Office for National Statistics

Statistical bulletin

Index of Services, UK: February 2015

Monthly movements in output for the services industries: distribution, hotels and restaurants; transport, storage and communication; business services and finance; and government and other services.

Notice

29 November 2016

Following a quality review, a processing error has been identified in the compilation of the estimates for the rail transport industry (49.1-2), which affects the period Quarter 1 1997 to Quarter 2 2016. In line with the National Accounts revision policy, this error will be corrected in the Index of Services and Quarterly National Accounts due for publication on 23rd December 2016 for data from Quarter 1 2015 and in the Blue Book 2017 consistent releases for data prior to this period. The average impact over this period on quarter-on-quarter Index of Services and GDP growth is 0.00%. This processing error does not impact quarter on quarter growth into Quarter 3 2016.

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1 . Main points

- The Index of Services is estimated to have increased by 3.2% in February 2015 compared with February 2014. All of the 4 main components of the services industries increased in the most recent month compared with the same month a year ago

- The largest contributions came from: business services and finance, which contributed 1.4 percentage points to total growth; and distribution, hotels and restaurants, which contributed 0.9 percentage points to total growth

- The latest Index of Services estimates show that output increased by 0.3% between January 2015 and February 2015, following a contraction of 0.2% between December 2014 and January 2015

- The figures within this release are estimates and are on a seasonally adjusted basis. The earliest period open for revision in this release is January 2015

2 . Understanding the Index of Services (IoS)

About the IoS

The monthly IoS provides a timely indicator of growth in the output of the services industries. The IoS is an important economic indicator and shares exactly the same industry coverage as the corresponding quarterly series with UK gross domestic product (GDP). The primary purpose of the IoS is to produce a short-term measure of the output of the services industries within the UK economy and show the monthly movements in the gross value added (GVA) of the service industries (2007 Standard Industrial Classification (SIC 2007) sections G to T). The 4 main components of the services industries are: distribution, hotels and restaurants; transport, storage and communication; business services and finance; and government and other services. The IoS is the largest contributor to the output approach to the measurement of GDP, accounting for 78.4% of UK GDP as at 2011.

All data in this bulletin are seasonally adjusted estimates and have had the effect of price changes removed (in other words, the data are deflated). Further information on some of the main concepts (including seasonal adjustment and deflation) underlying the estimates can be found in background note 11.

The quality of the IoS

The IoS is published around 8 weeks after the end of the reference month. There is no simple way of measuring the accuracy of the IoS, that is, the extent to which the estimate measures the underlying "true" value of the output growth (of the services industries) in the UK for a particular period. All estimates, by definition, are subject to statistical uncertainty and for many well-established statistics the Office for National Statistics (ONS) measures and publishes the sampling error associated with the estimate, using this as an indicator of accuracy. The IoS however, is constructed from a wide variety of data sources, some of which are not based on random samples. As a result ONS does not publish a measure of the sampling error associated with the IoS.

Reliability is one dimension of measuring accuracy using evidence from analyses of revisions to assess the closeness of early estimates to subsequent estimated values. Revisions are an inevitable consequence of the trade-off between timeliness and accuracy. Figures for the most recent months are provisional and subject to revision in light of:

- late responses to surveys and administrative sources

- forecasts being replaced by actual data

- revisions to seasonal adjustment factors, which are re-estimated every month and reviewed annually

Revisions to the IoS are typically small (around 0.1 to 0.2 percentage points), with the frequency of upward and downward revisions broadly equal. More information on the most recent revisions analysis can be found in the component analysis section and in background note 16.

It should be noted that care should be taken when using the month-on-month growth rates, due to their volatility (see background note 10).

Further information on the quality of the IoS (29 Kb Pdf) is available in the Quality of the IoS report on the Index of Services Methods web page on our website. It should be noted that as part of the IoS industry review process, ONS is continually working on methodological changes to improve the accuracy of the IoS.

3 . Main information

Table 1: Index of Services main information, February 2015

UK

					Percentage change
	Index number (2011=100)	Most recent month on a year earlier	Most recent 3 months on a year earlier	Most recent month on previous month	Most recent 3 months on previous 3 months
Index of Services	109	3.2	3.3	0.3	0.7

Source: Office for National Statistics

The Index of Services (IoS) measures the quantity of output from all UK services industries, which account for more than three-quarters of the output approach to the measurement of gross domestic product. Index values are presently referenced to 2011 so that the average for 2011 is equal to 100. Therefore, an index value of 110 would indicate that output is 10% higher than the average for 2011.

