

Article

# Economic Statistics Transformation Programme: enhanced financial accounts (UK flow of funds) – shadow banking, money market funds

This is the first in the series of previously announced financial sub-sector articles for financial sub-sectors S.123 to S.127 and introduces S.123 money market funds (MMFs).

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Release date:  
8 May 2018

Next release:  
To be announced

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# 1 . Abstract

In an earlier publication Office for National Statistics (ONS) announced a series of articles that will provide [separate experimental balance sheet statistics](#) for each of the [European System of Accounts 2010: ESA 2010](#) financial sub-sectors S.123 to S.127. This is the first in the series of these previously announced financial sub-sector articles and introduces S.123 money market funds (MMFs).

MMFs are an important component of the [Financial Stability Board's](#) definition of shadow banking, that is, non-bank credit intermediation. Given the global importance of MMFs, this article examines S.123 MMFs in the context of the UK's [National Accounts](#) and the [joint ONS and Bank of England \(BoE\) Enhanced Financial Accounts \(EFA\) "flow of funds" \(FoF\) initiative](#).

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

## 2 . Introduction

This article examines the [European System of Accounts 2010: ESA 2010 sub-sector S.123 money market funds \(MMFs\)](#) in the context of the UK's [National Accounts](#) and the [joint Office for National Statistics \(ONS\) and Bank of England \(BoE\) Enhanced Financial Accounts \(EFA\) "flow of funds" \(FoF\) initiative](#). Since December 2014, ONS and the BoE have been working in partnership to improve the ["flow of funds" \(FoF\) 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 intention of incorporating these statistics into the UK National Accounts in 2021.

The experimental statistics will be consistent with the concepts and definitions in the ESA 2010, which is the legislative framework within the European Statistical System. Amongst other things, the FoF initiative aims, where possible, to develop whom-to-whom (W2W) estimates for financial account transactions and balance sheet levels, publishing the counterparty relationships for each financial instrument, in addition to 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

The financial crisis highlighted the need to improve the quality, coverage and granularity of economic sector breakdown, to compile from whom-to-whom counterparty statistics and 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 Office for National Statistics (ONS) article published in July 2016. That [initial economic sector breakdown](#) (sectorisation) was updated in May 2017. This article describes our plans to publish experimental statistics for the European System of Accounts 2010: ESA 2010 sub-sector S.123 money market funds (MMFs) using the most recent economic sector breakdown (sectorisation), which goes beyond that published in May 2017.

The introductory article in this series described [shadow banking / market-based finance in detail](#), and so this section only provides a brief introduction to shadow banking. Readers who wish to know more are referred to the introductory article in this series. 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.

The [FSB's Global Shadow Banking Monitoring Report 2017 \(PDF, 3.28MB\)](#) identifies 10 core other financial intermediaries (OFIs) sectors and MMFs is one of those 10 core OFIs sectors. The FSB's report shows that the 29 reporting jurisdictions had MMFs assets of \$5 trillion in 2016. This is equivalent to 11% of the FSB's total narrow measure of shadow banking of \$45.2 trillion. Globally MMFs' assets are concentrated mostly in five jurisdictions according to the FSB: USA 54%, China 12%, Ireland 10%, France 7% and Luxembourg 6%.

The UK is a large investor in MMFs, but has limited UK-resident MMFs. For example, UK investors' investments in overseas resident S.123 MMFs are estimated to be around 10 times those of UK resident MMFs, based on [Institutional Money Market Funds Association \(IMMFA\) data](#) – see next paragraph for further details.

There is only a small number of UK-resident MMFs, with assets of approximately £20 billion. This estimate of £20 billion has been prepared by ONS using a combination of [Morningstar](#), individual MMF sources and [total assets data](#) of £20 billion. Despite UK-resident MMFs being modest in size, UK investors are, however, significant investors in MMFs, mostly overseas-resident MMFs. For example, at the end of 2016 IMMFA estimated that UK investors into the [IMMFA's CNAV \(Constant Net Asset Value\) European funds had holdings of €283.9 billion, equivalent to 45% of IMMFA's total CNAV European funds](#). This is equivalent to [£244 billion at end-2016](#). This estimate excludes UK investors holdings in variable net asset value (VNAV) MMFs.

## 4 . Introduction to money market funds

Office for National Statistics (ONS) uses the [European System of Accounts 2010: ESA 2010](#) classification system to prepare the [UK National Accounts, The Blue Book](#). The ESA 2010 classification is an [internationally comparable EU accounting framework for a systematic and detailed description of an economy](#). ESA 2010 defines S.123 money market funds (MMFs) as:

“(2.79) Their business is to issue investment fund shares or units as close substitutes for deposits from institutional units, and, for their own account, to make investments primarily in money market fund shares/units, short-term debt securities, and/or deposits.”

