Office for National Statistics

Article

Economic Statistics Transformation Programme: enhanced financial accounts (UK flow of funds) reconciling sources of historic data for the households and the non-profit institutions serving households (NPISH) sectors

The first steps in the planned reconstruction of historical balance sheet data for the UK, focusing on balance sheet data for households and non-profit institutions serving households (NPISH).

Contact:
Alaa Al-Hamad
alaa.al-hamad@ons.gsi.gov.uk
+44 (0)1633 455648

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1 . Abstract

This work represents the first steps in Office for National Statistics's (ONS's) planned reconstruction of historical balance sheet data for the UK. The overview of the reconstruction can be found in the article Historical estimates of financial accounts and balance sheets published on 12 January 2016[1]. This will be referred to as "Historical estimates (2016)". While Historical estimates (2016) references the reconstruction for all institutional sectors and for both balance sheet and financial transaction data, this article focuses on balance sheet data for households and non-profit institutions serving households (NPISH). Historically, these sectors were combined and were considered to be a single sector called the Personal Sector.

This article uses a variety of historical balance sheet data sources currently available, most of which were first sourced for Historical estimates (2016). It aims to reconcile them in such a way that they can be reconstructed to meet European System of Accounts: ESA 2010 Classification[2] definitions. Complex issues and inconsistencies can arise when dealing with historical data sources. The main aim of this article is to identify, discuss and, where possible, resolve these issues, specifically for the households and NPISH sector. This provides the foundation for a further publication, which will make use of the structure and classifications found in this article and seek to produce a historical time series.

The initial steps towards the reconstruction of historic time series for households and NPISH have, in part, been achieved by creating historical instrument maps for financial assets and liabilities. These instrument maps are a diagrammatic representation of the structure of historical datasets in the various sources, detailing the financial instruments included in each dataset. These have been organised and created for each ESA 2010 Financial Assets and Liabilities Classification.

Notes for: Abstract

1. The work has also benefited from the assistance and expertise of several external academics in particular Anne Harrison, Bill Martin, Avner Offer and Alan Roe.

2. The new European System of National and Regional Accounts (ESA 2010) is a major development of the previous version of 1995. Progress has been achieved in the harmonisation of methodology and in the precision and accuracy of the concepts, definitions and accounting rules.

2 . Introduction

As stressed in Historical estimates (2016), the need to monitor the distribution of assets and liabilities in the economy has increased since the financial crisis in 2008. When attempting to analyse such infrequent events, it is particularly useful to have long time series data. Current balance sheet data cover only a relatively short period, back to 1987 only. The instrument maps produced in this article largely provide a structure and, to some extent, a methodology that can be used in future work to produce actual time series for the households and non-profit institutions serving households (NPISH) sectors. These series will, eventually, in some cases stretch back to 1957 or earlier. The mapping in this article will, hopefully, provide a framework on which other work on financial balance sheet data can be based.

This article identifies some of the challenges that arise when reconciling historical financial data and tries to move towards potential solutions. One such challenge was that the datasets used were constructed by a variety of authors, working in different sectors. This led to a range of different methodologies in each of the datasets and to differences in the inclusion and grouping of instruments. Additionally, the datasets were constructed in different time periods. Factors such as these will have to be taken into account when reconstructing the datasets in a way that is consistent with European System of Accounts: ESA 2010.

There were also many cases of missing data, which will largely need to be dealt with in future methodological work. This article also advances on Sbano (2008), which gives some ideas on how the reconstruction of historical balance sheet data can be achieved by providing a much more detailed picture of the structure of this data in relation to ESA 2010, and will lead to much more detailed and accurate historic time series.

Instrument maps are presented for both households and NPISH assets and liabilities, for each ESA 2010 financial assets and liabilities classification. These are accompanied by a discussion of the unique challenges faced for each classification.

