Article

Economic Statistics Transformation Programme: enhanced financial accounts (UK flow of funds) – shadow banking introductory article

This article introduces ONS plans to improve coverage of the financial sub-sectors S.123 to S.127 using the Financial Services Survey and other sources.

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1 . Abstract

In recent years Office for National Statistics (ONS) has significantly improved coverage of the financial sector through the development of the Financial Services Survey (FSS), which covers financial activities outside of banking, investment, insurance and pensions, as defined by the European System of Accounts 2010: ESA 2010. During 2018, ONS will publish experimental statistics from the FSS for the first time.

An important improvement arising from the new FSS data and other new data sources will be to significantly improve coverage of the UK's shadow banking activities and to incorporate these improvements into the UK National Accounts. Shadow banking, in the context of this article, is defined using the Financial Stability Board's (FSB) definition of credit intermediation involving entities and activities (fully or partly) outside of the regular banking system (PDF, 3.28MB), for example, securitisation and debt-financed lending.

This is the first in a series of articles that will provide experimental balance sheet statistics for each of the ESA 2010 sub-sectors that are included in the Financial Stability Board's broad measure of shadow banking; other financial intermediaries (OFIs), which includes:

- S.123 money market funds
- S.124 non-money market funds
- S.125 other financial intermediaries
- S.127 captive financial institutions and money lenders

In order to provide complete coverage of all financial activities excluding banking, pensions and insurance (that is, S.123 to S.127), these articles will include the S.126 financial auxiliaries sub-sector, even though S.126 does not engage in non-bank credit intermediation and so is not considered part of shadow banking. Taken together these experimental statistics will improve the UK National Accounts for these sub-sectors.

We welcome feedback on this article and the subsequent articles in this series. Please contact us via FlowOfFundsDevelopment@ons.gov.uk if you would like to share feedback with us.

2 . Introduction

In recent years Office for National Statistics (ONS) has significantly improved coverage of the financial sector through the development of the Financial Services Survey (FSS), which covers financial activities outside of banking, investment, insurance and pensions. The FSS collects information on S.125 other financial intermediaries, S.126 financial auxiliaries and S.127 captive financial institutions and money lenders. During 2018, ONS will be publishing experimental statistics from the FSS for the first time. An important improvement arising from the new FSS data and other new data sources will be to significantly improve coverage of the UK's shadow banking activities and to incorporate these improvements into the UK National Accounts.

This article considers shadow banking in the context of the UK's National Accounts and the joint ONS and Bank of England (BoE) "flow of funds" (FoF) initiative. Since December 2014, ONS and the BoE have been working in partnership to improve the FoF statistics for the UK. The FoF initiative builds upon the existing statistics that ONS already publishes in the UK Economic Accounts (UKEA) and annual financial accounts (Blue Book and Pink Book). The FoF initiative will publish a full set of experimental "from whom to whom" (W2W) accounts in 2019, with the ambition of incorporating these statistics into the UK National Accounts in 2021.

The experimental statistics will be consistent with the concepts and definitions in the European System of Accounts 2010: ESA 2010, which is the legislative framework within the European Statistical System. Amongst other things, the FoF initiative aims to develop W2W estimates for financial account transactions and balance sheet levels, publishing the counterparty relationships for each financial instrument rather than the total asset and /or liability position for each institutional sector in isolation.

Prior to incorporating these experimental statistics into the UK National Accounts in 2021, some experimental statistics will be published via a series of S.123 to S.127 articles during 2018. These articles will concentrate on providing experimental balance sheet data for those ESA 2010 sectors not separately published in the UK National Accounts, The Blue Book 2017 edition (S.123, S.125, S.126 and S.127). Improved balance sheet data for S.124 will also be published. These articles will provide important inputs for the publication of a full set of experimental W2W accounts in 2019. This will be followed by the FoF and W2W data being incorporated into the Blue Book 2021.

3 . Shadow banking

This section introduces the concepts of shadow banking and market-based finance. The Financial Stability Board (FSB), which is responsible for producing the annual Global Shadow Banking Monitoring Report (PDF, 3.28MB), defines shadow banking as ”credit intermediation involving entities and activities (fully or partly) outside of the regular banking system”, that is, non-bank credit intermediation.

Although the FSB uses the term “shadow banking” to describe non-bank credit intermediation (PDF, 3.28MB), many authorities and market participants prefer to use the more neutral term “market-based finance”. Early post-financial crisis G20 communications, such as the G20 Seoul Summit Leaders Declaration of November 2010 (PDF, 282KB) and subsequent G20 communications used the term “shadow banking” extensively. Since the terms “shadow banking” and “market-based finance” are equivalent, both terms are used interchangeably throughout this article to refer to non-bank credit intermediation.