MMFs issue MMFs shares or units (F.521) to raise funds from investors and ESA 2010 defines F.521 as:

“(5.164) MMF shares or units are shares issued by MMFs. MMF shares or units can be transferable and are often regarded as close substitutes for deposits.”

“(Annex 7.1) Money market fund shares or units are issued by money market funds, which are investment funds that invest only or primarily in short-term debt securities such as treasury bills, certificates of deposit, and commercial paper and also in long-term debt securities with a residual short-term maturity. Money market fund shares or units may be transferable and are often regarded as close substitutes for deposits.”

The global framework for compiling internationally-comparable national accounts, the [United Nations' System of National Accounts 2008: SNA 2008](#), on which ESA 2010 is based, provides further information :

“(4.107) Money market funds (MMFs) are collective investment schemes that raise funds by issuing shares or units to the public. The proceeds are invested primarily in money market instruments, MMF shares or units, transferable debt instruments with a residual maturity of not more than one year, bank deposits and instruments that pursue a rate of return that approaches the interest rates of money market instruments. MMF shares can be transferred by cheque or other means of direct third-party payment. Because of the nature of the instruments the schemes invest in, their shares or units may be regarded as close substitutes for deposits.”

SNA 2008 states that the fundamental difference between MMFs and traditional investment funds (S.124 non-MMFs):

“(11.97) is that MMFs typically invest in money market instruments with a residual maturity of less than one year, are often transferable and are often regarded as close substitutes for deposits. Non-MMF investment funds typically invest in longer-term financial assets and possibly real estate. They are not transferable and are typically not regarded as substitutes for deposits.”

MMFs use the income obtained from issuance of MMFs shares or units to investors to provide short-term financing to financial institutions by purchasing the latter's financial instruments (for example, money market instruments). MMFs fulfil a non-bank credit-intermediation role in the economy by smoothing out present and future consumption of those with surplus funds and those needing funds. It is because of this non-bank credit-intermediation role that MMFs are classified as part of shadow banking.

MMFs invest in liquid, low residual maturity, low-risk assets, which can be liquidated easily to match daily redemption requests. Given these characteristics, MMFs are used typically by institutions with significant short-term cash flows for cash management purposes and by investors who cannot or do not want to store their surplus short-term cash in bank deposits.

Since MMFs are not designed for long-term investment purposes, only short-term cash management purposes, money intended for long-term investment purposes would instead be invested into investment funds (for example, in S.124 non-money market funds rather than S.123 MMFs). This is an important distinction between S.123 and S.124. Traditional investment funds (S.124) do not provide the daily liquidity offered by MMFs and are not therefore close substitutes for deposits, unlike MMFs.

For example, during a month, a company may find itself with rising short-term cash surpluses. Later in the month, the short-term cash surplus will decline as salaries and bills are paid. The company may be reluctant to place large short-term deposits with banks for many reasons.

Firstly, putting money on deposit is entrusting the funds to a bank with an unknown balance sheet.

Secondly, if the bank fails there is a limit of £85,000 under the [Financial Services Guarantee Scheme \(FSCS\)](#), which would be of little use to a company with millions of pounds cash flow deposited in the failed bank.

Thirdly, default risk would be reduced if the short-term cash flows were spread across multiple financial instruments, rather than relying on a small number of banks' deposits.

Fourthly, since banks may have a limited appetite for short-term deposits of this type, the interest rate paid on the deposits will likely be negligible. For example, a Europe Economics MMFs study undertaken for the European Parliament suggests that [banks are unlikely to have a strong appetite for these short-term deposits \(PDF, 777KB\)](#).

Instead of placing funds in bank deposit(s), the company could invest its short-term cash surpluses into a variety of highly liquid financial assets with short remaining maturities. It could then convert these financial assets back into cash daily as and when needed. Investing in highly liquid financial assets with short remaining maturities would minimise any risk of the assets defaulting. This strategy would, however, require the company to maintain a treasury department to purchase and manage the ever-changing stock of financial assets with short remaining maturities.

MMFs fulfil the role of a company's treasury department. A company with short-term surplus cash flows simply invests the money into a MMF as and when needed. The MMF then invests the company's funds (along with other similar investors' funds) into highly liquid financial assets with short remaining maturities. The main point about MMFs is that they offer daily redemptions of MMFs' shares or units.

