Office for National Statistics

Article

International imports of services to subnational areas of the UK: 2017

Experimental estimated values of imports of services for 2017 for NUTS1, NUTS2, NUTS3 and 15 city regions, including by industry and non-EU and EU split.

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Correction

16 December 2020 08:00

An error has been found in the international imports of services to subnational areas of the UK: 2017 article. This affects EU, Rest of the World and total estimates. This was due to a programming error in the production system. Please be aware of this if using this data. We will correct this error on as soon as possible. We apologise for any inconvenience. Please contact Isabel Rogers for more information.

12 February 2021 09:30

We have corrected errors in the International imports of services to subnational areas of the UK: 2017 article. The previous version quoted incorrect estimates because of a programming error in the production system. We apologise for any inconvenience.

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1 . Main points

- In 2017, London received one-third of total UK service imports, importing more services than any other area of the UK.
- The biggest component of services imported into NUTS1 areas was travel, as it received 28% (£50.6 billion) of UK total imports of services (£180.9 billion).
- Of the 13 city regions outside London, the Greater Manchester Combined Authority imported the most non-travel services (£4.1 billion), followed by the West Midlands Combined Authority (£3.5 billion).
- Of all the NUTS3 areas of Great Britain, Warrington had the highest percentage of non-travel service imports from EU countries (79%), whereas Portsmouth had the lowest percentage (23%).

2 . Introduction

In this release, we provide estimates of the value of services imported by subnational areas of the UK in 2017. This is new analysis that complements our existing publications breaking down services exports by subnational area. In combination with estimated trade in goods by HM Revenue and Customs (HMRC) through their Regional Trade Statistics, this completes the full set of trade statistics for subnational areas.

This analysis includes breakdowns of imports of services for each NUTS1 region or country of the UK[1], each NUTS2 and NUTS3 area, and selected city regions[2]. We present all results on an industry basis, with categories aligned to industry groups based on the Standard Industrial Classification (SIC) 2007. Results are also broken down by country, although source data limitations mean this is limited to identifying trade with EU countries versus non-EU countries.

This analysis provides the local context for the UK Balance of Payments, and it helps to improve local decision-making and policymaking, to support devolution, and to inform government and industrial policy more broadly. As well as associated publications on exports of services, this article is a culmination of continued analysis of subnational trade from the Office for National Statistics' (ONS') devolution programme.

Notes for: Introduction

1. The Nomenclature of Units for Territorial Statistics (NUTS) is a hierarchical classification of administrative areas, used across the EU for statistical purposes. There are 12 NUTS1 regions or countries in the UK: Wales, Scotland, Northern Ireland and the nine former English Government Office Regions.
2. The city regions consist of the seven English Combined Authorities, the mayoral authorities Sheffield City Region and Greater London (split into Inner and Outer London), three Scottish City Deals, and two Welsh City Deals. Please see Appendix B for details about these city regions.

3 . Things you need to know about this release

In 2016, we started a project to calculate subnational exports of services, breaking down national-level estimates of exports to subnational geographies. Following successful outputs from that project, stakeholders in city regions and the Department for International Trade (DIT) asked us to undertake a counterpart project that calculates subnational imports of services.

Aside from the estimates themselves, the most important aspect of this article is that it is a new output. All figures presented in this article are experimental, derived from a methodology that is subject to change based on feedback, and should be used with caution.

Although this methodology is very similar to that used to calculate exports of services, there is one notable difference to be found in service imports as travel services could not be calculated in the same way (please see Section 5: Methodological approach for more detail).

4 . Feasibility analysis prior to production

This is the first time we have created outputs detailing subnational imports of services. As such, the project started by conducting a series of feasibility analyses to ensure that the data sources being used would be the best available. This included considering potential new sources and assessing whether the methodology to be used would produce the best possible outputs.

