Experimental monthly index of services – development programme update

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This article includes reviews of the achievements in terms of published outputs and the improvements made in the methods and data sources to measure the Index of Services (IoS). It also looks at the recent revisions performance of the IoS and its components, as well as the progress being made on dropping IoS's 'experimental' label. The article concludes by looking at the challenges of the next 12 months and also puts UK development into an international context.

Introduction

This article sets out the progress made in the development of the Index of Services (IoS) since the last IoS *Economic Trends* article (Drew and Morgan, 2003). It also gives details of the remaining work that must be done, and the issues that need to be addressed, before the IoS can be launched as a mainstream National Statistic.

This article covers:

- the background to the IoS
- the achievements made since October 2003 in developing the IoS
- an analysis of the revisions performance of the Index of Distribution (IoD) and IoS
- international context of the development programme of the IoS
- next steps towards dropping IoS's 'experimental' label.

Background

The Office for National Statistics (ONS) launched the IoS (an experimental monthly chained volume index) in December 2000. This was the first step towards providing, for the service industries, the periodicity, range and quality of output indicators that production industries have had for many years. Plans for the future development of the IoS were also explained at its launch.

Since December 2000 the IoS development programme has included improving the conceptual appropriateness of the indicators, increasing the amount of monthly data used in the index and improving the timeliness of the publications. A series of articles have been published in *Economic Trends* describing the progress of the project.

What is published in the IoS?

The IoS is published on an experimental basis and consists of five main components:

- distribution
- hotels and restaurants
- transport, storage and communication
- business services and finance
- government and other services

Of these components, distribution became a mainstream National Statistic in May 2001 after undergoing a quality assurance process.

Use of the National Statistics website

The Index of Distribution (IoD) has been published every month as a National Statistic since May 2001. The IoD release receives around 750 visitors per month.

The IoS release has also been published every month since December 2000 in the experimental statistics area of the National Statistics website. It is worth noting that the experimental IoS release generates just as much interest as the IoD.

Achievements since the last article

The next six sections review progress made in the following areas:

- developments made in the published outputs, including plans for publishing additional detail in the experimental IoS release
- indicator developments, including:
  - overview of the industry review process
  - reviews of the water transport, supporting and auxiliary transport, real estate, public administration and defence, education and health and social work industries
- progress made in increasing the monthliness of the IoS
- price developments
- methods developments
- seasonal adjustment and data primacy

Table 1
The publication of the IoD/IoS in relation to the publication of quarterly GDP

Date	National Accounts Publication	IoD & IoS Publication
22 Jul 05	Gross Domestic Product Preliminary Estimate Quarter 2 2005	IoD & IoS – May 2005
26 Aug 05	UK Output, Income & Expenditure Quarter 2 2005	IoD & IoS – June 2005
28 Sep 05	Quarterly National Accounts Quarter 2 2005	IoD & IoS – July 2005
21 Oct 05	Gross Domestic Product Preliminary Estimate Quarter 3 2005	IoD & IoS – August 2005
25 Nov 05	UK Output, Income & Expenditure Quarter 3 2005	IoD & IoS – September 2005
23 Dec 05	Quarterly National Accounts Quarter 3 2005	IoD & IoS – October 2005

Published outputs

Improving timeliness

What commitment did we make in October 2003's Economic Trends?

We said that we would speed up the IoD and the IoS by one day from January 2004.

Have we met the commitment?

We met this commitment in January 2004. The IoD and IoS are both now released on the same day as all three quarterly GDP First Releases.

Table 1 compares the publication dates of the IoD and IoS and the quarterly GDP Releases.

Level of detail at which the IoS is published

What commitment did we make in October 2003's Economic Trends?

We said that we would work with ONS time-series methodologists to reach a conclusion on whether there is scope for the IoS to be published at a more detailed level.

Have we met the commitment?

A quality assurance team from ONS's Methodology Directorate is currently evaluating the IoS to determine if the IoS should be classified to National Statistics status. This team has recommended that all two-digit Standard Industrial Classification (SIC) 'divisional level' data should be published as part of the evaluation process. We are currently assessing how best to publish this extra detail. Two issues with the IoS publishing two-digit SIC divisional level data are that:

- the IoS will reveal quarterly divisional-level data one month earlier than is the current practice
- these data will be published in the *experimental* IoS release ahead of the quarterly GDP releases.

Indicator developments

Indicator developments for IoS are being taken forward within the industry review programme. This reviews the data sources and methods used on an industry-by-industry basis, assesses available alternative data sources and then makes recommendations for improvement. At Blue Book 2004, seven industries were reviewed and implemented, and reports were published at the time explaining the changes. For Blue Book 2005, six industries have been reviewed and summaries of these reviews are set out below. The industries are as follows:

- water transport
- supporting and auxiliary transport activities
- real estate (phase II)

- public administration and defence
- education
- health and social work

Full reports for each of the industries reviewed are available from the following weblink:

http://www.statistics.gov.uk/IoS_Methodology/future_improvements.asp#irr

Background on conceptual basis

It will help to explain the conceptual basis of the IoS before describing the changes that have been made to it. The experimental monthly IoS uses the same concepts and data sources as the output approach to measuring GDP for services. The main concepts are summarised below.

The level of Gross Value Added (GVA) for each industry is measured in basic prices as:

GVA = outputs *less* inputs

Or, in more detail:

GVA = turnover *less* purchases for intermediate consumption

plus changes in inventories

plus own account capital formation

It is impractical to collect the data relating to each industry necessary to carry out the GVA calculation every month. So the IoS generally uses indirect indicators to estimate the short-term change in GVA.

The preferred type of indicator is one that measures an industry's deflated gross output (or turnover). An appropriate price index is used to remove the effects of price changes; this process is known as deflation.

