

Article

# Asymmetries in trade data: updating analysis of UK bilateral trade data

Update on UK trade data asymmetries with select partner countries for 2016 to 2018, including recent source and methods changes and work to better understand and reduce UK trade asymmetries.

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# 1 . Executive summary

This is the fourth publication in our series exploring UK trade data asymmetries. We have updated our analysis to include estimates of UK trade in services asymmetries for 2016 to 2018 using the latest bilateral data, explained recent changes in sources and/or methods, and provided a summary of ongoing work to better understand asymmetries and reduce them where possible.

Table 1 summarises UK import and export trade in services asymmetries by country in 2018. The size of the trade in services asymmetries is provided from a UK perspective: UK exports less partner country imports and UK imports less partner country exports, for the latest year covered in the analysis (that is, 2018). Positive (+) asymmetries mean that UK estimates are higher than partner country estimates, while negative (-) asymmetries mean that UK estimates are lower than partner country estimates.

The size of asymmetries by country, and the service types displaying the largest service types, remain largely consistent with our previous analysis. The UK's largest asymmetries are with the United States including Puerto Rico, while the service types with the largest asymmetry values predominantly include other business services and financial services. Except for UK export asymmetries with the United States, UK asymmetries with other countries included in our analysis are negative, meaning that UK trade in services estimates are lower than the corresponding estimates of partner countries.

Table 1: The largest UK import and export trade in services asymmetries in 2018 were with the United States  
Summary of UK import and export trade in services asymmetries, by partner country, 2018

Partner country	Export asymmetry	Service type(s) with the largest export asymmetry value	Import asymmetry	Service type(s) with the largest import asymmetry value
United States	23.5	Other business services (15.1)	-19.9	Financial services (-8.0)
Republic of Ireland	-1.6	Insurance & Pension Services (-1.4)	-17.0	Telecommunications, computer & information services (-6.5)
Germany	-2.5	Other business services (-2.0)	-12.2	Insurance & Pension Services (-3.0), Financial Services (-3.0)
France	-3.2	Other Business Services (-3.4)	-8.9	Other business services (-3.2)
The Netherlands	-0.5	Financial services (4.0), Other Business Services (-4.0)	-14.8	Other business services (-5.3)
Belgium	-3.8	Other business services (-2.3)	-5.2	Other business services (-1.6)
Luxembourg	-6.6	Financial services (-4.7)	-10.2	Financial services (-6.6)

Source: Office for National Statistics, Bureau of Economic Analysis, and Eurostat – Asymmetries in trade data

Figure 1 shows the range of UK import and export asymmetries values by country for the years 2016, 2017 and 2018. The range indicates the smallest and largest values of the UK's asymmetries with each country for exports and imports separately, with the middle value lying between the two points. UK import asymmetries are generally larger than our export asymmetries, though the UK's export asymmetry with the United States is its largest. The relatively small range of asymmetries by country across years points to consistent methodological and measurement reasons for differences in trade in services estimates between countries.

### **Figure 1: UK import asymmetries are generally larger than export asymmetries, but their ranges were small between 2016 and 2018**

**Range of UK import and export trade in services asymmetries by country, 2016 to 2018**

**Source: Office for National Statistics, Bureau of Economic Analysis, and Eurostat – Asymmetries in trade data**

#### **Notes:**

1. The dots represent the lowest and highest import and export asymmetry values by country between 2016 and 2018.
2. Lowest and highest refer to £ billions values of asymmetries. The size of an asymmetry increases as it moves away from zero, regardless of its sign.

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We plan to assess the use of Value Added Tax (VAT) data in the compilation of trade in services and produce a reconciled trade in services dataset while continuing to lead and engage with the international statistics community to better understand trade data asymmetries and reduce them where possible.

## **2 . Introduction**

We are delivering a range of developments as part of our [UK trade development plan](#) and [UK trade statistics transformation](#) to meet the demands for high quality informative trade statistics. This work includes analysis and explanation of the UK's trade data asymmetries and reduction where possible.

The existence of trade data asymmetries has been well-documented by international organisations such as the Organisation for Economic Co-operation and Development (OECD), International Monetary Fund (IMF), and Eurostat, which have estimated the value of asymmetries as between 0.1% and 1.0% of the global current account.

Asymmetries can be caused by a range of conceptual and measurement differences between the estimation practices of different countries. It is also commonly agreed that when estimates are based on business surveys, it is easier to identify firms that export services than those that import services. Statistical agencies are likely to have different source data, estimation methods, methodologies and definitions. No two sources will ever capture exactly the same estimate of trade, and the "true" value for a given statistic is unknown and could lie between the two country estimates or outside that range.

Asymmetries exist across global trade statistics and have been present for many years. Although it will never be possible to eliminate them, we are actively assessing the UK's trade asymmetries in order to better understand the causes and to develop approaches to try to reduce some of them where possible.

The UK is not alone in focusing on this issue: the international community is working together to better understand the reasons for asymmetries and to reduce them through, for example, bilateral discussions. We are proactively engaged in this work and have had collaborative bilateral discussions with a wide range of countries with which we have some of our larger trade data asymmetries.

In our [first article](#) on our analysis and investigations into UK trade data asymmetries, we focused primarily on gaining a better understanding of the published datasets and the context and known reasons for asymmetries. In our [second article](#), we set out an initial approach to our deeper analysis of trade asymmetries, our engagement and collaboration with our counterparts measuring these statistics in other countries, and research into data sources and methods. A summary of the data sources used to estimate UK trade data at the Office for National Statistics (ONS) was included. Our [third article](#) continued this process in relation to the United States and Ireland and extended this analysis to a further five trading partner countries: Germany, France, the Netherlands, Belgium and Luxembourg. We provided summary comparisons of the sources and methods used by these countries and the UK and quantified differences where this was possible.

In this article, we have updated our analysis based on the latest published data and include details of changes to sources and/or methods where changes have been implemented by the UK or by partner countries. We also outline our ongoing work and plans, which are aimed at improving our trade statistics, and narrowing the trade data asymmetries that exist in bilateral trade data where possible.

Since our [third article](#), we have continued to participate in bilateral trade data asymmetries discussion meetings with the United States Bureau of Economic Analysis (BEA); the German, French and Belgian central banks; and the national statistical offices of the Netherlands and Luxembourg, which are responsible for trade in services statistics. We have also presented our work at several international conferences and working groups, obtaining approval for the proposals we have made to progress this work internationally.

As outlined in previous articles, there is also a high level of user interest in UK trade activity with China. However, while the UK publishes estimates of bilateral services trade with China, China does not currently publish bilateral trade in services data. Nevertheless, we have built channels of communication with China, particularly in liaison with our colleagues at the OECD, and we report on the bilateral data we have obtained.

### 3 . Things you need to know about this release

In this article, we have calculated export and import trade data asymmetries for the UK with seven key trading partner countries (the United States, Ireland, Germany, France, the Netherlands, Belgium and Luxembourg) for the years 2016 to 2018. These are the countries with which the UK has some of its largest trade data asymmetries and in which there is a high level of user interest.

We have used [UK trade in services data by service type and by partner country](#), published on 22 January 2020 and consistent with the [Pink Book 2019](#). Bilateral partner data have been sourced from Eurostat (for European countries) and the United States Bureau of Economic Analysis (BEA) for the United States. All data are presented in current prices so include the effect of price inflation over time.

Bilateral partner data from European countries were converted from euros to British pounds using yearly average exchange rate data from the Bank of England. Data from the United States were converted from American dollars to British pounds using the same approach. Once all the data were in British pounds, we matched UK service types to those used by the partner countries to ensure comparability as there are usually differences between the way the UK and partner countries present service type data.

## Understanding and quantifying differences in countries' trade in services data by service type

Our analysis also includes a comparison of the approaches used to compile the trade in services data based on publicly available information on data sources and methods and further information obtained via bilateral discussions between the Office for National Statistics (ONS) and partner countries. Consistent with our [previous article](#), where possible, we present quantifications of the known differences between the UK and partner countries' lower level data that contribute to trade data asymmetries.

Asymmetries can be explained by methodological, definitional and statistical differences. There are also differences in the timeliness of taking on international best practice. The UK is compliant with the international standards for the production and presentation of the balance of payments, including trade in goods and services, as specified in the [International Monetary Fund \(IMF\) Balance of Payments and International Investment Position Manual, sixth edition \(BPM6\)](#).

For methodological differences, we present components that are classified in one service type by the ONS and in another service type by the partner country. These methodological differences do not help explain the trade asymmetry at a total services level because the component is included somewhere in total services, but they can help to explain asymmetries between service types.

Definitional differences occur either where countries allocate trade in different lower level categories (such as different service type accounts) or where one country omits trade activity that is included by another country. Depending on the nature of the definitional difference, adjusting for it may reduce or increase the asymmetry.

## Comparability of data with previous article

Our previous article presented trade data asymmetries with the United States, Ireland, Germany, France, the Netherlands, Belgium and Luxembourg for the years 2014 to 2016. Therefore, there is only one common year of data (2016) between data in this article and our last. Updated UK data for 2014 and 2015 by service type and by partner country are unavailable, and updated values for export and import trade data asymmetries cannot therefore be calculated for 2014 and 2015. Where we have updated export and import asymmetries for 2016, revisions result from improvements in the methodology used to calculate UK trade statistics in the [Pink Book 2019](#).

We documented [the impact of Blue Book 2019 developments on UK trade data, 1997 to 2016](#), prior to the publication of Blue Book and Pink Book 2019. Changes to the trade in services balance for the UK were mainly the result of balancing adjustments and the inclusion of monetary financial institutions' intragroup fees and cost recharges in other business services.

## Calculating asymmetries

Export and import asymmetries are calculated as the difference between the estimates of the declarant country and those of the partner country. Throughout this article, we refer to export asymmetries and import asymmetries separately. When the sign of the asymmetry is negative, it means that the partner country estimates are higher than those of the ONS. When the sign is positive, it means that ONS estimates are higher than those of the partner country.

Table 2: Asymmetries are calculated by subtracting partner estimates of trade flows from UK estimates of trade flows

Explanation of positive and negative export and import asymmetries

	When sign is negative	When sign is positive
Export asymmetry	Partner country estimates imports from the UK higher than ONS estimates exports to the partner country	Partner country estimates imports from the UK lower than ONS estimates exports to the partner country
Import asymmetry	Partner country estimates exports to the UK higher than ONS estimates imports from the partner country	Partner country estimates exports to the UK lower than ONS estimates imports from the partner country

Source: Office for National Statistics – Asymmetries in trade data

## 4 . Update of trade data asymmetries by country

In 2018, the UK had negative export asymmetries with Ireland, Germany, France, the Netherlands, Belgium and Luxembourg. This means that the UK’s estimates of total services exports to these countries were lower than the estimates of total services imports from the UK by these countries. The UK’s largest negative export asymmetry was with Luxembourg (negative £6.6 billion). Lower estimates of other business services exports than mirror import estimates by other countries were the biggest causes of the negative asymmetries with the Netherlands, Germany, France and Belgium. Negative export asymmetries in financial services were the biggest causes of the negative export asymmetry with Luxembourg and an important contributor, with insurance and pension services, to the negative export asymmetry with Ireland.

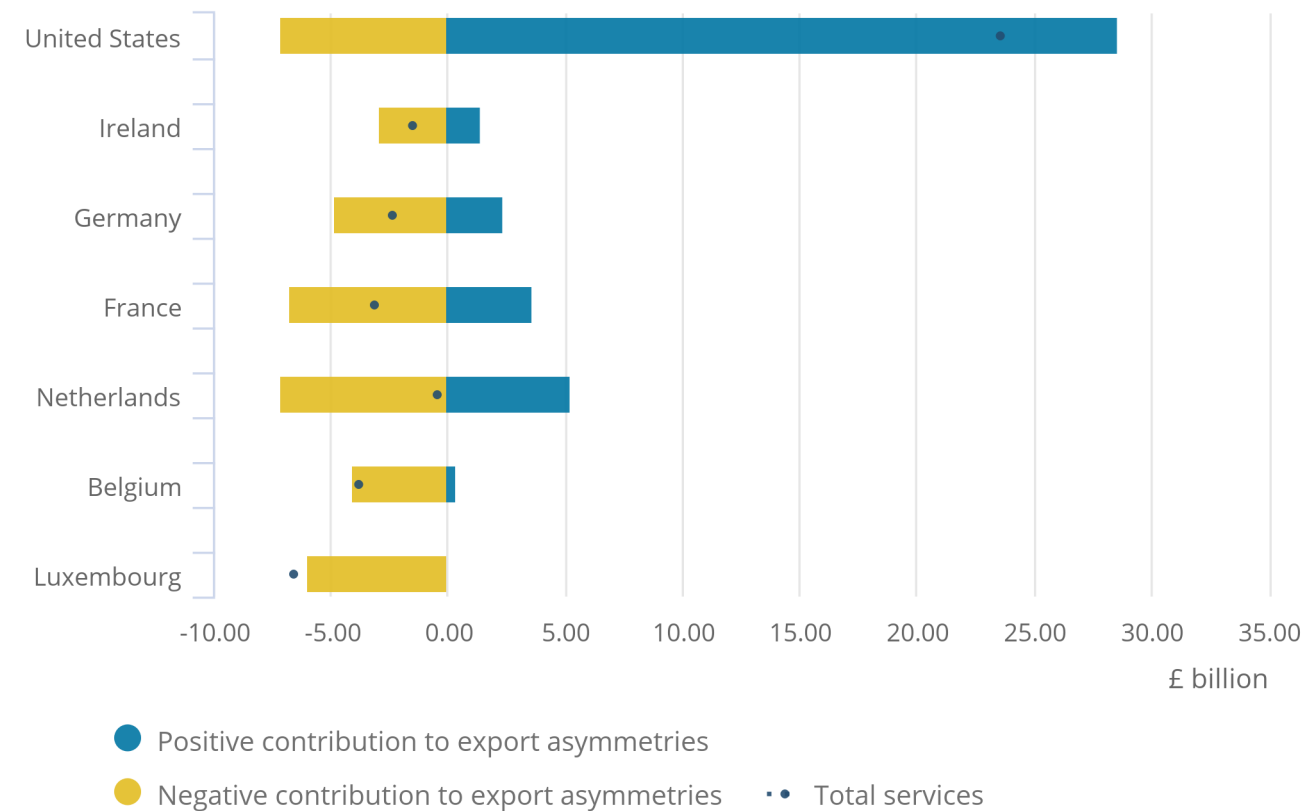
The UK had a positive export asymmetry with the United States in 2018 (£23.5 billion), meaning that the UK’s estimate of exports to the United States was higher than the United States’ estimate of imports from the UK. The largest contributions to this by service type were in other business services (£15.1 billion) and financial services (£7.5 billion).