As seen in Figure 1, the IoS increased by 3.2% in February 2015 compared with February 2014. In order of their contribution to growth (see reference table IOS1): business services and finance increased by 3.4%; distribution, hotels and restaurants increased by 4.8%; transport, storage and communication increased by 5.2%; and government and other services increased by 0.9%.
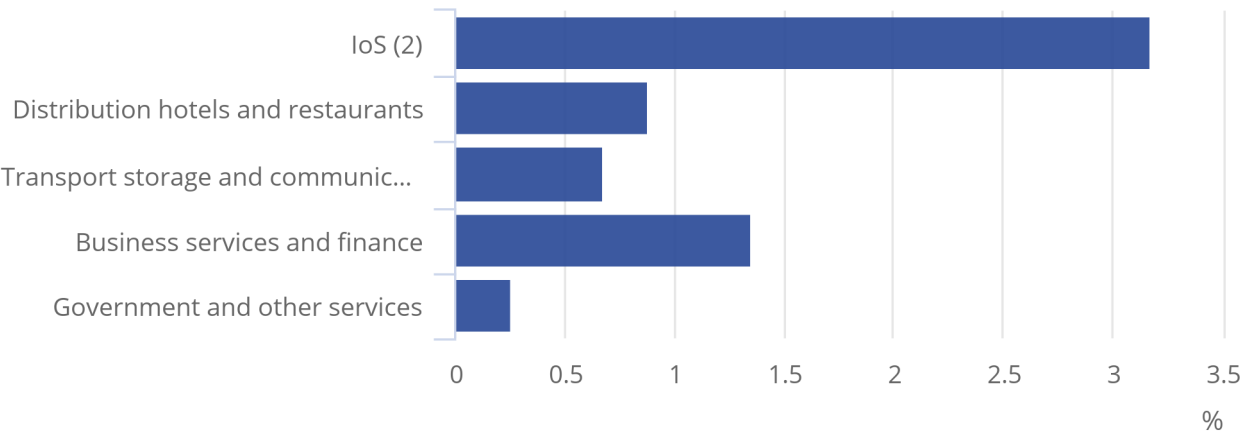
Further detail on these movements can be found in the component analysis section.

Figure 1: IoS contributions (1) to the month-on-month a year ago percentage change, February 2015

UK

Figure 1: IoS contributions (1) to the month-on-month a year ago percentage change, February 2015

UK

Source: Office for National Statistics

Notes:

1. Individual contributions may not sum to the total due to rounding

2. Percentage change

Between January 2015 and February 2015, as seen in Figure 2, the IoS increased by 0.3%. All of the 4 main components of the services industries increased in the most recent month compared with the previous month. In order of their contribution to growth (see reference table IOS1): government and other services increased by 0.3%; business services and finance increased by 0.2%; distribution, hotels and restaurants increased by 0.3%; and transport, storage and communication increased by 0.4%.

More detail on individual components can be found in the IOSCOMP tables in the data section of this bulletin. The tables also provide information on the growth for the 3 months ending in February 2015 compared with the previous 3 months and compared with the 3 months ending February 2014.

Figure 2: IoS contributions (1) to the month-on-month percentage change, February 2015
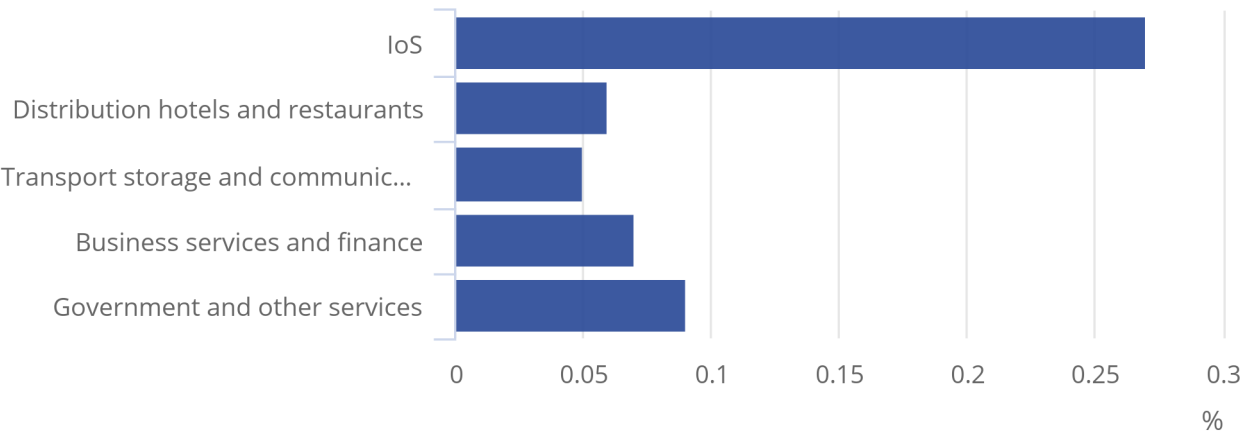
UK

Source: Office for National Statistics

Notes:

1. Individual contributions may not sum to the total due to rounding

2. Percentage change

4 . Economic background

Total services grew by 3.2% between February 2014 and February 2015.