The FSB’s shadow banking (activity-based) measure largely excludes the insurance (S.128), pension (S.129) and financial auxiliaries (S.126) sub-sectors. Using this measure, the FSB estimates that in 2016 UK shadow banking’s financial assets were £1.2 trillion (XLS, 243KB). The ONS UK National Accounts Blue Book’s financial assets for the sub-sectors S.124 to S.127 were £6 trillion in 2016 (XLS, 5.42MB), which excludes the banking (S.121 to S.122), insurance (S.128) and pensions (S.129) sub-sectors.

To illustrate the diverse set of shadow banking and market-based financial institutions and activities, the FSB’s Global Shadow Banking Monitoring Report 2017 (PDF, 3.28MB) identifies 10 core other financial intermediaries (OFIs) sectors:

- money market funds (S.123)
- hedge funds (part of S.124)
- other investment funds (part of S.124)
- real estate investment trusts (REITs) and real estate (RE) funds
- trust companies
- finance companies (part of S.125)
- broker-dealers (part of S.125)
- structured finance vehicles
- central counterparties (part of S.125)
- captive financial institutions and money lenders (part of S.127)

Many of these 10 core OFI sectors are also the entities that FSB reporting jurisdictions include in their non-bank credit intermediation (narrow) activity-based measures of shadow banking. These 10 core FSB OFI sub-sectors are broadly in line with the way jurisdictions' sector balance sheet statistics are typically structured. The FSB's OFIs measure is the sum of assets of all financial corporations that are not classified as central banks, banks, insurance corporations, pension funds, public financial institutions, or financial auxiliaries. OFIs are the FSB's conservative (broad) measure of shadow banking and market-based finance.

The former US Federal Reserve Chair Ben Bernanke has provided the following definition of shadow banking:

"Shadow banking, as usually defined, comprises a diverse set of institutions and markets that, collectively, carry out traditional banking functions - but do so outside, or in ways only loosely linked to, the traditional system of regulated depository institutions."

Non-bank credit intermediation is the defining characteristic of shadow banking, and is used extensively in the FSB's annual Global Shadow Banking Monitoring Report to define the scope of shadow banking activities. The term "credit intermediation" used in the FSB's definition of shadow banking, is defined as using savers' surplus funds to advance credit to borrowers. This definition applies regardless of the source of savers' surplus funds, that is, whether the savings fund source is bank sector deposits or the non-bank deposit funding sources used by the shadow banking sector (such as issuing debt, for example, bonds, to provide funds for onward lending to borrowers). The FSB's credit intermediation definition is analogous to the European System of Accounts 2010: ESA 2010 financial intermediation definition used to prepare the UK National Accounts, The Blue Book.

Similar to the FSB, the European Systemic Risk Board (ESRB) defines shadow banking as (PDF, 982KB):

"Shadow banking can be broadly defined as credit intermediation performed outside the traditional banking system. This is consistent with the definition used at the global level by the FSB."

Shadow banking and market-based finance played an important role in the 2007 to 2009 financial crisis and resulted in policy-makers identifying a need for improved statistics at the national and international level. For example, the G20 Seoul Summit Leaders' Declaration November 2010 (PDF, 282KB) required the FSB to develop recommendations to address regulatory shadow banking data gaps.

More recently, the Bank of England's November 2017 Financial Stability Report (PDF, 6.1MB) noted that market-based finance has become increasingly important since the financial crisis and that in the UK, non-bank financial institutions (including insurance companies and pension funds) account for almost 50% of the UK financial system's total assets, up by 13 percentage points since 2008. That growth has diversified the supply of finance to the real economy.

This growth in market-based finance has mitigated cutbacks in bank credit following the global financial crisis as the core banking system repaired its balance sheet. As an example, since the financial crisis, nearly all net finance raised by UK private non-financial corporations (PNFCs) in the UK has been through the issuance of tradable securities and most of this through corporate bond issuance.

The financial crisis highlighted the need to improve the quality, coverage and granularity of economic sectors and to compile from whom-to-whom counterparty statistics, to identify the build-up of financial risk across sectors of the economy. An initial proposal outlining a more detailed economic sector breakdown for use in the flow of funds statistics was included in an ONS article published in July 2016. That initial economic sector breakdown (sectorisation) was updated in May 2017. This article describes ONS's aims to publish experimental statistics via a series of articles that improves the sectorisation for the ESA 2010 sub-sectors S.123 to S.127.

4 . Measuring shadow banking

Financial sub-sectors

The European System of Accounts 2010: ESA 2010 and the United Nations' System of National Accounts 2008: SNA 2008 (PDF, 9.1MB), on which ESA 2010 is based, defines nine financial (S.12) sub-sectors, that is, S.121 to S.129. The UK National Accounts, The Blue Book 2017 edition (XLS. 5.4MB) contains financial balance sheets and financial accounts that use the ESA 2010 nine financial sub-sectors (S.121 to S.129) to create the following three financial aggregates.

