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Constructing estimates for exports and the value-added from exports of monetary financial institutions in the UK

Jack Pilkington (Bank of England) and Jeremy Rowe* (Economic Statistics Centre of Excellence and Office for National Statistics) [1,2]

Abstract

This technical paper outlines a methodology for constructing estimates of the value-added from exports of Monetary Financial Institutions (MFIs) in the UK. We present new and initial estimates giving a lower bound for the value-added component of MFIs exports generated directly by the domestic MFI (ISIC 64.10) subsector, called the direct domestic value-added component of exports. We also present a disaggregation of MFIs exports into EU and non-EU exports for the first time. Currently, published estimates on the value-added of UK trade are only available for aggregate financial services or even higher levels of industrial aggregation, and only with a lag and at an annual frequency. Our estimates are available at a quarterly frequency from 2014-2017 Q1.

This methodology has been developed through collaboration between the Economic Statistics Centre of Excellence (ESCoE) and the Bank of England. Our estimates for MFIs are constructed using individual institution data held and aggregated by the Bank of England and the destination of exports is allocated using disaggregated product level data. These methods enable the value-added and exporting profile of each MFI to be considered and so better estimates are constructed than would have been the case if only aggregated data was used.

Our initial estimates suggest that at least £14.6bn of the £38.2bn of MFI exports in 2016 was direct domestic value-added, of which £5.0bn is exported to the EU. We compare these new estimates with currently published data at a higher industry level.

[1] Any views expressed are solely those of the authors and so cannot be taken to represent those of the Bank of England or the Office for National Statistics or to state Bank of England policy. This paper should therefore not be reported as representing the views of the Bank of England or members of the Monetary Policy Committee, Financial Policy Committee or Prudential Regulation Committee. The estimates presented in this paper should be viewed as preliminary and may be revised in future work.

[2] The authors are grateful for the comments from colleagues at the Bank of England, the Economic Statistics Centre of Excellence, the National Institute of Economic and Social Research and the Office for National Statistics. Particular thanks are due to Adrian Chesson, Perry Francis, Richard Heys, John Lowes, Elias Razak, Rebecca Riley and Sylaja Srinivasan.

These estimates form part of a wider project conducted by ESCoE, the aim of which is to construct more highly disaggregated measures of value-added from trade for key sectors.

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1. Aim

The aim of this technical paper is to outline a methodology for constructing estimates of the value-added from exports of banks and building societies, together Monetary Financial Institutions (MFIs), in the UK. This methodology has been developed as part of a collaboration between ESCoE and the Bank of England.

Ebell et al (2017) puts the estimates outlined in this paper in a wider context and compares the MFI estimates with those for legal and accountancy services. This paper provides comprehensive detail on the methodology for MFIs and compares these with existing data.

Conventional export statistics measure gross flows but the value of these gross exports does not equal the value-added generated in the exporting economy and its components such as profits and wages, with implications for employment. For example, an exported good may use imported inputs or inputs from other domestic industries, which in turn use imports as inputs in their production processes. Therefore only a portion of the value-added or revenue from the export accrues in the exporting country with the rest accruing in other countries that provided the intermediate imports. Given the increasingly global nature of supply-chains and production networks, increasing interest is being paid to estimates showing where the value-added of gross exports accrue.

The value of UK gross exports from industry *i* can be split into four categories (OECD, 2013):

a. *Direct domestic value-added*: the value-added generated by the UK exporting industry *i.*
b. *Indirect domestic value-added*: the value-added originating from other UK industries (different from industry i) that are incorporated in the exports of industry *i*.
c. *Re-imported domestic value-added*: the value-added of any UK industry which has been exported for the production of intermediate goods or services abroad and subsequently embodied in UK imports used in the production of UK exports by industry *i*.
d. *Foreign value-added*: the value-added accrued in other countries which export goods and services to the UK which then form intermediate inputs for UK exports by industry *i*.

This paper outlines a potential methodology (section 2) for constructing the first estimates of the direct domestic value-added content of exports from MFIs in the UK. The estimates should be seen as a lower bound for the actual direct domestic value-added content of gross MFI exports as further value-added could be generated by the MFI sector if MFI outputs act as inputs to other domestic sectors outputs which in turn act as inputs to MFI exports. The methodology uses data from statistical forms reported to the Bank of England by individual MFIs to construct the aggregates. These statistical forms are also the source data for the MFI estimates in the ONS trade figures. In section 3 the paper provides initial estimates of the direct domestic value-added content of exports from MFIs in the UK as well as more detailed estimates on the components and destinations of UK MFI exports. Section 4 compares these estimates with other currently published data. The final section concludes.