The AF (financial assets and liabilities) classifications

AF.1 - Monetary gold and special drawing rights
AF.2 - Currency and deposits
AF.3 - Debt securities
AF.4 - Loans
AF.5 - Equity and investment fund shares or units
AF.6 - Insurance, pension and standardised guarantee schemes
AF.7 - Financial derivatives and employee stock options
AF.8 - Other accounts receivable or payable

In the results section of this article, an additional analysis of assets and liabilities has been provided. This analysis is titled ‘Other’ and gives room to discuss instruments such as ‘Other domestic assets’ and ‘Miscellaneous instruments’. Both are found in pre-ESA 2010 datasets and group together a number of instruments that should be re-classified to various ESA 2010 classifications. These instruments are discussed in more detail in sections 5.1.8 and 5.2.8.

As previously mentioned, this work is an initial step in a larger project being undertaken at Office for National Statistics (ONS). It covers just two institutional sectors and deals with only the balance sheet data. Further work will follow, extending to other institutional sectors and, possibly, also to financial transactions.

Section 3 discusses the sources of balance sheet data used in the reconciliation process. Section 4 provides details of the general approach used and discusses the complications of the reconciliation process. Section 5 consists of a number of sub-sections, each looking at a specific AF classification.

3 . Data sources

A variety of sources have been used in this article, including academic journal articles, Economic Trends and Financial Statistics articles published by the former Central Statistical Office (CSO), Bank of England and HM Treasury sources, and the Office for National Statistics (ONS) Blue Book. These were all sourced for Historical Estimates (2016). In addition, a dataset from a Financial Statistics article (1978 to 1985) has been used for this work; this was produced by the CSO and the Bank of England. All of the datasets refer to the balance sheets for the household and non-profit institutions serving households (NPISH) sectors.

1. Solomou and Weale's 'Personal Sector Wealth in the United Kingdom, 1920 to 1956' (1997), provides the earliest of the data, with estimates from 1920 to 1956. The limited availability of data over this period means that their dataset does not include all the necessary instruments nor is there a detailed instrument breakdown. However, it is an impressive dataset that makes the most use of the statistics that were available in this time period.

2. The second dataset is taken from Roe's 'Financial Interdependence of the UK Economy' (1971,a). This provides a highly detailed breakdown of financial assets and liabilities from 1957 to 1966, organised by both instrument and sector, which is rare for historical balance sheet data. This will become useful when looking to split instruments in other datasets.

3. The third dataset contains a selection of balance sheet data drawn from official sources. All have certain weaknesses and so with no preferred choice, a variety of sources are used to cover the period between Roe (1971,a) and the pre-European System of Accounts: ESA 1995 dataset (discussed in point 5). This includes a single balance sheet for 1975, with a detailed breakdown of instruments (Pettigrew, 1980). Again, this will be useful for the analysis of instruments in other datasets. The other datasets are the Non-Bank Private Sector Balance Sheets from a CSO Economic Trends article (HM Treasury and Central Statistical Office, 1981) and a Financial Statistics (1987) excerpt. These give data from 1966 to 1980 and 1976 to 1968 respectively.

4. An additional dataset has been found in the Financial Statistics publications and gives data from 1978 to 1985. It provides a slightly more detailed breakdown for some instruments, but not all. This will be referred to as the FinStats data in this article.

5. Balance sheet data from the ONS 1997 Blue Book is also used, providing data that was published under the pre-ESA 1995 system of accounts. The asset, liability and net worth totals are available from 1966 to 1997. However, the instrument breakdown is available only from 1984 to 1997. The groupings and inclusion of instruments differ considerably from that of the ONS ESA 2010 dataset, although many of the same sub-instruments were used. This will be discussed further in section 4.

6. Finally, the Sector Financial Balance Sheets 1987 to 2014, published by ONS under ESA 2010 has been included. This provides data that is known to be correctly classified and gives a benchmark for the historical series. This dataset was particularly helpful for our work on the pre-ESA 1995 balance sheet data.

