

# Methodology of the Monthly Index of Services

## Post & Telecommunications Industry Review

### Introduction

At the launch of the experimental Index of Services (IoS) in December 2000 a commitment was made to review and improve where practical, the sources and methods used to measure the service sector. Post and Telecommunications is one of the third set of industries reviewed as part of the IoS Industry Review Programme. This paper outlines the findings of the Post and Telecommunications Industry Review.

### Summary

The industry review for post and telecommunications has recommended:

National post activities - The review has recommended that four new volume indicators be included in the national post activities estimate to increase the representivity of the indicator. Monthly volume data will also be introduced for seven of the current eleven volume indicators.

Courier activities other than national post activities - No changes have been recommended for courier activities other than national post activities

Telecommunications - The review has recommended that short-term movements in gross value added for BT (fixed lines), mobile telecommunications and 'other' telecommunications be measured separately. A newly developed Corporate Services Price Index (CSPI) for business telecommunications will be introduced in Q3 2003 CSPI results and will replace the current CSPI used in deflation. Each telecommunication component will be deflated using the new CSPI weighted together with the current RPI for telephone charges to derive a constant price estimate. The three series will then be aggregated using re-based weights to produce the total telecommunications series.

Although the methodology will be changed all the way back to 1994 in the system, only the open period from 2000 will be revised. The main impact of the new methodology is weaker growth from the middle of 2001 onwards.

## How important is Post & Telecommunications?

In terms of gross value added (GVA) weights in 2000, post and telecommunications (SIC<sup>1</sup> Division 64) represents:

- 4.6% of the IoS
- 3.2% of Total GVA

Post and telecommunications is published as part of the Transport, Storage and Communication component within the IoS.

## Methodology

### Previous methodology<sup>2</sup>

Within Division 64 there are 3 4-digit SICs. Table 1 below gives the detail of the methodology that was previously used:

**Table 1**

SIC	Description	Output indicator	Source	Deflator	Weight (GDP=1000)
64.11	National post activities	Volume	Royal Mail Group	N/A	6.5
64.12	Courier activities other than national post	Deflated Turnover MIDSS	ONS	CSPI: Business Telecommunications RPI: Telephone charges	2.2
64.20	Telecommunications	Deflated Turnover MIDSS	ONS	CSPI: Business Telecommunications RPI: Telephone charges	20.1

RPI – Retail Price Index CSPI – Corporate Services Price Index MIDSS - Monthly Inquiry into Distribution and Services Sector

### *National post activities*

Volume indicators were used to measure the output associated with national post activities. There were eleven indicators that were weighted together using GVA weights to produce an estimate for national post activity. The data was provided on a quarterly basis.

### *Courier activities other than national post activities*

Monthly turnover (sourced from MIDSS) for courier services was deflated by an appropriate and representative CSPI.

### *Telecommunications*

Over time the methodology used for the telecommunications industry has changed several times due to discontinuations in data supply. The following documentation of the previous methods describes what these methods were and why they were changed

<sup>1</sup> The SIC is the Standard Industrial Classification, and this is the classification system used in the UK to define industrial groupings. The 4-digit refers to the level of detail and is generally the level at which data is collected and aggregated from within GDP(O) and IoS. More detail on this can be found in the IoS Methodology documentation

<sup>2</sup> In this report, the previous methodology refers to the methodology used prior to Blue Book 2003, and the new methodology to the methodology taken on at Blue Book 2003

Owing to the history of the telecommunications industry the data collection was split into two series, telecommunications excluding BT and a BT series. The telecommunications excluding BT was sourced from MIDSS which was then deflated using an RPI for telephone charges.

The BT data was provided by Ofel, with both a current price (CP) and a price adjusted turnover figure (i.e. a constant price (KP) series) being supplied. The two series were then combined to produce a total telecommunications series, using weights of 75% for the BT series and 25% of telecommunications excluding BT.

However, in 2001, Ofel stopped collecting the data for BT (2001 Q3 for the CP series and 2001 Q4 for the KP series). This meant that the MIDSS BT turnover series had to be introduced to IoS and GDP(O)<sup>3</sup> in 2001Q4. In order to deflate this new series (since the Ofel data was already provided in constant prices), the CSPI for business telecommunications was combined with the RPI for telephone charges, and was introduced using weights based on household and other turnover data. This deflator was spliced onto an implied BT deflator (found by dividing the Ofel BT KP figure by the Ofel BT CP figure) from 2001 Q2 onwards.