We compiled a collection of all possible data and approaches in consultation with colleagues across the Office for National Statistics (ONS) including the Data Science Campus; other government departments; the devolved administrations of Wales, Scotland and Northern Ireland; and selected other organisations with an interest in trade. Some suggested data sources were quickly dismissed for being unviable or for lacking the necessary properties. For example, the Annual Survey of Goods and Services appeared to hold potential as it covered trade of services but as it only measured turnover, it effectively excluded imports data. Likewise, the PBL EUREGIO database contains European regional trade data, seemingly relevant from a methodological perspective, but the data were outdated and the methodology was not compatible with our purposes.

Of the remaining sources – the International Trade in Services Survey (ITIS), Annual Business Survey (ABS) and Annual Purchases Survey (APS) – we conducted descriptive analysis to compare results. Estimates were calculated using the same basic processing on each source to break trade down by industry, region, turnover and employment. Results were benchmarked against existing articles and publications, such as statistical bulletins on the UK Balance of Payments, to test each data source's viability.

Ultimately, the ITIS was the preferred dataset because not only did it produce sensible, reasonable numbers, it was also consistent with the methodology used for subnational service exports, and it contains all the requisite breakdowns in a single source. This also meant that, despite taking an open approach, it was deemed best to follow the same core methodology as used for subnational exports.

Along with the decision to take the ITIS forward for further, more detailed processing, a number of subsidiary recommendations also came out of our feasibility analyses, the most notable being to expand the ITIS as a survey to improve sample size and industry coverage.

5 . Methodological approach

This analysis follows the same core methodology as is used in International exports of services from subnational areas of the UK. We use the International Trade in Services Survey (ITIS) alongside UK Balance of Payments information and apportion trade value to the level of the local unit of a business (such as a shop, warehouse or office) from the level of the reporting unit (the comprised entity from which data are collected, often a head office or administrative site).

Data sourced from the ITIS cover approximately half of import value and exclude information on products related to the travel, transport and banking sectors (finance and insurance). ITIS data, which are collected at the reporting unit level, are apportioned to local level using employment as a proxy for tradeable activity.[1] A proportionate amount of value reported in the ITIS, calculated by dividing the number of employees in each local unit by the total number of employees in the whole reporting unit, is allocated to each local unit within the business. Once allocated in this way, value is then aggregated from each local unit to create totals for each geographic breakdown – NUTS1, NUTS2, NUTS3 and city region – and each industry breakdown. Data at the local authority level are not sufficiently robust and therefore NUTS3 is the lowest level of geography at which we can currently estimate.

For imports not covered by the ITIS, and that are instead accounted for by other sources used in compiling the UK Balance of Payments, we use similar approaches. Analysis conducted at the national level provides estimates of trade from each industry not sourced from the ITIS. It is not possible to allocate this to specific businesses; therefore, it makes use of a proportionate mapping approach to convert values of imports from product categories into industries. More about this methodology can be found in the release UK trade in services by industry, country and commodity: 2016 to 2018, published 28 February 2020.

Financial trade is first broken down from the national level to NUTS1 level using data sourced from the Bank of England on financial activity. Value is then broken down from NUTS1 level to local level using employment figures from the Business Register and Employment Survey (BRES) as a proxy for trade-related business activity. The proportion of employment in financial industries in each local authority is applied to the values of financial imports in each NUTS1 area to break results down from regional to local level.

Exports of services related to travel are possible to allocate to industries located in Britain, as it is money spent by visitors to Britain in British businesses. However, it is not possible to allocate travel imports to specific British industries, as it is money spent by British people abroad at foreign businesses. This means value is not associated with industries in Britain and we must present travel-related services as a separate category apart from the standard industries.

Values for travel-related services are broken down to NUTS1 level using the value of tourist spending abroad calculated by the International Passenger Survey (IPS). This is done separately for personal tourism and for business-related tourism. However, because of the limitations of the IPS, it is not possible to break values down to any smaller geographies, and there are no suitable proxy variables to use to achieve this. Imports related to travel account for 28% of the value of all imports, and this should be taken into careful consideration when interpreting the results presented.