4 . Method

The general method used for the reconciliation of instruments from the various sources was fairly straightforward. The financial instruments in each dataset were assigned to the appropriate European System of Accounts: ESA 2010 classification, after comparing the instrument definition with the ESA 2010. Where possible, the instruments were grouped based on their component sub-classifications. These instrument definitions can be found in the reports that accompany the datasets. Once the instruments were classified, they were placed into the corresponding section of the instrument map. These instrument maps can be found in section 5.

One complication was that the older datasets, those not using ESA 2010, grouped instruments differently to the ESA 2010 dataset and, also, included some instruments that are not part of the ESA 2010 structure. To deal with these issues, grouped instruments were broken down and re-classified, while other instruments were included or excluded as required for consistency with ESA 2010. The general method used to do this will be discussed in this section on a case-by-case basis. More detailed explanation can be found in the relevant results section. For the Non-Bank Private Sector (NBPS) and FinStats datasets, the accompanying reports were used to find the breakdown of certain instruments. Once a more detailed breakdown was available, it was possible to reclassify these instruments to ESA 2010 by comparing the instrument definitions with ESA 2010 and by comparing the data series with the ESA 2010 dataset.

For the pre-ESA 1995 dataset, two resources were predominantly used: the Central Shared Database [1] (CSDB) and the Central Statistical Office Financial Accounts Documentation Manual [2] (CSO Manual). CSDB is an internal database at Office for National Statistics (ONS) that keeps record of the instruments, and their data, that form the national accounts. Using CSDB we can find what granular instruments are used to construct the instruments given on published documents, as well as data series for these granular instruments. This applies mainly to the ESA 2010 dataset. However, it was also possible for some pre-ESA 1995 instruments to be broken down in this way. For those where it was not possible, the CSO Manual was used. The CSO Manual, similar to CSDB, gives the breakdown of the instruments, but only for the pre-ESA 2010 series. Using these two resources in tandem, it was possible to identify instruments given in the pre-ESA 1995 dataset, compare these granular instruments with those in the ESA 2010 dataset and re-classify, where necessary, to the appropriate classification.

While these two methods allowed some instruments to be split easily, as some of the granular instruments had available data, it was not possible for all instruments. An example of this is the instrument that has been named ‘Foreign assets’ in Solomou and Weale’s dataset, ‘Overseas assets’ in the NBPS dataset, ‘Overseas government and company securities’ in the FinStats table and ‘Overseas securities’ in the pre-ESA 1995 dataset. Overseas government securities should be classified as debt securities (AF.3); overseas company securities include both debt securities (AF.3) and equity securities (AF.5). The pre-ESA 1995 instrument ‘Overseas securities’ could be split using CSDB and the CSO Manual. However, for the other datasets, there were no data series for these two separated instruments.

When future work applies the datasets to this structure it will be necessary to split the ‘Overseas securities’ instrument. This may be possible using the correctly grouped datasets – such as Roe (1971,a), Pettigrew 1975 and ESA 2010 – to find the ratio of the grouped instruments and apply this to the grouped total, giving a separate series for each instrument. These can then be reclassified to their ESA 2010 classification. Similar issues apply to the instruments ‘Other domestic assets’, ‘Public sector long-term debt’ and ‘Unit trust and property unit trust units’ in the NBPS dataset and to the other accounts receivable or payable (AF.8) instruments in Roe (1971,a). These are discussed in more detail in the Results section.

Notes for: Method

1. CSDB is an ONS computer system that contains the time series components from which all of the series published in Financial Statistics are derived.

2. The CSO Manual is designed to complement the existing Explanatory Handbook to the monthly Financial Statistics publication by providing more detail of the underlying methodology for each financial instrument.

5 . Results

In this section, the instrument mapping is presented for the different European System of Accounts: ESA 2010 classifications (defined in the Introduction). There is no discussion of the monetary gold (AF.1) ESA 2010’s classification as it is not relevant for the households and non-profit institutions serving households (NPISH) sectors.