The use of volume indicators is also acceptable. This requires no deflation but will usually miss quality changes, or changes in the mix of outputs.

Water transport industry review

Water transport represents 0.3 per cent of services and 0.2 per cent of the whole economy by GVA weight.

Previous methodology

For passenger-sea and coastal water transport, the indicator used was passenger revenue data on sea travel from the International Passenger Survey deflated by a price index for sea travel.

For freight sea and coastal water transport, turnover receipts data from a quarterly Chamber of Shipping survey were used, deflated by an inappropriate price index. The quarterly data series were then benchmarked onto more comprehensive annual data.

For inland water transport, an annual direct-volume indicator of non-seagoing waterway traffic from the Department for Transport was used.

The main reasons for changing this approach were:

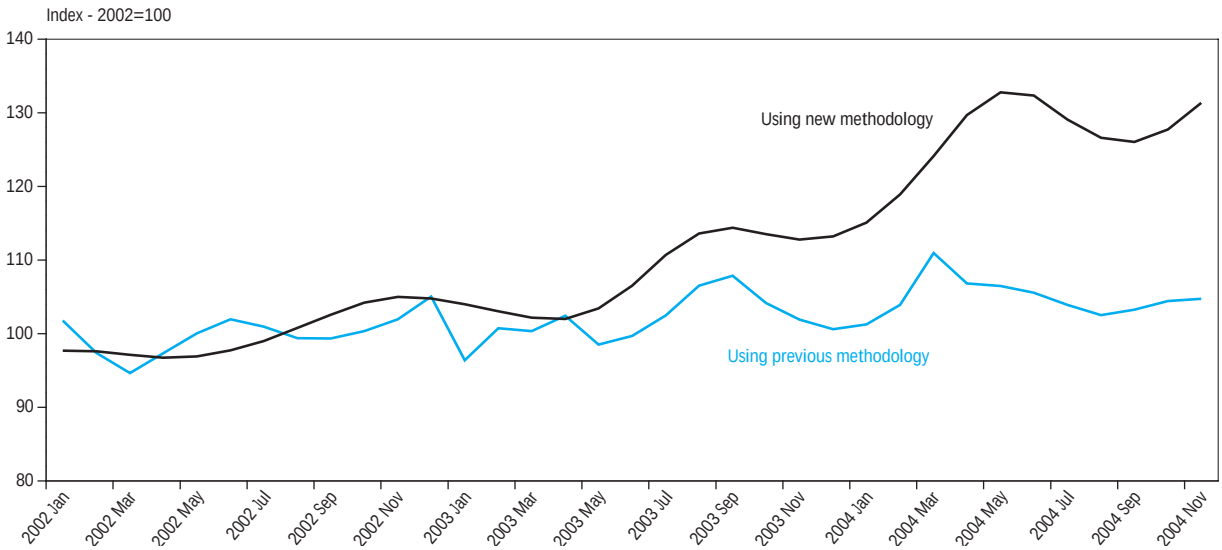
- the passenger-sea and coastal water transport was missing the output from business-to-business transactions (that is, road freight using passenger ferries)
- the benchmarking of the Chamber of Shipping quarterly onto annual data used non-standard ONS methods
- more appropriate deflators are available for deflating the output of freight sea and coastal transport.

New methodology

The following improvements have been made:

- volume data on road freight vehicles travelling to mainland Europe have augmented the sea passenger travel indicator, to capture the business-to-business activity on passenger ferries
- the Retail Price Index (RPI) for sea fares is now used to deflate the passenger-sea and coastal transport

Figure 1
Water transport (SIC 2003 division 61) Chained volume measures, seasonally adjusted



- the Corporate Services Price Index (CSPI) is now used for freight sea and coastal transport

Figure 1 shows the monthly path of data produced by the new methodology for water transport compared with previous methodology.

Benefits of new methodology

- more comprehensive measure of the output of ferry companies
- improved deflation of a number of components
- introduction of the standard ONS function for benchmarking, making the methodology more robust.

Supporting and auxiliary transport activities industry review

The supporting and auxiliary transport activities industry represents 2.5 per cent of services and 1.8 per cent of the whole economy by GVA weight.

Previous methodology

Deflated turnover was used as the proxy indicator for half of the industry. The ONS's Monthly Inquiry into Distribution and Service Sector (MIDSS) were deflated using a miscellaneous transport deflator.

For other supporting water transport activities, the total UK imports and exports data were used, benchmarked onto more detailed annual data on traffic at UK ports.

For other supporting air transport activities, data from the Civil Aviation Authority were used, which mainly cover numbers of passengers and cargo passing through air terminals.

The main reasons for changing this approach were:

- an inappropriate miscellaneous transport deflator was used for three industries
- MIDSS are available for other supporting water transport activities
- for travel agents, output should be measured using their commission, not the total turnover.

New methodology

The following improvements have been introduced:

- MIDSS for other supporting water transport activities have replaced the inappropriate volume indicator on imports and exports
- the miscellaneous transport deflator has been replaced with more appropriate price indices
- commission data for travel agents has been replaced by turnover data.

Figure 2 shows the monthly path of the data produced by the new methodology for supporting and auxiliary transport activities compared with previous methodology.