Monetary financial institutions (MFIs):

- S.121 central bank
- S.122 deposit-taking corporations – except the central bank
- S.123 money market funds (MMFs)

Other financial institutions (OFIs):

- S.124 non-MMF investment funds
- S.125 other financial intermediaries – except insurance corporations and pension funds
- S.126 financial auxiliaries
- S.127 captive financial institutions and money lenders

Insurance corporations and pension funds (ICPFs):

- S.128 insurance corporations (IC)
- S.129 pension funds (PF)

Shadow banking monitoring requires detailed sub-sector information, specifically detailed financial data is required for the following four ESA 2010 financial corporations (S.12) sub-sectors and their component activities:

Investment funds:

- S.123 money market funds (MMFs)
- S.124 non-money market funds (NMMFs)

Sectors covered by the ONS Financial Services Survey:

- S.125 other financial intermediaries
- S.127 captive financial institutions and money lenders

Not all of the financial activities undertaken in these four individual sub-sectors are classified as shadow banking and market-based finance. For example, fixed income investment funds in S.124 are considered to be part of non-bank credit intermediation, as issuing debt (for example, bonds) involves borrowing funds from savers that purchase the debt (for example, bonds), whereas equity investment funds in S.124 are not part of shadow banking as credit intermediation does not occur.

S.126 financial auxiliaries is excluded from this list of four sub-sectors containing shadow banking activities as S.126 typically has limited credit intermediation activities. Similarly, entities in S.127 by definition don't engage in financial intermediation activities (for example, holding companies). Since S.127 is included in the FSB's 10 core OFIs sectors (presented earlier) and the FSB routinely requests data on it, as part of the FSB's annual shadow banking monitoring exercise, S.127 is included here. See for example the FSB's 2017 Global Shadow Banking Monitoring Report's (PDF, 3.28MB) extensive discussion on S.127 entities in Luxembourg, the Netherlands and China.

The latest ONS UK National Accounts, The Blue Book (2017 edition) did not provide separate data for three of these four ESA 2010 S.12 sub-sectors, only for S.124. Data for S.123 MMFs are included within monetary financial institutions (MFIs) S.121 to S.123, which also covers the central bank (S.121) and deposit-taking corporations S.122 (for example, banks and building societies). Limited S.124 data was published for the first time as a separate table in the Blue Book 2017.

The Blue Book 2017 also provided selected data for the aggregate S.124 to S.127. Combining these aggregates enables residual aggregate data for S.125 to S.127 to be calculated. Using this approach suggests that the combined sub-sectors S.125 to S.127 had financial assets of approximately £5 trillion in 2016 (XLS, 5.42MB). S.124's 2016 financial assets were approximately £1 trillion (XLS, 5.42MB). The Blue Book 2017 combined financial assets of the S.124 to S.127 sub-sectors were approximately £6 trillion in 2016 (XLS, 5.42MB).

Separate Blue Book 2017 sub-sector data is unavailable for S.125, S.126 and S.127. The experimental statistics to be published in this series of articles will for the first time provide estimates for balance sheet data for each of these individual sub-sectors using results from the Financial Services Survey (FSS). The ONS-BoE initiative will publish a full set of experimental "from whom to whom" (W2W) accounts in 2019, with the ambition of incorporating these statistics into the UK National Accounts in 2021.

Residency

For some market-based finance sub-sectors such as S.123 money market funds (MMFs) and hedge funds (part of S.124), UK investors are invested primarily in funds with overseas residence, not UK-resident funds. For example, UK investors' investments in S.123 MMF with overseas residence are estimated to be around 10 times those of UK-resident MMFs.

There is only a small number of UK-resident MMFs and whose assets are approximately £20 billion. However, the UK invests significantly in MMFs, mostly overseas-resident MMFs. For example, at the end of 2016 the Institutional Money Market Funds Association (IMMFA) estimated that UK investors into the IMMFAs (Constant Net Asset Value) funds had holdings of €283.9 billion (45%) . This is equivalent to £244 billion at end-2016. This estimate excludes UK investors holdings in variable net asset value (VNAV) MMFs.

Similar to MMFs, most UK investments are in hedge funds that are resident overseas. For example, at a global level more than half of all hedge fund assets are resident in the Cayman Islands. The Financial Stability Board's (FSB) Global Shadow Banking Monitoring Report 2017 (March 2018) (PDF, 3.28MB) estimated that 87% of total hedge fund assets are resident in the Cayman Islands. Similarly, the International Organisation of Securities Commissions (IOSCO) Fourth Hedge Fund survey (November 2017) estimated that 53% of hedge funds' total net asset value (NAV) are resident in the Cayman Islands. Note both the FSB and IOSCO data relate to the residence of international hedge funds generally and not the residence of hedge funds used by UK investors.