Owing to the introduction of the CSPI for BT, the same RPI/CSPI composite deflator was introduced for the non-BT turnover series from 2001 Q1.

### Reasons for review

The main reasons for reviewing the post and telecommunications industry were as follows:

- Post office counter services have changed over the years so the indicators needed to be reviewed to check their representivity
- The volume indicators used to measure national post activities were quarterly indicators – IoS require monthly indicators
- The telecommunications industry is a fast moving industry and it is therefore important to keep up to date with any developments within this industry
- The weighting structure used for BT and telecommunications excluding BT needed to be reviewed as it was using the respective GVA weights from 1995
- A new CSPI for telecommunications has been under development - comparisons/evaluations between this and the initial CSPI have been made

### What should we be doing?

In October 2001, Eurostat (European Union's Statistical Office) published the [Handbook on price and volume measures in national accounts](#). The handbook provides guidance by product, on what price and volume methods should ideally be used (A methods), acceptable methods (B methods) and those methods that should not be used (C methods). The handbook has been written in the context of annual data but the same rules apply to sub-annual data.

For post and telecommunications the preferred method is to use turnover deflated by appropriate quality adjusted PPI (in the UK this would translate to a CSPI combined if necessary with the RPI where household consumption exists). Acceptable B methods, are to

---

<sup>3</sup> GDP(O) is the output measure of Gross Domestic Product

use less appropriate PPIs, as well as using volume indicators based on detailed indicators of the many type of services provided.

## Issues faced by the industry review

Can the representivity and timeliness of the national post volume indicators be improved?

Royal Mail Group plc consists of three main 'brands', Royal Mail, Post Office (counter activities) and Parcel Force Worldwide and is wholly owned by the government. The review looked in detail at the range of volume indicators that were being used for each of the brands, and asked whether they were still representative of the services provided nowadays.

The table below shows the indicators that have been used since 1995 against the products identified in the review.

**Table 2**

<b>Current indicators</b>	<b>PO Annual Accounts (From 2000)</b>
No. of 1st Class letters	No. of 1st class letters
No. of 2nd Class letters	No. of 2nd class letters
Tonnes of overseas letters	No. of international letters posted
Datapost	Motor Vehicle Licences**
Savebank	National savings services
Postal orders cashed	Postal orders cashed
Pensions and allowances	Pensions and allowances
Giro bank transactions	Girobank services
Broadcast	Telephone bills paid**
No. of domestic parcels	Bureau de change**
No. of overseas parcels	National lottery**
	Other services**

\*\* services that are not covered within the current indicators

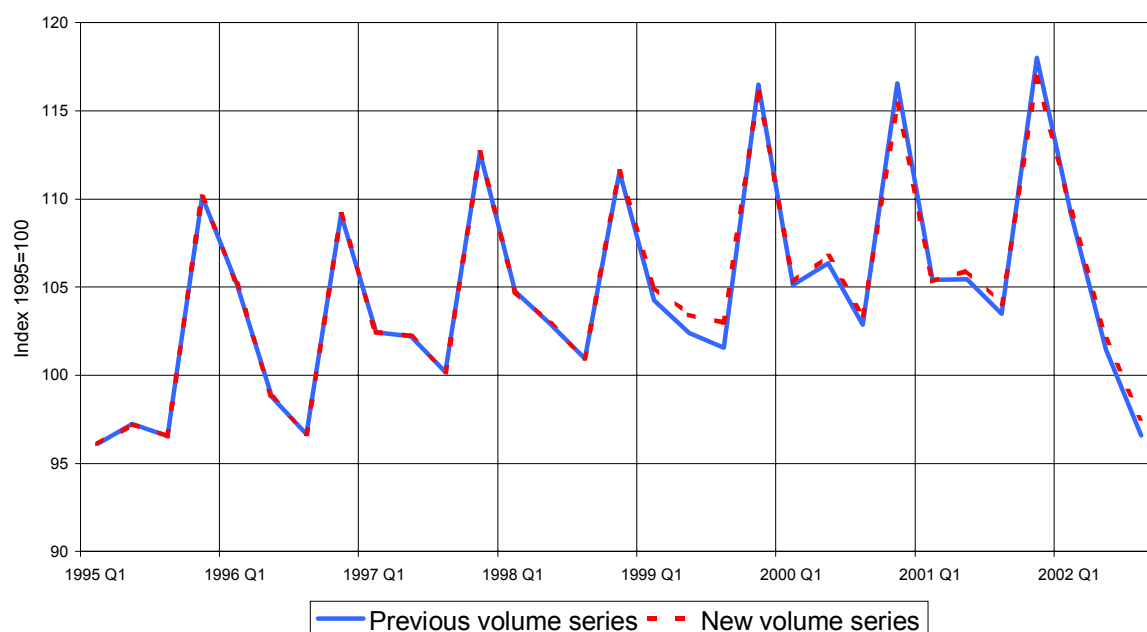
As the table shows, there are some services that are not found in the current indicators. Following a meeting with Royal Mail Group the following four services were added to the methodology:

- DVLA licences
- Utilities (includes BT billing, water, British Gas Trading and electricity)
- Travel Services (includes Bureau de change and travel insurance)
- Mail-sort (this was previously included but now separately identified)

Following this exercise, the volume indicators used to measure national post activities have been increased to fifteen from eleven. The impact of introducing the new volume indicators can be seen on the graph below and it shows that there is little difference between the two series.

**Figure 1**

**Comparison between previous volume series and new volume series**



### *Periodicity of volume indicators*

Owing to the previous requirement for only needing quarterly data, monthly data has never been collected for this industry. Therefore the review also investigated the possibility for sourcing monthly data. In all but one cases, Royal Mail Group have been able to supply these figures on a monthly basis (many with a back history also), to enable the data to be used where appropriate<sup>4</sup> as monthly data. Significantly, the largest components of this group (letters) is available back to 1995.

### Should deflated turnover be used instead of volume indicators for national post?

The review did consider whether deflated turnover could be used instead of volume indicators, but this was decided against. Although Royal Mail Group are a plc whose revenue comes from the marketplace (rather than through subsidies) they in effect have a monopoly over the postal industry and are subject to government controls on pricing, availability and performance.

Although explicit tariffs exist for households, many of the charges are not explicit (in the case of Post Offices) and owing to the following features, using volume indicators are preferred:

- Volume indicators are more timely (monthly rather than quarterly)
- Detailed data on the services provided available
- Homogeneous products
- Slow moving industry (i.e. changes in quality not significant)

---

<sup>4</sup> Although data may be collected on a monthly basis, a time series of at least 2-3 years data is required for seasonal adjustment purposes

### Are the MIDSS and CSPI used for courier services fit for purpose for GDP(O) / IoS?

The methodology as already in place is conceptually rated as an ideal method for output and the industry review ratified the indicators use. Of real interest in this review was the CSPI for courier activities that has already been in place.

An evaluation process has been set up by IoS and GDP(O) in order to assess whether CSPIs are suitable for use as deflators. The CSPI for courier activities has been evaluated, and has been deemed appropriate. This was for the following reasons:

- The family tree of services is broken down into five main groups which are further subdivided into individual services that are priced – this structure is an accurate and representative of how the industry operates
- The sample has recently been boosted following the CSPI re-basing exercise
- Around 45% of the industry turnover is covered by the sample

Hence, there is no reason to change the deflation method currently being used.

### Should turnover be treated as one?

Previously, the telecommunications industry was measured using a deflated turnover series for BT and a deflated turnover series for the rest of the industry. They were weighted together using GVA weights in order to reflect the fact that by GVA BT had a larger share of the market, rather than being treated as one turnover series.

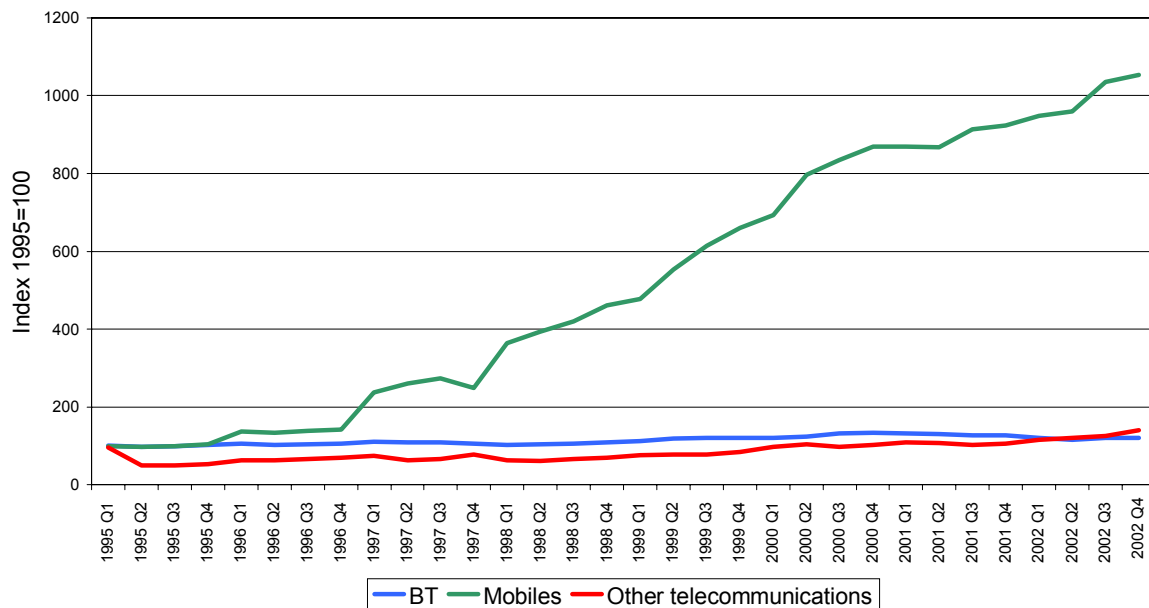
The review questioned this treatment in light of how the industry has developed over time. In order to assess whether the following were considered:

- should the telecomms industry be broken down further (i.e. separate mobile operators as well)
- do the turnover series move in different ways
- are the GVA to output ratios consistent through time and are they different between the groups

The following graph shows the comparisons between BT, mobiles and other (i.e. the rest of the industry):

**Figure 2**

Comparison of current price movement of BT, mobiles and other telecommunications  
(1995=100)



This graph clearly shows that the mobile market has increased massively since 1995, and in fact all three series having been moving differently over the time period shown. This backs up the theory to split out the series. When we compare the movements of GVA to output (sometimes known as the net-to-gross ratio), these are both at different levels and move differently through time for each of the groups<sup>5</sup>.

The review subsequently recommended that each of the three components identified should be treated separately and weighted together using ratios derived from the ABI GVA data in 2000.

### Should the CSPI be replaced by the newly developed CSPI for telecommunications?

In conjunction with the review of telecommunications, CSPI had also been reviewing their business telecommunications price index. The CSPI that had been used had been split into two areas; fixed and mobile calls. The fixed line data was based upon a model approach for small, medium and large businesses from data from the consultancy company Tarifica. The mobile price series came from What Cellphone magazine and again were models based upon talktime pre month.

Owing to the frequency that telecomms companies changed their pricing methods, it became difficult to track the price of calls through time. In conjunction with Ofel, CSPI developed a unit-value approach based upon the census data collected by Ofel. Rather than try to build models of typical consumption, this approach basically takes the income received for a range of different calls and services and divides them by the volume of calls, SMS, etc to derive a unit price. This in effect measures directly the prices charged by the telecomms companies. These prices are then combined by revenue weights to derive an overall business telecomms

<sup>5</sup> For reasons of disclosure we are unable to include the graph for this analysis

index. One issue with this new deflator is that the data is not available in time for the first release of the IoS and the series is only available quarterly.

As per the review for the CSPI for courier services, this CSPI was assessed via the acceptance criteria and has been introduced into the methodology.

### **Who was consulted as part of the Industry Review process?**

Within the ONS, there was comprehensive consultation with relevant teams both within National Accounts and in the survey areas. In terms of external consultations, the review consulted with Royal Mail Group and Ofel.

### **New methodology**

In summary the industry review for division 64 made the following recommendations that were implemented at Blue Book 2003:

- update the volume indicators used to measure the output of the Post Office
- maintain the current methods used for courier activities
- split out the turnover series used for telecomms into BT, mobiles and other and weight together using GVA weights
- introduce the newly developed CSPI for business telecomms to replace the current CSPI used