Benefits of new methodology

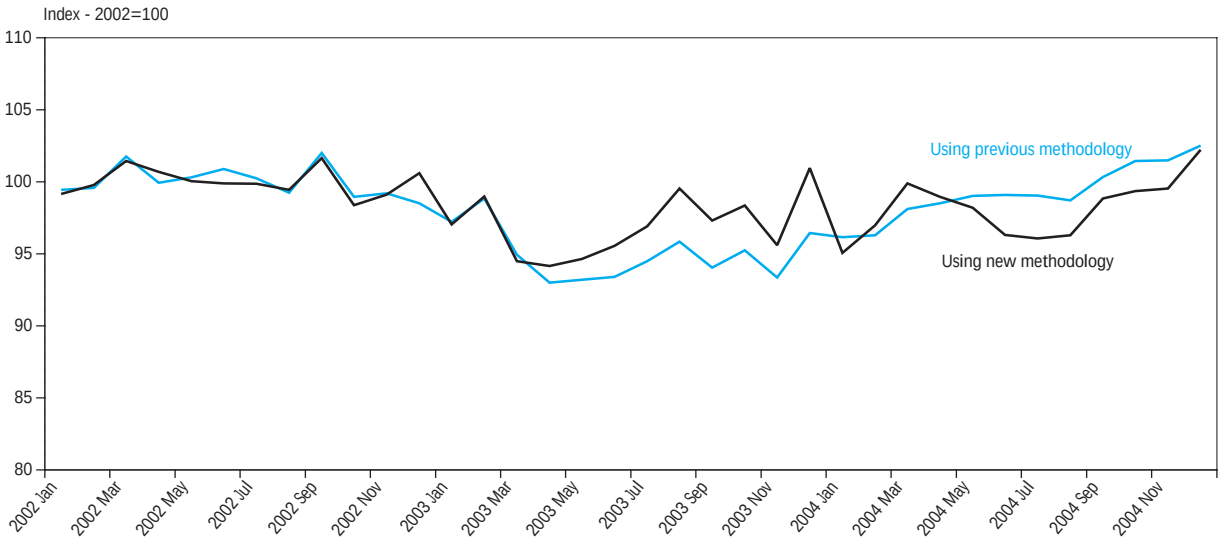
- MIDSS are available for the first estimate of IoS
- more appropriate deflators are being used
- the correct output concept for travel agents is now being measured.

Real Estate Phase II industry review

This review was split into two for practical reasons, and the first phase was implemented in June 2004. The second phase focused just on real estate activities with own property and letting of property other than dwellings.

The real estate industry represents 13.7 per cent of services and 10.1 per cent of the whole economy by GVA weight. Phase II of the review covers 18 per cent of real estate.

Figure 2
Supporting transport activities (SIC division 63) Chained volume measures, seasonally adjusted



Previous methodology

Real estate activities with own property and letting of property other than dwellings were jointly measured using the Investment Property Databank (IPD) Total Return Index and Local Authorities employment and capital consumption data.

The main reasons for changing this approach were:

- development of real estate is not covered by the existing indicators
- employment data were used as an indicator for real estate activities with own property which is input-based and inappropriate
- IPD Total Return Index was used as an indicator for commercial letting, which is not appropriate to this industry.

New methodology

The industry review sourced volume data on property transactions specifically for property companies and the public sector from Revenue and Customs. For letting of property other than dwellings, the review recommended a net income series, sourced from IPD, deflated by IPD Rental Value Index.

Figure 3 shows the monthly path of the data produced by the new methodology for real estate compared with the previous methodology.

Benefits of new methodology

- where Revenue and Customs property transactions data have been introduced, we will now be measuring buying/selling and development of own real estate, an activity that had previously been omitted
- more appropriate data series are being used to measure letting of commercial property
- real estate output is no longer linked to the increases in property prices.

Public Administration and Defence, Education and Health and Social Work industry review

Whilst these industries were reviewed prior to the last Blue Book, the work of the Atkinson Review and recent review of Public Sector Employment (PSE), has meant that these industries needed to be revisited.

Together, these three divisions represent 24.0 per cent of services and 17.7 per cent of the whole economy by GVA weight.

Previous methodology

A mixture of volume methods was used, covering input methods (employment and capital consumption) and direct output methods (indices of government output). For marketed output, deflated turnover was also used.

The main reasons for reviewing these industries were:

- the Atkinson Review of government output and productivity recommended improved methods for a number of indicators
- the review of PSE meant that the basis of the data used for the employment based methods had changed.

New methodology

The review recommended that new PSE data should be taken on wherever used in these industries. The review also recommended dropping the capital consumption indicators used.

Figure 4 shows the monthly path of the data produced by the new methodology compared with the previous methodology.

Benefits of new methodology

- improved coverage, periodicity and timeliness of PSE data
- improved government output indicators through better coverage.

Figure 3
Real estate activities (SIC division 70) Chained volume measures, seasonally adjusted

