**Primary Income Account and Gross National Income (GNI) for Scotland: Methodology paper**

Release Date: June 2023.

## Overview

This publication contains estimates of primary income flows and Gross National Income (GNI) for Scotland for the years 1998-2021. This is the first release of these statistics since December 2019, and includes revisions to the previously published figures for 1998 to 2017. The next release, including results up to 2022, is planned for publication in the first half of 2024.

The estimates in this release are consistent with data sourced from Scotland’s Quarterly National Accounts for 2022 Quarter 4, the UK Pink Book 2022 and the UK Economic Accounts for 2022 Quarter 4.

All results in this paper are designated as **experimental statistics**. These are defined as new official statistics undergoing development and testing. All users should be aware that the results in this paper are **provisional and will be revised and updated** when further developments are made. They should therefore be used with appropriate caution at this time. The methods, data sources and results in this paper are open for ongoing consultation with users, and we welcome feedback on all aspects of the release.

Please contact us at economic.statistics@gov.scot

or write to:

The Scottish Government
National Accounts Unit
Office of the Chief Economic Adviser – Economic Analysis
St Andrew’s House (4WR)
Regent Road
Edinburgh
EH1 3DG

You can also follow us on Twitter to keep up to date with the economic statistics and wider economic analysis published by the Scottish Government - <https://twitter.com/scotgovocea>

### Introduction

Gross National Income (GNI) can be viewed as an adjustment to the more widely used Gross Domestic Product (GDP) measure of economic activity to take account of financial flows into and out of the country due to ownership. For example, where profits made by Scottish companies outside Scotland are repatriated, this would be included in an estimate of Scottish GNI but is not included in Scottish GDP. Likewise, when non-Scottish companies repatriate profits made in Scotland, these profits would be included in Scottish GDP but would be omitted from estimates of Scottish GNI.

### Methodology Overview

The original aim behind these statistics was to develop the statistical framework and methods for extending Scotland’s national accounts to include estimates of Gross National Income (GNI) in addition to Gross Domestic Product (GDP), and for these statistics to cover activities across the wider economic territory of Scotland (i.e. including a geographical share of UK extra-regio economic activities, namely oil and gas production in Scottish adjacent waters). Specific objectives were:

* To apportion the UK Primary Income Account to Scotland – estimating the financial flows between Scotland and the (non-UK) Rest of the World (ROW), including intra-company flows within the UK which underly the international flows in the UK accounts.
* To estimate Scottish flows to and from the Rest of the UK (RUK).

### Building on Previous Work

The methodology used for this release has largely remained the same as previous versions. More information on the methodology can be found in the separate methodology paper, which can be downloaded using the buttons at the top of this page.

The methods, data sources and results in this paper are subject to ongoing review and we welcome input to this from users. Please contact us at economic.statistics@gov.scot.

Users should note that development of these statistics has focussed on results from 2010 onwards for which data sources, such as the Foreign Direct Investment Survey, have been identified. Estimates for earlier years have largely been derived using extrapolation and back-casting of apportionments, and as such are subject to much higher levels of uncertainty and should be used with an appropriate level of caution.. Care should therefore be taken when analysing longer term trends. Most of the commentary in this paper will focus on post-2010 trends.

This work complements other experimental statistics which have been developed to better understand the whole economy In particular, the latest release of the [Supply and Use Satellite Accounts for extra-regio economic activities for 1998-2021](https://www.gov.scot/publications/extra-regio-satellite-accounts-1998-2021) published in June 2023. All the GNI estimates in this paper relate to the same economic territory for Scotland i.e. including Scottish adjacent waters and the underlying continental shelf, plus an illustrative population share of UK overseas public administration and defence activities.

## Producing GNI Estimates for Scotland

To establish GNI for Scotland we need to construct a Primary Income Account which provides the flows needed to adjust GDP to GNI.

**Primary Income**

Primary income represents the income of institutional units (such as households, companies etc.) from their contribution to the production process or for the provision of financial assets and renting natural resources to other institutional units.

To estimate GNI from GDP the following flows need to be considered:

**Compensation of Employees (CoE)**

This includes wages and other benefits received by workers who cross national borders to reach their place of normal work or to seasonal or short-term workers who are resident in the country for less than a year.