**Figure 2: Apart from the United States, the UK had negative total export asymmetries with its bilateral partners in 2018**

Trade asymmetries in UK exports of services to partner countries, 2018

Figure 2: Apart from the United States, the UK had negative total export asymmetries with its bilateral partners in 2018

Trade asymmetries in UK exports of services to partner countries, 2018



Source: Office for National Statistics, Bureau of Economic Analysis, and Eurostat – Asymmetries in trade data

Notes:

1. Figures may not sum because of rounding and/or unavailable service type data.

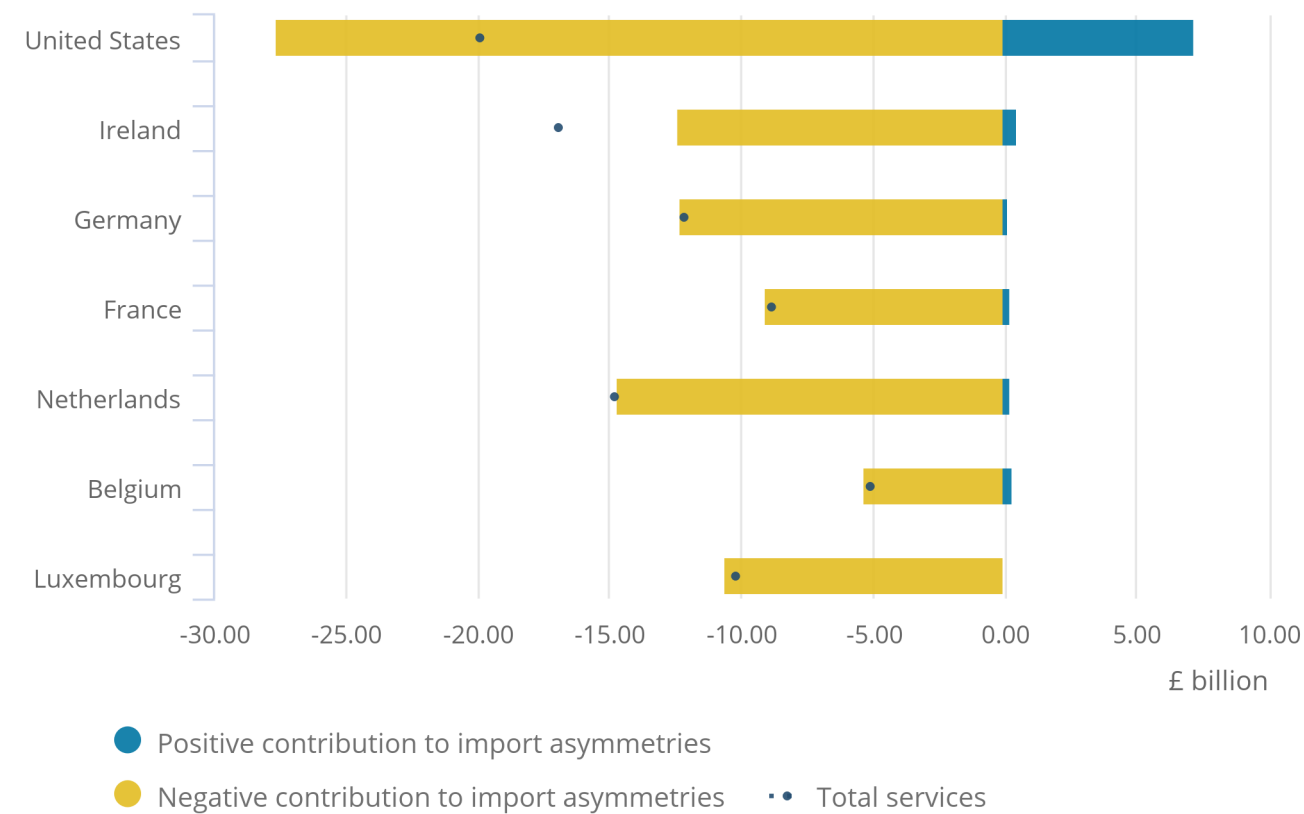
In 2018, the UK had negative import asymmetries with the United States, Ireland, Germany, France, the Netherlands, Belgium and Luxembourg. This means that the UK's estimates of total services imports from these countries was lower than the estimates of total services exports to the UK by these countries. The UK's largest negative import asymmetry was with the United States (£19.9 billion); the negative import asymmetry in financial services was the largest contributor to this. Negative import asymmetries in other business services were an important contributor to negative total services imports across these countries, while telecommunications, computer and information services was the biggest contributor to the negative total services import asymmetry with Ireland.

Figure 3: The UK had negative total import asymmetries with its bilateral partners in 2018

Trade asymmetries in UK imports of services from partner countries, 2018

Figure 3: The UK had negative total import asymmetries with its bilateral partners in 2018

Trade asymmetries in UK imports of services from partner countries, 2018



Source: Office for National Statistics, Bureau of Economic Analysis, and Eurostat – Asymmetries in trade data

Notes:

- 1. Figures may not sum because of rounding and/or unavailable service type data.

United States (including Puerto Rico)

Between 2016 and 2018, the UK's estimates of exports to the United States were higher than the United States' estimates of imports from the UK (Figure 2). The total export asymmetry with the United States in 2018 was £23.5 billion.

By individual service type, in 2018, the largest export asymmetries were in other business services (£15.1 billion), financial services (£7.5 billion), and insurance and pension services (£4.1 billion). For these service types, UK estimates of exports to the United States exceeded the United States' estimates of imports from the UK. There were some smaller offsetting asymmetries including in travel (negative £3.3. billion) and transport (negative £1.4 billion) where the UK's estimates of exports were lower than the United States' estimates of imports from the UK.

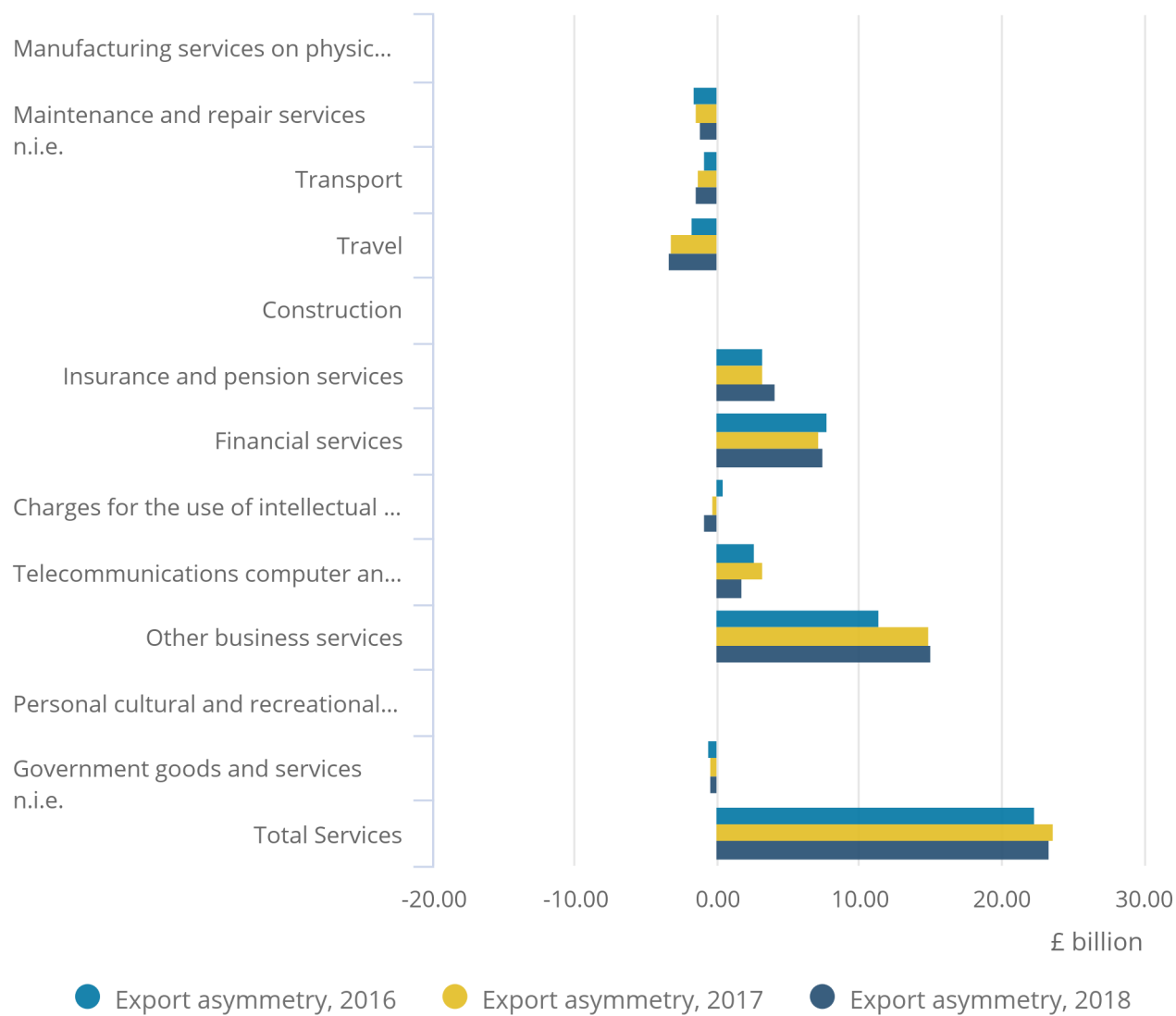


**Figure 4: UK export asymmetries with the United States were caused by other business services between 2016 and 2018**

Trade asymmetries in UK exports of services to the United States, by service type, 2016 to 2018

Figure 4: UK export asymmetries with the United States were caused by other business services between 2016 and 2018

Trade asymmetries in UK exports of services to the United States, by service type, 2016 to 2018



Source: Office for National Statistics and Bureau of Economic Analysis – Asymmetries in trade data

Notes:

- 1. Figures may not sum because of rounding and/or unavailable service type data.
- 2. Negative figures; this indicates that the United States' data are higher.
- 3. Positive figures; this indicates that the UK's data are higher.

Between 2016 and 2018, UK estimates of imports from the United States were lower than the United States' estimates of exports to the UK (Figure 2) The total import asymmetry with the United States in 2018 was negative £19.9 billion.

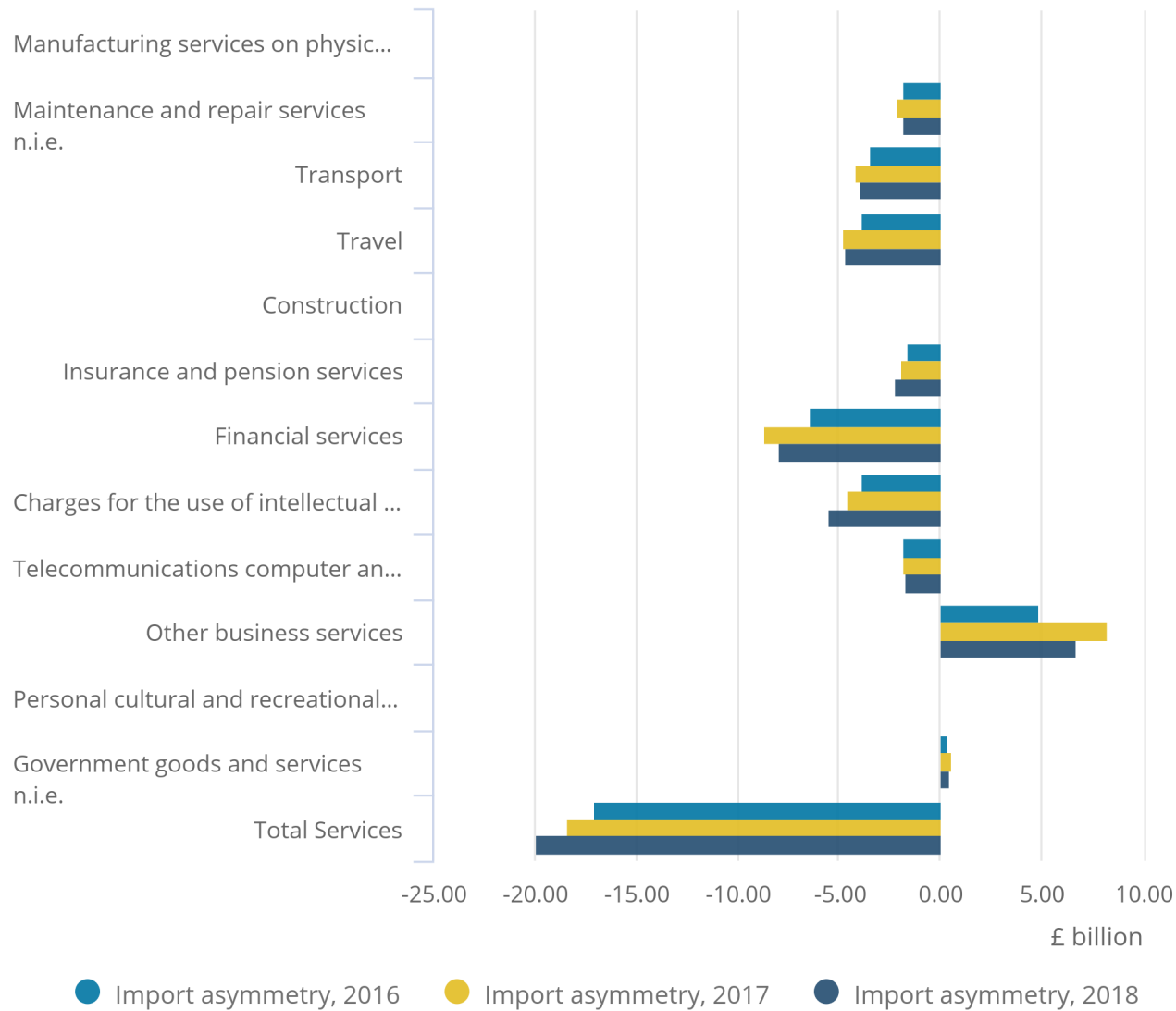
In 2018, the United States' data were higher than the UK's data in most of the individual service type categories for which data are available. The largest negative asymmetries were in financial services (negative £8.0 billion), charges for the use of intellectual property not included elsewhere (negative £5.4 billion) and travel (negative £4.6 billion). The UK's estimates of other business services imports from the United States are higher than the United States' estimates of exports for between 2016 and 2018 (other business services is also the service type in which we have the largest export asymmetry); the difference was £6.7 billion in 2018.

**Figure 5: Negative asymmetries in multiple service types contributed to negative UK import asymmetries with the United States between 2016 and 2018**

Trade asymmetries in UK imports of services from the United States, by service type, 2016 to 2018

Figure 5: Negative asymmetries in multiple service types contributed to negative UK import asymmetries with the United States between 2016 and 2018

Trade asymmetries in UK imports of services from the United States, by service type, 2016 to 2018



Source: Office for National Statistics and Bureau of Economic Analysis – Asymmetries in trade data

Notes:

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## **Methodological and definitional differences between the UK and the United States**

For methodological differences, we present components that are classified in one service type by the ONS and in another service type by the United States. These methodological differences do not help explain the trade asymmetry at a total services level because the component is included somewhere in total services but can help to explain asymmetries between service types. The methodological differences that have currently been identified are presented in Table 3.

Table 3: The UK and United States have identified £1.9 billion of exports that are classified in different service type categories in 2018

Currently identified methodological differences where UK and United States classify types of trade in different service categories and indicative estimates, 2016 to 2018, £ billion

Component	Service category where ONS classify component	Service category where BEA classify component	UK exports / US imports (£ billion)			UK imports / US exports (£ billion)			Source for quantification
			2016	2017	2018	2016	2017	2018	
Personal, cultural and recreational (PCR) services	PCR services. Separately identified	Within intellectual property and other business services. Not separately identified.	1.2	1.5	1.6	0.2	0.4	0.2	ONS
Construction services	Construction services. Separately identified.	Within other business services. Separately identified.	0.2	0.2	0.3	0.1	0.1	0.2	ONS
Outright sales / purchases of patents	Within research and development services within other business services. Not separately identified.	Within intellectual property. Not separately identified.	Quantification is not currently possible at this level of detail.						ONS
Total of currently identified definitional differences <sup>1</sup>			1.4	1.7	1.9	0.3	0.5	0.4	

Source: Office for National Statistics and Bureau of Economic Analysis – Asymmetries in trade data

#### Notes

1. Components may not sum because of rounding. [Back to table](#)

Definitional differences occur where one country omits trade activity that is included by another country. Depending on the nature of the definitional difference, adjusting for it may reduce or increase the asymmetry.

