

**Distr.
GENERAL**

**CES/AC.68/2002/17
3 April 2002**

ENGLISH ONLY

**STATISTICAL COMMISSION and
ECONOMIC COMMISSION FOR EUROPE**

**ORGANISATION FOR ECONOMIC
CO-OPERATION AND
DEVELOPMENT (OECD)**

**CONFERENCE OF EUROPEAN
STATISTICIANS**

**COMMISSION OF THE EUROPEAN
COMMUNITIES (EUROSTAT)**

**Joint ECE/Eurostat/OECD
Meeting on National Accounts**
(Geneva, 24-26 April 2002)

**HOW THE UK IS DEVELOPING A MONTHLY INDEX OF SERVICES
AND HOW THIS IS LEADING TO IMPROVEMENTS
IN THE MEASUREMENT OF OUTPUT INDICATORS
OF BUSINESS SERVICES**

Invited paper submitted by Office for National Statistics, United Kingdom*

Summary

In December 2000, the ONS launched an experimental monthly index of services (IoS) in response to demands from users of economic data. It completed the first stage of a development programme aimed at improving the periodicity, range and quality of output indicators for the UK service industries. The IoS is consistent with the corresponding quarterly series in the output or production measure of GDP.

* Prepared by Mr. Steve Drew, Office for National Statistics, United Kingdom.

This paper explains the background to how the IoS has been developed, what work has been completed so far and the methodology and data sources that make up the index. The paper then looks at the programme in place for improving the IoS through its established development programme. Since these developments will also improve the quality of the quarterly output measure of GDP it will move the ONS towards publication of a monthly estimate of GDP.

The paper also highlights what developments are taking place within business services, and how price and volume measurement is being improved in this area.

INTRODUCTION

1. Service industries account for around two thirds of GDP in the UK. An experimental constant price monthly Index of Services has been developed in response to user demands. This paper covers the following:

- The reasons why the Index of Services has been developed;
- What we have done so far;
- The methodology and data sources that make up the index;
- The proportion of monthly data that make up the index;
- The development programme that is in place to improve the IoS;
- The developments that are taking place within business services.

WHY DEVELOP AN INDEX OF SERVICES?

2. Over the years, in the UK, services have become a much larger part of the economy. In 1948, services accounted for only 46% of the economy, whereas now it accounts for 66%. The increasing dominance of the services sector has meant increased pressure for more timely data to measure the service sector. In response, the ONS has developed an experimental constant price monthly index of service sector output.

3. Much of the pressure has come from the main users; HM Treasury and Bank of England. In the UK, the Bank of England is responsible for setting UK interest rates (Monetary Policy Committee).

4. They want ONS to redress the imbalance between the short-term data available for the production sector and the data available for the service sector, both in terms of data quality and timeliness. Currently the UK's monthly Index of Production (IoP) is published 5½ weeks after the

end of the month, but as the Bank and HM Treasury are particularly interested in improving the quality of the indicators, it may prove impractical to publish a monthly index of services to the same timescale as the IoP.

5. The other main benefit of developing a monthly IoS is that it drives improvements to the quarterly GDP estimates in terms of improving the data sources and improving the quality of the early estimate of the quarterly output (production) measure of GDP (GDP(O)). The IoS and GDP(O) share the same data sources and methods.

What have we done so far?

6. Work started in 1999, and the first output was an Index of Distribution (NACE 50-52). This was launched as an experimental series in December 1999. In the UK, experimental series are data that are still being tested and are not yet fully developed, but they have been released for three main reasons:

- In order to consult with potential users whilst developing the series;
- To acclimatise users with the new series; and
- For people to use, knowing the limitations of the series.

7. A year later the experimental index for the rest of services was published. The series is published monthly and is broken down into 5 broad industry categories. These are:

- Distribution;
- Hotels and restaurants;
- Transport, storage and communications;
- Business and finance;
- Government and other services.

8. The IoS and IoD were originally published 13½ weeks after the end of the month, however in May 2001, the experimental label was dropped from the Index of Distribution and it was given First Release status. At the same time publication was speeded up to 9½ weeks. This followed an extensive evaluation process within ONS.

