
|--|--|
| Company Income Tax Receipts, net of Repayments | GVA |
| Household charitable donations via gift aid and covenant tax reliefs | As for Income Tax (SPI) |
| Betting and gaming duty | As for betting and gaming duty |
| OFGEM tax on NFPA renewable energy income | As for renewable energy obligations |
| Inland Revenue: Company IT withheld | As for corporation tax |
| Horserace Betting Levy Board | As for betting and gaming duty |
| Corporation Tax Credit Expenditure | As for corporation tax |
| Company tax credits | As for corporation tax |
| NPISH tax credits | As for Income Tax (SPI) |
| Swiss tax agreement | As for Income Tax (SPI) |
| Bank Payroll Tax: Accrued receipts | Share of GVA from Financial and insurance activities (ONS regional accounts) |
| Taxes on income and wealth, Bank of England (-ve) | Population |