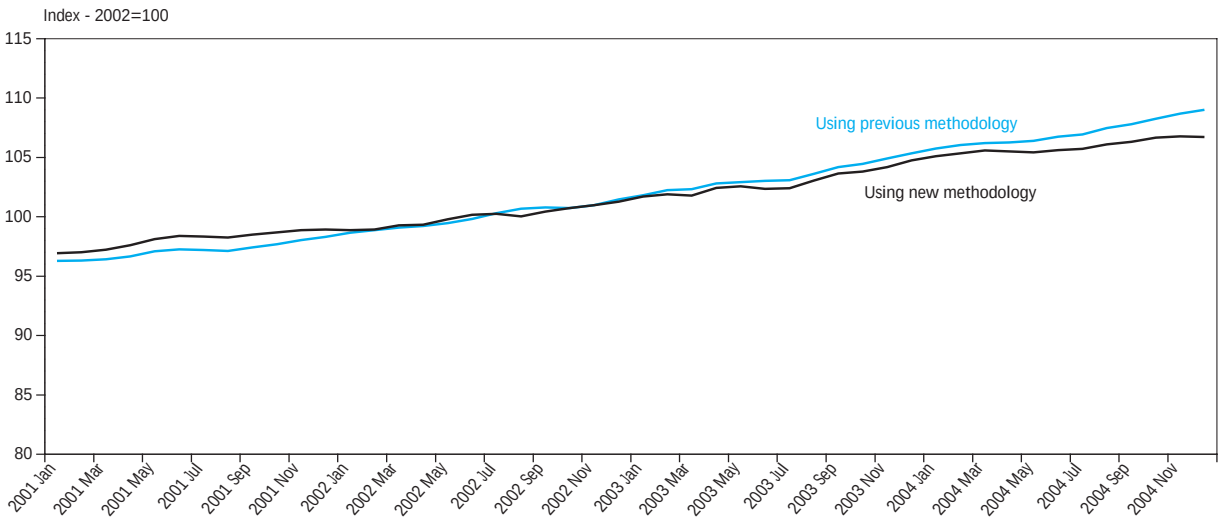
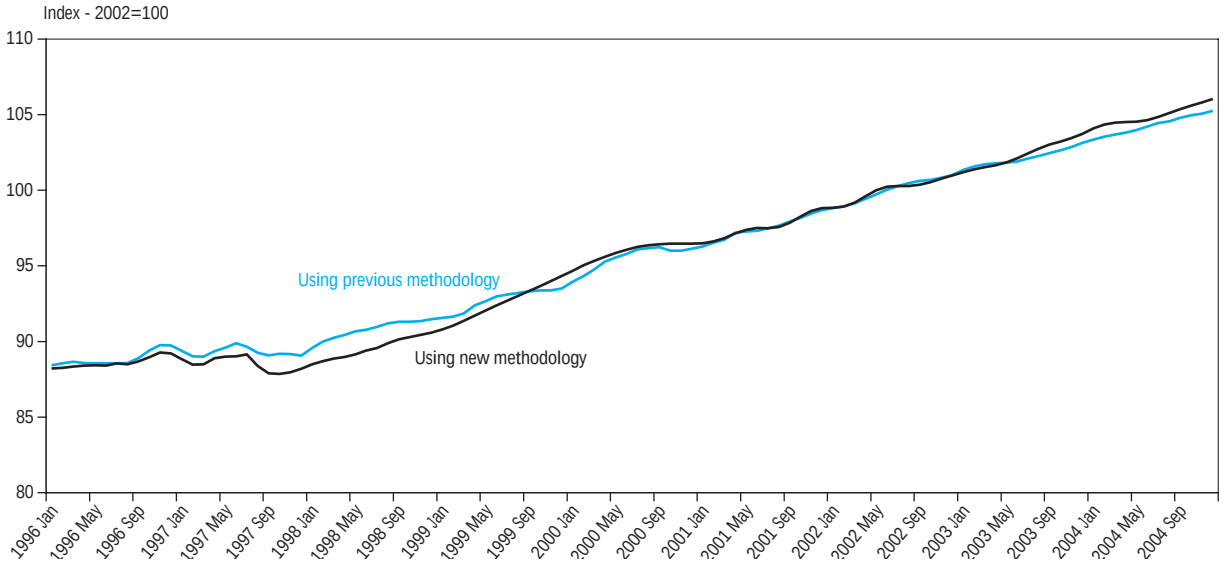


Figure 4
Public sector dominated industries (SIC 2003 divisions 75, 80 & 85) Chained volume measures, seasonally adjusted



Increasing the monthliness of the IoS

What commitments did we make in October 2003's Economic Trends?

We said that we would:

- Continue to review the seasonal adjustment of those industries where monthly data are only available from April 2000 and January 2001. The reviews determine if the quality of the adjustment of the relatively short time series of monthly data is robust enough for the monthly data to be seasonally adjusted.
- Review the data sources and methods for those industries where monthly turnover data are being collected but are not being used to compile the IoS and GDP(O). We would then consider whether deflated turnover data would be a more appropriate proxy for estimating GVA than the current methodology.
- Explore monthly data sources outside ONS.

Have we met the commitments?

- Those industries where monthly data collection began in April 2000 and January 2001 have been reviewed twice since October 2003 by ONS time-series methodologists. This has led to a further six series (taking the total to 15) that are now deemed suitable for use as monthly indicators. This leaves 29 series where stable monthly seasonal patterns are yet to emerge. These series will next be reviewed in December 2005.
- There has been good progress in making more use of the monthly turnover data that were being collected but not used in the compilation of the IoS and GDP(O):
  - in June 2004 monthly turnover data began to be used to measure 'Motion picture and video activities', 'News agency activities' and 'Artistic & literary creation & interpretation'
  - in June 2005 monthly turnover data began to be used to measure 'Other supporting water transport activities' and 'Private education'.
- We have also had good success in identifying and securing monthly data from sources outside ONS:

  in June 2004:
  - volume data from the Strategic Rail Authority for passenger travel on railways began to be used to help improve the measurement of 'transport via railways'.
  - turnover data from Customs & Excise began to be used to measure 'real estate agencies', 'management of real estate', 'libraries & museums' and 'sporting activities & other recreational activities'.

How much have these developments increased the monthliness of the IoS?

- in June 2005 the IoS was based on 42 per cent of monthly data. This compares with 38 per cent in October 2003
- for the market sector parts of the IoS, 53 per cent were based on monthly data by June 2005.

Price developments

Corporate Services Price Indices (CSPIs) measure the price movements of services provided by businesses to businesses and government. Indices have now been developed for 32 industries, of which 21 are currently used within the IoS and GDP(O). Since the last *Economic Trends* article, 13 indices have been added, this includes the CSPI for sea freight that has been introduced at Blue Book 2005. A full breakdown of the CSPIs published and used by IoS can be found in Appendix 2 of this article.

Future development plans

Development of future CSPIs is currently under review. Of those currently under development, computer services, professional services and advertising are closest to being introduced to published datasets. There has recently been a focus on achieving a higher level of data quality and reliability for the series already published.

Methods developments

What commitments did we make in October 2003's Economic Trends?