For values of imports that are not sourced from the ITIS, not related to financial products and not related to travel, we use employment value from BRES to break down from a national level directly to local level for each remaining industry division.

Once service import value was allocated for each industry – including travel – and for each relevant subnational geography, estimates were constrained to match the UK Balance of Payments. This ensures subnational estimates are consistent with the UK Balance of Payments and with other national accounts publications and they match the methods first implemented in 2019's publication of service exports. As a data adjustment technique, constraining forces breakdowns of values to match known totals, meaning that resultant outputs may no longer match their constituent component calculations. However, it means that subnational outputs will be consistent with UK-level figures for each combination of industry and country of origin.

Notes for: Methodology approach

1. Please note that there are some apparent difficulties with this method of allocating value. There is an inherent problem with service imports as services are, in survey terms, somewhat elusive. There are questions as to whether a service takes place in the geographic region it is recorded, or should be allocated across other parts of the business, as a service is an intangible process that may consist of several parts and may occur in several different places. We currently use employment as a proxy variable, operating under the assumption that the size of a business and how many employees it has are likely related to the amount of trade the business conducts. This may not be the best assumption to use; however, no suitable alternatives have yet been found, and work is continuing to further develop the approach.

6 . Service imports into the English regions and three devolved nations

In 2017, the largest share of service imports at the regional level came into London, which received 34% (£60.6 billion) of total UK services imports (£180.9 billion) (Figure 1). This was followed by the South East (14%; £26.0 billion) and the North West (9%; £16.2 billion). The area with the smallest share was Northern Ireland (1%; £1.5 billion).

Figure 1: Subnational service imports by NUTS1 region and industry, 2017

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As might be expected, London is the NUTS1 area most dependent on service imports when compared to its gross value added (GVA), comparing its £60.6 billion imports of services against the city's £435.3 billion (balanced) GVA in 2017.[1] This suggests imports are 14% as a percentage of its GVA.[2]

Outside of London, these percentages become more consistent with one another; apart from Northern Ireland (4%), the service imports of each NUTS1 area are estimated as being between 7% and 10% as a percentage of their GVA. Although these figures are experimental, this suggests that, despite London relying slightly more on service imports than other regions, the UK has a broad and consistent dependency on service imports in relation to its output. As a whole, service imports were 10% as a percentage of the UK's total GVA.

The largest proportion of services imports came through travel services, representing 28% (£50.6 billion) of the UK total. Of that portion, £45.2 billion was attributed to personal travel and £5.4 billion was attributed to business travel. Thereafter, the financial and insurance activities (18%); information and communication (13%); and professional, scientific and technical activities (10%) industries made up the largest shares of service imports.

For the UK as a whole, £94.3 billion came from service imports arriving from countries outside the EU, whereas £86.6 billion came from service imports arriving from within the EU; this is an almost even split (52% versus 48%). However, because travel services were calculated using a different process to that of other industries, as mentioned in Section 5: Methodological approach, and because travel is dominated by EU imports (61%) rather than rest of the world imports (39%), it seems appropriate to analyse the remaining industries separately.

When travel-related services are excluded from analysis, £74.6 billion came from service imports arriving from countries outside the EU, whereas £55.7 billion came from service imports arriving from within the EU. This discrepancy is largely accounted for by London but also by the South East and Scotland, as imports from the rest of the world were estimated as being somewhat higher than imports from the EU. Most other regions show a more balanced exchange of trade, with the North West, the East Midlands, the West Midlands and Wales all approximately displaying a 50% EU and non-EU split. The only region to receive considerably more imports from the EU than the rest of the world was Northern Ireland (62% compared with 38%).

Notes for: Service imports into the English regions and three devolved nations

1. GVA figures can be found in Regional economic activity by gross domestic product, UK: 1998 to 2018.

2. Please note that these proportions are not a direct measure of an import's contribution to GVA. The percentages we have provided simply provide a way of assessing the relative importance of imports towards the broader economy, and so should be considered with caution.