Table 4 shows the definitional differences that have been identified through discussions with the United States Bureau of Economic Analysis (BEA) and an indicative estimate of the magnitude of each, where available. These definitional differences were covered in our last article, and indicative estimates of United States trade with the Crown dependencies have been updated, though it is important to note that these are not [official statistics](#) as trade with the Crown dependencies is not separately identifiable in the BEA's data.

Table 4: Definitional differences between the UK and United States accounted for £9.8 billion of UK export asymmetries in 2018  
Currently identified definitional differences between UK and United States trade data that affect total services trade and indicative estimates, 2016 to 2018

Difference	Service category affected	Conceptual basis	UK exports / US imports			UK imports / US exports			Source for quantification
			2016	2017	2018	2016	2017	2018	
BEA include Crown Dependencies in definition of UK, ONS excludes as conceptually incorrect to include (European System of Accounts 2010)	All	Crown Dependencies should be excluded	0.6	0.8	0.9	1.2	1.5	1.6	BEA
Manufacturing services on physical inputs owned by others are included in services trade by ONS and in goods trade by BEA	Manufacturing services on physical inputs owned by others	Should be included in services trade	0.1	0.2	0.2	0.0	0.1	0.0	ONS
Passenger sea transport is included in services trade by ONS, not captured by BEA	Transport	Should be included in services trade	1.5	1.5	1.5	0.0	0.0	0.0	ONS
Construction imports related to work done in the US are included by ONS, not captured by BEA	Construction	Should be included in services trade	0.0	0.0	0.0	0.1	0.1	0.2	ONS
Pensions trade is included in services trade by ONS, not captured by BEA <sup>1</sup>	Insurance and pension services	Should be included in services trade	..	..	..	..	..	..	ONS

Financial Intermediation Services Indirectly Measured (FISIM) included in services trade by ONS and implicitly included in income in the balance of payments statistics by BEA	Financial services	Should be included in services trade	1.9	2.3	2.6	1.0	1.1	1.1	ONS
Margins on Buying and Selling Transactions: Net Spread Earnings (NSE) included in services exports by ONS, not captured by BEA <sup>2</sup>	Financial services	Should be included in services trade	4.7	4.4	4.6	:	:	:	ONS
Outright sales /purchases of franchises and trademarks are included in services trade by BEA and in the capital account by ONS <sup>3</sup>	Intellectual Property	Should be included in the capital account	:	:	:	:	:	:	ONS
Total of currently identified definitional differences			8.8	9.2	9.8	2.3	2.8	2.9	

Source: Office for National Statistics and Bureau of Economic Analysis – Asymmetries in trade data

Notes



1. “.” indicates that data might be disclosive and have therefore been omitted. [Back to table](#)
2. “:” indicates that data are not available. [Back to table](#)
3. Net spread earnings estimates shown are calculated using monetary financial institutions' data only. [Back to table](#)
4. Data are part of non-produced, non-financial assets in the capital account. These data cannot be separately identified. [Back to table](#)
5. Components may not sum because of rounding. [Back to table](#)

There have been no methodological changes in the measurement of trade in services by the BEA since our previous article in August 2018. However, the United States has developed a methodology for calculating financial intermediation services indirectly measured (FISIM) and for spread margins on buying and selling, and they plan to introduce these changes in 2020. Other changes to be implemented by the BEA in 2020 include improving the classification of intellectual property; introducing a personal, cultural and recreational services category; and improving the estimation methodologies and source data for travel and transport services. These enhancements will bring the United States' trade in services statistics into closer alignment with the [International Monetary Fund's \(IMF's\) Balance of Payments and International Investment Position Manual, sixth edition \(BPM6\)](#). Further details can be found in the box, "Future Enhancements to the International Services Statistics", in the article [U.S. International Services: Trade in Services in 2018 and Services Supplied Through Affiliates in 2017](#). The BEA is planning to publish more information on the upcoming changes in spring 2020.

## Low-level asymmetries with the United States

In our previous article, we presented analysis on low-level service type accounts, where data are available for all low-level categories within a service category. We have replicated this analysis here for the following service type accounts:

- financial services
- telecommunications, computer and information services
- other business services

### Financial services

Financial services remain an integral part of the UK economy with continued growth in the value of exports since 2014. The UK exported financial services of £15.4 billion to the United States in 2018, making it the second largest exported service behind other business services. Imports of financial services from the United States in 2018 were £4.8 billion, exceeded only by imports of other business services and travel services.

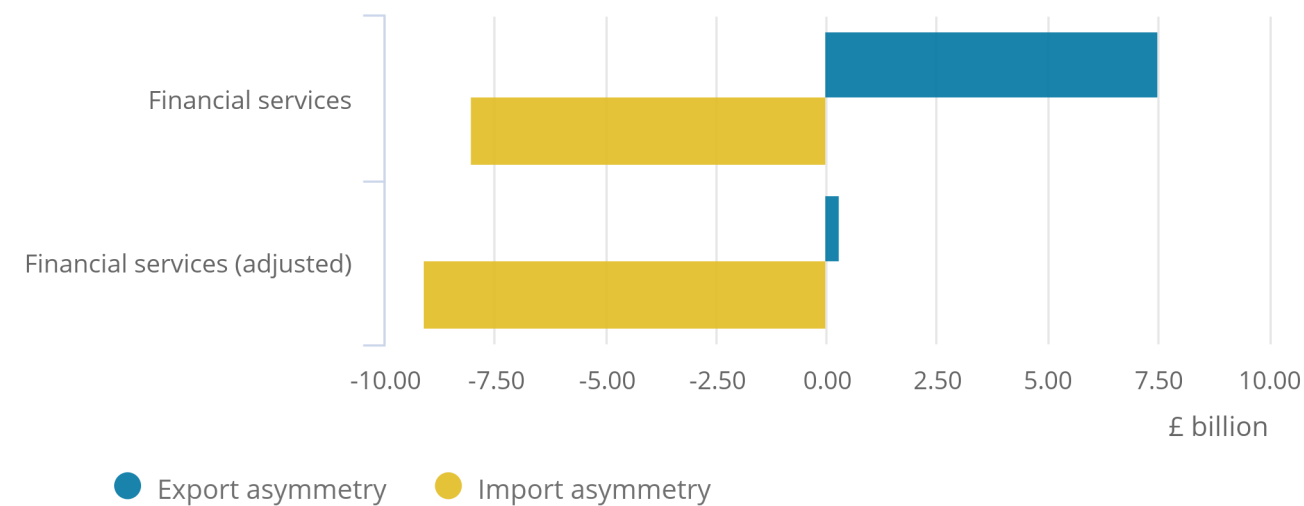
Table 4 presents updated estimates of the value of definitional differences between the UK's and United States' trade data. Using these data, we can calculate an adjusted picture for financial services asymmetries with the United States (Figure 4). In 2018, the UK export asymmetry in financial services with the United States was £7.5 billion, while the UK import asymmetry with the United States was negative £8.0 billion. When adjusting for known definitional differences, the UK's financial services export asymmetry with the United States falls £7.2 billion to £0.3 billion. The UK and United States import asymmetry in financial services is adjusted in the same direction, increasing the size of the asymmetry to negative £9.1 billion.

**Figure 6: The UK's financial services export asymmetry falls £7.2 billion in 2018 when adjusted for definitional differences with the United States**

Trade asymmetries in financial services with the United States, 2018

Figure 6: The UK's financial services export asymmetry falls £7.2 billion in 2018 when adjusted for definitional differences with the United States

Trade asymmetries in financial services with the United States, 2018



Source: Office for National Statistics and Bureau of Economic Analysis – Asymmetries in trade data

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**Telecommunications, computer and information services**

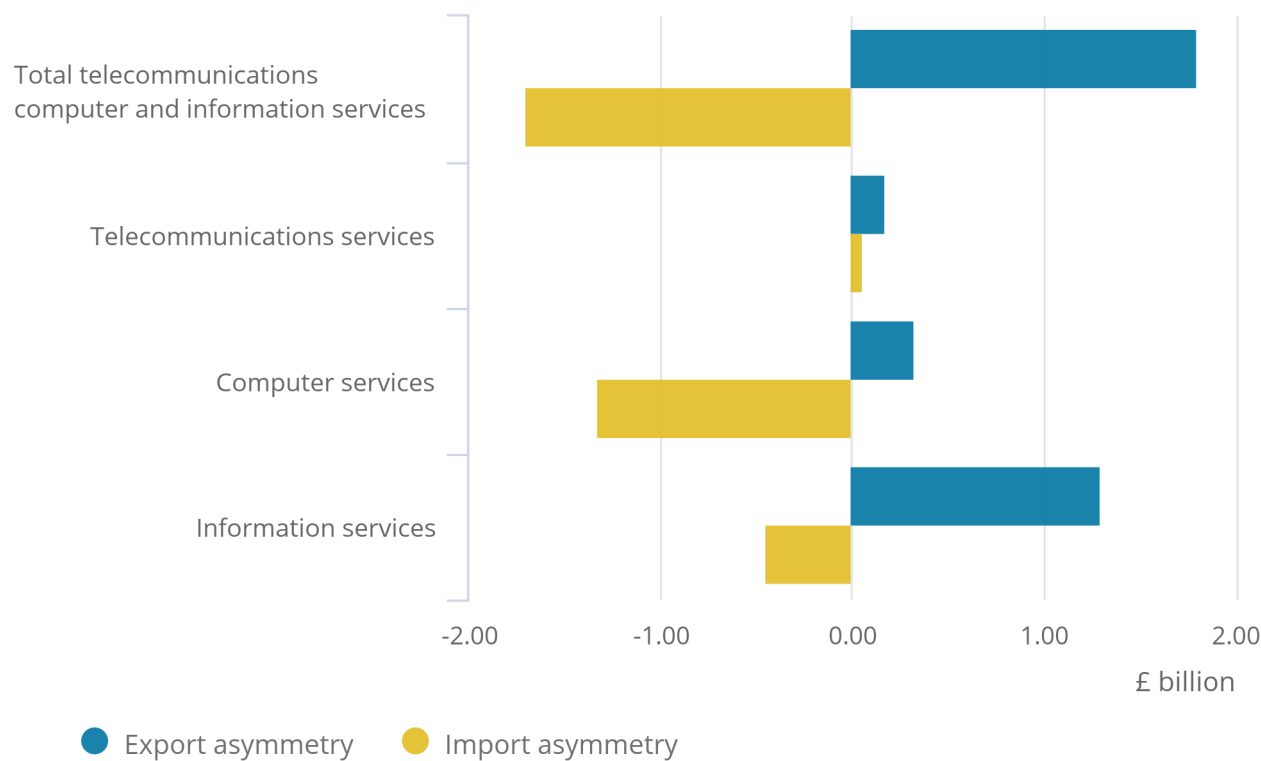
Telecommunications, computer and information services remains a service type where UK estimates of exports to the United States are higher than the BEA's estimates of imports from the UK and the United States' estimates of exports to the UK exceed UK estimates of imports from the United States. The UK export asymmetry of £1.8 billion is mostly caused by information services, though all categories contribute positively to the asymmetry. The UK's import asymmetry of negative £1.7 billion is caused by negative asymmetries in computer services and information services, partially offset by a small positive asymmetry in telecommunications services.

**Figure 7: The UK had a positive export asymmetry and a negative import asymmetry in telecommunications, computer and information services with the United States in 2018**

Trade asymmetries in telecommunications, computer and information services with the United States, 2018

**Figure 7: The UK had a positive export asymmetry and a negative import asymmetry in telecommunications, computer and information services with the United States in 2018**

Trade asymmetries in telecommunications, computer and information services with the United States, 2018



Source: Office for National Statistics and Bureau of Economic Analysis – Asymmetries in trade data

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**Other business services**

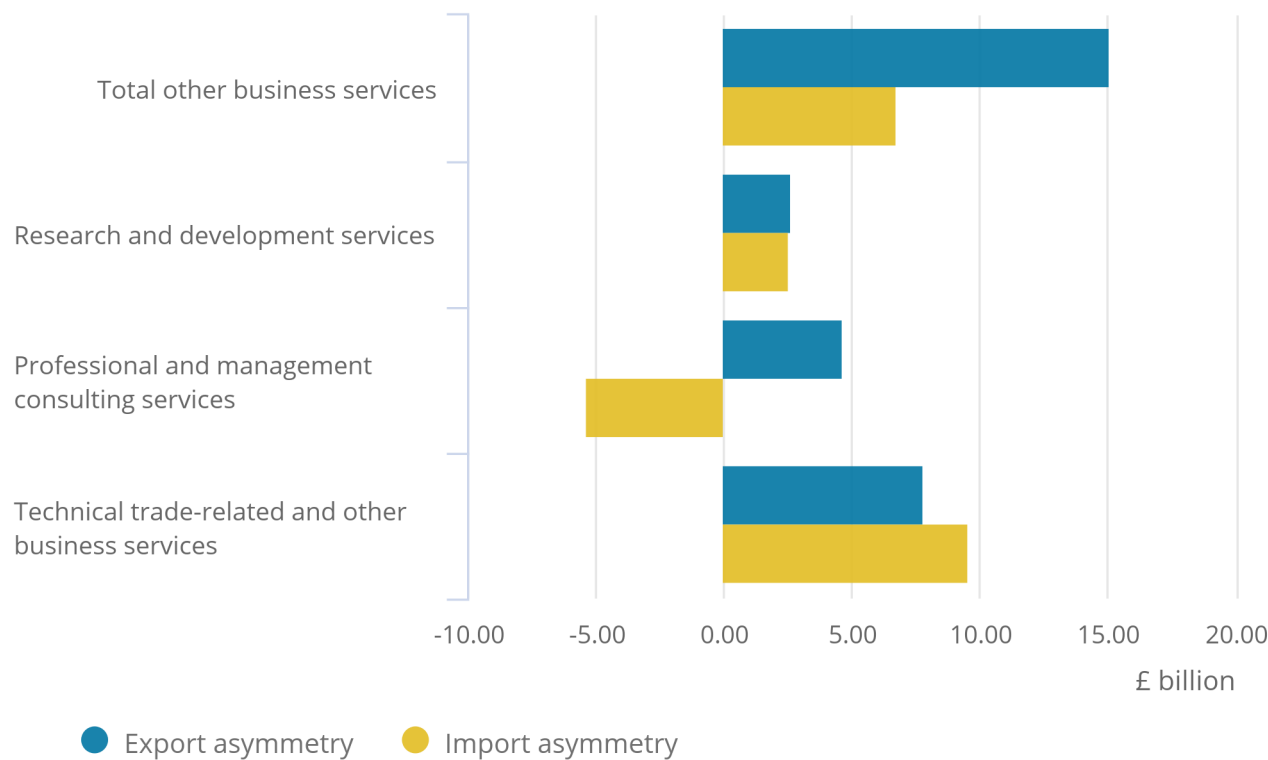
In 2018, the UK had an export asymmetry in other business services with the United States of £15.1 billion and an import asymmetry of £6.7 billion. This means that the UK's estimates for both exports and imports were higher than the United States' estimates of imports and exports respectively. Figure 5 presents these data and the low-level other business services categories.