A common counter-argument to the use of MMFs for managing short-term cash flows is that the money is not guaranteed to be returned. This counter-argument, however, neglects the fact that bank deposits are also not guaranteed beyond the £85,000 limit set by the FSCS. The financial crisis demonstrated that both banks and MMFs can default. Under these circumstances the use of MMFs by companies with significant short-term cash flows can have many attractions. As an example, in early 2013 it was estimated by the Institutional Money Market Funds Association (IMMFA) that [50% of corporate treasurers in Europe use money market funds to manage their excess cash](#).

Within Europe the [IMMFA](#) is the trade association representing constant net asset value (CNAV) money market funds domiciled in Europe. At the end of 2016, the IMMFA estimated that [UK investors into the IMMFA's CNAV European funds had asset holdings of €283.9 billion, equivalent to 45% of IMMFA's total CNAV European funds](#). This is equivalent to £244 billion at end-2016. This estimate excludes UK investors holdings in VNAV MMFs.

Investors into the [IMMFA's CNAV European MMFs at end-2016 \(PDF, 1.25MB\)](#) were mostly financial investors 49% (insurers, financials and funds) and corporate investors 34% (Table 1).

**Table 1: Money market funds assets by investor, end-2016**

| IMMFA CNAV MMFs Assets 31/12/2016 | € Billion       |             |
|-----------------------------------|-----------------|-------------|
|                                   | Total Assets    | Percent     |
| Public Sector                     | € 12.10         | 2%          |
| Insurers                          | € 35.20         | 6%          |
| Financials                        | € 93.30         | 15%         |
| Third Party                       | € 93.90         | 15%         |
| Funds                             | € 173.10        | 28%         |
| Corporates                        | € 209.40        | 34%         |
| <b>Total</b>                      | <b>€ 617.00</b> | <b>100%</b> |

Source : Institutional Money Market Funds Association (IMMFA)

From this table it can be seen that financial and corporate investors together accounted for over 80% of the IMMFA's CNAV MMFs assets at the end of 2016. Since this table is for all of IMMFA's CNAV European MMFs investors, it will be necessary to prepare a similar table for UK investors only as part of the FoF initiative.

## 5 . Existing UK National Accounts money market funds data

The international national accounts classification systems [European System of Accounts 2010: ESA 2010](#) and [System of National Accounts 2008: SNA 2008](#) 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 aggregate these nine financial sub-sectors (S.121 to S.129) to create three financial aggregates, including monetary financial institutions (MFIs).

Monetary financial institutions (MFIs):

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

S.123 MMFs were not separately shown in the Blue Book 2017 and instead formed part of the MFIs' aggregate. Some MMFs may, however, be included in S.124 non-money market funds as MMFs are partially captured by the [ONS Trust surveys](#).

The ONS Trust surveys are quarterly surveys and are used to sample investment funds primarily in S.124 non-money market funds, although some S.123 MMFs are also captured. The ONS Trust surveys sample fund managers directly, rather than surveying the funds they manage 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 Trust surveys enter into the national accounts via S.124 non-money market funds, however, since fund managers report data at the aggregate level, instead of at the individual fund level, MMFs data are aggregated with the much larger S.124 funds. Hence the exact total asset size of MMFs captured within the national accounts is unknown. Since UK-resident MMFs are estimated in this article to be around £20 billion and [S.124's 2016 financial assets were approximately £1 trillion \(XLS, 5.42MB\)](#), the impact of under-reporting of UK-resident MMFs on the UK's National Accounts is unlikely to be significant.

## 6 . Experimental money market funds statistics

This section presents preliminary S.123 money market funds (MMFs) experimental statistics that have been collected by the flow of funds (FoF) initiative. Further experimental statistics on S.123 MMFs will be published in subsequent articles.

### Experimental Financial Services Survey (FSS) MMFs' holding statistics

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. 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](#). The introductory article in this series [described the FSS](#) and readers who wish to know more about this survey are referred to that article.

The FSS samples the following three financial sub-sectors:

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

The FSS experimental statistics on Quarter 3 (July to Sept) 2017 holdings of MMFs (£ million) are shown in Table 2.

**Table 2: Financial Services Survey money market funds holdings, Quarter 3 (July to Sept) 2017**

Table 2: Financial Services Survey MMFs Holdings

| 2017 Q3    |         |          | £ Million |
|------------|---------|----------|-----------|
| Investor   | Issuer  | Issuer   |           |
| Sub-sector | UK MMFs | RoW MMFs | Total     |
| S.125      | 813     | 388      | 1,201     |
| S.126      | 1,778   | 1,950    | 3,728     |
| S.127      | 1,905   | 16       | 1,922     |
| Total      | 4,497   | 2,355    | 6,851     |

Source : ONS Financial Services Survey (266)

These combined MMFs holdings data for S.125 (other financial intermediaries), S.126 (financial auxiliaries) and S.127 (captive financial institutions and money lenders) show higher investments (that is, holdings) in UK-resident MMFs than RoW (rest of world) MMFs. As is shown later in this article, UK-resident MMFs have assets of around £20 billion, meaning that S.125 to S.127 together hold about 22% of UK-resident MMFs assets. Across the entire UK economy, holdings in RoW MMFs are significantly higher than holdings in UK MMFs.