We said that we would report the conclusions reached on two issues raised by the Short-term Output Indicators Review (STOIR) that were being taken forward by the IoS Development programme. The two issues were:

- review of tax inconsistencies on the valuation of output
- review of the importance of inventories and work in progress (WIP) in the service sector.

A closure report for the STOIR was published in early 2004 outlining the progress made in implementing the findings of the review. For the two issues above, the findings were as follows.

The review of tax inconsistencies concluded that they were not significant, and changes in either VAT or excise duties would only affect six per cent of the indicators used to proxy total GVA, and such changes could be managed by current quality assurance processes.

The review of inventory adjustment for the service sector found that changes in WIP were significant in Division 74 (Other business activities), and when looking at annual data, there are a number of other industries where both the level and changes in WIP are high when compared with output and GVA. However, the conclusion of the review was that the subject of inventory adjustments would be considered within the National Accounts Re-engineering Project (see Aldin and Tuke, 2004).

Seasonal adjustment/Data Primacy

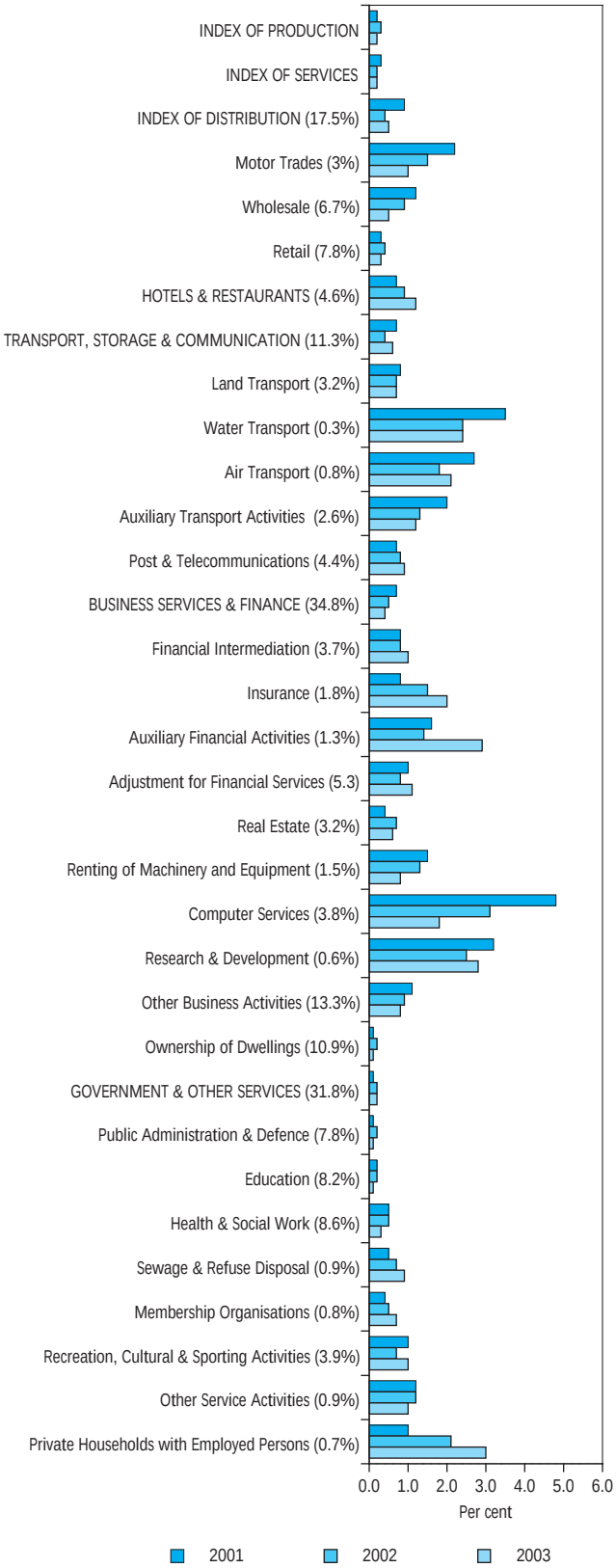
What commitments did we make in October 2003's Economic Trends?

We said that we would work with ONS time series methodologists to identify the optimal seasonal adjustment method for IoS and GDP(O). This work was commissioned as the monthly IoS is constrained to the quarterly GDP(O) series, at the two-digit SIC level of detail; this is to ensure that the two indicators have consistent growth rates. The issue is therefore whether monthly or quarterly data should take precedence (primacy) in the compilation of the IoS and GDP(O), that is:

- should the quarter be created by an average of the seasonally adjusted months, or

Figure 5

Absolute average revisions to month on month growth rates between first publication and publication 12 months later



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2 Revisions are after benchmarking to the equivalent series within quarterly GDPO and constraining to national accounts revisions policy.
3 To indicate the relative importance of revisions to the components, weights within the IoS are shown in brackets next to the descriptions.

- should the quarter be formed by seasonally adjusting the quarterly data; the monthly data to then be benchmarked on to the quarter (in practice, this means that month-on-month movements in the monthly data can be lost).

Have we met the commitment?

ONS time series methodologists conducted the 2004 annual seasonal adjustment review for GDP(O) and IoS as a joint exercise. The review recommended that monthly data should take primacy in the measurement of an additional 23 per cent of the service sector element of quarterly GDP(O); monthly data already takes primacy in the measurement of the retail industry. We are currently working through how best to implement this change in methodology. The industries that would be most affected are 'wholesale', 'air transport', 'transport support', 'computer services', 'recreation' and 'other services'.

Revisions analysis

As part of the IoS development programme, information on revisions is used to:

- assess the quality of the IoS and its components
- target areas for improvement – work to address 'problem' industries identified by revisions analysis, such as Insurance and Private Households with Employed Persons, has already started.

Revisions performance is also one of the criteria being used to determine when we can drop IoS's 'experimental' label and whether it is appropriate to publish the components of the IoS at a more detailed level.