7 . Service imports into city regions

In this section, we compare 15 city regions across the UK, comprising of seven English Combined Authorities, the mayoral authority of Sheffield City Region, both Inner and Outer London separately, three Scottish City Deals, and two Welsh City Deals. In total, these 15 regions received 58% (£75.4 billion) of the UK's non-travel service imports. We cannot analyse travel-related trade at this level; therefore, this analysis focuses on trade allocated to specific industries, with the numbers presented much lower than the expected total if travel was included.

Of these city regions, Inner London imported the highest value of non-travel services by a considerable amount, contributing £37.5 billion (just under half of the £75.4 billion). This was followed by Outer London, which spent £12.0 billion on non-travel service imports, with a large gap between this and the next largest region of Greater Manchester with £4.1 billion.

Regarding the distribution of industry spending among city regions, non-travel service imports were predominantly spread across the financial and insurance activities. This industry made the largest contribution in 12 of the 15 city regions, taking up 30% of the total city region non-travel spending. Outside of these areas, industry spending somewhat differed. In the Aberdeen City Region, the largest industry group was non-manufacturing production; in the Cambridgeshire and Peterborough Combined Authority, it was professional, scientific and technical activities; and in Outer London, it was information and communication.

Figure 2: Heat map of service imports (excluding travel) by city region, 2017

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Displaying a similar pattern to that of NUTS1 regions, city regions imported most of their non-travel services from outside the EU as, of the £75.4 billion spent by city regions on non-travel imports, 60% (£45.0 billion) came from the rest of the world. Equally, some city regions (namely the Greater Manchester Combined Authority, Cambridgeshire and Peterborough Combined Authority and Swansea Bay City Region) have a close-to-even split of non-travel trade between EU and non-EU countries.

None of the city regions imported the majority of their non-travel services from within the EU. The biggest absolute difference lies within Inner London, which imported £24.1 billion of non-travel services from the rest of the world and £13.5 billion from the EU.

8 . Service imports into NUTS3 areas

The average value of non-travel service imports in each NUTS3 area was approximately £0.8 billion; however, if London areas are excluded, this average drops to £0.5 billion. Within London itself, the average NUTS3 area imported roughly £2.4 billion of non-travel services, and its largest importer was Camden and The City, which received £14.5 billion. The NUTS3 area outside of London with the largest amount of non-travel service import value was Berkshire with £3.9 billion. In Wales, it was Cardiff and Vale of Glamorgan, with £0.6 billion.

For the 168 NUTS3 areas in Great Britain – because of a lack of coverage in survey data, we are unable to break down Northern Ireland to this level – we only provide an EU versus non-EU split in terms of a services country of origin and do not provide industry information. This is largely because of concerns around reliability and confidentiality at such a detailed breakdown. Much like with the most recent exports of services publication, please note that these figures are experimental and should be treated with caution. The more granular they become, the more susceptible they are to variation, and as such they are not as reliable as the NUTS1 figures.

The NUTS3 area that imported most non-travel services from the EU as a percentage of its total was Warrington, with 79% of £0.5 billion. Thereafter, it was East Riding of Yorkshire (69% of £0.3 billion), Essex Thames Gateway (67% of £0.9 billion) and Peterborough (67% of £0.6 billion). The NUTS3 area that imported the least non-travel services from EU countries as a percentage of its total was Portsmouth, which imported 77% (of £0.3 billion) from non-EU countries. This was followed by West Sussex (74% of £0.5 billion), Durham CC (73% of £0.5 billion) and Tower Hamlets (73% of £5.6 billion).

Figure 3: Percentage of service imports (excluding travel) from the EU by NUTS3 area, 2017

Download the data

9 . Next steps with subnational service imports

This is the first statistical release to provide estimates of subnational service imports, and as such figures remain experimental. Although we see our methodology and resultant breakdowns as the best solution currently available, we will continue to review and refine our processes in the coming months. To improve the accuracy and effectiveness of our subnational trade outputs, we will continue working with data suppliers and methodological support, and we welcome constructive feedback from our users via email at cities@ons.gov.uk.