**Earnings on Direct Investment**

This covers earnings made when Scottish residents have an equity interest of 10% or more in a foreign company (or vice versa). Changes in the stock of direct investment (i.e. mergers and acquisitions, etc.) are not included in GNI.

**Earnings on Portfolio Investment**

This includes earnings from investment in equity securities (shares) or debt securities where the investor owns less than 10% of the enterprise. This also includes UK Government debt interest payments to non-residents. Changes in the stocks held as portfolio investment (i.e. purchase or sale of shares, etc.) are not included in GNI.

**Earnings on Other Investment**

Other Investment primarily covers interest received from deposits or paid on a loan where one of the parties is not resident in Scotland.

**Other Primary Income**

Taxes paid (and subsidies received) on production from non-residents (e.g. EU import duties and VAT and receipts of EU production subsidies). Taxes on income and wealth, and the majority of EU budget contributions and funding are not included in GNI.

**Reserve Assets**

Interest received on official foreign exchange reserves and relating to the International Monetary Fund (IMF).

### Challenges in Developing a Primary Income Account for Scotland

Whereas the System of National Accounts (SNA)[[1]](#footnote-1) provides guidance for countries to produce sub-national GVA or GDP statistics, there is no guidance or requirement in either the SNA or Balance of Payments[[2]](#footnote-2) (BOP) for the equivalent production of sub-national GNI. We are unaware of any precedent for GNI being produced for sub-national areas (for example, whereas regional accounts for GDP are commonplace, there are no Gross Regional Income statistics or similar). This highlights the boldness and novelty of this work, but also underlines why there are conceptual and practical challenges leading to uncertainty in the results.

Developing a Primary Income Account for Scotland involves several challenges not present in the production of estimates such as GDP for Scotland. Firstly, a different set of concepts is involved: in producing GDP, the focus is on collating information which measures the economic activity in Scotland, regardless of who is undertaking it. Production of a Primary Income Account requires the measures of economic activity to be disaggregated into activity undertaken by residents and non-residents (or businesses owned by non-residents); it therefore requires another level of information to be added to the data which inform GDP. In addition, a Primary Income Account requires information to be collected on the economic activities of Scottish residents, and the activities of any business that they own, in foreign countries. This information is not required in the production of GDP.

In producing a Primary Income Account for Scotland, there is the additional difficulty that UK firms reporting their activity in the UK or overseas are not required to report whether or not they are Scottish firms. This requires further work looking at which UK firms can be considered to be Scottish firms. Finally, there is the problem that for some income flows, no or only limited Scottish data are collected – such as when an income flow is assigned to the UK headquarters, the company could then reinvest the earnings in different sites. Where the ONS undertakes surveys of UK companies, Scottish companies are included in these surveys, but as the surveys are designed to represent the whole of the UK, the coverage in Scotland may be smaller than might be desired. These surveys also tend to only cover interactions between UK residents and foreign residents. Data on financial flows between Scotland and the rest of the UK (RUK) are limited.

Taken together, the challenges mean that it is inevitable that the estimates in the Primary Income Account will be subject to uncertainty. It also means that a range of different data sources and methodologies have to be used. For most flows with the rest of the world (ROW), Scotland is allocated a share of the UK total, based on an apportionment method. Direct Investment flows with ROW have been derived from company level data, and these, which include flows associated with the North Sea, are considered the best quality estimates in the analysis. Flows with RUK have been estimated at the aggregate level from existing National Accounts and UK and Scottish business statistics data.

### Key data sources and model parameters

The headline Primary Income Account figures for the UK are taken from two sources:

* Quarterly high-level results from the UK Economic Accounts[[3]](#footnote-3); and
* Annual detailed breakdowns from the UK Pink Book[[4]](#footnote-4).

These provide the starting point for the estimate of Primary Income flows between Scotland and ROW.

There are four main data sources used in estimating Scotland’s Primary Income Account:

* ONS Foreign Direct Investment (FDI) Survey
* Annual Survey of Hours and Earnings (ASHE)
* ONS Regional GVA(B)
* Scottish Government GDP/Quarterly National Accounts Scotland

Other estimates are derived by using various apportionment methods, based on a range of sources including:

* ONS and NRS – mid-year population estimates
* Oil and Gas UK – Demographics Report
* London Stock Exchange – market capitalisation data
* ONS – Share Ownership survey
* Debt Management Office – debt holdings
* SG – EU subsidies

Further details are set out in Annexes A and B.