Historically, the services industries have grown at a faster rate than all other headline industries. While GDP has grown at an average annual rate of 2.0% since 1997, services has grown at an average annual rate of 2.8%. This has led to a continuing re-orientation of the economy towards services, despite productivity in the services industries rising more slowly than in the production industries (and manufacturing in particular) since 1997 (more information can be found in the Labour Productivity, Q4 2014 release). The higher output growth therefore reflects the increasing share of the labour force employed in services, which grew from 73% to 79% between 1997 and 2014 (see Labour Market Statistics, April 2015 release, reference table EMP13).
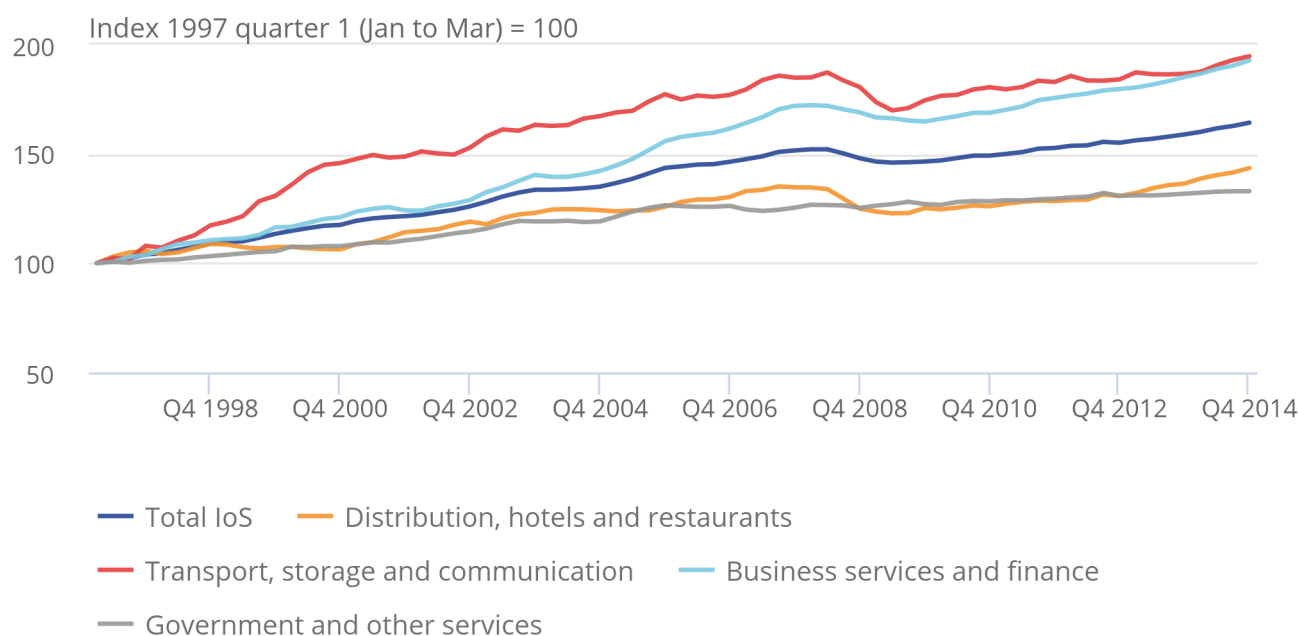
In addition to a strong long run performance, the services industries were also least affected by the downturn in 2008 and they recovered quickly after. They are mainly responsible for the recovery of the economy as a whole, being the only industry grouping to have surpassed its pre-downturn peak.

Figure 3: Index of Services and sub-components
UK, 1997 to 2014

Index 1997 quarter 1 (Jan to Mar) = 100

Legend:
- Total IoS
- Distribution, hotels and restaurants
- Transport, storage and communication
- Business services and finance
- Government and other services

Source: Office for National Statistics

However, growth within services has varied, with Figure 3 showing a clear divide between the growth rates of the 4 main industry groupings since 1997. The industry grouping which has grown the most over this period is transport, storage and communication, despite being one of the hardest hit during the 2008 downturn. Much of this growth came from telecommunications and computing, coinciding with advancement in technology in these industries over the period. Business services and finance has also been an important contributor of growth in services. This industry grouping, along with transport, storage and communication, has nearly doubled in size since 1997.

Growth in the remaining 2 industry groupings has been more modest, with neither of them growing as much as overall GDP since 1997. The distribution, hotels and restaurants industry grouping has seen similar movements to GDP, whereas growth in government and other services has been slower and more stable, even during the economic downturn.

5 . GDP impact and components

With a weight of 78.4%, the services industries are the largest industrial grouping in the output approach to measuring GDP. The releases for the short-term economic indicators that feed directly into the output approach to measuring GDP include a table detailing growth in the 4 main industrial groupings (Table 2). This will aid understanding of the relationship between the individual short-term releases and GDP output.

In Quarter 1 (Jan to Mar) 2015, GDP was estimated to have increased by 0.3% compared with the previous quarter. The contribution an industry grouping makes to the GDP quarterly growth is dependent on the quarterly change in that industry grouping and its weight within the output approach to measuring GDP.