### **Benefits and issues of new methodology**

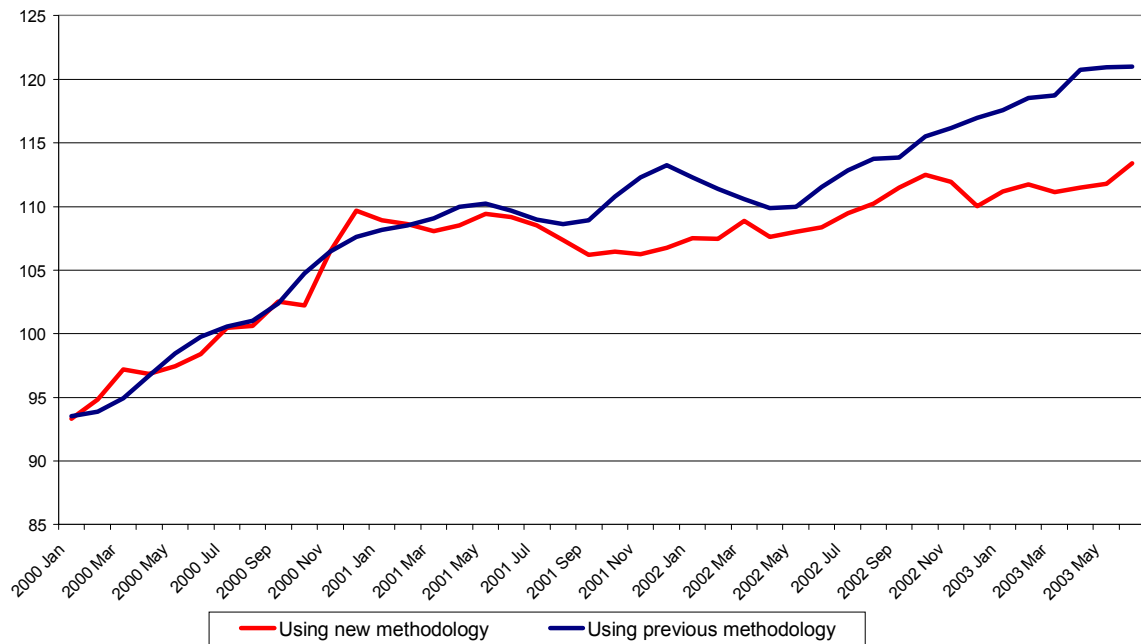
Benefits	V	Issues
The use of monthly volume data increases the monthliness of the IoS	V	The new CSPI for telecomms is not available for the first release of the IoS
The extension of Royal Mail Group volume data improves the coverage and appropriateness of indicators		The new CSPI is only available on a quarterly basis
The updated CSPI for telecomms improves the quality of deflation		

### **Impact of new methodology**

The graph below shows the impact of the new methodology on Division 64. The data has been revised back to January 2000. This in line with the open period for revisions set-out in the National Accounts Revisions Policy for Blue Book 2003

**Figure 3**

Post and telecommunications (Sic92 division 64). constant prices seasonally adjusted,



## Contact Information

Any questions or comments on this article are welcome, as are offers to participate in the process of improving industry sources and methods. Any enquiries should be addressed to:

Steve Drew  
Short Term Output Indicators Division  
Office for National Statistics  
Room 1.473  
Government Buildings  
Cardiff Road  
Newport  
NP10 8XG

Tel: 01633 812484

E-mail: [steve.drew@ons.gov.uk](mailto:steve.drew@ons.gov.uk)

## References

Pike R and Drew S (2002). Experimental Monthly Index of Services. Economic Trends, No. 583, pp 70–78, ISSN: 0013 0400. Available for download from [http://www.statistics.gov.uk/articles/economic\\_trends/ET\\_June02\\_Rob\\_Pike.pdf](http://www.statistics.gov.uk/articles/economic_trends/ET_June02_Rob_Pike.pdf)

Drew S and Morgan D (2003). Experimental monthly index of services – An update. Economic Trends, No. 599. Available for download from <http://www.statistics.gov.uk/ios>

Pike R and Reed G (2000). Introducing the Experimental Monthly Index of Services. Economic Trends, No. 565, pp 51–68, ISSN: 0013 0400. Available for download from [http://www.statistics.gov.uk/articles/economic\\_trends/Experimental\\_Monthly\\_IoS\\_Aug\\_2000.pdf](http://www.statistics.gov.uk/articles/economic_trends/Experimental_Monthly_IoS_Aug_2000.pdf)

Sharp P (2003), GDP: Output approach methodological guide – Revised. National Statistics Methodology Series No. 32. ISBN 1 85774 537 X. Available for download from: [http://www.statistics.gov.uk/downloads/theme\\_other/GSSMethodology\\_No\\_32.pdf](http://www.statistics.gov.uk/downloads/theme_other/GSSMethodology_No_32.pdf)

Eurostat (2001). Handbook on price and volume measures in national accounts, ISBN 92 894 2000 6. Available for download from: [http://europa.eu.int/comm/eurostat/Public/datashop/print-catalogue/EN?catalogue=Eurostat&product=KS-41-01-543-\\_\\_-N-EN](http://europa.eu.int/comm/eurostat/Public/datashop/print-catalogue/EN?catalogue=Eurostat&product=KS-41-01-543-__-N-EN)

Office for National Statistics (2002). IoS Documentation. Available for download from: <http://www.statistics.gov.uk/iosmethodology>