2. Methodology and assumptions

This section explains the data ideally required to calculate the direct domestic value-added (DDVA) in exports for any industry, before explaining the data available for MFIs and the assumptions that are being made in our new estimates.

In general, these new ESCoE estimates are built up from estimates at an individual institution level so crucially it isn't assumed that every MFI is the same.[3] We consider the value-added and the exporting behaviour of each MFI in constructing the aggregate estimates for value-added of exports. Therefore the assumptions used in our estimates could be considered to be of better quality than those that could be used if estimates were constructed using only aggregate level data.

In addition these estimates will attempt to estimate the proportion of total DDVA in exports that is the result of trade with the EU. To do this it is necessary to fully utilise a suite of Bank of England statistical returns to determine the destination of exports. Doing so necessitates the separation of output into four different product categories further expanding the granularity of data we attempt to estimate.

a) The calculation of the direct domestic value-added of exports for any industry

Gross value-added (GVA) for each industry is a key concept in the National Accounts. It is calculated for each firm or industry as:

$$Gross\ value\ added = Output\ -\ Intermediate\ consumption \qquad \text{(Eqn 1)}$$

GVA is the difference between the value of what a firm produces (output) and the value of goods and services consumed as inputs to the process of production (intermediate consumption). GVA is therefore a measure of the value of goods and services generated within a firm or industry.

GVA can be constructed for each MFI and then summed together to calculate an aggregate GVA for the sector as a whole. **Table 1** shows an example of this using hypothetical data for three MFIs.

Table 1 - Individual institution GVA

	1	2	1 -2
	Total Output	**Total Intermediate consumption**	**Total GVA**
MFI 1	100	40	60
MFI 2	100	20	80
MFI 3	100	75	25
Sum across MFIs	300	135	**165**

The direct domestic value-added of exports is the value-added component of exports generated by the UK exporters. Therefore it is the same concept as GVA but applied to exports. It is calculated for each firm or industry as:

$$Direct\ domestic\ value\ added\ of\ exports = Exports\ -\ Intermediate\ consumption\ associated\ with\ exports \qquad \text{(Eqn 2)}$$

Again, direct domestic value-added can be constructed for each MFI and then summed to calculate aggregate DDVA for the sector as a whole. **Table 2** extends the three MFI hypothetical example to show calculation of DDVA in exports.

[3] This has only been possible through ESCoE's collaboration with the Bank of England who have direct access to disaggregated MFI data at source.

Table 2 - Individual institution DDVA in exports

	1	2	1 -2	3	4	3-4
	Total Output	**Total Intermediate consumption**	**Total GVA**	**Exports**	**Intermediate consumption associated with exports**	**DDVA in exports**
MFI 1	100	40	60	20	8	12
MFI 2	100	20	80	60	12	48
MFI 3	100	75	25	0	0	0
Sum across MFIs	300	135	165	80	20	**60**

Exports are a component of total output and the intermediation consumption associated with these exports is a component of total intermediate consumption. Again, the inputs to the process of producing an export for exporters will comprise the value-added of other industries. Therefore, as explained in section 1, exports of any industry can be decomposed into various sources of value-added.

As we only have data for the MFI sector for this report we are only able to estimate the direct domestic value-added component of MFI exports. We are unable to decompose the sources of value-added embodied in the intermediate consumption of the MFI sector associated with MFI exports. As such we cannot measure the extent to which MFI domestic output acts as inputs to other domestic industries whose products then act as inputs to MFI exports. Any value-added associated with this original MFI domestic output should be included in the direct domestic value-added component of MFI exports and, as we do not capture this, these estimates of the direct domestic value-added component of MFI exports should be viewed as a lower bound as explained in section 1.

b) The data available for constructing the direct domestic value-added of exports for MFIs

This subsection explains what data within equations 1 and 2 above are available for MFIs and therefore what assumptions are made.