These MMFs and hedge fund examples illustrate the importance of not just considering UK investors' investments in UK-resident investment funds, but also their investments in funds resident overseas. Identifying UK investments in investment funds that are resident overseas will assist with the publication of a full set of experimental W2W accounts in 2019, which will include the Rest of the World (RoW) as a sector in the UK National Accounts, The Blue Book. This will be followed by the FoF and W2W data being incorporated into the Blue Book 2021.

Experimental statistics

In order to improve UK financial statistics, ONS will publish a series of articles during 2018 that will provide, where available, experimental statistics for each of the following five ESA 2010 financial corporations S.12 sub-sectors:

Investment funds:

- S.123 money market funds (MMFs)
- S.124 non-money market funds (NMMFs)

ONS Financial Services Survey sectors:

- S.125 other financial intermediaries
- S.126 financial auxiliaries
- S.127 captive financial institutions and money lenders

According to the Blue Book 2017, the combined financial assets of these five sub-sectors were approximately £6 trillion in 2016 (XLS, 5.42MB), equivalent to half of the UK banking sector's assets, and more than 40% larger than the combined assets of the insurance corporations (S.128) and pension funds (S.129) sectors £4.25 trillion in 2016 (XLS, 5.42MB).

The experimental statistics to be published in the forthcoming ONS articles in this series will provide separate balance sheet estimates for four of these five sub-sectors for the first time. Previously only data for S.124 have been published in the Blue Book 2017. As the status of these estimates is experimental, they are likely to be revised (possibly extensively) as new data sources become available and existing data sources improve. Given the experimental status of these estimates, they cannot be compared with official data sources, such as the ONS Blue Book or Bank of England data. Where significant differences exist between the experimental estimates in the articles and official data sources, these differences will be highlighted and discussed.

5 . Sectorisation

This section describes how financial activities are classified in Office for National Statistics (ONS) financial surveys using the UK Standard Industrial Classification: SIC 2007 and the relationship between this classification and the European System of Accounts 2010: ESA 2010 sub-sectors S.123 to S.127. ONS financial surveys primarily use SIC codes as the basis to collect data, whereas national accounts data is published using the ESA 2010 sector classification.

The ESA 2010 sector and SIC classification systems are not directly comparable on a one-to-one basis and so the mappings provided in this section are currently approximate. Whereas the SIC 2007 provides a framework for collecting and presenting a large range of statistical data according to economic activity, the ESA 2010 classification is an internationally compatible EU accounting framework for a systematic and detailed description of an economy. The data we will be publishing in the ONS UK National Accounts, The Blue Book will be based on ESA 2010, as this is the classification used to prepare the UK's National Accounts.

In total there are 34 different types of financial activity with a distinct SIC code within SIC 2007 Section K financial and insurance activities of the UK. Institutions are allocated to an SIC code according to their principal activity. This means that an institution may have many different types of activity, even though it is described predominantly by its principal activity.

The ESA 2010 S.12 sub-sectors S.123 to S.127 map to approximately 26 of the 34 financial SIC codes. By comparison S.121 to S.122 (central bank and deposit-taking corporations respectively) map to three SIC codes, insurance corporations (S.128) maps to four SIC codes and pension funds (S.129) maps to one SIC code. From this comparison it can be seen that S.123 to S.127 have more than three times the number of different types of financial activity according to SIC (26 versus 8) as the banking, insurance and pension funds sub-sectors combined. This comparison of SIC coverage suggests that the financial activities covered within S.123 to S.127 are very heterogeneous.

Activities of institutions in the S.125 to S.127 group

There are 21 SIC codes that map approximately to the ESA 2010 sub-sectors S.125 to S.127. The Financial Services Survey (FSS) samples 20 of these 21 SIC codes. The approximate mappings of these FSS 20 SIC codes to ESA 2010 sub-sectors are described in this section. Note that the FSS does not sample SIC code 64.922 mortgage finance companies, as data for this SIC code are collected by the Bank of England. SIC code 64.922 maps to S.125.

Activities of institutions in the S.125 sub-sector

The seven SIC codes 64.3 to 64.921 and 64.929 to 64.999 map mostly to S.125 other financial intermediaries, although some elements of credit granting may be considered parts of S.127.

64.303 venture and development capital companies
64.910 financial leasing
64.921 credit granting by non-deposit taking finance houses and other specialist consumer credit grantors
64.929 other credit granting not elsewhere classified - excluding 64.921 and 64.922 (64.929 equals 64.92 minus 64.921 minus 64.922)
64.991 security dealing on own account
64.992 factoring
64.999 other financial service activities not elsewhere classified excluding 64.991 and 64.992

Activities of institutions in the S.126 sub-sector

The seven SICs 66.x map mostly to S.126 financial auxiliaries.