5.1 Financial assets

5.1.1 AF.2 Currency and deposits

[Table 1: Currency and deposits asset instrument map]

As can be seen in Table 1, the datasets do reconcile well for this classification. There is little difference in the inclusion and grouping of currency and deposits (AF.2) instruments and many of the datasets contain a more detailed breakdown of the instruments included. This is possibly because these currency and deposits (AF.2) instruments are more straightforward to estimate. With this availability of rich data, this classification can be split further into the two sub-classifications: currency (AF.21) or transferable deposits (AF.22) and other deposits (AF. 29).

The instrument ‘Other deposits’, in the ESA 2010 dataset, contains a variety of sub-instruments. One of these is ‘Funds lodged in courts’; found in the pre-ESA 1995 instrument ‘Miscellaneous instruments’. This is discussed further in section 5.1.8.

5.1.2 AF.3 Debt securities

The instruments map for this classification appears more disjointed than that for currency and deposits (AF.2), see Table 2. One example of this is the fact that instrument equivalents to short-term debt securities could not be found in the datasets preceding the pre-ESA 1995 dataset. Money market instruments issued by banks and by building societies were actually all included within their deposits instruments in the pre-ESA 1995 dataset. These would now be classified as short-term debt securities. Personal sector holdings of sterling treasury bills were assumed to be zero.

Although it appears that the pre-ESA 1995 dataset has no equivalent instruments for ‘Public corporation securities’ or ‘Debentures or loan stock’, these instruments were included in loans (AF.4) and equity and investment (AF.5) respectively. Also, the instrument ‘Short-term money market instruments issued by other UK residents’, which appears to only occur in the ESA 2010 dataset, was found to form the ‘Miscellaneous instruments’ in the pre-ESA 1995 data. ‘Miscellaneous instruments’ is discussed further in section 5.1.8. These breakdowns and re-classifications were discovered using the Central Shared Database (CSDB) and the Central Statistical Office (CSO) Manual as discussed in section 4. Similarly, the Non-Bank Private Sector (NBPS) datasets appear to be missing ‘Tax instruments’. However, this was grouped with ‘Other domestic assets’, which is discussed in section 5.1.8.

In the NBPS datasets, the heavily grouped ‘Public sector long-term debt’ instrument was used. The instruments included in this were found in an accompanying report (Marland, 1983). One of these was ‘Long-term loans to local authorities’, which is classified as loans (AF.4) in ESA 2010. The data series for ‘Long-term loans to local authorities’ is not available and so, as discussed in section 4, a method will need to be found to split the grouped instrument.

We can also see here the example discussed in section 4. The instruments ‘Foreign assets’, ‘Overseas assets’, ‘Overseas government and company securities’ and ‘Overseas securities’ have all been grouped together as ‘Overseas government securities’ and ‘Overseas company securities. A method will need to be developed to split these grouped instruments. Both of the NBPS datasets have a third instrument that has been grouped with ‘Overseas government securities’ and ‘Overseas company securities’, which is named ‘Property overseas’. This was found using Marland (1983). Using the other datasets as a comparison, it was clear that it should be reclassified to equity and investment (AF.5).

[Table 2: Debt securities asset instrument map]

5.1.3 AF.4 Loans

Table 3: Loans asset instrument map

The Solomou and Weale, and Roe datasets have limited loans (AF.4) coverage, see Table 3. The pre-ESA 1995 dataset appears not to include various loan types. The ‘Property unit trust units’ instrument, as well as some domestic short-term and long-term loan instruments were found to be grouped into the instrument ‘Miscellaneous instruments’ rather than with loans (AF.4), for example. This is discussed in more detail in section 5.1.8. We find in the pre-ESA 1995 dataset the ‘Public corporation debt securities’ instrument mentioned in section 5.1.2.

Also mentioned in section 5.1.2, the NBPS datasets had grouped ‘Long-term loans to local authorities’ with debt securities (AF.3) instruments. As seen here this appears to have been a misclassification, with all of the surrounding datasets classifying it as loans (AF.4). The NBPS datasets appear to be missing the instruments ‘Property unit trust units’ and ‘Domestic short-term loans not elsewhere included’. However, these can be found grouped with equity and investment (AF.5) instruments (discussed in section 5.1.4) and in the ‘Other domestic assets’ instrument, respectively. The ‘Other domestic assets’ instrument will be discussed further in section 5.1.8.