The Bank of England's statistical return Form PL collects much of the data needed for these calculations. Specifically, the primary function of Form PL is to enable the calculation of the National Accounts measures of GVA and exports for MFIs (ISIC Rev.4 64.10) published by the ONS. Therefore measures of total output, total intermediate consumption and total exports in equations 1 and 2 are available. Data are available on a quarterly frequency.

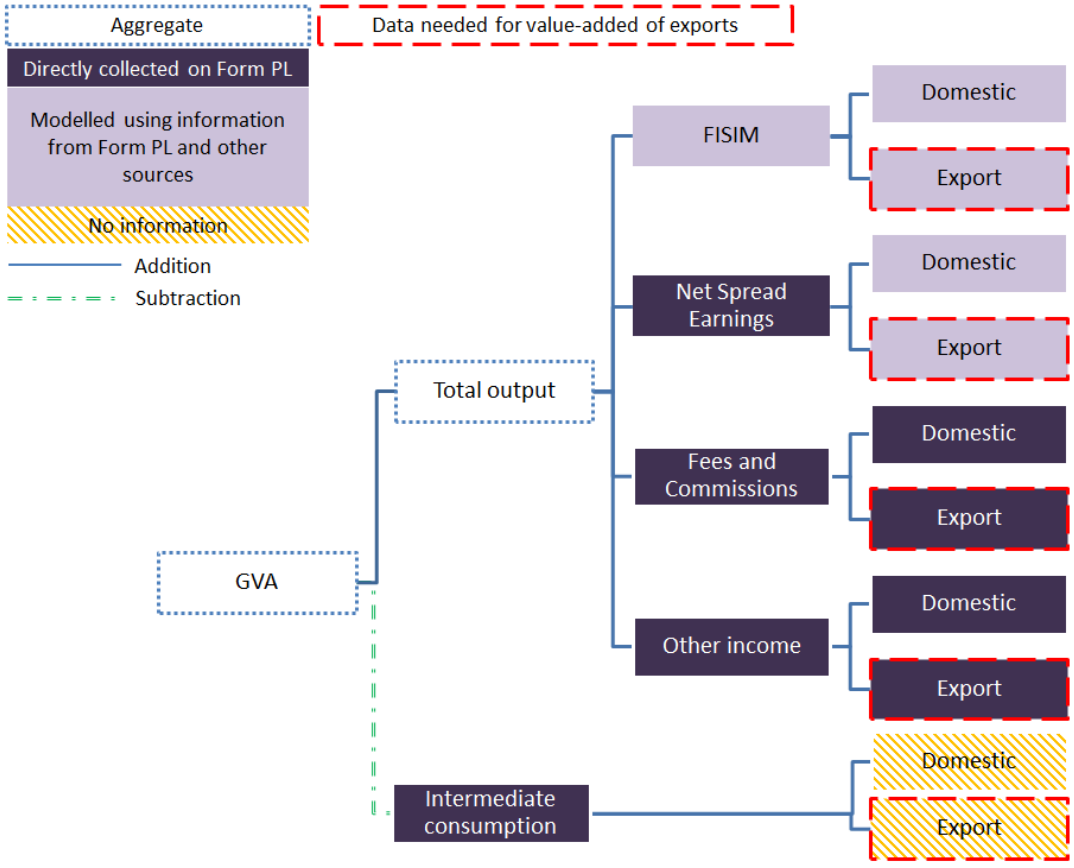
Total output of MFIs can be aggregated from the sum of the various revenue streams collected on Form PL, namely Financial Intermediation Services Indirectly Measured (modelled from the breakdown of interest reported on the Form PL), Net Spread Earnings, fees and commissions and other operating income. Financial Intermediation Services Indirectly Measured (FISIM) is a measure that aims to capture output generated by intermediation services for which there is no explicit charge. This relates to deposit and lending services provided by MFIs whereby the implicit charge for the service is included in the interest rate that is offered to the consumer. This is calculated as the difference between the amount charged on loans and deposits and the interest that would have been charged/earned at a reference rate based on interbank lending. Further details regarding the

calculation of FISIM can be found in Akritidis (2017). Net Spread Earnings (NSE) is a measurement of service income from trading activities. This is identified as the difference between the price paid/offered by an MFI and the mid-market price. Fees and commissions relates to any explicit income earned in relation to the provision of a service. This includes, but is not limited to, investment banking, advisory, brokerage and underwriting services, loans and advances, current account services and credit cards. Finally other operating income serves as a residual where income not reported elsewhere is captured including intra-group fees and cost recharges. Intra-group fees and cost recharges relate to income received in relation to services provided by an MFI to another group entity.