Figure 8: The UK had both positive export and import asymmetries in other business services in 2018

Trade asymmetries in other business services with the United States, 2018

Figure 8: The UK had both positive export and import asymmetries in other business services in 2018

Trade asymmetries in other business services with the United States, 2018



Source: Office for National Statistics and Bureau of Economic Analysis – Asymmetries in trade data

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All low-level other business services categories contributed positively to the export asymmetry, with the largest contribution from technical trade-related and other business services (£7.8 billion). This is consistent with the analysis of these data in previous years.

The positive import asymmetry with the United States in other business services is caused by positive asymmetries in technical trade-related and other business services (£9.6 billion) and research and development services (£2.5 billion). This is offset by a negative asymmetry in professional and management consulting services (negative £5.4 billion). This pattern is also consistent with previous years' data. Since our previous article, we have increased our estimates of trade in other business services through the inclusion of monetary financial institutions' intragroup fees and cost recharges in other business services from Pink Book 2019. This has had an increased trade estimates with the United States, adding around £3.0 billion each year to estimates of exports of other business services to the United States between 2016 and 2018 and more than £4 billion each year to estimates of imports of other business services from the United States during the same period (Table 4).

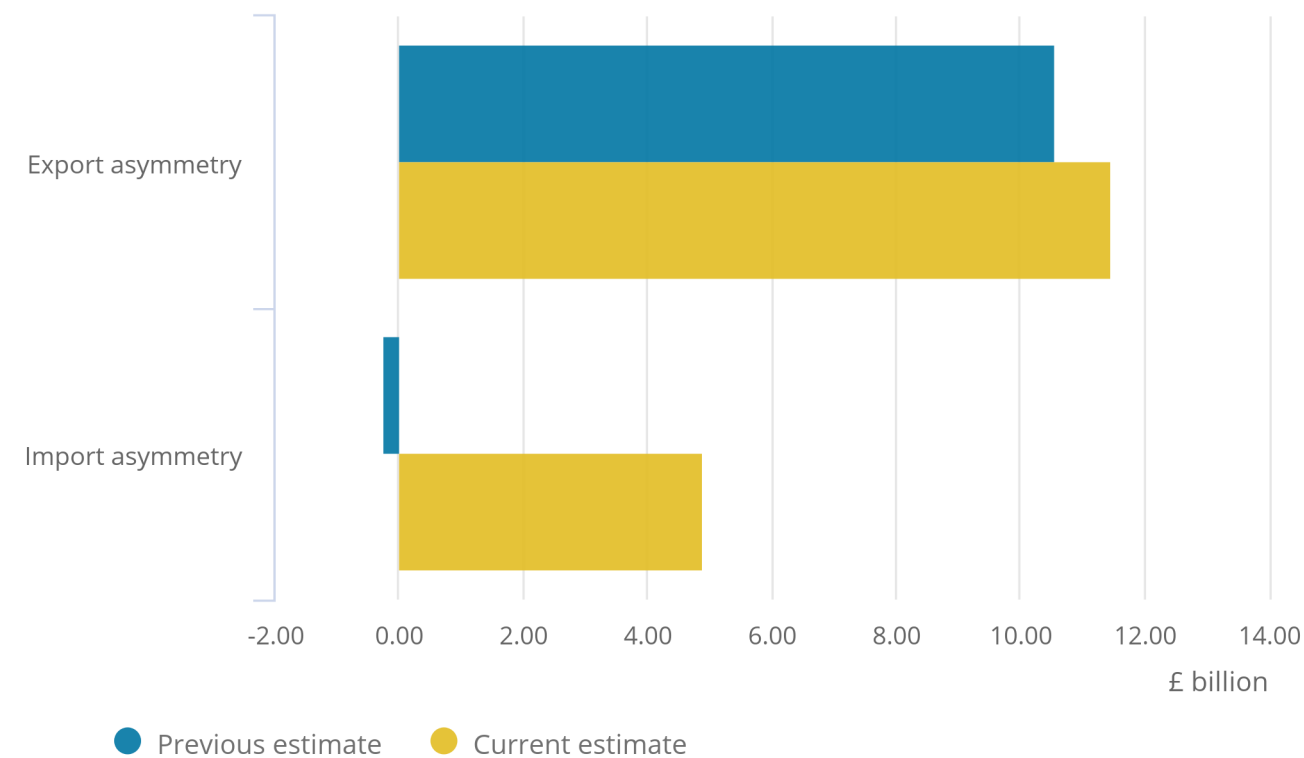
While in our previous article we estimated that the import asymmetry in other business services between the UK and the US was negative £0.2 billion in 2016, as a result of this methodological change we now estimate a positive import asymmetry of £4.9 billion with the United States in 2016. Our estimate of the UK export asymmetry in other business services in 2016 has also been revised upwards from £10.6 billion to £11.5 billion.

**Figure 9: The UK's export and import asymmetries in other business services with the United States for 2016 have been revised upwards**

Comparison of current and previous estimates of UK and United States trade asymmetries in other business services, 2016

Figure 9: The UK's export and import asymmetries in other business services with the United States for 2016 have been revised upwards

Comparison of current and previous estimates of UK and United States trade asymmetries in other business services, 2016



Source: Office for National Statistics and Bureau of Economic Analysis – Asymmetries in trade data

Notes:

1. Negative figures; this indicates that the United States' data are higher.
2. Positive figures; this indicates that the UK's data are higher.

## Ireland

The UK total services export asymmetry with Ireland was negative £1.6 billion in 2018; however, it was positive in 2016 (£0.1 billion) and 2017 (£1.9 billion). This means that the UK's estimates of services exports to Ireland were lower than Ireland's estimate of imports from the UK in 2018 but higher in the preceding two years.

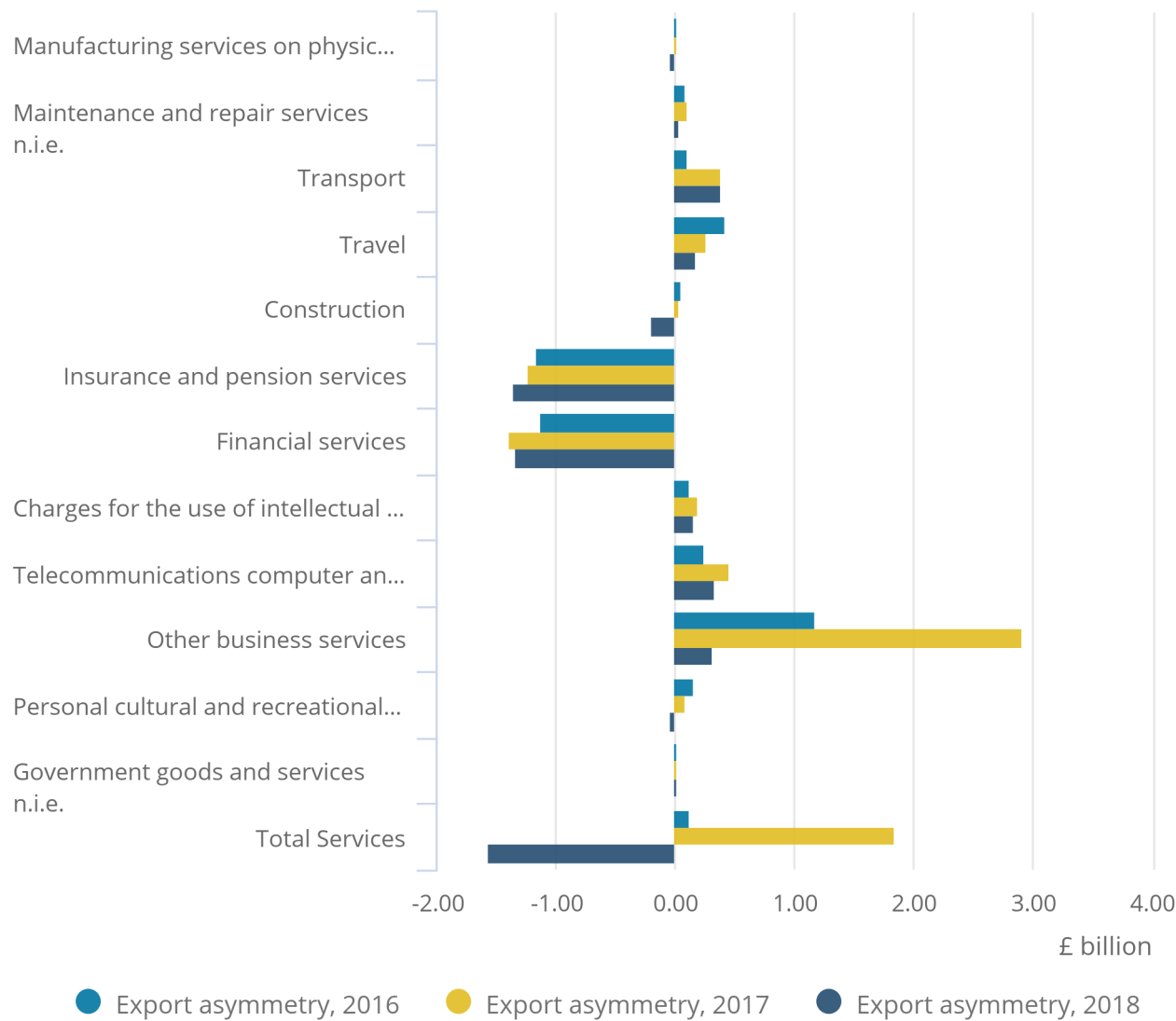
In 2016 and 2017, negative export asymmetries in insurance and pension services and financial services were more than offset by positive export asymmetries in most other service type categories but most notably in other business services. In 2018, the positive asymmetry in other business services of £0.3 billion did not offset the negative asymmetries in insurance and pension service (negative £1.4 billion) and financial services (negative £1.3 billion), contributing to a negative trade in services asymmetry overall. Figure 8 shows UK export asymmetries with Ireland by service type between 2016 and 2018.

Figure 10: UK export asymmetries with Ireland were positive in 2016 and 2017 and negative in 2018

Trade asymmetries in UK exports of services to Ireland, by service type, 2016 to 2018

Figure 10: UK export asymmetries with Ireland were positive in 2016 and 2017 and negative in 2018

Trade asymmetries in UK exports of services to Ireland, by service type, 2016 to 2018



Source: Office for National Statistics and Eurostat – Asymmetries in trade data

Notes:

1. Figures may not sum because of rounding and/or unavailable service type data.
2. Negative figures; this indicates that Ireland's data are higher.
3. Positive figures; this indicates that the UK's data are higher.



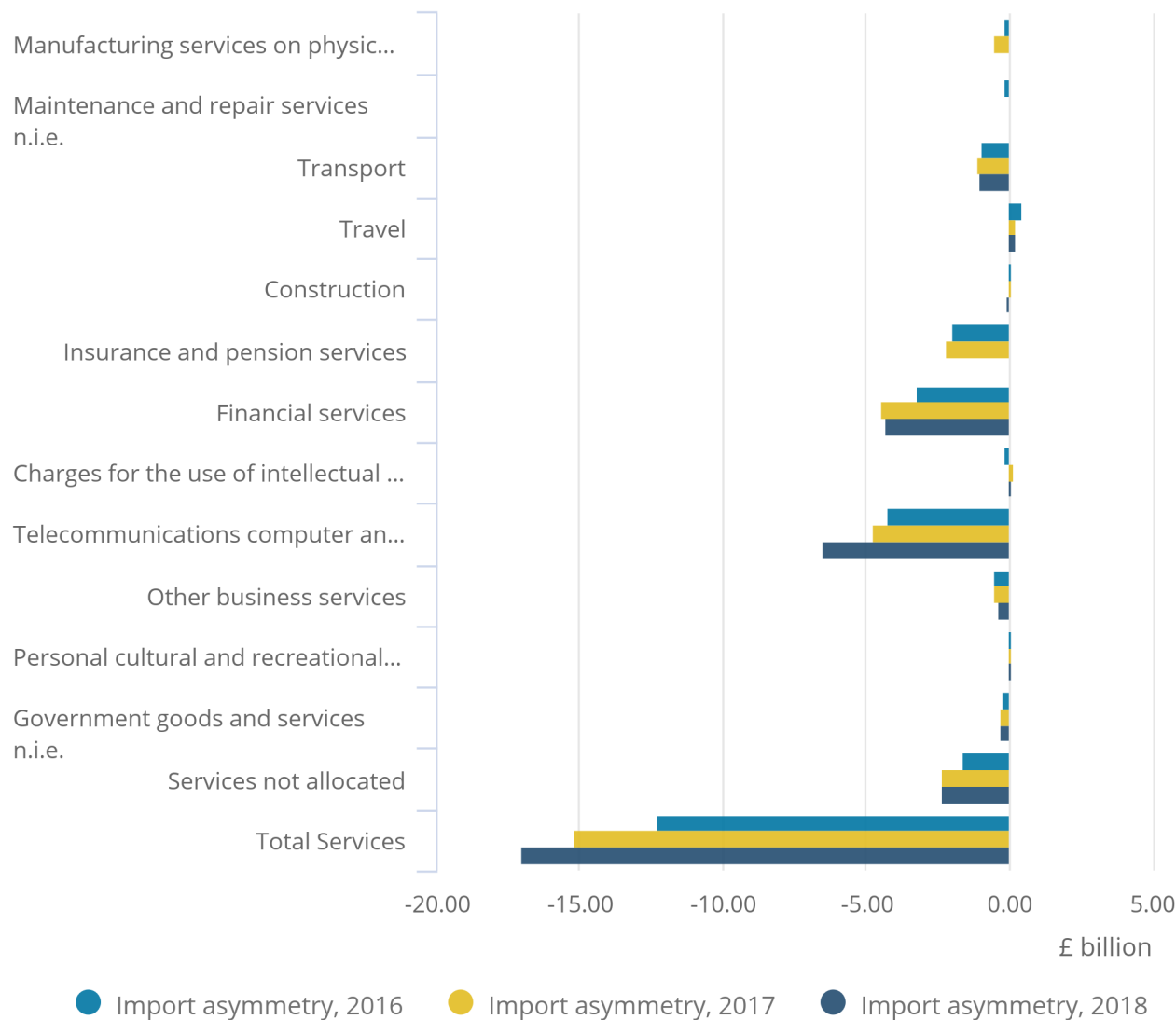
UK import asymmetries with Ireland between 2016 and 2018 were more consistent than export asymmetries. The total services import asymmetry was negative between 2016 and 2018, increasing from negative £12.3 billion in 2016 to negative £17.0 billion in 2018. This means that our estimates of imports from Ireland are lower than Ireland's estimates of exports to the UK. The largest asymmetries by service type were in telecommunications, computer and information services and financial services.

**Figure 11: Telecommunications, computer and information services was the main cause of negative UK import asymmetries with Ireland between 2016 and 2018**

Trade asymmetries in UK imports of services from Ireland, by service type, 2016 to 2018

Figure 11: Telecommunications, computer and information services was the main cause of negative UK import asymmetries with Ireland between 2016 and 2018

Trade asymmetries in UK imports of services from Ireland, by service type, 2016 to 2018



Notes:

1. Figures may not sum because of rounding and/or unavailable service type data.
2. Negative figures; this indicates that Ireland's data are higher.
3. Positive figures; this indicates that the UK's data are higher.