Figure 4: GDP contribution(1) to the quarter-on-quarter percentage change, Quarter 1 (Jan to Mar) 2015

UK

Figure 4: GDP contribution(1) to the quarter-on-quarter percentage change, Quarter 1 (Jan to Mar) 2015

UK
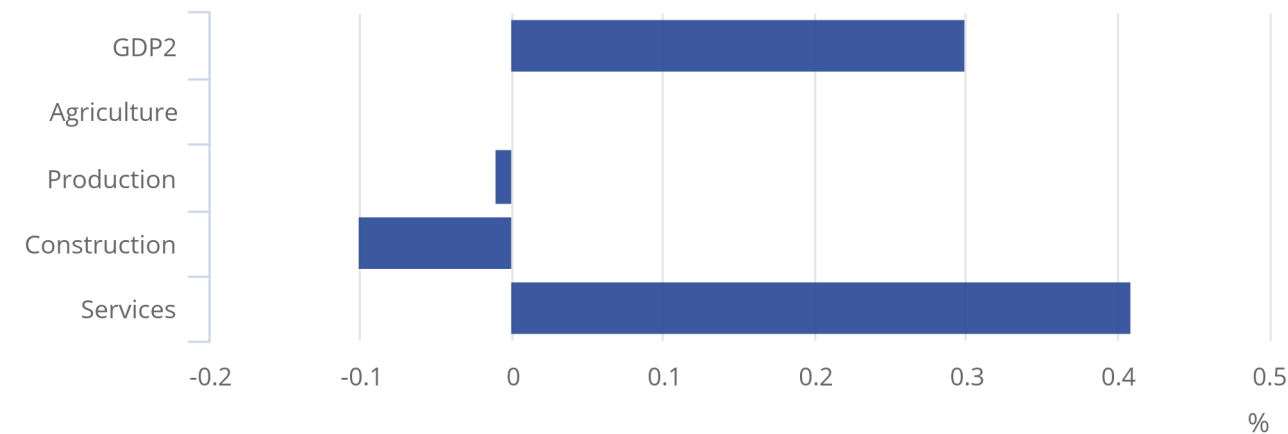
Source: Office for National Statistics

Notes:

1. Contributions are to output gross value added and therefore may not sum to the percentage change in GDP. More information on the difference between the 2 measures can be found in the Short Guide to National Accounts

2. Percentage change to 1 decimal place

Monthly estimates are produced for each industrial grouping except agriculture. The February 2015 estimates for production and construction were published on 10 April. The Gross Domestic Product Preliminary Estimate for Quarter 1 (Jan to Mar) 2015 was published on 28 April 2015 alongside this bulletin.

Table 2: GDP output component tables, Quarter 1 (Jan to Mar) 2015, chained volume measure, seasonally adjusted

UK

Percentage change

Publication	% of GDP	Release date	Month of GDP	Most recent 3 months on a year earlier	Most recent 3 months on 3 months earlier	Most recent month on the same month a year ago	Most recent month on the previous month
Index of Production	14.6	10 Apr	Feb	0.7	-0.2	0.1	0.1
			Jan	1.1	0.0	1.2	-0.1
Construction output	6.4	10 Apr	Feb	0.3	-3.2	-1.3	-0.9
			Jan	2.5	-2.8	-3.0	-2.5
Index of Services	78.4	28 Apr	Feb	3.3	0.7	3.2	0.3
			Jan	3.3	0.8	3.2	-0.2
Retail Sales		23 Apr	Mar	5.2	0.9	4.2	-0.5
			Feb	5.0	1.8	5.4	0.6
			Jan	5.3	2.3	5.9	0.2
Agriculture	0.6		Q1	0.9	-0.2	..	..

Source: Office for National Statistics

Notes:

1. No data represented by ..

6 . Component analysis

Table 3: Growth rates and contributions(1) to the Index of Services, February 2015

UK

Percentage change

Description	% of Services	Month on a year earlier Volume (SA 2) (%)	Contribution to services (% points)	Month-on-month growth Volume (SA) (%)	Contribution to services (% points)
Total services industries	100	3.2	3.2	0.3	0.3
Distribution, hotels and restaurants	18	4.8	0.9	0.3	0.1
Transport, storage and communication	13	5.2	0.7	0.4	0.1
Business services and finance	39	3.4	1.4	0.2	0.1
Government and other services	30	0.9	0.3	0.3	0.1

Source: Office for National Statistics

Notes:

1. Individual contributions may not sum to the total due to rounding

2. SA = seasonally adjusted

Distribution, hotels and restaurants

The index of distribution, hotels and restaurants increased by 4.8% in February 2015 compared with February 2014, following an increase of 5.3% in January 2015 compared with the same month a year earlier. The main contributors to the increase were: retail trade, except of motor vehicles and motorcycles, which rose by 5.4%; wholesale and retail trade and repair of motor vehicles and motorcycles, which rose by 6.4%; and wholesale trade, except of motor vehicles and motorcycles, which rose by 3.2%.

Transport, storage and communication

The index of transport, storage and communication increased by 5.2% in February 2015 compared with February 2014, following an increase of 4.2% in January 2015 compared with the same month a year earlier. The main contributors to the increase were: computer programming, consultancy and related activities, which rose by 8.5%; land transport, which rose by 7.6%; and publishing audiovisual and broadcasting activities, which rose by 3.9%.

Business services and finance

The index of business services and finance increased by 3.4% in February 2015 compared with February 2014, following an increase of 3.8% in January 2015 compared with the same month a year earlier. The main contributors to the increase were: other professional service activities, which rose by 7.3%; administrative and support services activities, which rose by 5.7%; and real estate activities, which rose by 1.8%.

Government and other services

The index of government and other services increased by 0.9% in February 2015 compared with February 2014, following an increase of 0.6% in January 2015 compared with the same month a year earlier. The main contributors to the increase were: human health and social work activities, which rose by 2.1%; and other service activities, which rose by 7.2%.