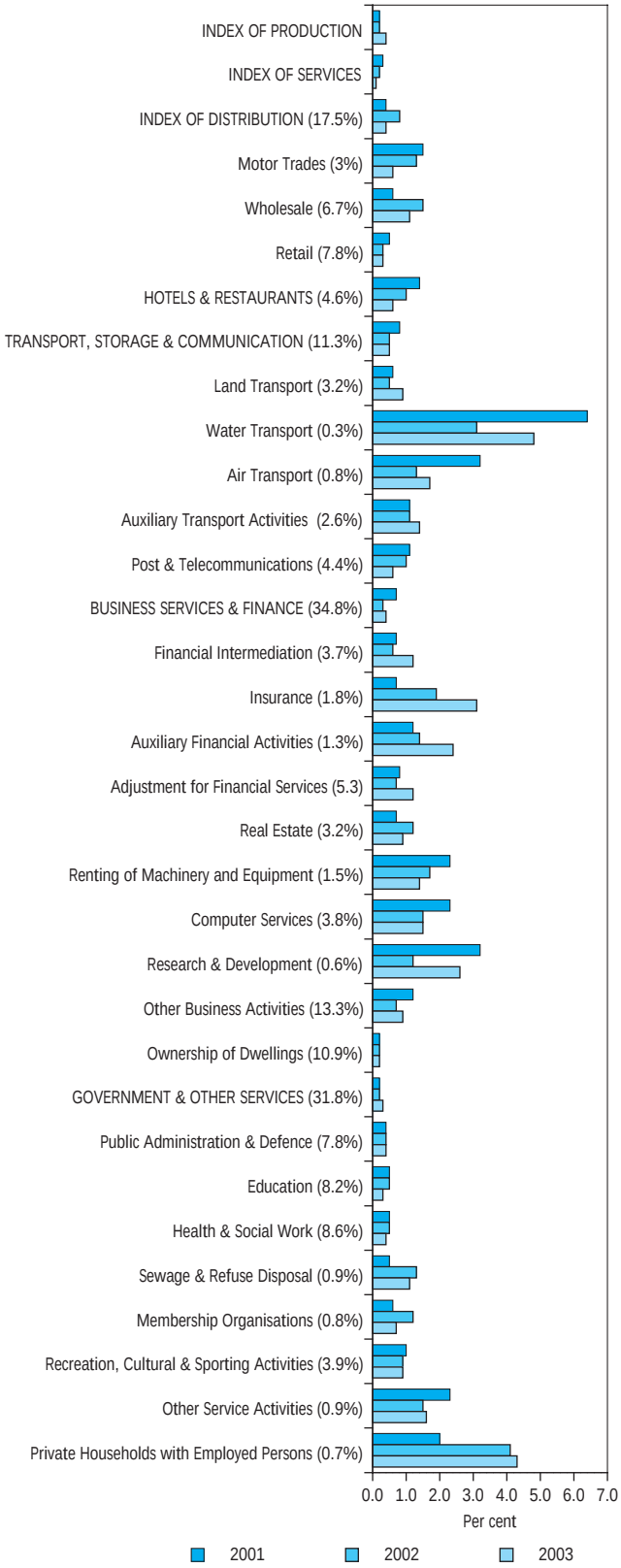
This section looks at the revisions performance of the IoS, IoD, and their constituent components. The focus in this article is on the absolute average (that is, irrespective of direction) and mean revisions to the month-on-month and three month-on- three month growth rates between first publication and publication 12 months later.

Absolute average revisions analysis (Figures 5 & 6)

IoS

- The size of revisions to the headline IoS have improved between the first and third years of publication both in terms of month-on-month and 3 month-on-3 month growth rates. IoS revisions performance over this period compares favourably with the headline Index of Production (IoP).
  - The favourable comparison with the IoP, however, needs to be set in context. A proportion of the IoS is currently derived by forecasting/interpolating quarterly or annual data. This tends to give a relatively smooth series with small first revisions to the monthly path.
  - It follows that first revisions to the monthly path are likely to increase when we replace some of these quarterly/annual sources with true monthly data.

Figure 6
Absolute average revisions to 3 month on 3 month growth rates between first publication and publication 12 months later



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IoD

- The 3 month-on-3 month revisions to the IoD series in its third year have improved compared to the second year and are comparable with those shown in its first year. There were larger revisions to the IoD in the second year. The revisions performance in the second year can be attributed to a number of reasons:
  - as part of the programme to improve sources and methods within the IoS, the methods used to measure wholesale and motor trades completely changed in June 2002. This caused large one-off revisions
  - the distortion to the seasonal path caused by the extended Jubilee holidays in June 2002 led to larger revisions than normal to wholesale and motor trades.
- The stability of the IoD should now improve. This is because the methods for all three components – motor trades, wholesale and retail have now been improved by the IoS development programme. This means that the industries are not only measured by more robust methods but that the large one-off revisions that occurred in 2002 and 2003 when the changes in methods were implemented should not occur again.

Lower Level Components

- When comparing revisions in the third year of publication to those in the first year, Business Services and Finance (the largest component of IoS) has improved both its monthly and three-monthly revisions performance. Those industries within Business Services and Finance which show the most improvement over the three-year period are Renting, Computer Services and Other Business Activities. The data for these industries (except for a part of Renting) are all sourced from an internal ONS data survey, the Monthly Inquiry into the Distribution and Service Sector (MIDSS). Given that there has been a continuing programme of work to improve the quality of the MIDSS data in recent years, this is an encouraging result.
- On a 3 month-on-3 month basis, all published components of the IoS (except Government and Other Services) show either comparable or improved revisions performance in its third year compared to its first. Government and Other Services' poorer performance in its third year is largely attributable to the poor revisions performance of Private Households with Employed Persons. Data sources for this component include the Expenditure and Food Survey, which can be subject to large revisions owing to forecasts being replaced by actual data. An Industry Review of this series is currently underway and is due to finish towards the end of 2005.
- Government and Other Services is though, the published section that shows the smallest overall revisions both month-on-month and 3 month on 3 month. One possible reason for this is that a high proportion of data feeding into this component is currently derived by forecasting and interpolating quarterly or annual series. This process tends to give relatively smooth series with small revisions to the latest monthly path.