The next publication, expected in summer 2020, will aim to include subnational estimates of both imports and exports for the reference year 2018, using the methodological approach outlined in this article. This should improve the coherence of the outputs and allow for comparison of net trade flows. Our longer-term aim is to create an annual output of subnational trade, ideally incorporating information on goods trade from HM Revenue and Customs (HMRC) to build the entire picture of subnational trade.

We welcome feedback from users through the statistical contact for this release, particularly suggestions for improving the methodology and comments on whether this approach meets user needs.

10 . Appendix A: industry groups

Table 1: Industry groups used in analysis of NUTS1 service imports

Industry group	SIC07 section
Primary and utilities	A, B, D, E
Manufacturing	C
Construction	F
Wholesale and motor trades	45, 46
Retail (excluding motor trades)	47
Transportation and storage	H
Accommodation and food service activities	I
Information and communication	J
Financial and insurance activities	K
Real estate activities	L
Professional, scientific and technical activities	M
Administrative and support service activities	N
Other service industries	O, P, Q, R, S and unknown or unallocated
Travel-related trade	Not applicable

Source: Office for National Statistics – UK Standard Industrial Classification 2007

Notes

1. The categories shown are based on UK Standard Industrial Classification (SIC) 2007 sections. Travel-related services have been analysed as a separate product category.

11 . Appendix B: city region geographies

Table 2: Geographic definitions of city regions based on local authorities

City region	Constituent Local Authorities
Aberdeen City Region	Aberdeen, Aberdeenshire
Cambridgeshire and Peterborough Combined Authority	Peterborough, Cambridge, East Cambridgeshire, Fenland, Huntingdonshire, South Cambridgeshire
Cardiff Capital Region	Blaenau Gwent, Bridgend, Caerphilly, Cardiff, Merthyr Tydfil, Monmouthshire, Newport, Rhondda Cynon Taff, Torfaen, Vale of Glamorgan
Edinburgh and South East Scotland City Region	Edinburgh, East Lothian, Mid Lothian, West Lothian, Fife, Scottish Borders
Glasgow City Region	Glasgow City, North Lanarkshire, South Lanarkshire, East Dunbartonshire, West Dunbartonshire, Renfrewshire, East Renfrewshire, Inverclyde
Greater Manchester Combined Authority	Bolton, Bury, Manchester, Oldham, Rochdale, Salford, Stockport, Tameside, Trafford, Wigan
Liverpool City Region Combined Authority	Knowsley, Liverpool, St. Helens, Sefton, Wirral, Halton
North of Tyne Combined Authority	Newcastle-upon-Tyne, North Tyneside, Northumberland
Sheffield City Region[1]	Barnsley, Doncaster, Rotherham, Sheffield
Swansea Bay City Region	Carmarthenshire, Neath Port Talbot, Pembrokeshire, Swansea
Tees Valley Combined Authority	Hartlepool, Middlesbrough, Redcar and Cleveland, Stockton-on-Tees, Darlington
West of England Combined Authority	Bath and North East Somerset, City of Bristol, South Gloucestershire
West Midlands Combined Authority	Birmingham, Coventry, Dudley, Sandwell, Solihull, Walsall, Wolverhampton
Inner London[1]	Camden, City of London, Hammersmith and Fulham, Kensington and Chelsea, Wandsworth, Westminster, Hackney, Haringey, Islington, Lambeth, Lewisham, Newham, Southwark, Tower Hamlets
Outer London[1]	Bromley, Croydon, Kingston upon Thames, Merton, Sutton, Barnet, Brent, Ealing, Harrow, Hillingdon, Hounslow, Richmond upon Thames, Barking and Dagenham, Bexley, Enfield, Greenwich, Havering, Redbridge, Waltham Forest

Source: Office for National Statistics – International imports of services from subnational areas of the UK

Notes

1. Sheffield City Region, Inner London, Outer London and the Greater London Authority are not legally classified as combined authorities. However, they have been included as they are defined geographic boundaries headed by a mayor for the purposes of this analysis.