66.11 administration of financial markets
66.12 security and commodity contracts brokerage
66.19 other activities auxiliary to financial services (except insurance and pension funding)
66.21 risk and damage evaluation
66.22 insurance agents and brokers
66.29 other activities auxiliary to insurance and pension funding
66.30 fund management activities

Activities of institutions in the S.127 sub-sector

The six SIC codes 64.2xx cover holding companies and correspond to S.127 captive financial institutions and money lenders.

64.201 agricultural holding companies
64.202 production holding companies
64.203 construction holding companies
64.204 distribution holding companies
64.205 financial services holding companies
64.209 other holding companies (not elsewhere classified)

Note that data on bank holding companies is collected by the Bank of England. The ONS Financial Services Survey (FSS) collects data on non-bank holding companies. It is expected that data on non-bank holding companies will be sourced primarily from the FSS.

Activities of institutions in the S.124 group

Activities of institutions in the S.124 sub-sector

These four SICs map mostly to S.124 non-money market funds.

64.301 investment trusts
64.302 unit trusts
64.304 open-ended investment companies (OEICs)
64.305 property unit trusts

The ONS Trusts surveys are the primary source of data for S.124.

Activities of institutions in the “unallocated” SICs

After accounting for the 20 SIC codes sampled by the FSS (S.125 to S.127), four SIC codes sampled by ONS Trusts surveys for S.124 and eight SICs for S.121 to S.122 and S.128 to S.129 (sampled by ONS Insurance and Pensions surveys), there remain two SIC codes within SIC 2007 Section K financial and insurance activities that are unallocated.

64.922 mortgage finance companies
64.306 real estate investment trusts

Data for SIC 64.922 mortgage finance companies are collected by the Bank of England and will be incorporated into UK shadow banking estimates for S.125.

Data for SIC 64.306 real estate investment trusts are required for shadow banking monitoring purposes since the FSB has a reporting category for real estate investment trusts (REITs) and real estate funds.

FSB real estate investment trust (REITs) and real estate funds:

- equity REITs and real estate funds
- mortgage REITs and real estate funds

According to the FSB reporting template (XLS, 514KB):

“Equity real estate investment trusts (REITs) and real estate funds only invest in and own physical properties and their revenues therefore come principally from their properties rents.

“Mortgage REITs and real estate funds do not invest in physical real-estate, but derive most of their income from investment and ownership of debt instruments, such as property mortgages or mortgage-backed securities (MBS) that support real-estate investments.”

The scope of this series of shadow banking articles includes SIC 64.922 mortgage finance companies and SIC 64.306 real estate investment trusts in order to provide complete coverage of all financial SICs within S.123 to S.127.

Financial SICs conclusions

The discussion in this section has outlined the mappings between the financial SICs used by ONS for sampling purposes and the sub-sectors S.123 to S.127. It has been shown that the FSS and ONS Trusts surveys together sample 24 of the 26 SICs within S.123 to S.127.

6 . Data sources

The previous section provided details on some of the individual financial activities within European System of Accounts 2010: ESA 2010 sub-sectors S.123 to S.127 and how they mapped to the Standard Industrial Classification (SIC) codes used in Office for National Statistics (ONS) surveys. This section outlines some of the data sources that will be used to provide experimental statistics for the sub-sectors S.123 to S.127, with an emphasis on those relevant to shadow banking.

Financial Services Survey

The Financial Services Survey (FSS) compromises two questionnaires:

- FSS 266: balance sheet financial assets and liabilities data
- FSS 267: income and expenditure data

In this series of articles, experimental balance sheet estimates from FSS 266 are presented and discussed.

For the ESA 2010 sub-sectors S.125 to S.127, the primary source of experimental shadow banking balance sheet data is expected to be the ONS Financial Services Survey on assets and liabilities (FSS 266). The FSS (266) also collects some financial instrument counterparty data and transactions data. The FSS samples 20 of the 21 Standard Industrial Classification (SIC) codes that fall within S.125 to S.127, the exception being SIC 64.922 mortgage finance companies. Currently the Bank of England collects data from SIC 64.922 and is expected to provide data for this SIC code in future.

The introduction of the quarterly Financial Services Survey 266 (FSS 266) in Quarter 1 (Jan to Mar) 2015 has been one of the main recent developments in ONS financial statistics. The FSS-sourced experimental statistics will for the first time provide separate balance sheet data (assets and liabilities) for each of the financial sub-sectors S.125, S.126 and S.127.