Intermediate consumption relates to goods and services used in the production of output. Total intermediate consumption by firms is available on Form PL, equivalent to the sum of fees and commissions payable, administrative expenses and intra-group expenses.

Figure 1 below shows what is captured on Form PL and what is needed to calculate domestic direct value-added of exports.

Figure 1 - Information available from Form PL



Although most of the components needed to calculate the direct domestic value-added of MFI exports (dashed outlined boxes, **Figure 1**) are collected directly on Form PL a number of elements are modelled using information collected on the same form. As FISIM is, by its nature, an indirect measure, it is modelled using interest data collected on Form PL and a number of supplementary balance sheet data series. Although NSE, split by spread earnings on foreign exchange, securities and derivatives, is collected explicitly on Form PL, export levels are not. Currently the gross notional amounts of cross-border transactions collected on the Triennial Central Bank Survey of foreign

exchange and OTC derivatives markets are used to determine the proportion of each product that is exported.

Crucially, whilst total intermediate consumption is available on Form PL there is no information to split this into intermediate consumption associated with domestic output or exports (**Figure 1**). As shown in equation 2, the "intermediate consumption associated with these exports" is needed to calculate the direct domestic value-added of MFI exports and so an assumption needs to be made.

The key assumption used to generate the ESCoE estimates for the direct domestic value-added of MFI exports is that <u>at a firm level</u>:

$$IC_{E,k} = Exports_k \; x \; (\frac{IC_k}{Total\ output_k}) \qquad \textbf{(Eqn 3)}$$

where subscript '*E*' and '*k*' represent exports and an individual institution respectively and '*IC*' represents intermediate consumption.

The assumption is that the proportion of intermediate consumption used by the firm to produce its average unit of output (total intermediate consumption/total output) is the same regardless of whether that unit of output is produced for the domestic market or exported to any destination.

Under this assumption the data are more robust when the calculation relies upon disaggregated individual institution data. By doing so we can consider the products each firm specialises in and the extent to which it exports, ultimately resulting in a more accurate reflection of true activity. However, it does remain true that different inputs may be needed to produce products for domestic markets to export markets. Whilst this compromises the accuracy of our estimates, it does so less than if the calculation was to simply use sector aggregates.

Table 3 - Individual institution DDVA and aggregate DDVA comparison

	1	2	2-1	2/1	3	2/1	3*(2/1)	3-[3*(2/1)]
	Total output	**Total intermediate consumption**	**Total GVA**	**Proportion of intermediate consumption in unit of output**	**Exports**	**Assumed proportion of intermediate consumption in unit of exports**	**Assumed intermediate consumption associated with exports**	**DDVA in exports**
MFI 1	100	40	60	0.4	20	0.4	8	12
MFI 2	100	20	80	0.2	60	0.2	12	48
MFI 3	100	75	25	0.75	0	0.75	0	0
Sum across MFIs	300	135	165		80			**60**
Aggregate	300	135	165	0.45	80	0.45	36	**44**

Table 3, which further extends the three MFI hypothetical example, clearly shows that calculation on an individual institution basis allows for a more accurate calculation of DDVA in exports under the assumption that the proportion of intermediate consumption is the same for domestic and export products, and varies between MFIs with different propensities to export. The weighting is skewed towards the proportion of intermediate consumption in output produced by 'MFI 2' as they export the majority in this example; 'MFI 3' is excluded from the calculation completely as they do not export any services. Conversely DDVA of exports when calculated using only aggregate data leads to an apparent under-estimation of DDVA (44 rather than 60). This is due to the inclusion of 'MFI 3' in

the calculation. Despite the fact that 'MFI 3' does not export any services, its low proportion of DDVA in output is pulling down the sector average.