The current ESA 2010 calculation of loans (AF.4) includes subtracting the instrument ‘Short-term borrowing from monetary financial institutions’. This is possibly a recent change in the methodology used in calculating loans (AF. 4) and so would not be reflected in earlier datasets.

5.1.4 AF.5 Equity and investment fund shares or units

The equity and investment (AF.5) instruments in the various sources are generally very similar for listed and unlisted shares, partly because the shares and equity data are of high quality. However, the pre-ESA 1995 dataset does include ‘Debentures and loan stock’, see Table 4. As previously discussed in section 5.1.2, this should be classified in debt securities (AF.3). There are some instruments within ‘Listed UK shares’ and ‘Unlisted UK shares’ that are only found in the ESA 2010 dataset. These are shown with red text. Some instruments did not have any recorded data before 1997 and so could not be represented in the earlier datasets. Others, such as ‘UK unlisted securities’ or the subtracted instrument ‘Unquoted UK shares’, may be included in the earlier datasets due to a different methodology as discussed in section 5.1.3.

Other parts of the equity and investment (AF.5) instrument map indicate wide variation between the different sources. ‘Retail co-operative members’ funds’ do not appear for the NBPS 1966 to 1980 or pre-ESA 1995 datasets. They were, in fact, grouped with the instruments ‘Other domestic assets’ and ‘Miscellaneous instruments’ respectively. Both of these instruments are discussed further in section 5.1.8. We also see in the NBPS datasets the instrument containing ‘Property unit trust units’, which, as noted in section 5.1.3, have been classified to loans (AF.4). The need for this re-classification was found using CSDB and the CSO Manual. This NPBS split of ‘Unit trust units’ and ‘Property unit trust units’ will need to be estimated, as separate series are not available.

That some of the detailed instruments are missing for the datasets preceding the pre-ESA 1995 dataset is partly due to the grouping of ‘Overseas government securities’ and ‘Overseas company securities’. This is discussed in section 5.1.2. While a split of ‘Overseas company securities’ can be estimated, allowing it to be re-classified to equity and investment (AF.5), any further breakdowns of the data, to match the ESA 2010 detail, would involve too much estimation. It is also noted that the NBPS data-sets are missing the ‘Property overseas’ instrument, which should be re-classified in from debt securities (AF.3).

Table 4: Equity and investment fund shares or units asset instrument map

5.1.5 AF.6 Insurance, Pension and Standardised Guarantee Schemes

Table 5: Insurance, pension and standardised guarantee schemes asset instrument map

In this instrument map Solomou and Weale implicitly include the market values of assets held by insurance companies and pension funds on behalf of households in their estimates for equity holdings, debentures and other asset classes, see Table 5. It is not clear whether data exists that would allow us to make a split between directly and indirectly-held assets. It may have to be estimated from the breakdown post-1957. While the instruments included as insurance, pensions and standardised guarantee schemes (AF.6) are similar throughout these data-sets, their values are not. This is due to the insurance, pensions and standardised guarantee schemes (AF.6) methodological changes that took place for ESA 2010.

It is noted that Roe (1971,a) includes unfunded pension rights, but that these are not classified to insurance, pensions and standardised guarantee schemes (AF.6) under ESA 2010. Included in the Roe (1971,a) estimate are sinking funds and capital redemption policies; their inclusion is discussed in Roe's article (Roe, 1971,b). Although the pre-ESA 1995 dataset groups the instrument 'General insurance companies additions to technical reserves' as an 'Accruals adjustment' in 'other accounts payable or receivable (AF.8), it should be classified to insurance, pensions and standardised guarantee schemes (AF.6).