Revisions

The Index of Services (IoS) follows the National Accounts Revisions policy (43.3 Kb Pdf). Revisions are caused by a number of factors including, but not limited to, revisions to source data due to late responses, actual data replacing forecast data and revisions to seasonal factors that are re-estimated every period. More information on IoS revisions is available on the Index of Services Methods page.

We produce revisions triangles of services growth to provide users with one indication of the reliability of this key indicator. Statistical tests are performed on the average revision to test if it is statistically significantly different to 0. Further information can be found in background note 16.

In this release of data, the earliest period open to revision is January 2015. The growth rate for January 2015 compared with the same month a year earlier was unrevised from the previous estimate of 3.2% and the month-on-month growth rate for January 2015 compared with December 2014 (-0.2%) was also unrevised.

Further detail on the revisions to the IoS components can be found in the RIOS1 tables in the data section of this publication.

7 . Industry spotlight: food and beverage service activites

Industry spotlight: food and beverage service activities

According to the Standard Industrial Classification 2007 (SIC2007), food and beverage service activities (industry 56) cover companies that operate ventures such as cafes, restaurants, or venues that are licensed to serve alcohol on premises. The defining trait for corporations in this industry is that they serve food or drink that is ready for immediate consumption; any companies selling food or drink which involves additional preparation by the consumer is included in wholesale or retail trade. Beverage serving activities (56.3), which includes the output of premises such as public houses and nightclubs, used to be the largest component of the industry but their importance has diminished over time (from 49% of total output in January 1997 to 35% in February 2015). Instead, restaurants and cafes (56.1) have increased in importance and now account for half of the turnover in the industry. Food and beverage service activities are included under the distribution, hotels and restaurants industry grouping within services.

Relative to the entire services industry, this industry has seen significantly lower growth since 1990 in volume terms. However, a clear outlier to this trend can be observed in 2012; output in this industry was particularly strong in this year, possibly reflecting significant sporting events such as the London Olympics. The industry is pro-cyclical, declining more than overall GDP in downturn years. Eating or drinking out might be considered to be discretionary spending by most households and therefore something they cut back on when confidence in the economy is weak.

Figure 5: Index of Services and food and beverage service activities

UK, 1990 to 2014

Index 1990 quarter 1 (Jan to Mar) = 100

Legend: IoS — Food and berverage service activities
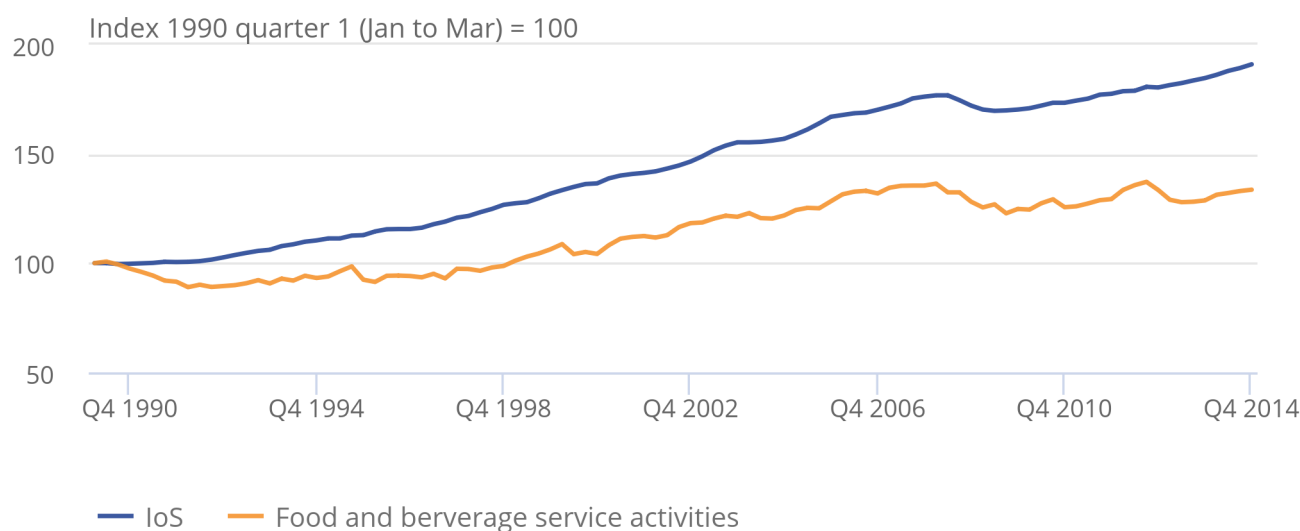
Source: Office for National Statistics

This industry has grown more slowly than many other industries with a consumer focus, such as the retail trade. Part of the reason may be that prices for restaurants and other catering services have risen significantly more than the overall Consumer Price Index (CPI). While the CPI rose by 47% between January 1996 and March 2015, prices in catering services rose by 84% over the same period (more information can be found in the Consumer Price Inflation March 2015 release). This has meant that while in nominal terms, spending on catering services as a proportion of overall household expenditure fell from 9.0% in Quarter 1 (Jan to Mar) 1997 to 7.7% in Quarter 4 (Oct to Dec) 2014, in real terms this fall has been larger (more information can be found in Consumer Trends Q4 2014 release). The movement in prices could also explain why, despite lower growth in volume terms, the industry's share of total services output has remained relatively stable, only falling from 2.6% in 1990 to 2.5% in 2014.