Using the four elements of output collected on Form PL the following calculation will be used to calculate direct domestic value-added in exports ($DDVA_E$).

$$\boldsymbol{DDVA_E} = \sum_{k=1}^{n} \left[Fees_{E,k} - \left(\frac{Fees_{E,k}}{Output_k} x\, IC_k\right)\right] + \left[NSE_{E,k} - \left(\frac{NSE_{E,k}}{Output_k} x\, IC_k\right)\right] + \left[FISIM_{E,k} - \left(\frac{FISIM_{E,k}}{Output_k} x\, IC_k\right)\right] + \left[Other\ income_{E,k} - \left(\frac{Other\ income_{E,k}}{Output_k} x\, IC_k\right)\right] \quad \textbf{(Eqn 4)}$$

Therefore, using this formula, DDVA of exports for the sector will be the sum of DDVA in exports for each product aggregated across the population. This formula has been constructed to establish $DDVA_E$ by product as it is necessary to establish this breakdown before applying the location split described below.

c) Estimating $DDVA_E$ by location of counterparty

Calculating $DDVA_E$ on a product basis will allow for more dynamic and accurate estimation of the destination of DDVA in exports by counterparty, between the EU and non-EU in this case.

Fees and commissions data collected on Form PL are split by EU/non-EU on the form and as such the proportions can simply be applied to the product calculation. In the absence of a better proxy, and consistent with the ONS approach to calculating bilateral exports, this proportion will also be applied to Net Spread Earnings. The methods of estimation for FISIM and other operating income require slightly more complex treatment.

As FISIM is calculated using both interest data (collected on Form PL) and balance sheet data, to calculate an export destination split Forms CC and CL are used, two further forms collected by the Bank of England. Form CC collects a geographical breakdown of the stock of loans to non-residents while Form CL collects deposit liabilities on the same basis. The ratio of loan and deposit stocks of EU nations to non-EU nations is applied to the export DDVA calculated for FISIM (at a firm level) as an approximation of the true destination.

Proportions reported on the Form BG are applied to other operating income when available. The Form BG is a return submitted by the majority of key international banks and serves as a supplementary breakdown of a number of items on the Form PL providing details of the geographical location of the counterpart. This allows for separation of other operating income accurately for the majority of institutions. However, the Form BG only samples approximately 85% of non-resident business. The treatment for the remainder of the population is to default to the location in which the parent is domiciled. This is on the assumption that a smaller institution is most likely to undertake cross-border activity with the country where its parent is domiciled when the product is not a traditional financial intermediation product.

d) Further limitations and assumptions

Form PL typically samples 95% of the population on a quarterly basis and 98% on an annual basis. Only data for quarterly reporters are calculated on an individual institution basis for the basis of this report. As a result the remaining 5% of the population is estimated using the results found for the quarterly sampled population. This also necessitates estimating the destination of their DDVA. This is allocated to the destination in which their parent is domiciled for reasons discussed previously.

3. Initial estimates

i. MFIs' exports

Table 4 presents MFIs' gross exports as used in the calculation of DDVA in exports. These figures differ from those currently published by the ONS due to the inclusion of intra-group cost recharging in this analysis. A detailed analysis of these differences is presented in section 4.

Table 4 - MFIs' gross exports

MFIs exports (£bn)									
Recent quarterly path	**Mar-15**	**Jun-15**	**Sep-15**	**Dec-15**	**Mar-16**	**Jun-16**	**Sep-16**	**Dec-16**	**Mar-17**
Total	**8.2**	**7.8**	**7.5**	**8.4**	**8.8**	**9.2**	**9.8**	**10.4**	**9.8**
o/w FISIM exports	1.8	1.7	1.7	1.9	1.8	1.7	2.4	2.4	2.2
o/w NSE exports	3.0	2.6	2.3	2.4	2.7	2.7	2.6	2.6	2.8
o/w Fees & commissions exports	2.1	2.0	1.9	2.3	2.2	2.4	2.3	2.6	2.6
o/w Other income exports*	1.4	1.6	1.5	1.7	2.1	2.3	2.6	2.8	2.2

Annual totals	**2014**	**2015**	**2016**
Total	**31.2**	**31.9**	**38.2**
o/w FISIM exports	7.1	7.1	8.3
o/w NSE exports	9.6	10.3	10.5
o/w Fees & commissions exports	8.4	8.3	9.6
o/w Other income exports*	6.1	6.2	9.8

*** "Other" relates to income from intra-group cost recharges and at present is not included in the ONS's Trade in Services statistics.**

Clearly exports have been relatively stable over the period with the exception of a spike in 2016. This is partly due to an increase in 'other' income exports and more specifically relates to an increase in intra-group cost recharging activity.

ii. Initial DDVA in exports for MFIs

Table 5 shows initial estimates of DDVA in exports. This figure has been calculated using MFIs that report the Form PL on a quarterly basis. As a result not all output, intermediate consumption and exports were captured in this calculation and as such this does not represent DDVA in exports for the sector in its entirety.