Mean average revisions analysis (Figures 7 & 8)

IoS

- There has been an improvement in the mean revision to 3 month-on-3 month growth rates of the headline IoS since the first year of published data. The revisions performance compares favourably with the IoP over this period.
- The month-on-month mean revision for total IoS in 2003 is significantly different from zero. This is largely due to the revisions performance of Business Services and Finance.

IoD

- Both the month-on-month and 3 month-on-3 month revisions to growth rates to the headline IoD have improved in the third year of publication when compared to the second. The relatively large mean revision in the second year of publication can be attributed to the changes implemented in motor trades and wholesale as a result of the industry review in June 2002 and the distortions to the seasonal path caused by the extended Jubilee holidays in June 2002 as noted earlier.

Lower Level Components

- All of the published components, apart from Business Services and Finance, show an improvement in their month-on-month revisions performance in the third year compared to the second. The month-on-month and 3 month-on-3 month mean revisions for Business Services and Finance in 2003 are significantly different from zero.
- The published section showing the smallest overall mean revisions both month-on-month and 3 month-on-3 month is Government and Other Services. Again, one possible reason for this is the high proportion of forecasting and interpolation of annual and quarterly series taking place in this section.
- The worst performing industries both month-on-month and 3 month-on-3 month are Insurance and Private Households with Employed Persons. Both of these series are currently undergoing an industry review process that is due to finish towards the end of 2005.

International aspect

Over the past few years, service sector output measurement has become an increasingly important topic for other countries and for international organisations. This section sets out some of these developments as well as the role the UK is playing in this arena.

Internationally, the OECD takes the lead in co-ordinating service sector statistics, and has been putting together a manual on constructing Index of Services Production (ISP). This manual will set out best practice for compiling monthly ISPs. Together with the other leading countries (Canada, Korea, Japan), the UK has been one of the main contributors to this manual.

Figure 7

Mean revisions to month on month growth rates between first publication and publication 12 months later