### Revisions to previously published figures

The results presented here include some revisions to figures that were published in the 2019 paper for years 1998 to 2017. These are presented in table 5 in the supplementary tables. The revisions are the result of revisions made by ONS to the UK series on which the Scottish analysis is based changes made by ONS or the Scottish Government to the data used to apportion UK figures to Scotland improvements to the method used to estimate the Scottish flows may also contribute to the changes

We have revised the methodology used to calculate Direct Investment for onshore and offshore Scotland for both RUK and ROW. Instead of taking a Scottish of UK Direct Investment flows based on data from the Foreign Direct Investment (FDI) survey, we now use data directly from the FDI survey. These revisions are is set out in more detail in [section 3.2.](#_Direct_Investment)

## Detailed Methodology

Most of the methods used are unchanged from those used in the previous publication in 2018 and are similar to those developed in the 2013 work.

The general approach is to calculate an appropriate Scottish share of the income flows between the UK and the rest of the world as published in the UK Pink Book and the Quarterly UK Economic Accounts. The shares are usually based on population or Gross Value Added for a given industry. For direct investment detailed company level data from the Office for National Statistics’ (ONS) Foreign Direct Investment (FDI) survey has been used with a range of methods used to determine Scottish data from this survey.

The model used to produce the results in this paper is based on quarterly data. The quarterly figures have been calculated by combining annual figures from the Blue Book and Pink Book publications with quarterly figures from the UK Economic Accounts. Some figures are only available annually and so these are used to apportion the more sparse quarterly information to the more detailed breakdowns required by the quarterly GNI model.

There are 2 additional complexities that need to be addressed.

Firstly, flows between Scotland and the rest of the UK need to be taken into account. Data on interactions between Scotland and the rest of the UK are extremely limited. Surveys of UK companies by the ONS include Scottish companies but (i) these companies are not always easy to identify, (ii) the coverage in Scotland may be smaller than might be desired and (iii) the surveys tend to cover solely interactions between UK residents and foreign residents and don’t include interactions between Scottish residents and residents in the rest of the UK.

Secondly, a large share of UK Extra Regio (offshore and overseas) activity takes place in Scottish waters. This is complicated because data associated with the Scotland’s offshore economy are limited and can be difficult to estimate.

Taken together, these challenges mean that it is inevitable that the estimates in the income account will be subject to uncertainty. It also means that a range of different data sources and methodologies have been used.

The Primary Income Account consists of the main components outlined below.

### Compensation of Employees (CoE)

This includes wages and other benefits received by workers who cross national borders to reach their place of normal work, or to seasonal or short-term workers who are resident in the country for less than a year.

The overall net flows of COE between Scotland RUK are consistent with GDO COE and Gross Disposable Household Income (GDHI) COE figures in Scotland’s Quarterly National Accounts.

* + 1. Estimating flows between onshore Scotland and ROW:

Scottish onshore CoE as a proportion of UK onshore CoE is calculated. This is then multiplied by onshore UK CoE, for both credit and debits flows, based on the UK Economic Accounts.

* + 1. Estimating flows between offshore Scotland and ROW

The measure of extra-regio CoE from the mining and quarrying industry is taken from the regional accounts. A Scottish geographical share is applied to estimate the Scottish element. This in turn is multiplied by an estimate of the proportion of workers in the UK continental shelf who are non-UK nationals taken from the UK Continental Shelf offshore Demographics Report published by Oil & Gas UK.

* + 1. Estimating flows between onshore Scotland and RUK

*RUK to Scotland (Credits):* The Annual Survey of Hours and Earnings (ASHE) is used to estimate the proportion of employment income in the rest of the UK being earned by Scottish residents. This is then multiplied by an estimate of RUK onshore COE to estimate the flow from RUK to Scotland.

*Scotland to RUK (Debits):* This is effectively a balancing item, calculated to ensure that the overall net balance is consistent with the difference between GDP CoE and GDHI CoE.

* + 1. Estimating flows between offshore Scotland and RUK

Flows between the Scottish offshore economy and the rest of the UK and between the rest of UK offshore economy and Scotland are again based on the measure of extra-regio CoE from the mining and quarrying industry in the regional accounts. A combination of Scotland’s (/RUK’s) geographic share of the north sea, the proportion of workers in the UK continental shelf who are UK nationals and the proportion of these workers estimated to be resident in the rest of the UK (/Scotland) are then used to estimate these flows.