9. In January 2002, publication of the IoS was speeded up to 9½ weeks.

METHODOLOGY AND SOURCES

10. As mentioned above, the IoS uses the same data sources and methods as used to compile the service element of quarterly GDP(O). The main sources are as follows:

11. Turnover - the ONS has been conducting turnover inquiries for the service sector since the early 90's. They were originally collected quarterly but have all now been converted to monthly. These data are used for measuring movements in GVA. As well as ONS surveys, administrative turnover data is also used and also to validate ONS surveys. The table below shows the industries currently covered. As can be seen, all business services (NACE 74 in bold on table) are covered by the turnover inquiry . In total 30,000 forms are sent out each month to service sector companies (of which around 3700 go to NACE 74). These turnover inquiries cover around 45% of the service sector by GVA.

Table 1. Coverage of UK Monthly turnover survey

SIC	Description	SIC	Description	SIC	Description
50.1	Sale of motor vehicles	55.5	Canteens and catering	74.1	Legal, consultancy etc; holdings
50.2	Maintenance & repair of motors	60.2	Other land transport	74.2	Architectural, technical consult
50.3	Sale of motor vehicle parts etc	63.1	Cargo handling and storage	74.3	Technical testing and analysis
50.4	Sale, repair etc motorcycles & parts	63.2	Other supporting transport	74.4	Advertising
50.5	Retail sale of automotive fuel	63.3	Travel agencies etc; tourist nec	74.5	Labour recruitment
51.1	Wholesale fee or contract basis	63.4	Other transport agencies	74.6	Investigation & security
51.2	Wholesale raw materials & animals	64.12	Courier other than national post	74.7	Industrial cleaning
51.3	Wholesale food, beverages & tobacco	64.2	Telecommunications	74.8	Miscellaneous business nec
51.4	Wholesale of household goods	71.1	Renting of automobiles	80.3	Higher education
51.5	Wholesale intermediate prods, waste	71.2	Rent other transport equipment	80.4	Adult and other education
51.6	Wholesale machines, equipment etc	71.3	Rent other machinery & equipment	85.1	Human health activities
51.7	Other wholesale nec	71.4	Rent personal & h'hold goods nec	85.2	Veterinary activities
55.1	Hotels	72.2	Software consultancy and supply	90	Refuse disposal, sanitation etc
55.2	Camp sites & short-stay accommodation	72.5	Maintenance office, comp'g mach	92.2	Radio and television activities

SIC	Description	SIC	Description	SIC	Description
55.3	Restaurants	72.6	Other computer related activities	92.3	Other entertainment activities
55.4	Bars	73.2	R&D on social sciences & human's	92.4	News agency activities

12. Deflators - in the UK a range of Corporate Service Price Indices (CSPIs) are collected. These measure the price movements of services provided to businesses, central and local government. Virtually all of the activities classified to the service sector are within the scope of the CSPI project, but any element where the service is provided directly to the individual for final consumption is excluded.

13. The series is currently experimental and just over 50% of the potential coverage has been achieved so far. Indices for 28 industries are currently released every quarter along with an experimental top-level index in the experimental statistics area on the ONS website. Table 2 shows the CSPIs that are currently available and those that are used within the IoS and GDP(O).

Table 2. CSPIs that are currently published and used within IoS/GDP(O)

SIC	Description	Used?	SIC	Description	Used?
50.2	Maintenance/repair of motor vehicles		71.32	Construction Plant Hire	Y
55.5	Canteens and catering		74.13	Market research	
60.23	Bus & Coach hire	Y	74.3	Technical testing	
60.24	Freight Transport by Road	Y	74.5	Employment agencies	
61.10/1	Commercial vehicle ferries		74.6	Security Services	Y
61.10/2	Sea and Coastal services		74.7	Industrial Cleaning	Y
62.10/1	Business Air Fares		74.81/9	Commercial Film Processing	Y
63.4	Freight forwarding		74.82	Contract packaging	
64.11	National Post		74.83	Translation services	
64.12	Courier Services	Y	74.83	Secretarial services	
64.2	Business Telecommunications		80.42/9	Adult Education	
70.2	Property rental payments		90.00/1	Sewerage services	
70.31	Real Estate		90.00/2	Waste disposal	Y
71.1	Car Contract Hire		93.01	Commercial washing/Dry Cleaning	