Table 3: Geographic definitions of city regions based on NUTS3 geographies

City region	Constituent NUTS3 areas
Aberdeen City Region	UKM50 (Aberdeen City and Aberdeenshire)
Cambridgeshire and Peterborough Combined Authority	UKH11 (East Derbyshire), UKH12 (Cambridgeshire CC)
Cardiff Capital Region	UKL15 (Central Valleys), UKL16 (Gwent Valleys), part of UKL17 (local authority Bridgend), UKL21 (Monmouthshire and Newport), UKL22 (Cardiff and Vale of Glamorgan)
Edinburgh and South East Scotland City Region	Part of UKM72 (local authority Fife), UKM73 (East Lothian and Mid Lothian), UKM75 (City of Edinburgh), UKM78 (West Lothian), UKM91 (Scottish Borders)
Glasgow City Region	Parts of UKM81 (local authorities West Dunbartonshire and East Dunbartonshire), UKM82 (Glasgow City), UKM83 (Inverclyde, East Renfrewshire, Renfrewshire), UKM84 (North Lanarkshire), UKM95 (South Lanarkshire)
Greater Manchester Combined Authority	UKD33 (Manchester), UKD34 (Greater Manchester South West), UKD35 (Greater Manchester South East), UKD36 (Greater Manchester North West), UKD37 (Greater Manchester North East)
Liverpool City Region Combined Authority	UKD71 (East Merseyside), UKD72 (Liverpool), UKD73 (Sefton), UKD74 (Wirral)
North of Tyne Combined Authority	UKC21 (Northumberland), part of UKC22 (local authorities Newcastle upon Tyne and North Tyneside)
Sheffield City Region[1]	UKE31 (Barnsley, Doncaster, Rotherham), UKE32 (Sheffield)
Swansea Bay City Region	Parts of UKL14 (local authorities Carmarthenshire and Pembrokeshire), part of UKL17 (local authority Neath Port Talbot), UKL18 (Swansea)
Tees Valley Combined Authority	UKC11 (Hartlepool and Stockton-on-Tees), UKC12 (South Teesside), UKC13 (Darlington)
West Midlands Combined Authority	UKG31 (Birmingham), UKG32 (Solihull), UKG33 (Coventry), UKG36 (Dudley), UKG37 (Sandwell), UKG38 (Walsall), UKG39 (Wolverhampton)
West of England Combined Authority	UKK11 (Bristol), part of UKK12 (local authorities Bath and North East Somerset and South Gloucestershire)
Inner London[1]	UKI31 (Camden and City of London), UKI32 (Westminster), UKI33 (Kensington & Chelsea and Hammersmith & Fulham), UKI34 (Wandsworth), UKI41 (Hackney and Newham), UKI42 (Tower Hamlets), UKI43 (Haringey and Islington), UKI44 (Lewisham and Southwark), UKI45 (Lambeth)
Outer London[1]	UKI51 (Bexley and Greenwich), UKI52 (Barking & Dagenham and Havering), UKI53 (Redbridge and Waltham Forest), UKI54 (Enfield), UKI61 (Bromley), UKI62 (Croydon),UKI63 (Merton, Kingston upon Thames and Sutton), UKI71 (Barnet), UKI72 (Brent), UKI73 (Ealing), UKI74 (Harrow and Hillingdon), UKI75 (Hounslow and Richmond upon Thames)

Source: Office for National Statistics – International imports of services from subnational areas of the UK

Notes

1. Sheffield City Region, Inner London, Outer London and the Greater London Authority are not legally classified as combined authorities. However, they have been included as they are defined geographic boundaries headed by a mayor for the purposes of this analysis.