### Direct Investment

This covers earnings made when Scottish residents have an equity interest of 10% or more in a foreign company (or vice versa).

3.2.1: Estimating flows between onshore Scotland and ROW

The figures for UK income flows associated with direct investment in the Pink Book are based on the Office for National Statistics’ Foreign Direct Investment (FDI) survey. This same source has been used as the basis for estimates of Scottish flows with ROW.

The Foreign Direct Investment (FDI) survey is an annual survey run by ONS. Separate surveys are used to collect data on inward and outward FDI. This is combined with data from the Bank of England for all monetary financial institutions - such as banks - and other sources for property and public corporations in FDI. Survey responses are used to estimate or impute values for every company in the UK's inward and outward FDI populations.

More information on the FDI survey can be found on the ONS website [Foreign direct investment involving UK companies - Office for National Statistics (ons.gov.uk)](https://www.ons.gov.uk/economy/nationalaccounts/balanceofpayments/bulletins/foreigndirectinvestmentinvolvingukcompanies/2021#measuring-the-data). To note that the FDI publication by ONS uses the directional approach whereas the Balance of Payments uses the debits and credits approach.

The Scottish Government currently hold raw data from the FDI survey for year 2010, 2012-2021.

The company level information in this survey has been mapped to the Inter Departmental Business Register (IDBR) to determine the location of the Government Office Region (GOR) of the UK headquarters and UK local subsidiaries.

We have changed the method used to calculate Scotland’s direct investment income flows from the FDI survey. In previous iterations of GNI estimates (released in December 2018) a Scottish share of FDI data was calculated using the GOR from the IDBR, where this information was available. This proportion was applied to the direct investment UK figures from the latest Pink Book release to determine Scottish flows to ROW. A Scottish share was used as there was a high proportion of companies from the FDI survey where the GOR was unavailable.

For FDI years, 2014 to 2021 we have been able to significantly increase our GOR matching rate and therefore use data directly from the FDI survey. FDI survey results for 2010, 2012 and 2013 are based on a share of companies with HQ in Scotland which is applied to the UK Pink Book figures, as used in the previous iterations. This is due to a lower GOR match rate for these years.

Direct Investment flows for Scotland for 1998 – 2009 are based on the average Scottish share of FDI flows between 2014 and 2019, which is applied to the UK flows figures for that year. The same approach was taken 2011 result which is based on an average of 2010 and 2012.

The FDI survey does not include the banking sector. Instead, estimates are supplied by the Bank of England for UK flows only. This means it is not possible to map data associated with banks to a Government Office Region in the manner described above. Instead Scotland is attributed a Banking GVA share of the total UK FDI flows associated with banks.

*ROW to onshore Scotland flows (Credits):*

Flows from ROW to onshore Scotland is largely made up data collected through the outward FDI survey. The outward FDI survey collects data on flows of income of UK parent companies in their overseas affiliates and branches.

We assume that returns on investment overseas come to the UK HQ from the overseas affiliate and remain within the HQ. This is conceptually consistent with the way that corporation tax is dealt with in GERS – tax on profits from UK trading are apportioned out, but other taxes are allocated to the HQ region.

Flows from ROW to onshore Scotland are based on the credits flows of companies which have a headquarter in Scotland.

*Onshore Scotland to ROW flows (Debits):*

Flows from onshore Scotland to ROW is largely made up data collected through the inward FDI survey. The inward FDI survey collects data on flows of income of foreign parent companies in their UK affiliates and branches.

If we used the same approach for flows going from foreign owned companies to UK affiliates (debits) as did for UK owned companies with oversea affiliates (credits) this would attribute the whole of an outflow to the location of the UK headquarters. In reality there would be an income flow from the company’s operations in the rest of the UK to the headquarters and then the entire UK income flow would occur from the UK headquarters to the overseas parent company.

Therefore for inward FDI companies, for each company we have taken a proportion of turnover generated in Scotland or RUK based on their local units, rather than allocating everything to the region where the head office is.

3.3.2: Estimating flows between offshore Scotland and ROW

*ROW to offshore Scotland flows (Credits):*

Offshore companies are delt as same as onshore companies for flows into Scotland from ROW.