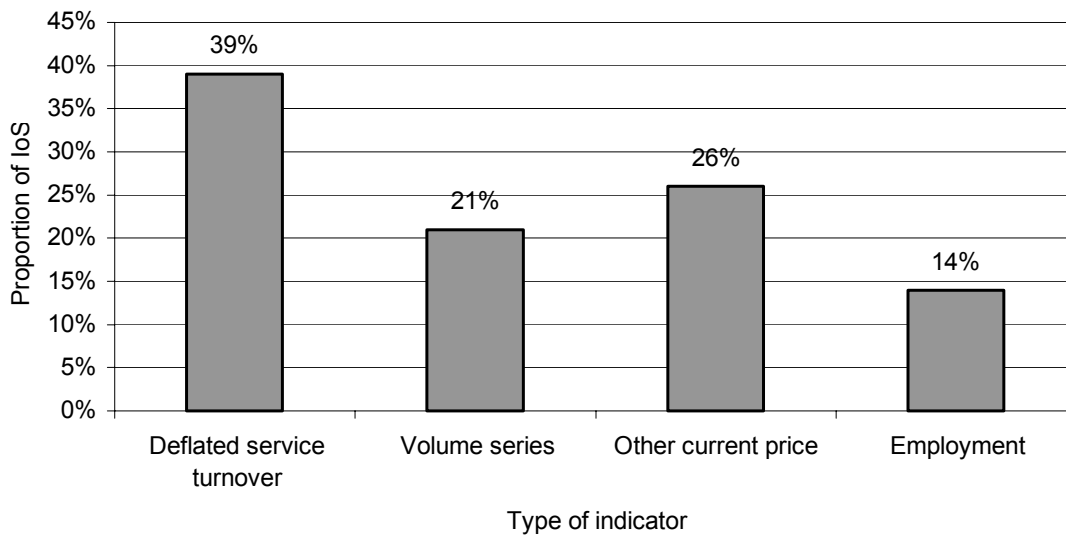
14. As can be seen, within business services, there are 9 CSPIs currently published of which 3 are currently used. Overall 8 series are used as deflators within IoS/GDP(O). Where these industry specific deflators are not available, CPIs (Consumer Price Indices), AEIs (Average Earnings Indices) and PPIs (Producer Price Indices of manufactured products) are used. In business services, the AEI for NACE 70-74 combined with the top-level CPI is used where more appropriate deflators such as CSPIs are not available.

15. Volume indicators - these include proxies such as passenger km for rail travel, volume of letters delivered (broken down by type) for postal services, air passenger and freight miles, shipping volumes, bank credit and debit clearings, building society advances, public sector output indicators for social security, education and health.

16. Other current price indicators – these include some Index of Production and Retail Sales components (currently used as proxies for wholesale output), railway freight, international passenger revenue, bank and non-bank loans and deposits, building society liabilities, insurance net premium income, government rent subsidies, forces' pay.

17. Input indicators - for some industries these are the only short-term indicators available, the most obvious of which is employment.

Chart 1. Composition of the IoS by indicator (as at 02/2002)