## Germany

Between 2016 and 2018, the UK's estimates of exports to Germany were lower than Germany's estimates of imports from the UK (Figure 10). The total export asymmetry with Germany in 2018 was negative £2.5 billion.

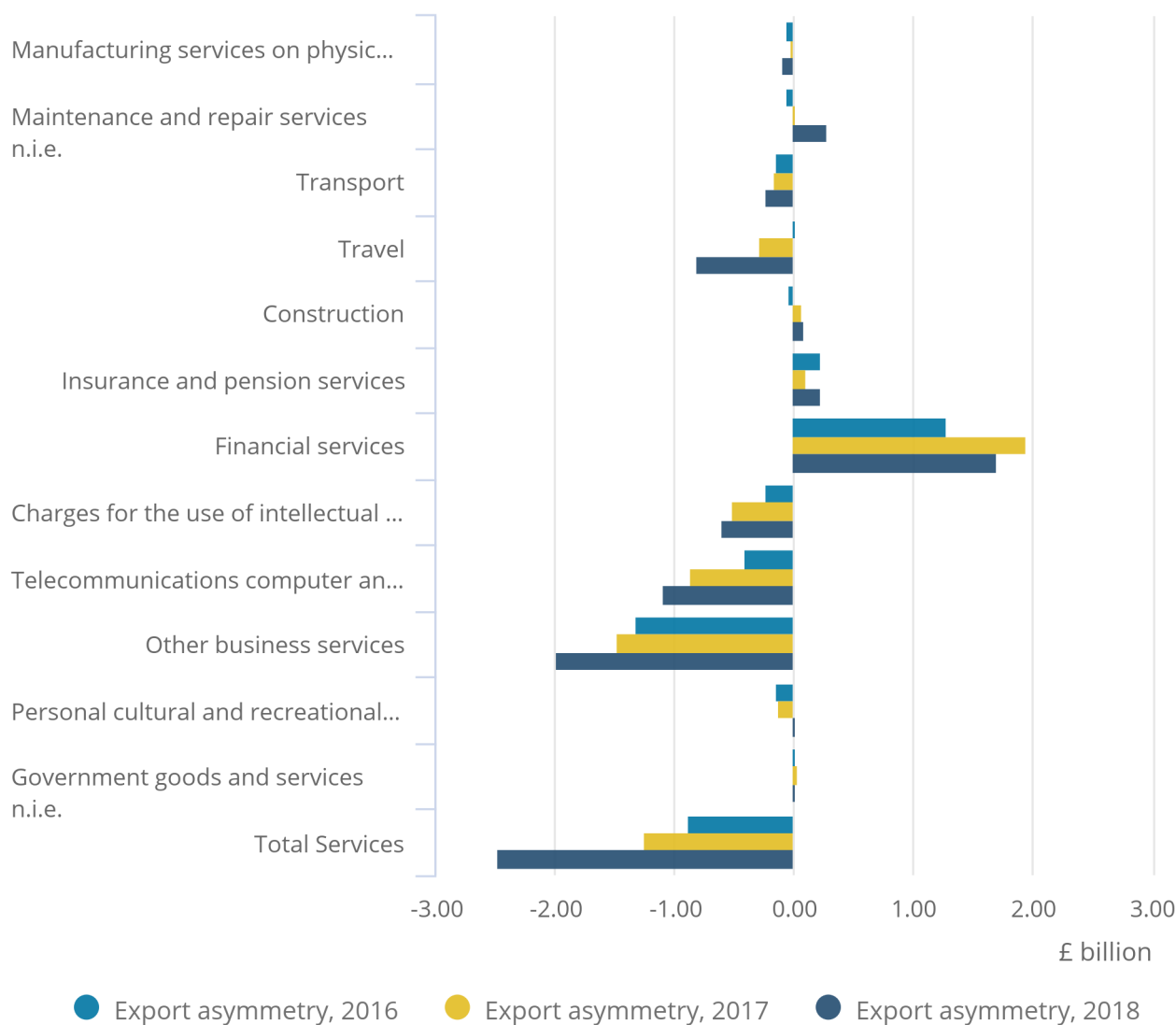
In 2018, the largest asymmetries by service type were in other business services (negative £2.0 billion) and financial services (£1.7 billion).

**Figure 12: The UK had negative export asymmetries with Germany between 2016 and 2018**

Trade asymmetries in UK exports of services to Germany, by service type, 2016 to 2018

## Figure 12: The UK had negative export asymmetries with Germany between 2016 and 2018

Trade asymmetries in UK exports of services to Germany, by service type, 2016 to 2018



Source: Office for National Statistics and Eurostat – Asymmetries in trade data

### Notes:

1. Figures may not sum because of rounding and/or unavailable service type data.
2. Negative figures; this indicates that Germany's data are higher.
3. Positive figures; this indicates that the UK's data are higher.

UK estimates of imports from Germany were lower than Germany's estimates of exports to the UK between 2016 and 2018 (Figure 11). In 2018, the total UK import asymmetry with Germany was negative £12.2 billion.

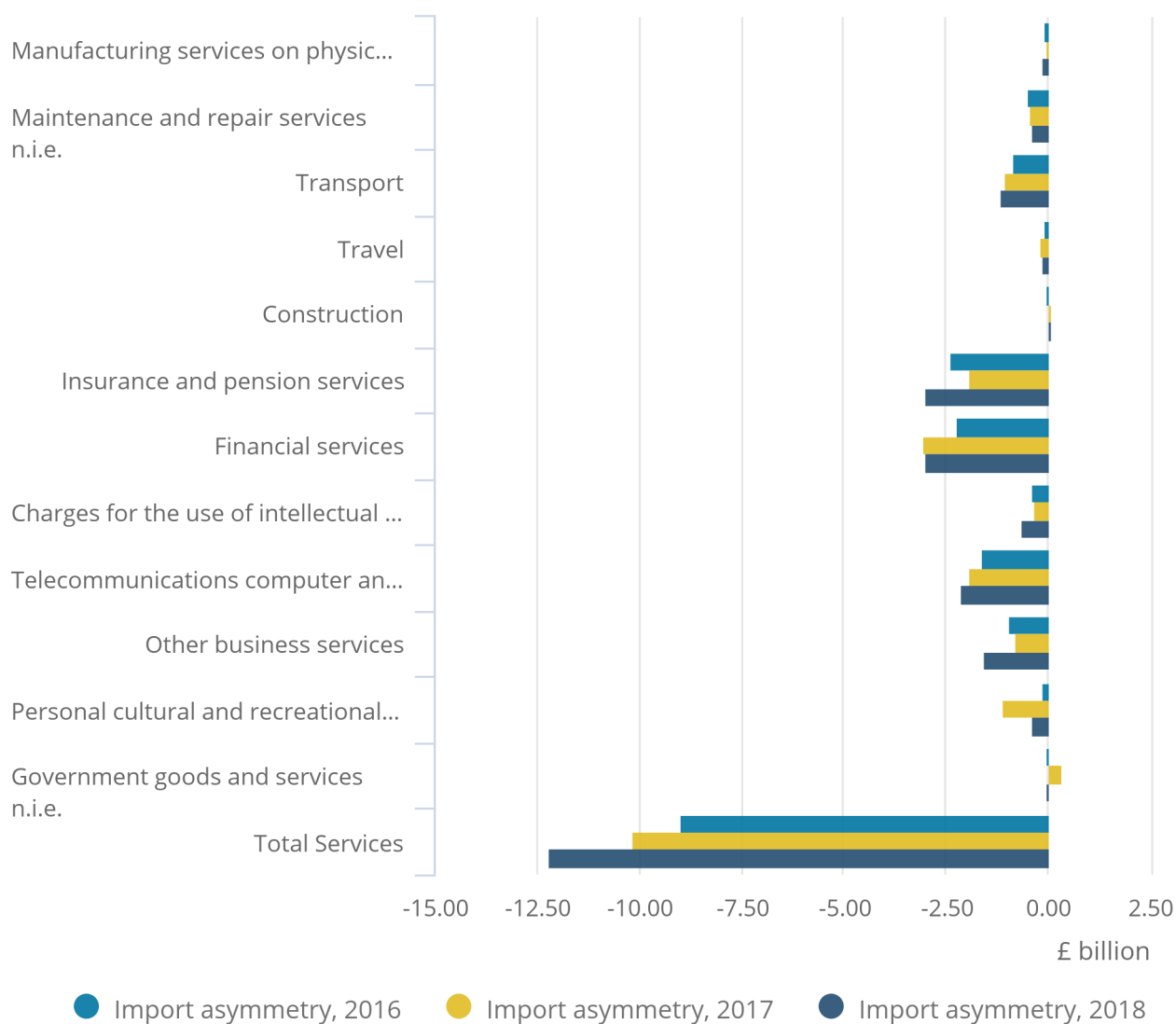
Germany's estimates of exports were higher than the UK's import estimates for most service type categories between 2016 and 2018. The largest asymmetries were in insurance and pension services and financial services, both negative £3.0 billion in 2018. There were small positive asymmetries in construction and government goods and services not included elsewhere.

**Figure 13: Negative asymmetries in most service types contributed to negative import asymmetries with Germany between 2016 and 2018**

Trade asymmetries in UK imports of services from Germany, by service type, 2016 to 2018

Figure 13: Negative asymmetries in most service types contributed to negative import asymmetries with Germany between 2016 and 2018

Trade asymmetries in UK imports of services from Germany, by service type, 2016 to 2018



## Notes:

1. Figures may not sum because of rounding and/or unavailable service type data.
2. Negative figures; this indicates that Germany's data are higher.
3. Positive figures; this indicates that the UK's data are higher.

Table 5 quantifies the identified definitional differences between the UK and Germany. Margins on buying and selling transactions (net spread earnings) accounted for £1.0 billion of the difference between the UK's estimates of exports of financial services and Germany's estimates of imports of financial services in 2016 and 2017 and £1.1 billion in 2018.

Table 5: Definitional differences between the UK and Germany accounted for £1.1 billion of UK export asymmetries in 2018

Currently identified definitional differences between UK and Germany trade data that affect total services trade and indicative estimates, 2016 to 2018

Difference	Service category affected	Conceptual basis	UK exports / Germany imports			UK imports / Germany exports			Source for quantification
			2016	2017	2018	2016	2017	2018	
'Margins on Buying and Selling Transactions': Net Spread Earnings (NSE) included in services exports by ONS, not captured by Germany <sup>1</sup>	Financial services	Should be included in services trade	1.0	1.0	1.1	:	:	:	ONS
Total of currently identified definitional differences <sup>2</sup>			1.0	1.0	1.1	0.0	0.0	0.0	

Source: Office for National Statistics and Eurostat – Asymmetries in trade data

## Notes

1. Net spread earnings estimates are calculated using monetary financial institutions' data only. [Back to table](#)
2. Components may not sum because of rounding. [Back to table](#)

## France

Between 2016 and 2018, UK estimates of exports to France were lower than France's estimates of imports from the UK (Figure 12). The total export asymmetry with France in 2018 was negative £3.2 billion.

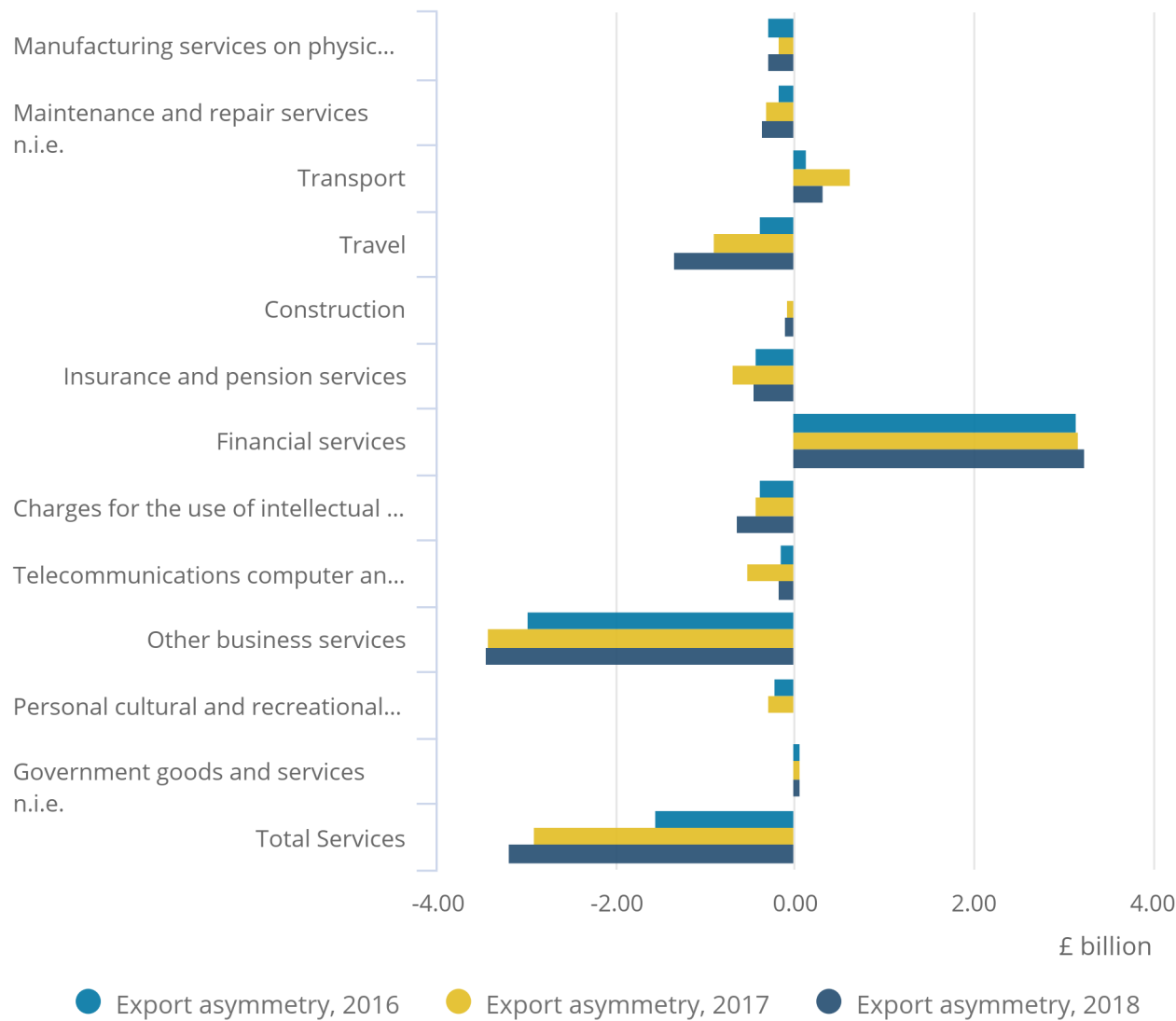
In 2018, the largest negative export asymmetries by service type were in other business services (negative £3.5 billion) and travel (negative £1.3 billion). There were small negative asymmetries in most other categories, partially offset by a positive asymmetry in financial services; the UK's estimates of financial services exports to France were £3.2 billion higher than France's estimates of imports from the UK.