*Offshore Scotland to ROW flows (Debits):*

A similar method is used for offshore companies as used for onshore companies. However the apportion is based on a share of company level GOS generated in Scottish water, based on expenditure from Scottish Government estimates, including expenditure from a commercial source.

*Comparison of credit and debit ROW flows*:

The methods outlined above show that debits and credit flows for direct investment are based on two separate set of assumptions, flow into Scotland from the ROW are determined by the location of the companies HQ. Flows from Scotland to ROW are based on the proportion of revenue generated within all local unit offices based throughout the UK. Care should be taken when directly comparing direct investment debit and credit flows for Scotland due to the different assumption they are measured on.

3.2.3: Estimating flows between onshore Scotland and the rest of the UK

Flows of direct investment between Scotland and the rest of the UK are calculated by estimating the proportion of Post Tax Operating Surplus (PTOS) generated in Scotland and owned by companies based in the rest of the UK and vice versa.

PTOS estimates are based on Gross Operating Surplus and tax data (from GERS). In previous estimates of DI flows between Scotland and RUK, PTOS estimate were based on Net Operating Surplus however we believe Gross Operating Surplus is more appropriate to derive PTOS for Balance of Payment.

Turnover data from the Inter-Departmental Business Register (IDBR) is used to estimate the proportion of PTOS generated in Scotland but owned by RUK companies and the proportion of PTOS generated in RUK but owned by Scottish companies.

3.2.4: Estimating flows between offshore Scotland and the rest of the UK

We are still reviewing the best estimate for capturing this flow.

### Portfolio Investment

This includes earnings from investment in equity securities (shares) or debt securities where the investor owns less than 10% of the enterprise. This also includes UK Government debt interest payments to non-residents.

3.3.1: Estimating flows between Scotland and ROW:

In line with the standard methodology, Scotland has been allocated appropriate shares of the flows between the UK and the rest of the world.

Various apportionments are used for different elements of the earnings on equity securities and earnings on bonds and notes and money market instruments. Further details of the apportionments used can be found in Annex B.

3.3.2: Estimating flows between Scotland and RUK

*3.3.2: A) Income from equity securities*

The ONS Share Ownership Survey is used to identify the proportion of UK shares owned by UK individuals and by the rest of the world. Using data on foreign earnings on equity securities from the UK Economic Accounts it is possible to estimate the value of dividends paid to UK individuals.

The London Stock Exchange (LSE) publishes market capitalisation data on a company by company basis. This can be combined with the estimate of the value of dividends paid to UK individuals to estimate company level dividends.

By identifying which of these companies are based in Scotland (using Companies House and FAME databases) the data can be used to estimate Scottish and RUK dividend payments. These can then be split between those that stay in Scotland and those that are paid to RUK residents based on population share (assuming share ownership is broadly similar between Scottish and RUK residents).

*3.3.2: B) Income from debt securities*

Debt securities cover UK Central Government debt interest payments. Credit flows relate to Scottish residents’ receipt of debt interest payments from the rest of the UK.

Debt security debits flows are based on the idea that some of the UK debt is in effect held on behalf of Scotland. Interest is then paid to residents in the rest of the UK on this theoretical share of UK debt.

The Debt Management Office publishes figures on who owns UK Government debt. Excluding the Bank of England and overseas residents, UK debt is owned by insurance companies and pension funds, monetary financial institutions, other financial institutions and households. Scotland is assigned a share of each of these sectors based on the relevant GVA share or a population share. At the same time Scotland is assigned a notional (population) share of the UK debt. These are combined together to create estimated flows between Scotland and the rest of the UK.

### Other Investment

Other Investment primarily covers interest received from deposits or paid on a loan where one of the parties is not resident in Scotland.

3.4.1: Estimating flows between Scotland and ROW:

In line with the standard methodology Scotland has been allocated appropriate shares of the flows between the UK and the rest of the world.

Various apportionments are used for different elements of the earnings on loans, earnings on deposits and other investments which make up this category. Further details of the apportionments used can be found in Annex B.

3.4.2: Estimating flows between Scotland and RUK:

It is assumed that there are no cross-border income flows between Scotland and the rest of the UK associated with deposits or loans. This follows the approach taken in the 2013 work which drew upon expert advice from Martin Kellaway. This remains an area for further work.