Food and beverage service activities tend to exhibit a strong degree of seasonality, with higher output in the summer months and large spikes in output in December. This pattern changes across the different sub-industries for example, growth in event catering (56.2) output is especially strong between May and July, possibly reflecting a preference for holding large events such as weddings in these months. The output of beverage serving activities is particularly strong in December, rising by 19% on average between November and December in the years 2002 to 2014, compared to 13% for the industry as a whole. The seasonal adjustment process removes these recurring fluctuations to aid interpretation of the general movement of the series.

8. Background notes

1. **What's new**

   Following the recent assessment by the UK Statistics Authority covering short-term economic output indicators, the Index of Services (IoS) has been re-designated as a National Statistic. A letter of confirmation was published on 26 March 2015 and is available on the Assessment reports web page on our website (report number 278).

2. **Continuous improvement of GDP: sources, methods and communication**

   The GDP Output Improvement Report published on 30 September 2014, provides a detailed update of the implementation of improvements for Blue Book 2014, progress on industry reviews and wider cross-cutting improvements, a comprehensive timetable for the industry review project, an update of industry quality ratings and progress on experimental statistics. It also features sections on deflation and annual coherence adjustments to improve the understanding and transparency of the methods involved in producing Index of Production (IoP), IoS, and GDP(O).

   Assessment reports by the UK Statistics Authority are available on our website for the output approach to measuring GDP and the short-term indicators that feed into it. Furthermore, the priorities for national accounts production and development over a 5 year period (financial year ending 2014 to financial year ending 2018) are highlighted in the National Accounts and Related Statistics Work Plan and an independent review of the UK's national accounts and balance of payments has been produced as part of ONS's programme of National Statistics Quality Reviews (NSQRs).

3. **What do you think?**

   As a user of our statistics we would welcome your feedback on this publication. If you would like to get in touch please contact us via email: stoi.development@ons.gsi.gov.uk.

4. **A review of the experimental statistics status for 9 IoS industries**

   The IoS has been designated as National Statistics by the UK Statistics Authority, although a number of components are experimental. In August 2012 the article Index of Services - Industry Reviews (249.1 Kb Pdf) was published, highlighting the industries that are classed as experimental and the work that is ongoing to remove the experimental label.

   Section 5 of the GDP Output Improvement Report outlines plans to review the removal of experimental statistics status for the following industries:

   - SIC07 industry 60 - Programming and broadcasting

   - SIC07 industry 62 - Computer programming

   - SIC07 industry 63 - Information service activities

   - SIC07 industry 68.3 - Real estate activities (fee or contract basis)

   - SIC07 industry 77 - Rental and leasing activities

   - SIC07 industry 81 - Services to buildings and landscape

   - SIC07 industry 86 - Human health

   - SIC07 industry 94 - Activities of membership organisations

   - SIC07 industry 97 - Activities of households as employers of domestic personnel

   Appendix 8 of the report outlines the data sources and methods in use for each industry at Blue Book 2014. The removal of the experimental statistics label and subsequent replacement as National Statistics is a process that follows from adherence to the Code of Practice for Official Statistics. This means that an

industry may have a quality rating of C but would still be classified as National Statistics due to the extent to which it follows the principles and protocols that surround the Code of Practice. Users are invited to respond to the review through ios.quality@ons.gsi.gov.uk.

5. **Special events**

ONS maintains a list of candidate special events in the Special Events Calendar. As explained in ONS's Special Events policy, it is not possible to separate the effects of special events from other changes in the series.

6. **Understanding the data**

Short guide to the Index of Services

The Index of Services shows the monthly movements in the gross value added (GVA) of the service industries (2007 Standard Industrial Classification (SIC 2007) sections G to T). These industries account for around 78% of gross domestic product (GDP) in 2011. The index is estimated using the same data sources and national accounts methodology as the quarterly estimate of services industries' gross value added within the output approach to measuring GDP (GDP (O)). These consist of the distribution, hotels and restaurant industries (SIC 2007 sections G and I); transport, storage and communication (sections H and J); business services and finance (sections K to N); and government and other services (sections O to T).

7. **International comparison**

International comparison with the IoS is difficult, as most comparable economies do not produce equivalent estimates. Eurostat turnover in services estimates are not comparable with the IoS, as they exclude the wholesale and retail trade; furthermore, most of the estimates are only available quarterly. The USA also produces services output estimates, but only on a quarterly basis, with a 4 month lag time. Japan has a direct equivalent of the IoS, but the estimates are not seasonally adjusted. The closest equivalent estimates are from Canada, which produces a monthly output estimate of GDP with a breakdown by industry (including an aggregate for services). There are also comparable quarterly estimates from Sweden and Ireland.