The recent article 'Money in funded pensions and insurance in the UK National Accounts: 1957 to 2015' is relevant in this context as it gives a much more in-depth analysis of funded pensions and insurance, for both the households and NPISH sector and beyond. The 'Money in funded pensions…'article includes time series that were created using the method discussed in this article.

5.1.6 AF.7 Financial derivatives and employee stock options

Only the ONS ESA 2010 dataset has recorded values for this instrument, see Table 6.

Table 6: Financial derivatives and employee stock options asset instrument map

5.1.7 AF.8 Other accounts receivable or payable

Table 7: Other accounts receivable or payable asset instrument map

The Solomou and Weale dataset, which ends in 1956, does not contain data for these instruments, see Table 7. However, from 1957 onwards, the other data sources include and group instruments fairly similarly. A distinction has been made between two sub-classifications of other accounts payable or receivable (AF.8), 'Domestic trade credit and advances' instruments and 'Accruals' instruments. This split was not available for the Roe (1971,a) data-set so a method for making the distinction will need to be developed.

The pre-ESA 1995 data for Other accounts payable or receivable (AF.8) raises a number of issues. When using CSDB and the CSO Manual to break down the instrument 'Accruals adjustment', it was found that they grouped instruments together quite differently from ESA 2010. CSDB and the CSO Manual were also used to reclassify the instruments once broken down. Other accounts payable or receivable (AF.8) 'Accruals adjustment' was found to include 'Interest on bank deposits', which should be classified to currency and deposits (AF.2).

As mentioned in section 5.1.5, 'Accruals adjustment' also included 'general insurance companies' additions to technical reserves', which should be re-classified to insurance, pensions and standardised guarantee schemes (AF.6). One instrument 'Accruals adjustment Creditors'; in 'Accruals adjustment' had been correctly classified to Other accounts payable or receivable (AF.8), but should, more precisely, be classified as a 'Domestic trade credit and advances' instrument under ESA 2010. The instrument also includes 'Index-linked British government stocks', which is classified to Debt securities (AF.3) under ESA 2010.

One instrument classified as Other accounts payable or receivable (AF.8) asset ‘Other financial institutions, Life insurance and pension funds, Accruals adjustment (persons) Creditors’ under ESA 2010, was classified as an Other accounts payable or receivable (AF.8) liability. This is discussed in more detail in section 5.2.7.

5.1.8 Other analysis

Table 8: Other analysis asset instrument map

Using the CSO Manual, ‘Miscellaneous instruments’ was found to include a variety of sub-instruments, see Table 8. These included: ‘Property unit trust units’ and some domestic loan instruments that have elsewhere been classified as loans (AF.4); ‘Funds lodged in courts’, that should be classified as other deposits (AF.29); ‘Retail cooperative members’ funds’, that should be classified as equity and investment (AF.5) and ‘Short-term money market instruments issued by other UK residents’ that should be classified as debt securities (AF.3). The need for these re-classifications was identified by comparing the instruments found in the CSO Manual with CSDB.

A similar instrument included in the NBPS data-sets is ‘Other domestic assets’. For the NBPS 1966 to 1980 dataset, the contents of this instrument were found in the accompanying report (Marland, 1983) to be: ‘Deposits with finance houses and other financial institutions’, ‘Certificates of tax deposit’, ‘Retail cooperative societies’ funds of members’ and ‘Domestic short-term loans not elsewhere included’. Comparing these instruments with the breakdown of the ESA 2010 dataset found on CSDB, it was possible to re-classify them to currency (AF.21) or transferable deposits (AF.22), other deposits (AF.29), equity and investment (AF.5) and loans (AF.4) respectively.

The NBPS 1976 to 1986 data-set instrument ‘Other domestic assets’ was very similar and was treated in much the same way, although it is noted that it did not include ‘Retail cooperatives members’ funds’. Again, the data series for these re-classified instruments are not available at that detailed level and a method will be needed to break more aggregated data down to that level.