This leaves property income attributable to insurance policy holders, payable on pension entitlements and attributable to collective investment fund shareholders. The UK Blue Book shows flows under these 3 headings between one part of the economy and another (so for example, property income attributable to insurance policy holders is paid by insurance corporations and pension funds to households, financial corporations and other insurance corporations and pension funds). Scotland is allocated a share of each of these based on GVA or population and flows between Scotland and the rest of the UK can then be calculated.

### Other Primary Income

Taxes paid and subsidies on products and production received from non-residents (e.g. contributions to EU and receipts of EU subsidies).

3.5.1: Estimating flows between Scotland and ROW:

In line with the standard methodology Scotland has been allocated appropriate shares of the flows between the UK and the rest of the world.

Various apportionments are used for the different elements which make up this category. Further details of the apportionments used can be found in Annex B.

3.5.2: Estimating flows between Scotland and RUK:

Taxes and subsidies within the National Accounts GNI framework relates to payments and receipts to and from EU institutions. It is therefore assumed that cross-border flows with the rest of the UK will be zero.

### Reserve Assets

Interest received on official foreign exchange reserves and relating to the International Monetary Fund (IMF).

3.6.1: Estimating flows between Scotland and ROW:

Reserve assets have been apportioned to Scotland using a population share.

3.6.2: Estimating flows between Scotland and RUK:

There are assumed to be no income flows associated with reserve assets between Scotland and the rest of the UK.

## Data Sources and Apportionment methods

**4.1 Compensation of employees flows with ROW/RUK**

**A number of sources are used to estimate CoE flows. These include estimates of CoE from GDP and GDHI, information on the North Sea workforce and the Annual Survey of Hours and Earnings.**

**4.2 Direct Investment flows with ROW**

|  |  |
| --- | --- |
| Category | Apportionment |
| Earnings on Direct Investment – Non-banking - Credits | FDI survey – Scottish HQ  |
| Earnings on Direct Investment – Non-banking – Debits  | FDI survey – Scottish local units revenue  |
| Earnings on Direct Investment – Banking - Credits/ Debits | banking GVA share |
| Earnings on Direct Investment – Oil – Debits | GOS Scottish waters  |

**4.2 Direct Investment flows with the RUK**

As explained in Annex A, flows between Scotland and the rest of the UK are calculated by estimating Post Tax Operating Surplus (PTOS) using Gross Operating Surplus, Net Operating Surplus, tax data and the Inter-Departmental Business Register.

**4.3 Portfolio Investment flows with ROW**

|  |  |  |
| --- | --- | --- |
| Category | Series Code | Apportionment |
| Credits |
| Equity Securities  |
| Earnings on equities – MFIs | MT4A | Banking GVA share |
| Earnings on equities – Central Government  | MT4B | Population share  |
| Earnings on equities – Insurance and Pensions | MT4C | Insurance and pensions trusts GVA share  |
| Earnings on equities – Other financial intermediaries  | MT4D | Financial auxiliary companies GVA share  |
| Earnings on equities – Private non-financial corporations | MT4E | Non-financial companies GVA share |
| Earnings on investment funds – dividends  | MT3O | Population share  |
| Earnings on investment funds – re-invested earnings  | MT3P | Population share |
| Investment Funds – Other Financial Intermediaries – dividends  | MT3Q | Population share |
| Investment Funds – Other Financial Intermediaries – re-invested earnings | MT3R | Population share |
| Investment Funds – Households – dividends | MT3S | Population share |
| Investment Funds – Households – re-invested earnings | MT3T | Population share |
| Debit Security |  |  |
| Debit Securities - MFIs | HBMX | Banking share GVA |
| Debit Securities – Central Government  | LSPA | Population share  |
| Debit Securities – Other Financial corporations  | NHQV | Financial auxiliary companies GVA share  |
| Long term debt securities – private non-financial corporations  | HGBX | Non-financial company GVA |
| Long term debt securities - MFIs  | HPCQ | Banking share GVA |
| Long term debt securities – Central Government  | HF6Q | Population share |
| Long term debt securities – Insurance and pension funds  | CGOZ | Insurance and pensions trusts GVA share |
| Long term debt securities – Other financial corporations  | CGPA | Financial auxiliary companies GVA share |
| Long term debt securities – Private non-financial corporations | EGNF | Non-financial companies GVA share |
| Long term debt securities – household sector | HEOH | Population share |
| Debits  |
| Equity Securities  |
| Earnings in equities – MFIs | HBQJ | Banking share GVA |
| Earnings in equities – other sectors  | MS86 | Non-financial company GVA |
| Earnings in investment funds – dividends  | MT3W | Population share |
| Earnings in investment funds – re-invested earnings  | MT3X | Population share |
| Debt Securities  |
| Short term debt – MFI – certificates of deposit  | HCEE | Banking share of GVA  |
| Short term debt – MFI – other short term debt  | HCEF | Banking share of GVA |
| Short term debt – issued by central government – sterling treasury bills | HHNV | Population share |
| Short term debt – issued by central government – other short term debt | N4447 | Population share |
| Short term debt – issued by other sources  | HHZT | Non-financial companies GVA share |
| Long term debt – issues by MFIs | HBOT  | Banking share of GVA |
| Long term debt – issues by central government – foreign currency  | ZMRA | Population share |
| Long term debt – issues by central government – other long term debt  | N448 | Population share |
| Earnings on gilts – by foreign central banks  | HESK | Population share |
| Earnings on gilts – by other  | HCEV | Population share |
| Local authority bonds | HHGH | Population share |
| Public corporations bonds | HESY | Population share |
| Issues by other sector | HGUW | Non-financial companies GVA share |