## Experimental UK MMFs asset statistics

Using publicly available (online) data for the largest UK-resident MMFs, we have estimated the size and portfolio composition of UK-resident MMFs during Quarter 3 2017 (Table 3).

**Table 3: UK-resident money market funds portfolios, Quarter 3 (July to Sept) 2017**

Table 3: UK resident MMFs Portfolios

| 2017 Q3                      |           |         | £ Million |
|------------------------------|-----------|---------|-----------|
| Financial Instruments        | £ Million | Percent |           |
| Certificates of Deposit (CD) | 8,377     | 42%     |           |
| Commercial Paper             | 5,910     | 29%     |           |
| Variable Bonds               | 2,415     | 12%     |           |
| Transferable Deposits        | 1,430     | 7%      |           |
| Government Bonds             | 996       | 5%      |           |
| MMFs shares / units          | 432       | 2%      |           |
| Reverse Repos                | 297       | 1%      |           |
| Fixed Bonds                  | 187       | 1%      |           |
| Other                        | 42        | <1%     |           |
| Total (£ Million)            | 20,089    | 100%    |           |

Source : Office for National Statistics

From these experimental statistics it can be seen that UK-resident MMFs had assets of approximately £20 billion in Quarter 3 2017. The [external source](#) used to obtain the total assets of approximately £20 billion, also shows that there is only a small number of UK-resident MMFs, around 25.

UK-resident MMFs' portfolios are dominated by certificates of deposits and commercial paper (71%). The remaining assets in UK-resident MMFs' portfolios are dominated by bonds (18%) and transferable deposits (5%).

It is worth noting that UK investors' investments in rest of the world MMFs are estimated to be around 10 times those of UK-resident MMFs. For example, at the end of 2016 the Institutional Money Market Funds Association (IMMFA) estimated that [UK investors into the IMMFA's CNAV \(constant net asset value\) funds had holdings of €283.9 billion, equivalent to 45% of IMMFA's total CNAV European funds](#). This is equivalent to [£244 billion at end-2016](#). This estimate excludes UK investors' holdings in variable net asset value (VNAV) MMFs.

## Improvements in experimental statistics

Areas identified as requiring improved MMFs experimental statistics under the FoF initiative include:

- rest of the world (RoW)-resident MMFs held by UK MMFs investors
- identifying counterparty investors in UK and RoW-resident MMFs
- more timely MMFs assets data
- improved information on MMFs portfolios
- obtaining country and sub-sector issuers of financial instruments held by MMFs
- transactions data to accompany financial balance sheet data
- potential impact on the non-financial national accounts

Regulatory data is a potential source of additional experimental MMFs statistics. For example, no later than 21 January 2019 there is an EU requirement for 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. The FoF initiative will be investigating how this regulatory data might be acquired and used to improve the experimental MMFs statistics.

## 7 . Summary

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. There is a particular need to improve UK money market funds (MMFs) statistics as hitherto the sub-sector S.123 MMFs has not been separately identified in the UK National Accounts. Building upon the recognised need for better financial statistics and improved granularity, this article has presented some of the early experimental statistics for MMFs.

Some of the main messages from this article are that UK-resident MMFs have assets of around £20 billion, certificates of deposit and commercial paper dominate UK-resident MMFs' portfolios and that (based on Institutional Money Market Funds Association (IMMFA) 2016 data) UK investors are large investors in MMFs – particularly overseas-resident MMFs. This article has identified MMFs areas requiring additional experimental statistics. Subsequent MMFs articles will provide these additional experimental statistics as soon as they become available.



## 8 . Acknowledgements

The author would like to acknowledge the following ONS contributors to this article: Keith Miller, Phil Davies, Richard Campbell, Fred Norris, Tomos Davies, Phillip Lee, Sarah Adams, Dave Mathews, Rhian Palmer and colleagues at the Bank of England for their valuable comments.

## 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

8 May 2018 Article - [Economic Statistics Transformation Programme: enhanced financial accounts \(UK flow of funds\) – shadow banking introductory article](#)

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](#)