Table 5 - MFIs' DDVA in exports, derived from quarterly Form PL reporters

MFIs DDVA in exports (Raw) (£bn)									
Recent quarterly path	**Mar-15**	**Jun-15**	**Sep-15**	**Dec-15**	**Mar-16**	**Jun-16**	**Sep-16**	**Dec-16**	**Mar-17**
Total	**3.5**	**3.2**	**2.8**	**3.0**	**3.3**	**3.2**	**3.2**	**3.4**	**3.3**
o/w FISIM exports	0.9	0.8	0.8	0.8	0.8	0.7	1.0	1.0	0.9
o/w NSE exports	1.1	0.8	0.8	0.8	1.2	1.1	0.9	0.8	1.1
o/w Fees & commissions exports	0.9	0.9	0.7	0.8	0.8	0.7	0.7	0.8	0.7
o/w Other income exports*	0.4	0.5	0.4	0.4	0.5	0.6	0.5	0.5	0.6

Annual totals	**2014**	**2015**	**2016**
Total	**11.7**	**12.4**	**13.1**
o/w FISIM exports	3.1	3.3	3.6
o/w NSE exports	3.5	4.0	3.4
o/w Fees & commissions exports	3.3	3.0	3.2
o/w Other income exports*	1.8	2.2	2.9

*** "Other" relates to income from intra-group cost recharges and at present is not included in the ONS's Trade in Services statistics.**

Across the time series the mean coverage of quarterly reporters across all products is approximately 93%. This level of coverage should be sufficient in capturing a representative ratio for each product. Therefore it has been assumed that the sum of DDVA for each export type as a percentage of the total export is equal to the DDVA to output ratio for that export for the sector as a whole. So;

$$\frac{DDVA_{E,p,q}}{p_{E,q}} = \frac{DDVA_{E,p,a}}{p_{E,a}} \qquad \text{(Eqn 5)}$$

Such that;

$$\left(\frac{DDVA_{E,p,q}}{p_{E,q}}\right) x\, p_{E,a} = DDVA_{E,p,a} \qquad \text{(Eqn 6)}$$

where '*q*', '*a*' and '*p´* refer to quarterly reporters, all MFIs and the product type respectively.

Table 6 shows these ratios for each product throughout the time series. It also shows the weighted total $DDVA_E$ to export ratio, calculated as:

$$\frac{DDVA_{E,FISIM,q}+DDVA_{E,NSE,q}+DDVA_{E,Fees,q}+DDVA_{E,Other,q}}{FISIM_{E,q}+NSE_{E,q}+Fees_{E,q}+Other_{E,q}} \qquad \text{(Eqn 7)}$$

Table 6 – MFIs' value-added to output ratios

MFIs' DDVA in exports as % of exports				Value-added to ouptut ratios			
					Total	Domestic	Exports
	2014	**2015**	**2016**	2014	51%	55%	41%
FISIM exports	46%	49%	47%				
NSE exports	43%	46%	40%	2015	52%	55%	43%
Fees & commissions exports	41%	40%	36%				
Other income exports	32%	37%	31%	2016	50%	54%	38%
DDVA in exports average*	**41%**	**43%**	**38%**				

*** Average ratio is weighted by product contribution to total output and is therefore not consistent with the simple ari**

It is worth noting that throughout the time series DDVA in exports as a percentage of exports is lower than that for domestic output.

iii. Grossed MFIs' DDVA in exports

Applying the ratios in **Table 6** to exports in **Table 4** approximates DDVA in exports grossed up to represent total DDVA in exports for the entire MFI sector; this is shown in **Table 7**.