**Figure 14: Negative other business services asymmetries offset positive financial services asymmetries, resulting in negative export asymmetries with France between 2016 and 2018**

Trade asymmetries in UK exports of services to France, by service type, 2016 to 2018

Figure 14: Negative other business services asymmetries offset positive financial services asymmetries, resulting in negative export asymmetries with France between 2016 and 2018

Trade asymmetries in UK exports of services to France, by service type, 2016 to 2018



Source: Office for National Statistics and Eurostat – Asymmetries in trade data

Notes:

- 1. Figures may not sum because of rounding.
- 2. Negative figures; this indicates that France's data are higher.
- 3. Positive figures; this indicates that the UK's data are higher.

Between 2016 and 2018, the UK's estimates of imports from France were lower than France's estimates of exports to the UK (Figure 13). The total import asymmetry with France in 2018 was negative £8.9 billion.

By individual service type, in 2018, the largest import asymmetries were in other business services (negative £3.2 billion), manufacturing services on physical inputs owned by others (negative £1.5 billion), and insurance and pension services (negative £1.2 billion). The only service type with a positive asymmetry, where the UK's estimates of imports from France were higher than France's estimates of exports to the UK, were government goods and services not included elsewhere (£0.2 billion).

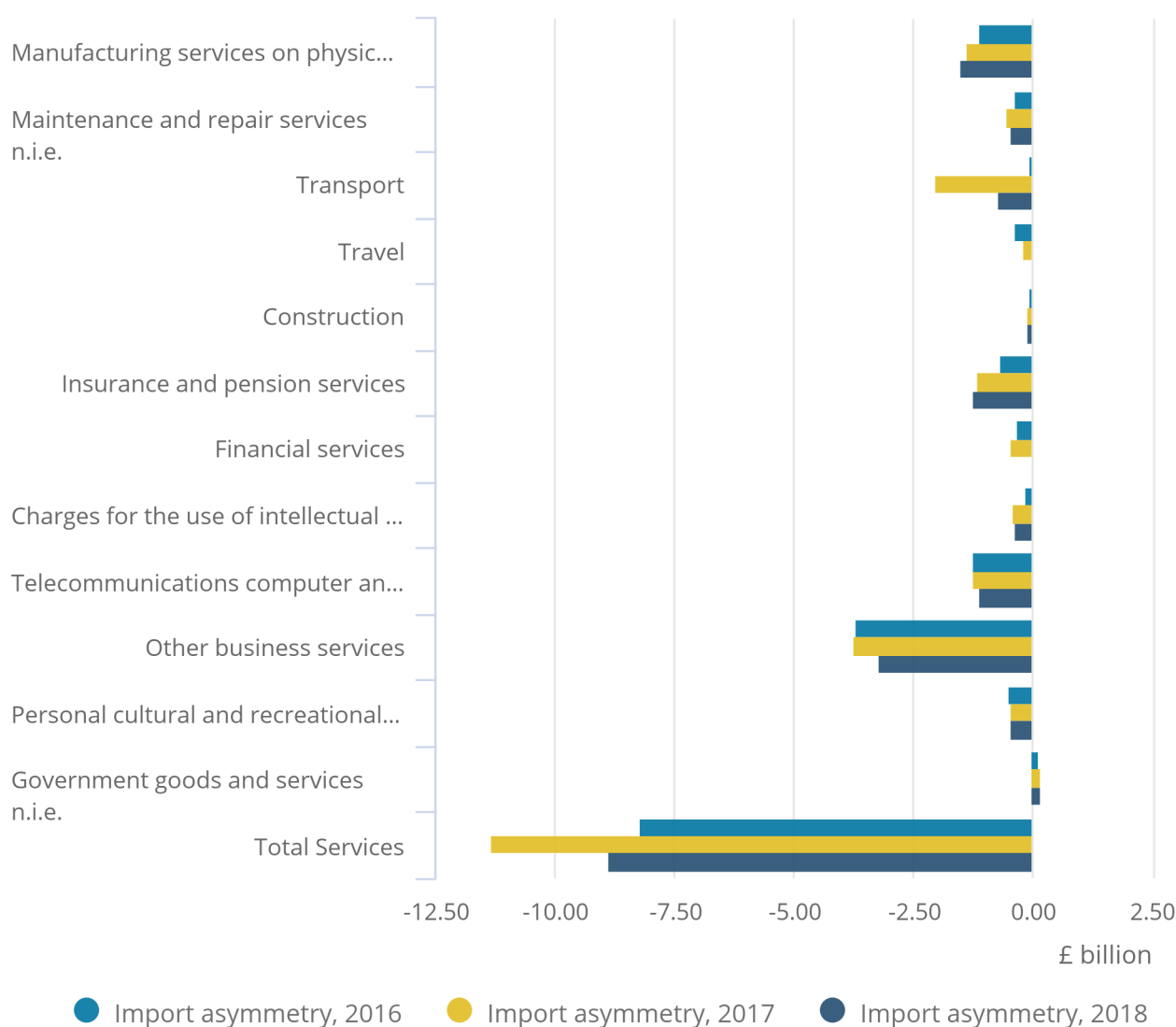


**Figure 15: Other business services was the largest contributor to negative import asymmetries with France between 2016 and 2018**

Trade asymmetries in UK imports of services from France, by service type, 2016 to 2018

## Figure 15: Other business services was the largest contributor to negative import asymmetries with France between 2016 and 2018

Trade asymmetries in UK imports of services from France, by service type, 2016 to 2018



Source: Office for National Statistics and Eurostat – Asymmetries in trade data

Notes:

1. Negative figures; this indicates that France's data are higher.
2. Positive figures; this indicates that the UK's data are higher.

Table 6 provides indicative estimates of known definitional differences between the UK and France. Since our previous article, we have learned that France does not include estimates of margins on buying and selling transactions (net spread earnings) in their financial services. We estimate that this contributes £1.4 billion per year to export asymmetries between 2016 and 2018.

Table 6: Definitional differences between the UK and France accounted for £1.4 billion of UK export asymmetries in 2018

Currently identified definitional differences between UK and France trade data that affect total services trade and indicative estimates, 2016 to 2018

Difference	Service category affected	Conceptual basis	UK exports / France imports			UK imports / France exports			Source for quantification
			2016	2017	2018	2016	2017	2018	
Margins on Buying and Selling Transactions: Net Spread Earnings (NSE) included in services exports by ONS, not captured by France <sup>1</sup>	Financial services	Should be included in services trade	1.4	1.4	1.4	:	:	:	ONS
Total of currently identified definitional differences <sup>2</sup>			1.4	1.4	1.4	0.0	0.0	0.0	

Source: Office for National Statistics and Eurostat – Asymmetries in trade data

#### Notes

1. Net spread earnings estimates are calculated using monetary financial institutions' data only. [Back to table](#)
2. Components may not sum because of rounding. [Back to table](#)

## Netherlands

Between 2016 and 2018, the UK's estimates of exports to the Netherlands were lower than the Netherlands' estimates of imports from the UK (Figure 14). The total export asymmetry with the Netherlands in 2018 was negative £0.5 billion.

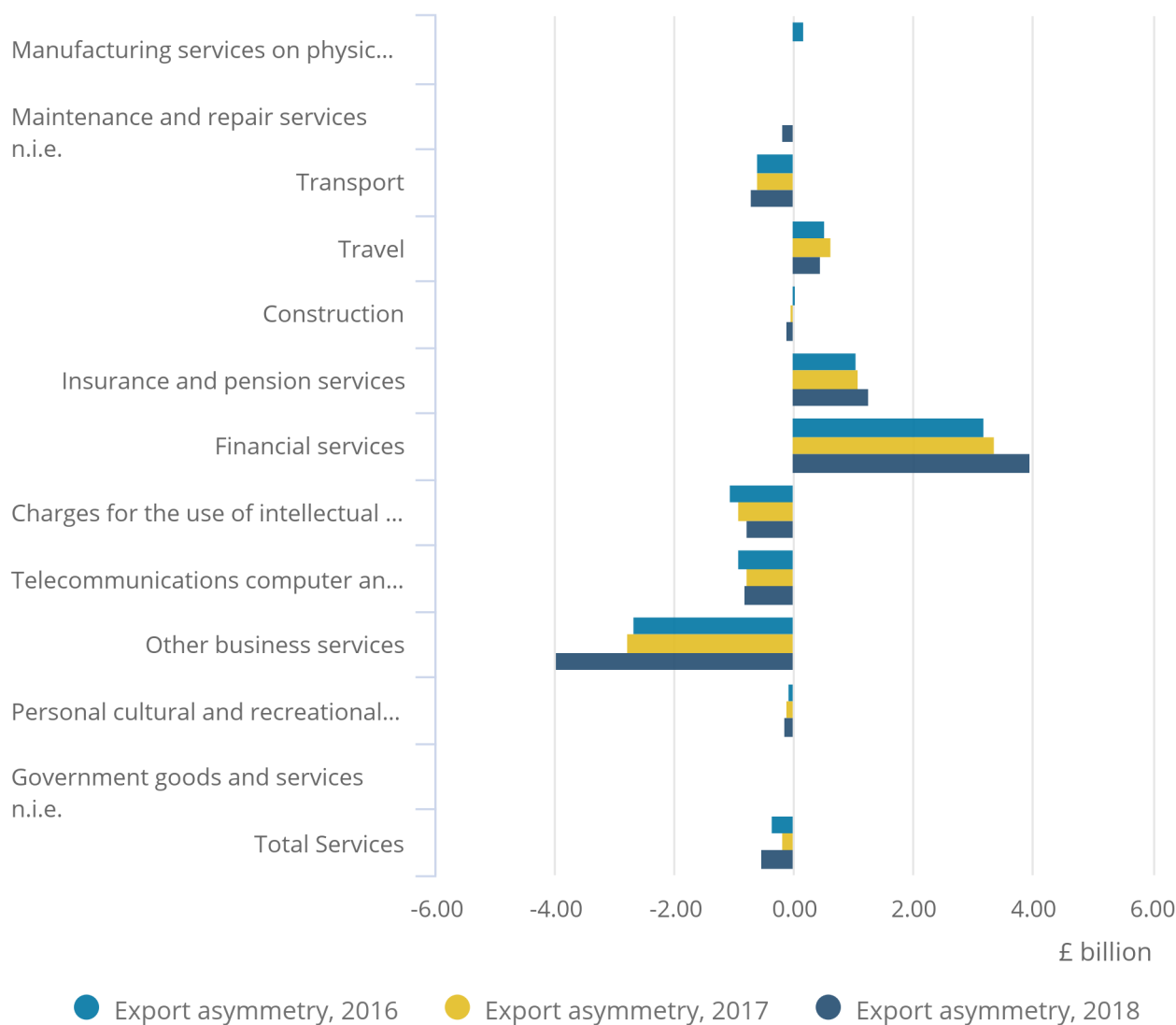
Looking at UK export asymmetries with the Netherlands at a service type level presents a mixed picture. In 2018, the two largest service type asymmetries were offsetting; the UK's estimates of exports of financial services were £4.0 billion higher than the Netherlands' estimates of imports from the UK, while the UK's estimates of exports of other business services were £4.0 billion lower than the Netherlands' estimates of imports. Smaller negative asymmetries in other service type categories offset positive asymmetries in insurance and pension services and travel, resulting in a small negative export asymmetry with the Netherlands overall.

**Figure 16: The UK had relatively small export asymmetries with the Netherlands between 2016 and 2018**

Trade asymmetries in UK imports of services from the Netherlands, by service type, 2016 to 2018

## Figure 16: The UK had relatively small export asymmetries with the Netherlands between 2016 and 2018

Trade asymmetries in UK imports of services from the Netherlands, by service type, 2016 to 2018



Source: Office for National Statistics and Eurostat – Asymmetries in trade data

### Notes:

1. Figures may not sum because of rounding and/or unavailable service type data.
2. Negative figures; this indicates that the Netherlands' data are higher.
3. Positive figures; this indicates that the UK's data are higher.

Between 2016 and 2018, the UK's estimates of imports from the Netherlands were lower than the Netherlands' estimates of exports to the UK (Figure 15). The total import asymmetry with the Netherlands in 2018 was negative £14.8 billion.

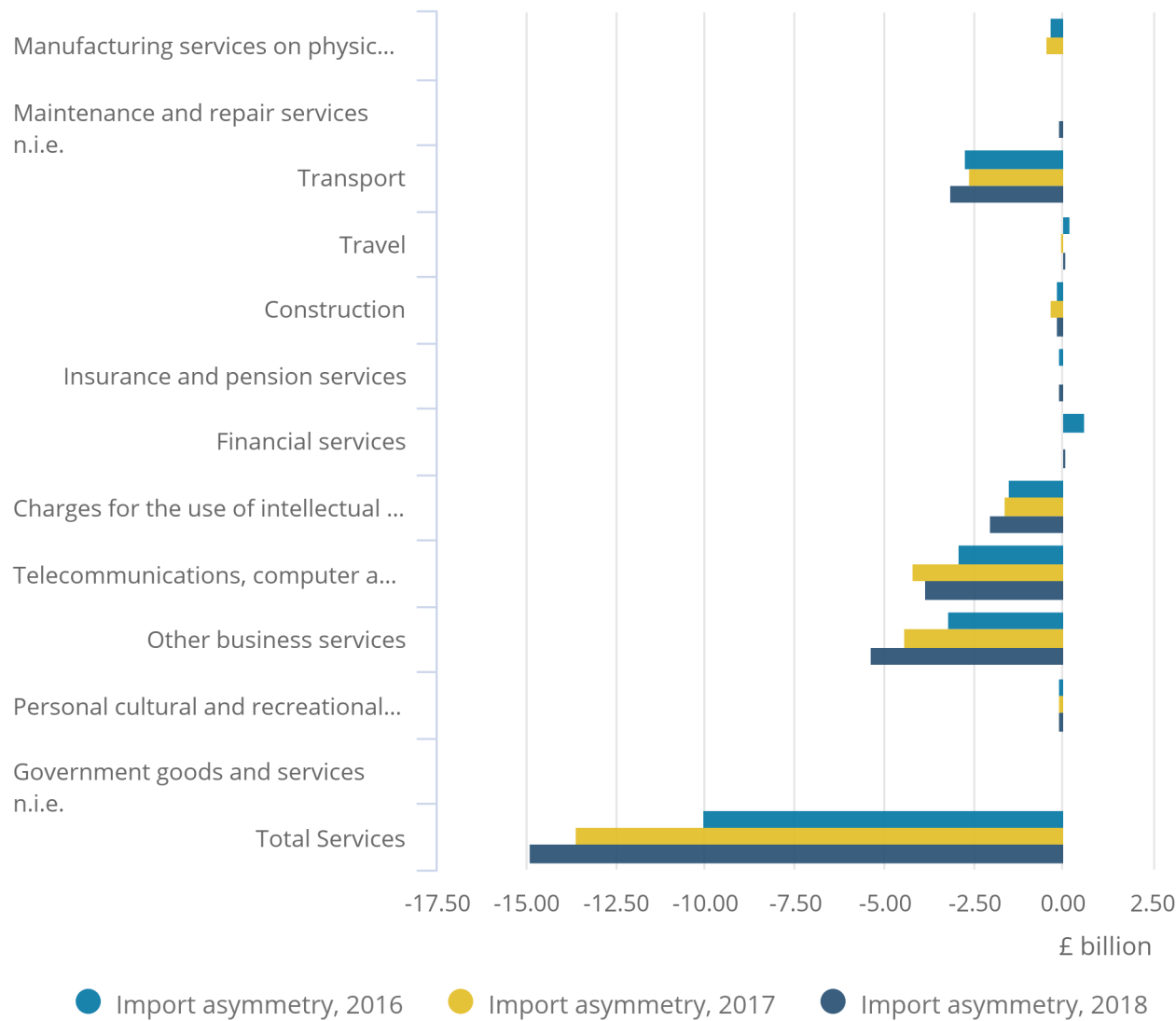
In 2018, most of the total service import asymmetry with the Netherlands came from four service types: other business services (negative £5.3 billion); telecommunications, computer and information services (negative £3.8 billion); transport (negative £3.1 billion); and charges for the use of intellectual property (negative £2.0 billion). There were small positive asymmetries in financial services and travel in 2018, where UK estimates of imports exceeded the Netherlands' estimates of exports.