8. **Short guide to national accounts**

The national accounts provide an integrated description of all economic activity within the economic territory of the UK, including activity involving both domestic units (that is, individuals and institutions resident in the UK) and external units (those resident in other countries). In addition to being comprehensive, the accounts are fully integrated and internally consistent. More information can be found in UK national accounts: a short guide.

9. **How our statistics explain the economy**

The IoS is mentioned in a video summary which highlights 14 ways ONS statistics help you understand the economy. The video summary, along with an interactive version of the video, was released on our website on 27 June 2014 alongside the Quarterly National Accounts for Quarter 1 (Jan to Mar) 2014.

10. **Interpreting the data**

Some monthly data are volatile. When looking at growth rates, the headline IoS figures focus on the percentage change between the most recent month-on-a-year earlier and the most recent 3-months-on-a-year earlier.

The monthly Index of Services statistical bulletin is usually published on the same days as the Gross Domestic Product Preliminary Estimate statistical bulletin, the Second Estimate of Gross Domestic Product statistical bulletin or the Quarterly National Accounts statistical bulletin.

The data for the IoS in this statistical bulletin are generally consistent with the Gross Domestic Product Preliminary Estimate published on 28 April 2015. However, rounding can sometimes cause differences between the 3-monthly growth rates presented in this release compared with the quarterly growth rates presented in the Gross Domestic Product Preliminary Estimate. Data for the retail industry are broadly comparable with the Retail Sales release published on 23 April 2015, but as the 2 series operate under different revisions policies, there can be timing differences in the updating of the 2 series. Also, adjustments to the data within the IoS release are sometimes made at the time of the Blue Book to improve the coherence of the 3 approaches to measuring GDP. Therefore, inconsistencies between the 2

series are not unusual but tend to be small. There are also conceptual and coverage differences between retail sales and retail output which can lead to apparent inconsistencies.

11. **Definitions and explanations**

Definitions found within the main statistical bulletin are listed:

Index number An index number is a number which indicates the change in magnitude relative to the magnitude at a specified point, the latter usually taken as 100. For example, the level of services for February 2015 is given in Table 1 as 109.0. This means that services output was 9.0% higher than the average in the reference period, which is currently 2011.

Seasonal adjustment The index numbers in this statistical bulletin are all seasonally adjusted. This aids interpretation by removing annually recurring fluctuations, for example, due to holidays or other regular seasonal patterns. Unadjusted data are also available. Seasonal adjustment removes regular variation from a time series. Regular variation includes effects due to month lengths, different activity near particular events such as shopping activity before Christmas, and regular holidays such as the May bank holiday. Some features of the calendar are not regular each year, but are predictable if we have enough data, for example, the number of certain days of the week in a month may have an effect, or the impact of the timing of Easter. As Easter changes between March and April, we can estimate its effect on time series and allocate it between March and April depending on where Easter falls. Estimates of the effect of the day of the week and Easter are used respectively to make trading day and Easter adjustments prior to seasonal adjustment.

X-13-ARIMA-SEATS is the current seasonal adjustment software used for IoS.

Value (current price) Economic transactions involve the production of goods and the sale of goods and services (commodities). The monetary value (or current price) of these transactions is a product of the quantity produced or sold and the unit price. In a particular period, the total (aggregate) value of all transactions taking place in the economy is simply the sum of the individual transaction values in that period. The current price is sometimes referred to as the "nominal" price.

Volume (constant price) When it comes to comparing the difference in aggregate values between 2 time periods, the observed movement is generally a combination of changes in quantity and changes in price. In a lot of cases, the interest of users of economic data lies in understanding the degree to which economic growth is being driven by changes in quantities (that is, physical volumes of production and consumption). It is standard practice to present many economic statistics as volume series (showing changes in the level of the series that have not been affected by changes in price) and such series are referred to as "at constant prices" or "real" prices.

Deflation The process of removing price changes from a value series and converting to a volume series is known as deflation. All index numbers presented in this bulletin are volume measures and have had the effect of price changes removed.

Chained volume measures The indices in this bulletin are presented as "chained volume" measures, meaning that successive volume estimates have been linked (or chained) together. Annual chain-linking was introduced in 2003 and is considered preferable to producing standard volume series as chained volume measures more accurately reflect volume changes over time. More information on chain-linking can be found in the Tuke and Reed (2001) (92.8 Kb Pdf) article, and a paper on chain-linking weights in the output approach to measuring GDP can be found on the Methods and Sources page.

Gross domestic product (GDP) The total value of production activity in the economic territory. It is the balancing item on the production account for the whole economy. Domestic product can be measured gross or net of consumption of fixed capital (or depreciation). It is presented in the accounts at market (or purchasers') prices. A further distinction is that it can be at current prices or chained volume measures.

12. **Methods**

Index of Services methodology can be found on our website.

13. **Composition of the data**

The IoS uses a wide variety of different data, from many sources, which are produced on either an annual, quarterly or monthly basis.

Some of the indicators are derived using current price turnover deflated by a suitable price index. This includes data from the monthly business burvey (MBS): an ONS short-term survey on different parts of the economy. It is one of the main data sources used in the compilation of the IoS.

More information on monthly business survey data can be found within the [Economic and Labour Market Review release (2.65 Mb Pdf)](#).