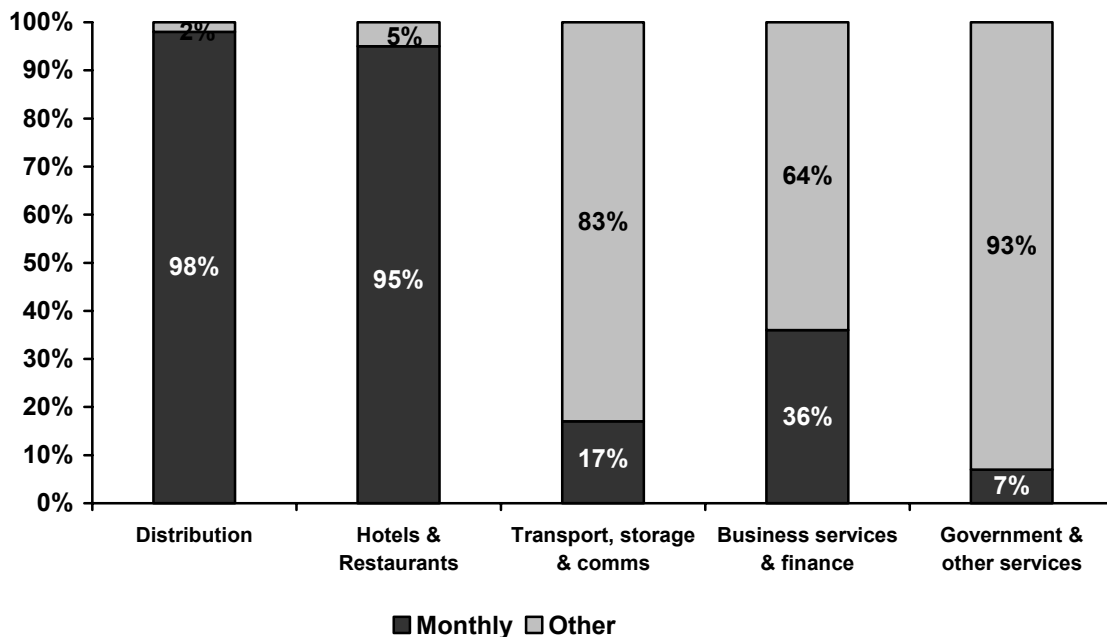


18. As well as using the same data sources and methods in both the services part of the quarterly GDP(O) and the experimental monthly IoS, the two teams work closely together in compiling the indices. The monthly IoS is presently constrained to the quarterly path of GDP(O).

PROPORTION OF MONTHLY DATA

19. At present, the IoS is made up of 38% monthly data, with the rest either quarterly or in some cases annual. However, this proportion is not equal across the service industries. The following graph shows the breakdown by the 5 broad industry categories.

Chart 2. Proportion of monthly data in IoS component series (02/2002)



As the graph shows, the source data is mostly monthly within distribution and hotels and restaurants, whereas only 7% of source data for government is available monthly.

DEVELOPMENTS

20. We will now look at the development programme that is in place to take the IoS forward and eventually lead to the dropping of the experimental label.

21. When the experimental IoS was launched, an article was also published that introduced the series and set-out the development programme. There are four main themes:

- improving timeliness;
- improving data sources and methods;
- increasing "monthliness";
- improving the range of price indices used.

IMPROVING TIMELINESS - SPEEDING UP

22. We have already seen the steps taken in publishing the IoS and IoD more quickly. Future improvements will come from refining the procedures for constructing and quality assuring the index.

IMPROVING DATA SOURCES AND METHODS

23. The strategy that has been adopted for improving the data sources and methods is an industry-by-industry review approach. Each of the industries within services will, over time, be reviewed.

24. The review process examines the existing data sources and methods. The current methods are then evaluated against the Eurostat guidance for annual price and volume measurement. Alternative data sources that are available are investigated; this includes both internal sources (this is mainly through taking on the ONS turnover data that has not yet been taken on within quarterly GDP(O)) and external data sources (i.e. other government departments, external organisations). Consultation is also held, this can be with trade associations, industry experts, academics and other NSIs. Once a preferred option is identified, the data is tested in terms of quality. This is followed by a National Accounts Peer Group Appraisal, where the proposed methodology is presented to National Accounts experts and Methodologists within ONS and approval is sought. Once this has been completed, final reports for industry are written and the computer system changes are implemented.

25. This process has already reviewed the motor trade and wholesale industries.

Future programme of reviews

26. In planning the future programme of reviews, we have been faced with competing priorities, these include:

- Addressing recognised weaknesses;

- Taking on new data sources;
- Reviewing rapidly changing industries.

27. After consultation with our main users, we have set out the future programme of reviews that yields a balanced approach to addressing the various priorities. As a result the reviews that are currently taking place are retail and computer services, and these will be followed by post and telecommunications, hotels and restaurants and other business services. The aim is to cover the entire service sector. The review of business services will largely involve the evaluation of the CSPIs that are available for NACE 74 but not currently used.