**Figure 17: Negative asymmetries in multiple service types contributed to negative import asymmetries with the Netherlands between 2016 and 2018**

Trade asymmetries in UK exports of services to the Netherlands, by service type, 2016 to 2018

**Figure 17: Negative asymmetries in multiple service types contributed to negative import asymmetries with the Netherlands between 2016 and 2018**

Trade asymmetries in UK exports of services to the Netherlands, by service type, 2016 to 2018



Source: Office for National Statistics and Eurostat – Asymmetries in trade data

Notes:

1. Figures may not sum because of rounding and/or unavailable service type data.
2. Negative figures; this indicates that the Netherlands' data are higher.
3. Positive figures; this indicates that the UK's data are higher.

## Belgium

Between 2016 and 2018, UK estimates of exports to Belgium were lower than Belgium's estimates of imports from the UK (Figure 16). The total export asymmetry with Belgium in 2018 was negative £3.8 billion.

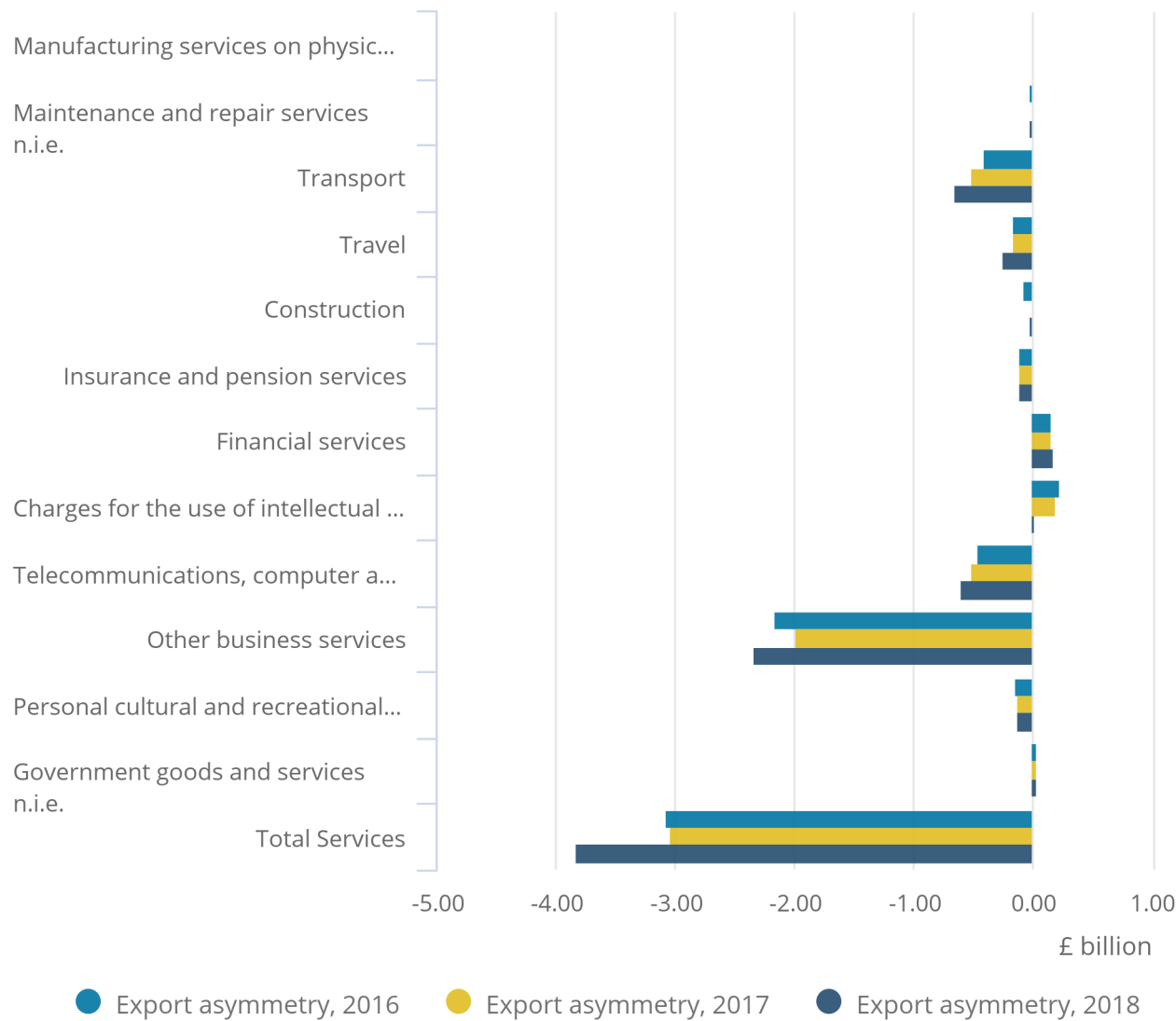
The UK's estimates of exports were lower than Belgium's estimates of imports for most service type categories between 2016 and 2018. The largest asymmetries were in other business services (negative £2.3 billion); transport (negative £0.7 billion); and telecommunications, computer and information services (negative £0.6 billion) in 2018. There were small positive asymmetries in financial services and charges for the use of intellectual property.

**Figure 18: Other business services was the largest contributor to negative export asymmetries with Belgium between 2016 and 2018**

Trade asymmetries in UK exports of services to Belgium, by service type, 2016 to 2018

**Figure 18: Other business services was the largest contributor to negative export asymmetries with Belgium between 2016 and 2018**

Trade asymmetries in UK exports of services to Belgium, by service type, 2016 to 2018



Source: Office for National Statistics and Eurostat – Asymmetries in trade data

Notes:

1. Figures may not sum because of rounding and/or unavailable service type data.
2. Negative figures; this indicates that Belgium's data are higher.
3. Positive figures; this indicates that the UK's data are higher.

Between 2016 and 2018, the UK's estimates of imports from Belgium were lower than Belgium's estimates of exports to the UK (Figure 17). The total import asymmetry with Belgium in 2018 was negative £5.2 billion.

The UK's import estimates were lower than Belgium's estimates of exports for 10 of the 12 service types in 2018. The largest import asymmetries were in other business services (negative £1.6 billion) and transport (negative £1.3 billion). There were small positive asymmetries in government goods and services not included elsewhere and travel.

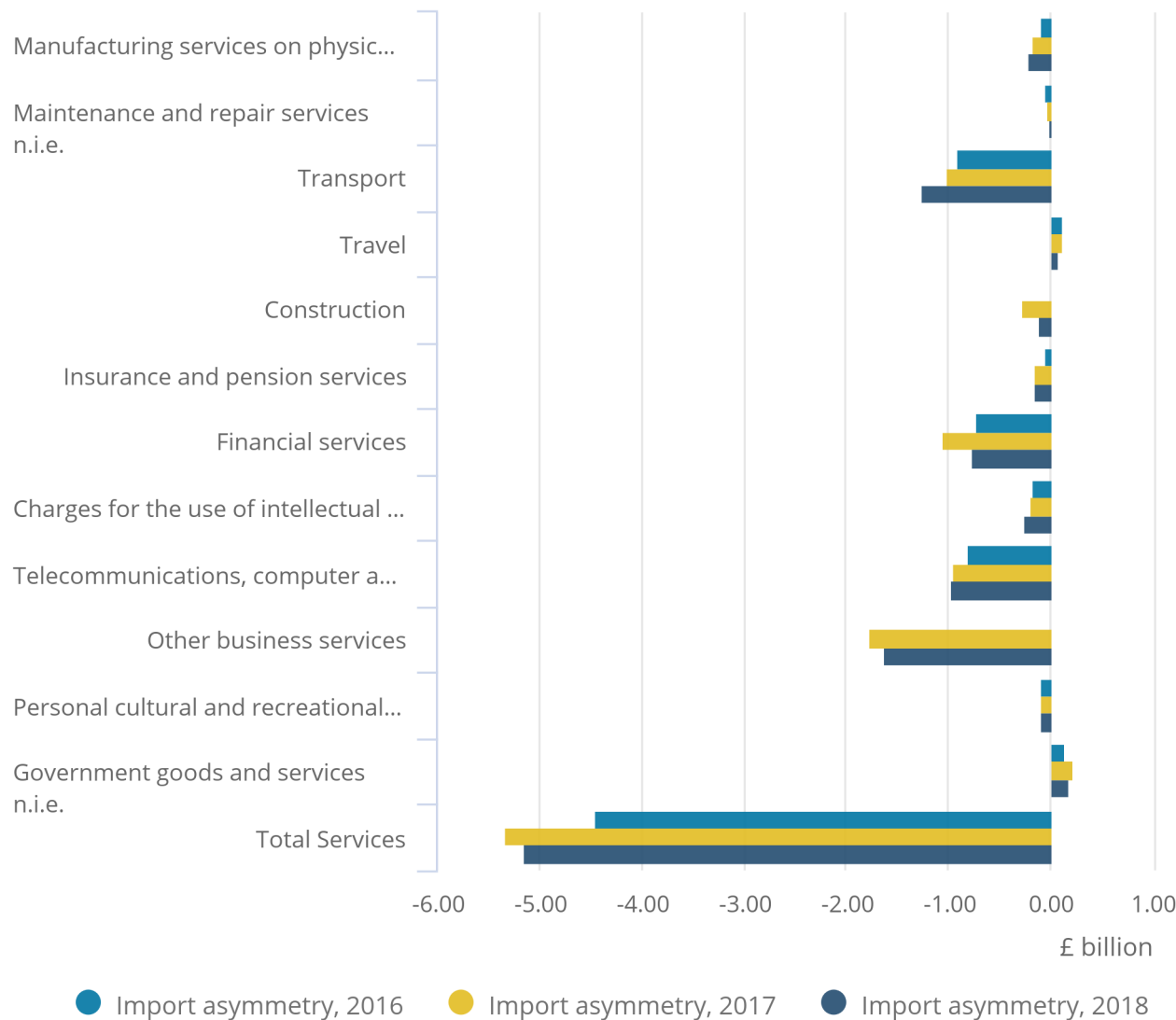


Figure 19: The UK had negative import asymmetries with Belgium between 2016 and 2018

Trade asymmetries in UK imports of services from Belgium, by service type, 2016 to 2018

Figure 19: The UK had negative import asymmetries with Belgium between 2016 and 2018

Trade asymmetries in UK imports of services from Belgium, by service type, 2016 to 2018



Source: Office for National Statistics and Eurostat – Asymmetries in trade data

Notes:

1. Figures may not sum because of rounding and/or unavailable service type data.
2. Negative figures; this indicates that Belgium's data are higher.
3. Positive figures; this indicates that the UK's data are higher.

This year, Belgium has implemented [improvements to their balance of payments methodology and source data](#). These relate to changes to the cost, insurance and freight (CIF) and free on board (FOB) adjustment; using payment card data to estimate travel services and removing double counting; using personal Income Tax data to estimate income from self-employment; and increasing exports of other business services by adding total wages paid by foreign corporations not liable for Belgian Value Added Tax (VAT) to this service category.

Overall, it is not possible to quantify the impact these changes have had on UK asymmetries with Belgium. However, the pattern and magnitude of export and import asymmetries remains very close to those calculated in our [previous article](#).

## Luxembourg

Between 2016 and 2018, the UK's estimates of exports to Luxembourg were lower than Luxembourg's estimates of imports from the UK (Figure 18). The total export asymmetry with Luxembourg in 2018 was negative £6.6 billion.

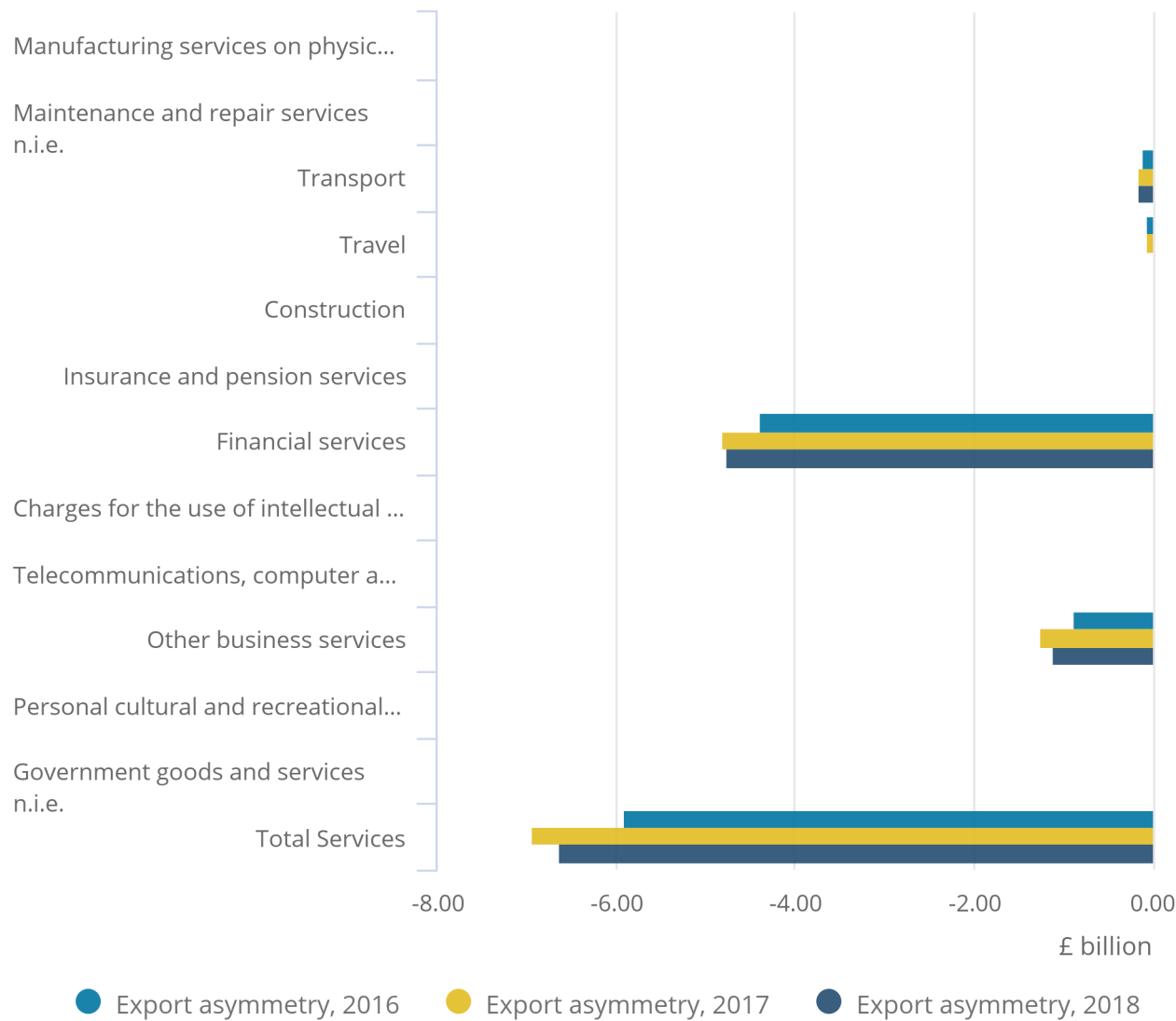
Data are available only for a limited number of service type categories for Luxembourg. Of the total services export asymmetry with Luxembourg, financial services was the service type with the largest asymmetry (negative £4.8 billion) in 2018.