The FSS has been collecting quarterly data since Quarter 1 2015 for the 20 SIC codes discussed previously. Since the FSS questionnaires were improved in the Quarter 1 2016 survey to reflect respondents' feedback, FSS experimental statistics for eight quarters (Quarter 1 2016 to Quarter 4 (Oct to Dec) 2017) will be presented in this series of articles.

As previously noted, bank holding companies are excluded from the FSS as the Bank of England separately collects data on them. The FSS only collects data on non-bank holding companies.

The FSS is a relatively new financial survey under active development and improvements to its current coverage and sampling are being considered. It is likely that publishing the results of the FSS Assets and Liabilities survey will result in further suggestions for improvements from the academic and financial sectors. It is currently anticipated that all identified improvements to the FSS made during 2018 will be introduced in the Quarter 1 2019 FSS. One of the FSS 266 improvements expected for Quarter 1 2019 is improved targeting of the institutions in S.125 to S.127 with large assets or liabilities.

ONS Trusts Surveys (S.124)

The ONS Trusts surveys are quarterly surveys and are used to sample investment funds primarily in S.124 non-money market funds, although some S.123 money market funds (MMFs) are also captured. The ONS Trusts surveys consist of three distinct surveys. In each case it is the fund managers that are being surveyed about the funds they manage, rather than surveying the funds directly. For each reporting quarter ONS makes available a spreadsheet containing the ONS survey data, along with data for insurance companies and pension funds.

The ONS Trusts surveys sample SIC codes 64.301 to 64.302 and 64.304 to 64.305 and are the primary source of data for S.124. ONS Trusts surveys currently have limited coverage of non-traditional investment fund types such as hedge funds, private equity, money market funds or exchange-traded funds (ETFs) and so on. We will be reviewing the ONS Trusts surveys to consider how to improve coverage of non-traditional investment funds both within S.124 and S.123. Alternative data sources will likely be needed for non-traditional investment funds such as hedge funds, ETFs and MMFs etc.

Although there are limited UK-resident non-traditional investment funds, such as hedge funds (S.124) or MMFs (S.123), UK investors are significant investors in these types of (mostly) overseas-resident funds. From the perspective of the ONS and Bank of England (BoE) flow of funds (FoF) initiative and shadow banking, the size of UK investments in non-traditional investment funds resident overseas is important information, as it provides guidance on the potential risks of contagion from overseas financial markets.

Closed-ended versus open-ended investment funds

An important distinction is closed-ended versus open-ended investment funds.

Open-ended funds create investment shares or units (liabilities) on demand for investors. They sell their shares directly to investors, not via a stock exchange. Pricing for open-ended funds is typically once per trading day.

Closed-ended funds issue a set total number of investment shares to the funds' original investors. After the original issuance of closed-ended funds' shares, subsequent trading in the shares is via a secondary market, for example, stock exchange. Because closed-ended shares trade on a stock market their prices are continually updated. Closed-ended funds are best suited to investments that require the funds invested to remain within the funds and not have frequent redemptions, for example, physical property funds.

Open-ended funds are best suited to investments in financial assets that are more liquid, for example, MMFs. Generally speaking, closed-ended funds can use leverage (that is, borrowing or gearing), whereas open-ended funds cannot use leverage. For this reason, the shadow banking sectorisation used in this series of articles initially divides investment funds into closed-ended and open-ended funds, to capture broad differences in access to leverage.

Certain types of investment funds with features that make them susceptible to runs, for example, open-ended fixed income funds, are considered by the Financial Stability Board (FSB) to be within the scope of the FSB's activity-based (narrow) measure of shadow banking. Closed-ended funds with limited maturity and liquidity transformation, and which are not leveraged, are not considered by the FSB to be susceptible to runs in the same way as open-ended funds and have been generally assessed as outside of the FSB's narrow shadow banking measure.

A February 2017 discussion paper by the Financial Conduct Authority (FCA), illiquid assets and open-ended investment funds DP17/1, considered when consumers use open-ended investment funds to gain exposure to illiquid assets (for example, property) that may be difficult for the fund manager to buy, sell or value quickly. Examples of illiquid assets considered by the FCA included land and buildings, infrastructure and financial assets such as unlisted securities. The FCA noted that open-ended funds investing in illiquid assets may experience difficulties if investors wish to be able to withdraw their money quickly and at short notice.

Many funds offer daily dealing opportunities to investors, but hold assets that are not revalued on a daily basis and these assets cannot be sold in a day to meet daily redemption requests. So if open-ended fund managers cannot determine an accurate and up-to-date valuation for assets in the fund, they cannot be sure they are offering a fair price to investors wishing to sell. What this means is that if the market for the underlying assets is affected by sudden, severe changes in conditions, leading to price falls that are not fully reflected in fund valuations, some investors might be able to sell their holding for more than it is worth, disadvantaging the remaining investors in the fund.