Table 7 - Grossed DDVA in exports for all MFIs

MFIs DDVA in exports (Grossed) (£bn)									
Recent quarterly path	**Mar-15**	**Jun-15**	**Sep-15**	**Dec-15**	**Mar-16**	**Jun-16**	**Sep-16**	**Dec-16**	**Mar-17**
Total	**3.8**	**3.5**	**3.1**	**3.3**	**3.7**	**3.5**	**3.6**	**3.8**	**3.7**
o/w FISIM exports	1.0	0.8	0.8	0.9	0.9	0.8	1.1	1.1	1.0
o/w NSE exports	1.5	1.3	1.0	1.0	1.3	1.0	0.9	1.0	1.0
o/w Fees & commissions exports	0.8	0.8	0.8	0.9	0.8	1.0	0.8	0.9	1.0
o/w Other income exports*	0.6	0.6	0.5	0.6	0.7	0.8	0.8	0.8	0.7

MFIs DDVA in exports (Grossed) (£bn)			
Annual totals	**2014**	**2015**	**2016**
Total	**12.9**	**13.8**	**14.6**
o/w FISIM exports	3.3	3.5	3.9
o/w NSE exports	4.2	4.7	4.2
o/w Fees & commissions exports	3.5	3.3	3.5
o/w Other income exports*	1.9	2.3	3.1

*** "Other" relates to income from intra-group cost recharges and at present is not included in the ONS's Trade in Services statistics.**

These figures represent initial estimates of total DDVA in exports for all MFIs. With £4.2bn of the £14.6bn attributable to NSE, this is the biggest source of DDVA for UK MFIs in 2016. However, much like gross exports there is a relatively even distribution of value added by product.

In nominal terms total DDVA in exports has increased steadily over the period. However, as shown in **Table 6**, DDVA in exports as a percentage of exports is weaker in 2016 than in both 2014 and 2015. As a result the relatively significant increase in DDVA in exports in 2016 is due entirely to an increase in nominal exports rather than an increase in the share of DDVA in exports.

Table 8 – Grossed DDVA in exports to the EU27

MFIs' DDVA in exports to the EU (Grossed) (£bn)									
Recent quarterly path	**Mar-15**	**Jun-15**	**Sep-15**	**Dec-15**	**Mar-16**	**Jun-16**	**Sep-16**	**Dec-16**	**Mar-17**
Total DDVA in exports to the EU	**1.3**	**1.2**	**1.1**	**1.1**	**1.4**	**1.2**	**1.1**	**1.1**	**1.3**
o/w FISIM	0.4	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4
o/w NSE	0.5	0.4	0.4	0.3	0.5	0.3	0.4	0.3	0.4
o/w Fees and commissions	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.4
o/w Other income	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2

MFIs DDVA in exports (Grossed) (£bn)			
Annual totals	**2014**	**2015**	**2016**
Total DDVA in xports to the EU	**4.8**	**4.8**	**5.0**
o/w FISIM	1.2	1.3	1.4
o/w NSE	1.6	1.6	1.5
o/w Fees and commissions	1.3	1.2	1.2
o/w/ Other income*	0.7	0.7	0.9

*** "Other" relates to income from intra-group cost recharges and at present is not included in the ONS's Trade in Services statistics.**

Much the same distribution of DDVA by product can be seen in exports to the EU. **Table 8** shows that NSE is the greatest source of DDVA in EU exports, marginally more than DDVA in FISIM. Interestingly DDVA in other income to the EU has risen only slowly over the period (£0.7bn to £0.9bn). This is largely due to the slow growth in gross exports of other income to the EU, with the significant rise in other exports owed largely to an increase in exports to non-EU countries. Overall exports to the EU look little changed over the period reflecting an increase in proportion of gross exports to non-EU countries.

4. Comparison of initial estimates to other published estimates

In order to validate the magnitude of the initial ESCoE estimates and show the contribution of the work it is helpful to compare the estimates with currently published data.

i. Gross exports

Table 9 – Estimates of Gross Exports

		2014	2015	2016
Pink Book 2016 Table 3.5	**Total financial services**	**46.2**	**50.8**	**-**
	Total MFIs	**25.2**	**25.6**	**-**
	o/w Commissions and fees	8.4	8.3	-
	o/w Spread Earnings	9.6	10.2	-
	o/w FISIM	7.1	7.1	-
Our initial estimates	**Total MFIs**	**31.2**	**31.9**	**38.2**
	o/w Commissions and fees	8.4	8.3	9.6
	o/w Spread Earnings	9.6	10.3	10.5
	o/w FISIM	7.1	7.1	8.3
	*o/w Other**	6.1	6.2	9.8
Differences (Pink Book 2016 - our estimates)	**Total MFIs**	**6.1**	**6.3**	
	o/w Commissions and fees	0.0	0.0	
	o/w Spread Earnings	0.0	0.1	
	o/w FISIM	0.0	0.0	
	o/w Other	6.1	6.2	

* "Other" relates to income from intra-group cost recharges and at present is not included in the ONS Trade in Services statistics.