5.2 Financial liabilities

5.2.1 AF.2 Currency and deposits

Table 9: Currency and deposits liability instrument map

Although some currency and deposits (AF.2) instruments were included in the Roe (1971,a) dataset, no currency and deposits (AF.2) liabilities were attributed to Households and NPISH in any of the other data-sets. Given the nature of currency and deposits (AF.2), it seems that no liabilities should appear for the Households and NPISH sectors. Any non-profit financial institutions taking deposits would now be classified as monetary financial institutions rather than as part of NPISH.

5.2.2 AF.3 Debt securities

Table 10: Debt securities liability instrument map

Only the two most recent datasets and one older dataset, contain instruments in this classification, see Table 10. It may be that earlier series did not capture NPISH data as successfully. It is also the case that these instruments are very small, in monetary terms, compared with total liabilities. As noted in section 5.1.2, money market instruments issued by banks and by building societies were actually all included within their deposits’ instruments in the pre-ESA 1995 dataset. These would now be classified as short-term debt securities. Personal sector holdings of sterling treasury bills were assumed to be zero.

5.2.3 AF.4 Loans

This is the largest component of households and NPISH liabilities, as one would expect and so the breakdown is much more detailed than other classifications on the liability side, see Table 11. This has led to the instruments included in loans (AF.4) being fairly similar throughout the datasets. There appear to be only two exceptions. Although the pre-ESA 1995 dataset includes ‘Finance leasing’, using CSDB it has been found that this is not a household and NPISH liability, but, in fact, a private non-financial corporation liability. This might be associated with the reclassification of quasi-corporations (partnerships) out of the personal sector and into the corporate sectors, which happened when ESA 1995 was implemented.

The second issue is that ‘Short-term loans by the rest of the world’ (to UK households and NPISH) appear only in the ESA 2010 dataset. We were unable to find data for this instrument for earlier periods.

Table 11: Loans liability instrument map

5.2.4 AF.5 Equity and investment fund shares or units

Table 12: Equity and investment fund shares or units liability instrument map

We see here the instrument referred to as ‘Overseas liabilities’, ‘Overseas investment in UK property’ and ‘Overseas direct or other investment in the UK’ in the NBPS, FinStats and pre-ESA 1995 datasets respectively, see Table 12. Although shown as classified to households and NPISH in these sources, using CSDB they were found to instead be classified to private non-financial corporations. Also, as briefly discussed for the currency and deposits (AF.2) liabilities, the equity and investment (AF.5) instruments for Roe (1971,a) do not seem to belong here. The ESA 2010 liability data does not contain an entry for equity and investment (AF.5).

5.2.5 AF.6 Insurance, pension and standardised guarantee schemes

Table 13: Insurance, pension and standardised guarantee schemes liability instrument map

The only insurance, pensions and standardised guarantee schemes (AF.6) liability data found is in the Roe (1971, a) dataset and in the ONS ESA 2010 dataset. Again, we are not sure that the Roe liability data should contain an entry for insurance, pensions and standardised guarantee schemes (AF.6), see Table 13.

5.2.6 AF.7 Financial derivatives and employee stock options

Table 14: Financial derivatives and employee stock options liability instrument map

As for financial derivatives and employee stock options (AF.7) assets (section 5.1.6), only the ONS ESA 2010 dataset has values recorded for this instrument, see Table 14.

5.2.7 AF.8 Other accounts receivable or payable

Table 15: Other accounts receivable or payable liability instrument map

As for other accounts receivable or payable (AF.8) on the assets side (section 5.1.7), we can differentiate between ‘Domestic trade credit and advances’ and ‘Accruals’. This can be achieved for all datasets, with the exception of Roe (1971,a) where they are grouped together, see Table 15. It would seem reasonable to split the Roe data using the proportions in the NBPS 1966 to 1980 dataset.

Again, the ‘Accruals adjustment’ instrument in the pre-ESA 1995 dataset contains some sub-instruments that need to be re-classified. The breakdown was achieved using the CSO Manual and the CSDB. ‘Accruals adjustment’ includes ‘Life assurance agents’ balances and outstanding premiums’ which CSDB classifies as ‘Domestic trade credit and advances’. It also includes ‘Other financial institutions, Life insurance and pension funds, Accruals adjustment’.