**4.3 Portfolio Investment with RUK**

Equity Securities

As explained in Annex A, a combination of data from the ONS Share Ownership Survey, UK Economic Accounts, London Stock Exchange, Companies House and FAME databases are used to estimate Portfolio Investment flows between Scotland and RUK.

Debt Securities

The Debt Management Office publishes figures on who owns UK Government debt. Scotland is assigned a share of each of these sectors based on the relevant GVA share or a population share as shown in the table below.

|  |  |
| --- | --- |
| UK debt owned by: | Apportioned with: |
| Insurance companies & Pension funds | Insurance companies' and pension funds' GVA |
| Other financial institutions and other | Financial Auxiliary GVA |
| Monetary financial institutions | Banking GVA |
| Households | Population |
| Total | Weighted average of the above |

At the same time Scotland is assigned a notional (population) share of the UK debt. These are combined together to create estimated flows between Scotland and the rest of the UK.

**4.4 Other Investment flows with ROW**



**4.4 Other Investment flows with RUK**



**4.5 Other primary income flows with ROW**

|  |  |  |
| --- | --- | --- |
| Category | Series code | Apportionment |
| Inflows from EU institutions |  |  |
| Agriculture Guarantee Fund - subsidies | MU24 | Scottish share of EU agriculture subsidies |
| Outflows to EU institutions |  |  |
| Customs duties and Agricultural levies | QYRD | Population share |
| Sugar levy | GTBA | Population share |
|  |  |  |

**4.6 Reserve Assets with ROW**

Reserve assets (series code HHCB) have been apportioned to Scotland using a population.

## Future development

The principal aim of this project to date has been the development of a Primary Income Account for the Whole of Scotland to provide the credit and debit flows required to derive an estimate of GNI from existing GDP estimates. The main aim of this update was to incorporates the latest data available from the various data sources used and provide provisional results up to 2021. However, there is still considerable work to be done to refine the estimates. The key data sources, modelling parameters and assumptions made have been discussed throughout this publication and in the annexes. The next steps are to challenge these assumptions and to explore whether there are additional data sources or industry intelligence that can be used to improve the quality of the estimates and reduce the uncertainty in components which are primarily based on modelling at this time.

We are keen to discuss the strengths and limitations of this analysis with stakeholders as part of the on-going development programme over the next year.

1. <https://unstats.un.org/unsd/nationalaccount/sna.asp> [↑](#footnote-ref-1)
2. <https://www.imf.org/external/pubs/ft/bop/2007/bop6comp.htm> [↑](#footnote-ref-2)
3. [UK Economic Accounts: balance of payments - Office for National Statistics (ons.gov.uk)](https://www.ons.gov.uk/economy/nationalaccounts/uksectoraccounts/datasets/ukeconomicaccountsbalanceofpayments) [↑](#footnote-ref-3)
4. [UK Balance of Payments, The Pink Book - Office for National Statistics (ons.gov.uk)](https://www.ons.gov.uk/economy/nationalaccounts/balanceofpayments/bulletins/unitedkingdombalanceofpaymentsthepinkbook/2022) [↑](#footnote-ref-4)