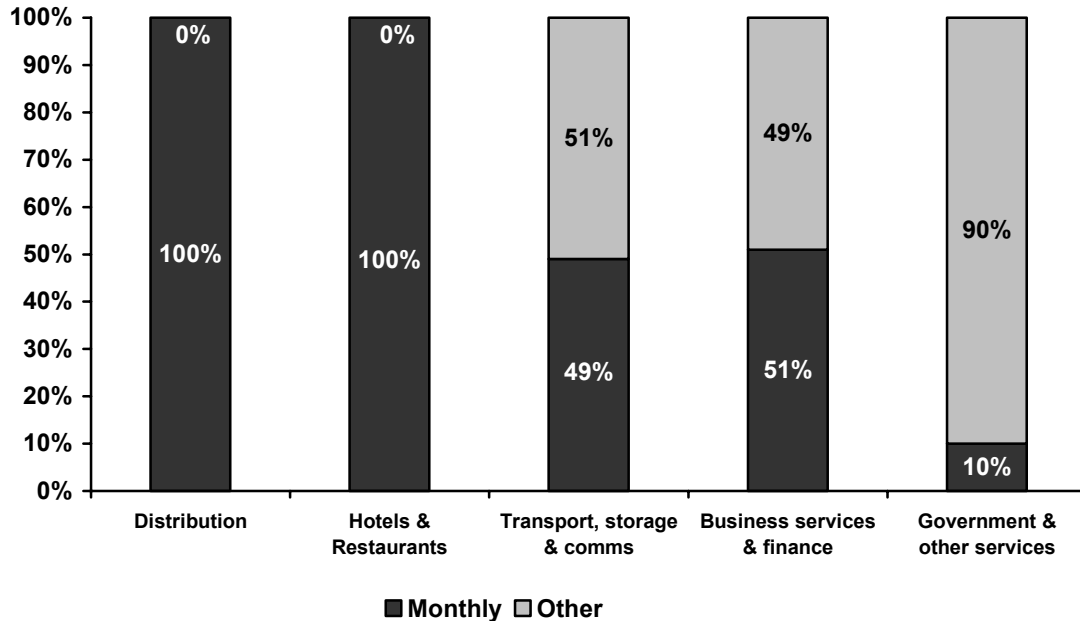
IMPROVED "MONTHLINESS"

28. As the slide earlier showed, the Index of Services currently comprises of 38% monthly data, and part of the development programme is focused on using more monthly data.

29. The main way that the proportion of monthly data will be increased is by using the ONS turnover survey data as monthly data. The ONS services turnover survey was converted from quarterly to monthly in two stages, in April 2000 and January 2001. Although it is collected monthly, there is insufficient monthly data in order to seasonal adjust (we need at least two years, preferably three years data are required).

30. The graph below shows the proportion of monthly data within the IoS components once these monthly series have been taken on.

Chart 3. Proportion of monthly data in IoS component series
(once all turnover data is used as monthly data)



31. As can be seen, both distribution and hotels and restaurants will be exclusively monthly data, transport, storage and communications and business services and finance will have around half monthly data. Government and other services will see a slight increase to 10% monthly data. Overall the proportion of monthly data will increase from 38% to 48%.

32. We are also reviewing the data that we currently receive on a quarterly basis from external sources and asking suppliers (mainly other government departments), whether they have monthly data available.

IMPROVING THE RANGE OF PRICE INDICES

33. The final area of development is in the field of service price indices. As has been mentioned earlier, in the UK, there has been a rolling programme of developing. As well as the 28 series currently published, there are another 15 series under active development. These are listed on the table below.

Table 3. CSPIs that are currently under development

55.10	Hotels	72.20	Computer Services
60.10	Inter-city services	74.11/9	Legal Services
60.10	Rail freight	74.12	Accountancy*
60.22	Taxi Operation	74.20/1	Architectural activities
65.12	Banking	74.20/3	Quantity surveyors
66.03	Insurance	74.20/4	Consulting engineers
71.31	Renting and agricultural machinery	74.40	Advertising**
71.33	Renting Office Machinery		

* In due course, a separate index will be developed for management consultancy - currently combined with accountancy.