The FCA noted in its discussion paper that following the result of the referendum on the UK's membership of the European Union, several fund managers of open-ended property funds suspended dealings in their fund or applied adjustments to its asset valuations. The FCA also noted that there have been previous examples of open-ended funds having to take similar measures, such as during the financial crisis of 2008, when a number of open-ended funds suspended dealing for extended periods of time.

ONS Investment Trusts survey

Investment Trusts are closed-ended funds. Investment trusts acquire financial assets with money subscribed by shareholders or borrowed in the form of loan capital. Investment trusts are not trusts in the legal sense, but are limited companies with two special characteristics: their assets consist of securities and they are debarred by their articles of association from distributing capital gains as dividends. Shares of investment trusts are traded on the Stock Exchange.

The Investment Trusts target population is obtained from the Association of Investment Companies (AIC) and is made up of investment trust fund managers in the UK. There are 73 trusts in the population.

ONS Unit Trusts survey (including OEICs)

The Unit Trusts survey includes open-ended investment companies (OEICs). Both OEICs and unit trusts are open-ended funds that can issue or redeem shares at any time. This compares with closed-end funds, for example, investment trusts, which issue a fixed number of shares and subsequent trading in the shares takes place on a stock exchange between investors only.

Unit trusts are created under trust deeds, the trustee usually being a bank or insurance company. The funds in the trusts are managed not by the trustees, but by independent management companies. Units representing a share in the trusts' assets can be bought from the managers or resold to them at any time.

OEICs differ from unit trusts in that they take a company legal form rather than a trust deed form.

The target population is obtained from the Investment Association (IA) and is made up of UK unit trust fund managers (authorised by the FCA). There are 102 unit trusts in the population.

ONS Property Unit Trusts survey

Property unit trusts invest predominantly in freehold or leasehold commercial property yet may hold a small proportion of their investments in the securities of property companies. The target population is obtained from the Association of Real Estate Funds (AREF) and is made up of UK property unit trust fund managers authorised under the terms of the Financial Services and Markets Act 2000. There are 25 trusts in the population.

Bank of England surveys

Another source of data that will be used to prepare experimental statistics for S.123 to S.127 is the Bank of England's surveys and particularly for S.122 deposit-taking corporations' liabilities (deposits) and assets (loans) to the shadow banking sub-sectors. Forms AD (XLS, 189KB) and AL (XLS, 260KB) provide the data for S.122 deposit-taking corporations' deposits and lending activities respectively.

Form AD - Analysis of deposits from UK residents

"This is an industrial analysis of deposits (including liabilities incurred under sale and repurchase agreements) received from UK residents other than monetary financial institutions (MFIs). MFIs are defined as banks and building societies and other monetary financial institutions."

Form AL - Analysis of lending to UK residents

"This is an industrial analysis of loans and advances (including claims made under sale and repurchase agreements), finance leases, and facilities granted to UK residents other than monetary financial institutions. Funds placed with UK monetary financial institutions (banks and building societies) or non-residents or facilities related to them should not be included in this return. Lending for special schemes for exports (regarded as lending to non-residents) is also excluded."

The Bank of England Classification Guide (PDF, 1.24MB) provides details of the industrial classification used in the Bank of England's deposits form (AD) and lending form (AL). Lending and deposit-taking are grouped into 18 broad industrial categories, which are based on the ONS SIC 2007.

Alternative data sources

The use of ONS survey data and alternative data sources, such as commercial data sources combined with Bank of England data on banks' deposits and lending to the shadow banking sub-sectors, will provide granular sector-based data. This granular data can then aggregated up for the activity- and entity-based measures of shadow banking. Further details can be found in the ONS articles of October 2017 and May 2017.

In some cases there will be multiple data sources available to provide experimental statistics. For example, the Bank of England's data on S.122 deposit taking corporations' deposits (liabilities) and loans (assets) to the shadow banking sectors will provide data that can be compared with other sources such as the FSS and ONS Trusts surveys.

Regulatory data is another potential source of experimental statistics. For example, no later than 21 January 2019 there is an EU requirement for money market funds (MMFs) to make important information about their portfolios available to investors each week. Specifically, Article 50 of EU Regulation 2017/1131 (14 June 2017) (PDF, 626KB) requires that MMFs make available to investors on a weekly basis the maturity breakdown of the portfolio, the credit profile and details of the 10 largest holdings in the MMF.

In addition to official statistics and surveys, commercial data source providers are also being pursued to provide data on:

- loans, credit and other forms of borrowing
- issuance and ownership of debt securities and equity

Further details can be found in an article on commercial data use.

As existing data sources improve and new sources of data become available, it is anticipated that additional shadow banking experimental articles will be published. ONS has previously announced plans to publish a full set of flow of funds experimental statistics in 2019. The shadow banking experimental statistics articles published during 2018 will provide important inputs for these statistics.