5.2.8 Other analysis

Table 16: Other analysis liability instrument map

There is also a ‘Miscellaneous instruments’ on the liability side for the pre-ESA 1995 dataset, see Table 16. Using the CSO Manual, it was found to include ‘Abu Dhabi payments to UK households in Bank of Credit and Commerce International’, as well as some domestic loan instruments. Comparing these instruments to the ESA 2010 dataset and using CSDB, we believe that these instruments should be re-classified to Other accounts receivable or payable (AF.8) (‘Accruals’) and Loans (AF.4) respectively.

6 . Conclusion and next steps

This article represents initial steps towards reconciling and producing historical balance sheet data for the household and NPISH sectors. The instrument maps presented in this article, along with the discussion of related issues, offer an insight into the methods used in reconciling and reconstructing historical financial data, and into the difficulties that arise. They will also provide a framework for future work.

Our next step is to continue to focus on the Households and NPISH sectors and to extend the mapping work to produce an actual, historical data series. This would involve undertaking methodological work to identify and determine which of the various sources of data should be used and to estimate data where none are available. The aim is to publish a follow-up article by the end of 2017.

However, it remains our broader intention, as resources permit, to attempt to produce both mappings and historical time-series for all the institutional sectors. This would be a sizeable research programme, expected to take number of years.

7 . References

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8 . Relevant links

Flow of Funds archived background information

12 September 2017 Article – Economic Statistics Transformation Programme: Enhanced financial accounts (UK flow of funds) – A flow of funds approach to understanding financial crises

31 August 2017 Article – Economic Statistics Transformation Programme: enhanced financial accounts (UK flow of funds) estimating the value of other accounts receivable or payable in the UK economy

21 July 2017 Article – Economic Statistics Transformation Programme: enhanced financial accounts (UK flow of funds) improving the measurement of company quarterly profits

3 July 2017 Article - Economic Statistics Transformation Programme: Enhanced financial accounts (UK flow of funds) progress on financial derivatives data

31 May 2017 Article – Economic Statistics Transformation Programme: Enhanced financial accounts (UK flow of funds) commercial data use

31 May 2017 Article – Economic Statistics Transformation Programme: Enhanced financial accounts (UK flow of funds) improving the economic sector breakdown

27 April 2017 Article – Economic Statistics Transformation Programme: Enhanced financial accounts (UK flow of funds) employee stock options

29 March 2017 Article – Economic Statistics Transformation Programme: Enhanced financial accounts (UK flow of funds) government tables for the special data dissemination standards plus (SDDS plus)

30 January 2017 Article – The UK Enhanced Financial Accounts: changes to defined contribution pension fund estimates in the national accounts; part 2 – the data

16 January 2017 Article – The UK Enhanced Financial Accounts: changes to defined contribution pension fund estimates in the national accounts; part 1 – the methodology

8 August 2016 Article – Economic Statistics Transformation Programme: UK flow of funds experimental balance sheet statistics, 1997 to 2015

14 July 2016 Article – Economic Statistics Transformation Programme: Flow of funds - the international context

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10 March 2016 Article – Identifying Sectoral Interconnectedness in the UK Economy

24 February 2016 Article – Improvements to the Sector and Financial Accounts

12 January 2016 Article – Historical Estimates of Financial Accounts and Balance Sheets

6 November 2015 Article – Comprehensive Review of the UK Financial Accounts including explanatory notes for each financial instrument covered in the article

13 July 2015 Article – Introduction Progress and Future Work

Financial Statistics Expert Group Minutes:

21 October 2014

22 January 2015

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7 December 2015 can be requested from FlowOfFundsDevelopment@ons.gov.uk

2 August 2016 can be requested from FlowOfFundsDevelopment@ons.gov.uk

9 . Authors

Ted Dolby, Alaa Al-Hamad, David Knight

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