Figure 20: Most of the UK's negative export asymmetries with Luxembourg resulted from financial services between 2016 and 2018

Trade asymmetries in UK exports of services to Luxembourg, by service type, 2016 to 2018

Figure 20: Most of the UK's negative export asymmetries with Luxembourg resulted from financial services between 2016 and 2018

Trade asymmetries in UK exports of services to Luxembourg, by service type, 2016 to 2018



Source: Office for National Statistics and Eurostat – Asymmetries in trade data

Notes:

1. Figures may not sum because of rounding and/or unavailable service type data.
2. Negative figures; this indicates that Luxembourg's data are higher.
3. Positive figures; this indicates that the UK's data are higher.

Between 2016 and 2018, the UK's estimates of imports from Luxembourg were lower than Luxembourg's estimates of exports to the UK (Figure 19). The total import asymmetry with Luxembourg in 2018 was negative £10.3 billion.

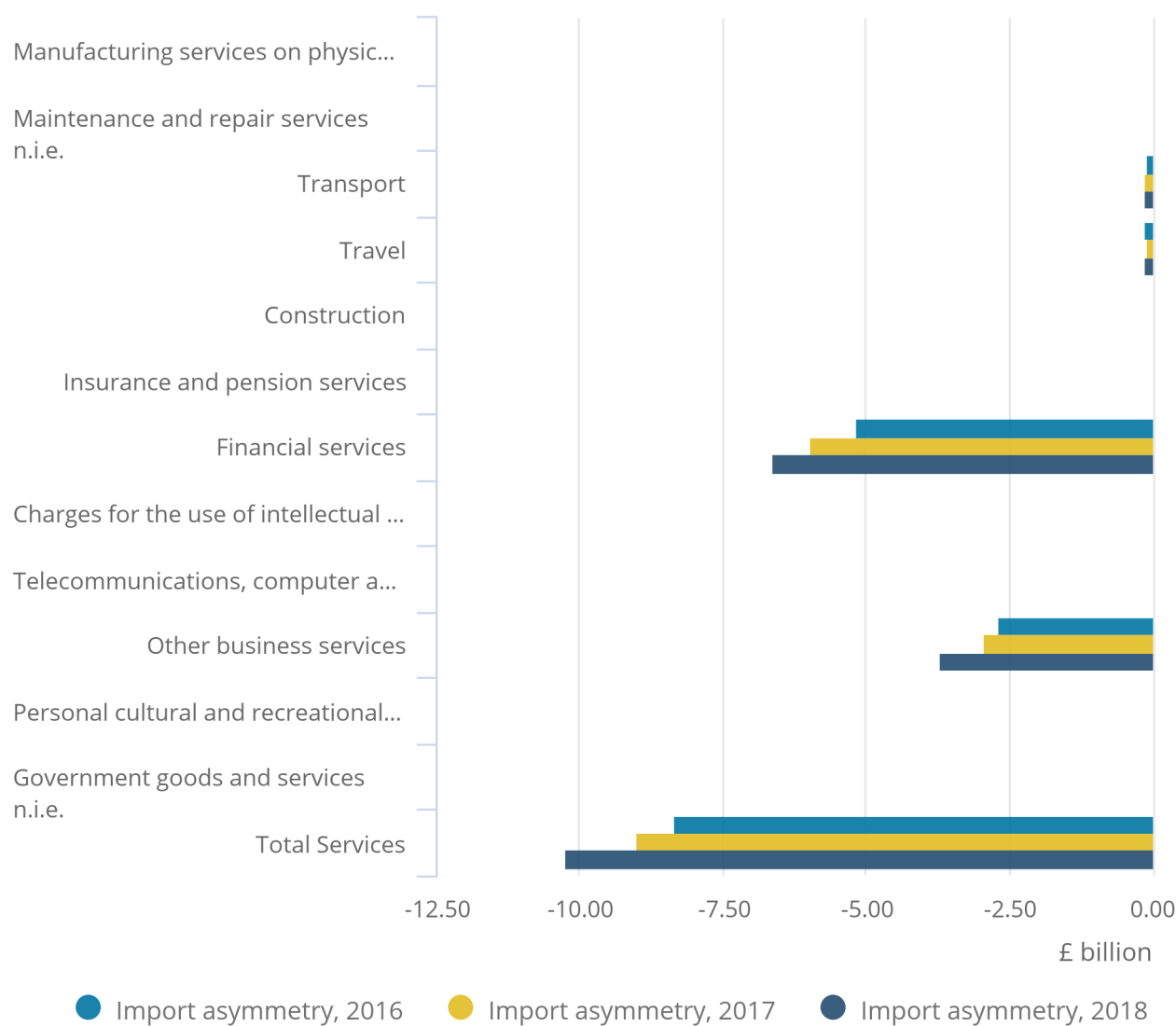
By individual service type, in 2018, the largest import asymmetries were in financial services (negative £6.6 billion) and other business services (negative £3.7 billion).

**Figure 21: Financial services was the largest contributor to negative import asymmetries with Luxembourg between 2016 and 2018**

Trade asymmetries in UK imports of services from Luxembourg, by service type, 2016 to 2018

Figure 21: Financial services was the largest contributor to negative import asymmetries with Luxembourg between 2016 and 2018

Trade asymmetries in UK imports of services from Luxembourg, by service type, 2016 to 2018



## Notes:

1. Figures may not sum because of rounding and/or unavailable service type data.
2. Negative figures; this indicates that Luxembourg's data are higher.
3. Positive figures; this indicates that the UK's data are higher.

Table 7 gives indicative estimates of known definitional differences between the UK and Luxembourg. We estimate that margins on buying and selling transactions (net spread earnings) contribute £0.6 billion per year to the UK's export asymmetry with Luxembourg between 2016 and 2018.

Table 7: Definitional differences between the UK and Luxembourg accounted for £0.6 billion of UK export asymmetries in 2018  
Currently identified definitional differences between UK and Luxembourg trade data that affect total services trade and indicative estimates, 2016 to 2018

Difference	Service category affected	Conceptual basis	UK exports / Luxembourg imports			UK imports / Luxembourg exports			Source for quantification
			2016	2017	2018	2016	2017	2018	
'Margins on Buying and Selling Transactions': Net Spread Earnings (NSE) included in services exports by ONS, not captured by Luxembourg <sup>1</sup>	Financial services	Should be included in services trade	0.6	0.6	0.6	:	:	:	ONS
Total of currently identified definitional differences <sup>2</sup>			0.6	0.6	0.6	0.0	0.0	0.0	

Source: Office for National Statistics and Eurostat – Asymmetries in trade data

## Notes

1. Net spread earnings estimates are calculated using monetary financial institutions' data only. [Back to table](#)
2. Components may not sum because of rounding. [Back to table](#)

## 5 . Ongoing international collaboration

Since the publication of our [third article](#), we have continued to engage internationally with our counterparts in priority trading partner countries, with our contacts in China, and with international organisations such as the Organisation for Economic Co-operation and Development (OECD).

### Priority bilateral partners and the OECD

We have continued discussions on asymmetries with our counterparts through setting up bilateral videoconference and audioconference meetings, as well as through face-to-face bilateral meetings organised by the OECD. The latest of these face-to-face meetings took place at the OECD in March 2019 and October 2019. We also delivered a paper at the OECD Working Party on Trade in Goods and Services (WPTGS) in March 2019 on our [UK experience of trade data asymmetries and recommendations for future development](#). The paper was well-received by the OECD and delegates, and our proposals for future development were accepted.

### UK and China trade in services data asymmetries

The Office for National Statistics (ONS) has established channels of communication with a range of government agencies and ministries in China, including the National Bureau of Statistics of China (NBS) and the Department of Trade in Services at the Ministry of Commerce (MOFCOM), which is responsible for compiling and releasing service statistics. In May 2019, the ONS attended the annual NBS and OECD workshop on national accounts at the OECD to present the UK's work on trade data asymmetries. This presentation was well-received, and through the workshop, we made additional contacts, including contacts at China's State Administration of Foreign Exchange (SAFE), which is responsible for the compilation and dissemination of China's balance of payments statistics.

Through these contacts, we obtained data on China's bilateral trade in services with the UK for 2017 and 2018 for four service types: transport services; travel services; telecommunications, computer and information services; and other business services. These data were used by the ONS to conduct UK and China asymmetries analysis for the selected service types. Although the results cannot be published for reasons of confidentiality, they reveal that the UK has a negative export asymmetry with China and that exports of travel services from the UK to China is the service type displaying the largest negative asymmetry, with the UK's estimates of exports of travel services much lower than China's estimates of imports of travel services.

This mirrors the findings of collaborative work undertaken between Canada and China between 2016 and 2018 (based on data for 2015 and 2016), [Comparing Canada's and China's bilateral trade data, 2018](#). This revealed that Canada has a large negative total export asymmetry with China and that exports of travel services from Canada to China is the service type that accounts for much of this large negative asymmetry, with Canada's estimates of exports of travel services much lower than China's estimates of imports of travel services. In the report, Canada outlines plans for upward revisions to their estimates.

The analysis revealed that the UK's import asymmetries with China are narrower negative asymmetries than its export asymmetries for these service types. This means that the UK's estimates of imports from China are smaller than China's estimates of exports from China to the UK. Other business services has the largest negative import asymmetry, closely followed by telecommunications, computer and information services, which in turn is closely followed by transport services and travel services. Canada's total import asymmetry with China is positive and is also much smaller than its total export asymmetry. Canada's largest import asymmetry with China is a positive import asymmetry in transport services, which is partially offset by Canada's negative import asymmetry in travel services in 2016.

Both the UK and China compile trade in services statistics in accordance with the International Monetary Fund's (IMF's) Balance of Payments and International Investment Position Manual, sixth edition (BPM6), although China does not include financial intermediation services indirectly measured (FISIM) in its estimates of financial services as it includes these data in estimates of investment income. The UK and China bilateral asymmetries can be attributed largely to the use of different sources and methods, with UK trade in services statistics based on the UK's International Trade in Services Survey (ITIS), the UK's International Passenger Survey (IPS), and many smaller sources. China's trade in services statistics are based largely on the International Transactions Reporting System (ITRS), in which the data are acquired from transactions that have occurred at different banks, with additional data collected in a sample survey (for example, cross-border bank transactions). Further information on China's sources and methods can be found in the report, [Comparing Canada's and China's bilateral trade data, 2018](#).

## After EU withdrawal

[As the UK leaves the EU](#), it is important that our statistics continue to be of high quality and are internationally comparable. During the transition period, those UK statistics that align with EU practice and rules will continue to do so in the same way as before 31 January 2020. We will continue to produce statistics broken down to EU and non-EU aggregates.

After the transition period, we will continue to produce our international trade statistics in line with the UK Statistics Authority's [Code of Practice for Statistics](#) and in accordance with internationally agreed statistical guidance and standards. This is based on [BPM6](#), until those standards are updated.

Data published in UK trade statistical releases also form part of the broader system of UK National Accounts, which will be produced in line with international standards as laid down in the [European System of Accounts \(ESA\) 2010](#) until the EU budgets are finalised for the years in which we were a member, as specified in the Withdrawal Agreement.

Our commitment to understanding trade data asymmetries remains unchanged after EU withdrawal, and we will continue our collaborative work as outlined in the earlier sections of this article.

## 6 . Next steps

### Using Value Added Tax data

In our [third paper](#), we explained that our work on trade data asymmetries had revealed that several EU countries included in our analysis use administrative data from Value Added Tax (VAT) returns in the compilation of trade in services statistics. In the UK, these data, which are collected by HM Revenue and Customs (HMRC), are known as EC Sales List and VAT Mini One Stop Shop (VAT MOSS). EC Sales List is the only administrative source of trade in services statistics conducted between the UK and EU partner countries, and VAT MOSS is the only administrative source of data on businesses who conduct trade in digital services with other EU countries.

The EC Sales List data are used by some of our main EU trading partners for analysis, informing survey sample design and coverage, quality assuring survey data, and benchmarking. Many EU countries are also planning to use VAT MOSS data. We have been actively pursuing access to VAT data (EC Sales List and VAT MOSS) from HMRC. We are now in the process of interrogating and analysing these data to assess their possible role in the compilation of our trade in services statistics. This includes the use of VAT data to inform coverage of the Office for National Statistics (ONS) International Trade in Services Survey (ITIS), their use for quality assurance of ITIS data, and their use in benchmarking. We will report on progress in due course.

## Reconciling trade data asymmetries

The primary focus of our work so far has been to identify and understand asymmetries through collaborative discussions about the data sources and methods used by different countries. Discussions with our international counterparts have helped develop our understanding and helped to identify areas where the quality of trade data can be strengthened.

In addition to this ongoing work, we are currently exploring the use of a methodology to create a dataset of [experimental bilateral trade in services statistics](#) for the UK whereby trade asymmetries are reconciled. We will do this via a process of direct adjustments to data and balancing contingent on the data quality of partner countries. Direct adjustments to trade in services data will be informed by quantified definitional differences between the UK and our main partner countries, as identified in [Section 4 of this article](#). We will also seek to adjust data using what we learn from our analysis of VAT data ([Section 5](#)). Where asymmetries inevitably remain, we will reconcile UK and partner country trade in services data using a weighted average model where the symmetry of countries' data is a proxy for data quality. We plan to publish this analysis later this year.

There are a few global approaches to the reconciliation of trade asymmetries. We have previously noted the work of Thomas Baranga, whose Economic Statistics Centre of Excellence (ESCoE) discussion article on [Reconciled trade flow estimates using an FGLS estimator](#) was published in January 2018. The [Organisation for Economic Co-operation and Development \(OECD\) and World Trade Organization \(WTO\) have also developed a methodology for reconciling trade asymmetries](#), which builds on the work of [Fortanier and Sarrazin \(2016\)](#).

Our initial work in this area has sought to build on the principles and methodologies of the OECD and WTO. In addition to identifying and adjusting our main partner countries' (the United States, Ireland, Germany, France, Belgium, Netherlands and Luxembourg) data for known definitional differences, we have calculated a matrix of weights based on relative asymmetries in total trade in services between countries for the years 2012 to 2018. Future work in this area will expand the dataset beyond the main partner countries outlined in this article and estimate reconciled trade in services values at the Extended Balance of Payments Services Classification (EBOPS) service type category level.

## 7 . Acknowledgements

The authors, Marilyn Thomas and Luke Weston, would like to express their gratitude to the following colleagues at ONS for their important contributions to this work: Henry Moore, Samuel Olokesusi, Aaron Pang and Daniel Wheeler. We are also grateful to the officials at the US Bureau of Economic Analysis, the Central Statistics Office in Ireland, the national banks of Germany, France and Belgium, the national statistical offices of the Netherlands and Luxembourg, and the State Administration of Foreign Exchange in China, for their collaboration, research and analysis that has made this work possible.