Other sources use direct volume measures that do not need to be deflated, such as Civil Aviation Authority data for air transport. Other proxies, such as employment numbers, are also used. This is the case with Public Sector Employment and Workforce Jobs data.

Where monthly data are not available (for example, when data are delivered quarterly or annually), monthly estimates are derived by forecasting data. This is done using the X-13-ARIMA-SEATS forecasting method and interpolating a monthly path using a cubic spline.

An X-13-ARIMA-SEATS forecast is also used where actual data at industry level are not available for the latest period (a lower proportion of actual data are available for the latest month). When the forecast is replaced by actual data, this may lead to revisions to the published data.

The IoS adheres to the [Government Statistical Service Disclosure Control Policy (337 Kb Word document)](#). More information can be found in the [Quality and Methodology Information (QMI) (207.3 Kb Pdf)](#) report.

14. **Response rates**

Approximately 42% of the IoS estimates are based on data collected via the ONS monthly business survey (MBS). In addition, approximately 7% of the IoS estimates are collected via ONS's Retail Sales Inquiry (RSI). The remainder is based on data received from other ONS sources and external data sources. The MBS and RSI response rates for data included in this publication are presented for the current month and 3 months prior in Table 4. The response rates for the historical periods are updated to reflect the current level of response, incorporating data from late returns. There are 2 response rates included; the first is a percentage of the sampled turnover returned and the other is a percentage of the amount of questionnaire forms returned.

Table 4: Survey response rates, February 2015

UK

				Response rate (%)
Period	November 2014	December 2014	January 2015	February 2015
Monthly Business Survey (Services)				
Turnover	97.3	96.5	91.6	81.6
Questionnaire	86.0	84.7	83.0	76.0
Retail Sales Inquiry				
Turnover	98.8	98.2	98.6	96.7
Questionnaire	76.9	76.7	76.4	74.3

Source: Office for National Statistics

15. **Basic quality information**

Some general information on the quality of the Index of Services (IoS) can be found in the "Understanding the Index of Services" section in the main part of this statistical bulletin.

Additionally a [Quality and Methodology Information (QMI) (207.3 Kb Pdf)](#) report for the IoS was published on 11 February 2015. The report pulls together qualitative information on the 5 Eurostat criteria of quality (relevance, accuracy, timeliness and punctuality, accessibility and clarity, and comparability and coherence) and provides a summary of the methods used to compile the IoS output, describing the strengths and limitations of the estimates produced.

Further quality information, including details of the quality adjustments process for IoS, was published on 31 October 2014 and can be found on the [Index of Services Methods](#) page on our website.

16. **National accounts revisions policy**

Key documentation explaining the national accounts [revisions policy (43.3 Kb Pdf)](#) is available.

17. **Revisions triangles**

SIC 2007 revisions triangles are contained in a zip folder. This folder can be found within the data section of this bulletin.

Revisions to data provide 1 indication of the reliability of key indicators. A statistical test has been applied to the average revision to find out if it is statistically significantly different from 0. An average revision close to 0 is desirable as it suggests that revisions are not predictable in any one direction. The result of the test is that the average revision is not statistically significantly different from 0.

Table 5 presents a summary of the differences published between February 2009 and February 2014 and the estimates published 12 months later.

Table 5: Revisions between first publication and estimates 12 months later

UK

			Percentage change
	Value in latest period	Average over the last 60 months	Average over the last 60 months without regard to sign (average absolute revision)
Index of Services 3 month on 3 month growth rate	0.7	-0.07	0.19
Index of Services 1 month on 1 month growth rate	0.3	-0.03	0.18

Source: Office for National Statistics

18. **Publication policy**

Details of the policy governing the release of new data are available from our media relations office. Also available is a [Pre Release Access List](#) of those given pre-publication access to the contents of this release

19. **Accessing data**

The data presented in the tables of this statistical bulletin are also available to download from the [data section](#) of this publication. A complete run of data is available as a [time series dataset](#) on our website.

We provide an analysis of past revisions in the IoS and other statistical bulletins; more information can be found in [Revisions information in ONS First Releases (244.6 Kb Pdf)](#).

20. **Following ONS**

You can follow ONS on [Twitter](#) and [Facebook](#).

21. **Code of Practice for Official Statistics**

National Statistics are produced to high professional standards set out in the Code of Practice for Official Statistics. They undergo regular quality assurance reviews to ensure that they meet customer needs. They are produced free from any political interference.

The UK Statistics Authority has designated these statistics as National Statistics, in accordance with the Statistics and Registration Service Act 2007 and signifying compliance with the Code of Practice for Official Statistics.

Designation can be broadly interpreted to mean that the statistics:

- meet identified user needs

- are well explained and readily accessible

- are produced according to sound methods

- are managed impartially and objectively in the public interest

Once statistics have been designated as National Statistics it is a statutory requirement that the Code of Practice shall continue to be observed.

22. Details of the policy governing the release of new data are available by visiting www.statisticsauthority.gov.uk/assessment/code-of-practice/index.html or from the Media Relations Office email: media.relations@ons.gsi.gov.uk

These National Statistics are produced to high professional standards and released according to the arrangements approved by the UK Statistics Authority.