** The development of the index for advertising will be divided between placement and creation.

34. A wide range of price collection methodologies are employed to cope with the problems of defining prices in some of the more difficult industries generally defined as “professional business services”, such as architects and legal services. Much of the development work and experience is shared internationally, and the ONS liaise closely with the ABS, Statistics Canada and the US Bureau of Labour Statistics (who have all contributed significantly to the UK’s progress in this field), as well as being a major participant at international price statistics conferences such as the Voorburg Group.

35. In relation to business services, of the industries that are currently being developed, the table below shows the progress that has been made in developing representative and robust pricing mechanisms:

Table 4. Development of reliable price mechanisms for business services industries

SIC	Description	Details
74.20	Architects, consulting engineers and quantity surveyors	In light of work done by Stats Canada and the CSPI pilot study the notion of using model prices has been dropped in favour of a charge-out rate methodology.
74.11/9	Legal services	A pilot form on charge-out rates has been analysed thoroughly from data collected over a 2 year period, and the form will need further refining. The inquiry will seek specific rates for the four main grades of staff.
74.12	Accountancy	CSPI will accept both model and actual prices (primarily from small and medium sized enterprises) and fee income by grade for the larger companies, but these have yet to be integrated to form a composite index. The work will differentiate between accountancy and management consultancy and will lead to the production of two separate indices.
74.40	Advertising	Current development work is focused on creating a price index for placement costs in various media environments. This is a relatively straightforward element of the industry and work is scheduled for completion by end-2002. The next stage will be more difficult as it will concentrate on the more complex area of advertisement creation and may not be finalised until end-2003.

36. These indices should all be available by end-2003 and would mean that CSPIs would be available for the whole of division 74. It is the aim of the IoS development programme, to take on CSPIs once they are developed for inclusion as deflators within the IoS and GDP(O). The development programmes of both IoS and CSPI are linked closely together, to ensure that the deflators needed for IoS and GDP(O) are developed and that they can be taken on as soon as is practicable.

CONCLUSIONS

37. The experimental monthly IoS is a first step toward providing, for the service industries, the periodicity, range and quality of output indicators that has existed for the production industries for many years. By improving the quality of the service industry output statistics, it will in turn, improve the quality of the quarterly estimate of GDP(O), by improving the data sources and quality and by increasing the amount of data available when the early estimate of GDP(O) is published.

38. Although we have made encouraging progress we acknowledge that this is a long-term project with a lot of work ahead and many outstanding issues that need to be addressed.

39. In terms of business services, this paper has shown that a lot of progress has been made in the last few years in conjunction with our Corporate Service Price Indices team, and by the end of 2003, the majority of business services will have appropriate and specific business services price indices that will be available for use as deflators within the IoS and GDP(O).

REFERENCES

Rob Pike and Geoff Reed. Introducing the Experimental Monthly Index of Services. Economic Trends, No 565 December 2000.

http://www.statistics.gov.uk/themes/economy/articles/general/extracts/downloads/Experimental_Monthly_IoS_Aug_2000.pdf

Hugh Skipper and Ian Cope. Plans for the Development of a Monthly Index of Services. Economic Trends, No. 551 October 1999.

http://www.statistics.gov.uk/themes/economy/articles/general/extracts/downloads/Experimental_Monthly_IoS_Aug_2000.pdf

Gross Domestic Product: Output approach (Gross Value Added), GSS Methodology Series No.15, 1999, a GSS publication available from the National Statistics Direct on 01633-812078.

Hugh Skipper and Ian Cope. Release of a Prototype Monthly Index of Distribution. Economic Trends, No. 553 December 1999.

<http://www.statistics.gov.uk/themes/economy/articles/shorttermindicators/downloads/IndexofServices.pdf>

Index of Services methodology – this can be found on the ONS website

http://www.statistics.gov.uk/themes/economy/articles/shorttermindicators/IoS_Methodology/default.asp

Nick Palmer. Corporate Services Prices: Publication Of Prototype Index. Economic Trends, No. 560 July 2000.

http://www.statistics.gov.uk/themes/economy/Articles/pricesandinflation/downloads/cspi_July_00.pdf

For more information on the IoS, including latest data and some of the articles above, please visit IoS area on the National Statistics website: <http://www.statistics.gov.uk/ios>

For more information on CSPIs, please visit the CSPI area on the National Statistics website:

<http://www.statistics.gov.uk/cspi>