In addition to the articles providing experimental statistics for shadow banking, the experimental articles published during 2018 will provide sub-sector data at the SIC 2007 level, as ONS surveys typically sample using SICs. Around 26 of the 34 financial SICs map to the ESA 2010 financial sub-sectors S.123 to S.127, although the mapping is not one-to-one.

Whenever data from these alternative sources is found to provide superior data to that available from the FSS 266 and ONS Trusts surveys it will be used. Part of the challenge of measuring shadow banking and the flow of funds initiative is identifying the best data source to use from possibly multiple conflicting data sources.

Other alternative data sources that could be used in the preparation of the UK's shadow banking statistics are shown in the following list. Note that some of these prospective data sources are at an early stage of investigation:

- Investment Association (S.124 S.123)
- Institutional Money Market Funds Association (S.123)
- British Private Equity and Venture Capital Association (BVCA)
- Association of Investment Companies (AIC)
  AIC is the trade body for closed-ended investment companies including investment trusts, offshore investment companies and venture capital trusts (VCTs)
- London Stock Exchange
- Association for Financial Markets in Europe, AFME (securitisation data)
- Investment Company Institute (global website), investment fund numbers and assets
- Financial Conduct Authority (FCA)
- Various Commercial data providers under contract to ONS
- Equifax (Credit Reference Agency for borrowing and loans data)
- Association of Real Estate Funds (AREF)
  AREF is made up of UK property unit trust fund managers authorised under the terms of the Financial Services and Markets Act 2000

Further details on the various commercial data providers being used in the enhanced financial account flow of funds initiative can be found in the ONS articles of October 2017 and May 2017.

7 . Next steps

The financial crisis highlighted the need for improved financial sector statistics. This article has described how Office for National Statistics (ONS) is proposing to measure UK shadow banking using ONS surveys (for example, FSS and ONS Trusts surveys) that collect data sampled at the Standard Industrial Classification (SIC) level, along with the use of other sources, such as commercial data, regulatory data and Bank of England data. Much work remains to be done which has not been examined in detail in this article, for example, obtaining counterparty information and preparing the sub-sector financial accounts, and so on.

This article is the first in a series of ONS articles that will provide separate experimental balance sheet statistics for each of the European System of Accounts 2010: ESA 2010 sub-sectors that are included in the Financial Stability Board's broad measure of shadow banking, other financial intermediaries (OFIs): S.123 money market funds, S.124 non-money market funds, S.125 other financial intermediaries and S.127 captive financial institutions and money lenders. In order to provide complete coverage of all financial activities excluding banking, pensions and insurance (that is, S.123 to S.127), this series of articles will include the S.126 financial auxiliaries sub-sector, even though S.126 does not engage in non-bank credit intermediation and so is not considered part of shadow banking.

The next step is to publish articles for the following ESA 2010 sub-sectors:

- S.123 money market funds (May 2018)
- S.126 financial auxiliaries (July 2018)
- S.125 other financial intermediaries (July 2018)
- S.127 captive financial institutions and money lenders (July 2018)
- S.124 non-money market funds (July 2018)

The precise order in which these ONS articles are published and the provisional publication dates shown in brackets may vary. Further articles will be published as new data sources become available and existing data sources improve.

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9 . Relevant links

Flow of Funds archived background information

Explanatory notes:

Institutional sectors and financial instruments

AF.2 Currency and deposits

AF.3 Debt securities

AF.4 Loans

AF.5 Equity and investment fund shares or units

AF.6 Pensions, insurance and standardised guarantee schemes

AF.71 Financial derivatives

Flow of funds articles

15 February 2018 Article – Economic Statistics Transformation Programme: enhanced financial accounts (UK flow of funds) – historic households and non-profit institutions serving households (NPISH) sectors data on currency and deposits

17 November 2017 Article – Economic Statistics Transformation Programme: enhanced financial accounts (UK flow of funds) – 2017 matrix update

23 October 2017 Article – Economic Statistics Transformation Programme: enhanced financial accounts (UK flow of funds) – progress on commercial data use

25 September 2017 Article – Economic Statistics Transformation Programme: enhanced financial accounts (UK flow of funds) reconciling sources of historic data for households and the non-profit institutions serving households (NPISH) sectors

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

5 June 2017 Article – National Accounts articles: The UK Enhanced Financial Accounts; the introduction of the new securities dealers survey data and expansion of financial sub-sector detail

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

24 April 2017 Article – Financial intermediation services indirectly measured (FISIM) in the UK revisited

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

14 July 2016 Article – Economic Statistics Transformation Programme: Developing the enhanced financial accounts (UK Flow of Funds)

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