In 2014 and 2015, total MFI exports are estimated to be around £6bn higher in the new and initial ESCoE estimates than in the ONS Pink Book 2016 (**Table 9**). The key difference between the estimates is that the ESCoE estimates include "other" exports which primarily relate to business done by MFIs for other entities of the same parent group located abroad (e.g. head offices, branches, subsidiaries). This component of exports is currently not included in the ONS Trade in Services statistics.

The differences between ESCoE and Pink Book estimates for gross exports of commissions and fees, net spread earnings and FISIM are very small. This should be expected as both estimates are constructed using the same source data. Differences may exist however, for example, due to the revisions policy and balancing adjustments applied by the ONS.

ii. Gross exports by destination

Table 10 – Estimates of Gross Exports by destination

		2014	2015	2016
ONS Pink Book 2016 Tables 9.10 & 9.11	**Financial services**	**46.2**	**50.8**	
	o/w EU (£bn)	19.0	22.4	
	non-EU (£bn)	27.2	28.3	
	o/w EU share (%)	41	44	
	non-EU share (%)	59	56	
Our initial estimates	**Total MFIs**	**31.2**	**31.9**	**38.2**
	o/w EU (£bn)	11.2	11.6	13.2
	non-EU (£bn)	20.0	20.3	25.0
	o/w EU share (%)	36	36	35
	non-EU share (%)	64	64	65
Our initial estimates	**Total MFIs exc "other" exports***	**25.2**	**25.7**	**28.4**
	o/w EU (£bn)	9.6	10.0	11.0
	non-EU (£bn)	15.5	15.7	17.4
	o/w EU share (%)	38	39	39
	non-EU share (%)	62	61	61

* "Other" relates to income from intra-group cost recharges and at present is not included in the ONS Trade in Services statistics.

In ONS Pink Book 2016, estimates of exports by destination are available for total financial services but not sub-components within these services. ONS estimates suggest that 44% of financial services were exported in 2015 to EU countries, equal to a value of £22.4bn (**Table 10**).

We have constructed initial estimates for exports of MFIs to EU and non-EU countries. Our new estimates suggest that 36% of MFIs exports were exported in 2015 to EU countries, equal to a value of £11.6bn (**Table 10**). To compare with the ONS Pink Book estimates for total financial services it is useful to exclude 'other' exports from the MFI estimates as exports of this type are currently not included in the ONS Trade in Services statistics (see section 4.i).

These initial estimates suggest MFIs exports may be slightly less focused on EU markets than 'other' exports of financial services. ESCoE estimates suggest that 39% of MFI exports excluding 'other' exports went to EU destinations in 2015, compared to 44% of financial services exports as a whole going to EU destinations (**Table 10**). Put another way, MFIs exports excluding 'other' exports are estimated to contribute around 50% of total financial services exports, but only 45% of financial services exports to the EU.

Table 10 compares our initial estimates to the ONS estimates available in Pink Book 2016. However, many other estimates of UK exports by destination are available. In the ONS 2013 Input-Output Analytical Tables estimates of exports to the EU and non-EU are published for product 64 (Financial services, except insurance and pension funding). ONS estimates of UK exports to a partner country may not equal the estimate generated by the statistical office in the partner country for imports from the UK. Any differences are called trade asymmetries and understanding these is an active area of research for the ONS and other international institutions. Databases such as UN Comtrade and Eurostat contain information on UK financial services exports by destination and imports of financial services from the UK reported by various partner countries. The reported UK data on these databases can differ from ONS data due to various adjustments and differences in the reporting bases used by each institution.

5. Conclusion

This paper has outlined a potential methodology for constructing estimates of the direct domestic value-added component of UK MFIs exports, as part of a longer project conducted by ESCoE, the aim of which is to construct more highly disaggregated measures of value-added from trade for key sectors. The methodology uses the relationships in the individual institution data held by the Bank of England to develop the aggregate estimates.

Our initial estimates suggest that £14.6bn of the £38.2bn of MFI exports in 2016 was value-added generated directly by the domestic MFI sector immediately before exporting. Our initial estimates suggest MFI exports may be slightly less focused on EU markets than 'other' exports of financial services.

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