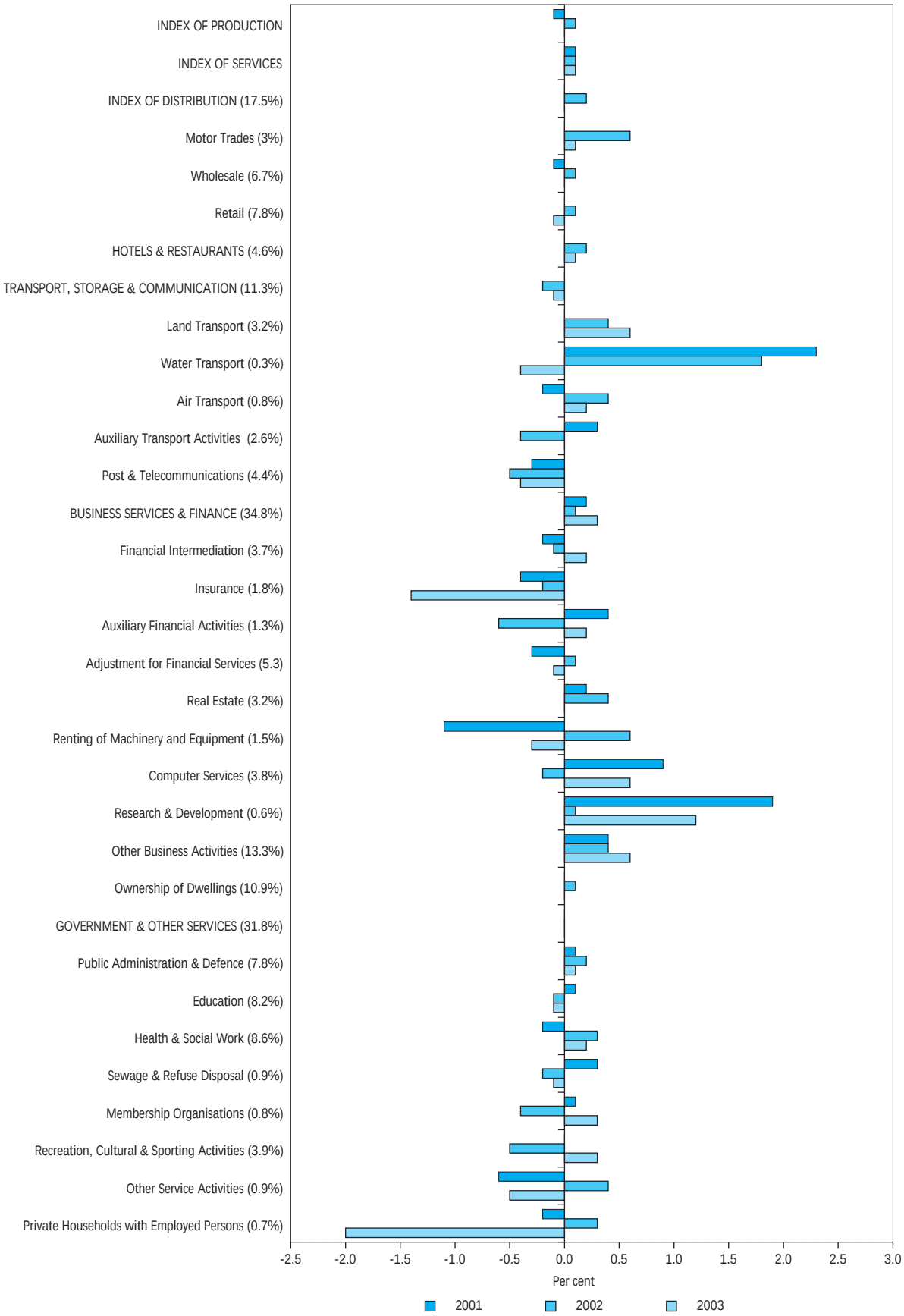

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Figure 8

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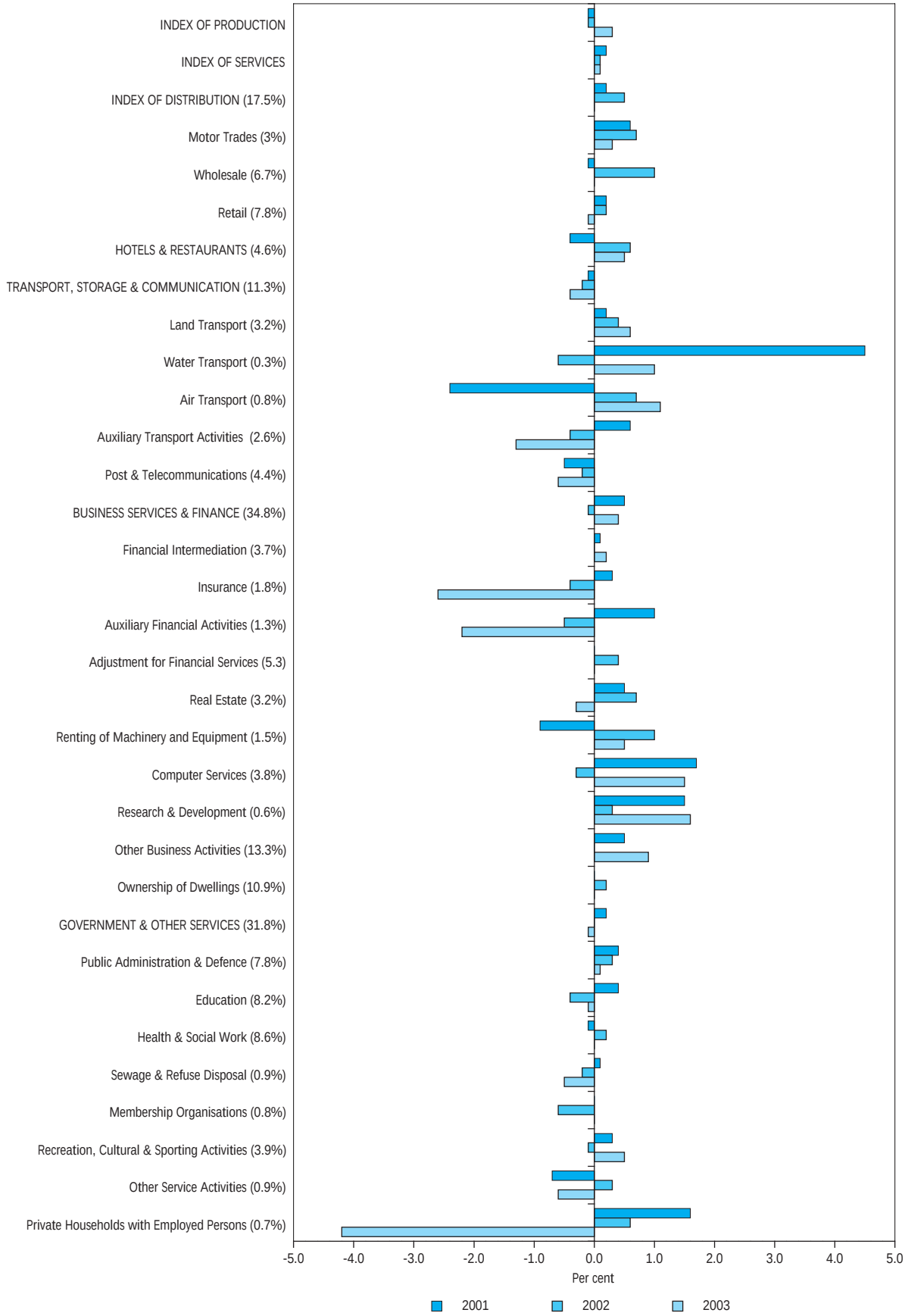

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In June 2004, the UK also organised a session at the Conference of European Statisticians in Paris on 'Price and Volume measurement in the service sector'. The conference was attended by the heads of the main National Statistics Institutes throughout the world and the session flagged up the importance of work in this area and the challenges that are being faced.

At the end of June 2004, the UK was also invited by the OECD to present a one-day seminar on how the IoS is compiled, the source data used, the development programme and our future plans.

Nomenclature

It is important to note that in 2003 the UK, along with the rest of the EU, moved over to the SIC 2003 industrial classification system. From the beginning of 2003, all surveys were collected on the new basis. This means that the main survey used in the annual accounts, the Annual Business Inquiry, is available on the new basis for 2003 in 2005. Since the short-term output indicators are benchmarked onto the annual national accounts, the IoS will move over to the new classification at Blue Book 2005. The new nomenclature made only minor changes, and has a limited impact on the IoS. The changes affecting the IoS can be found in the annex to this article.

Next steps for dropping the experimental label from the IoS

These next sections covers the work and issues that have been and will continue to be addressed as part of the evaluation of the IoS, to determine if it is appropriate for the IoS to be classified to National Statistic status. It covers:

- the progress made and the future plans for the evaluation of the IoS
- the future plans for handling the issues of:
  - increasing the monthliness of the IoS
  - seasonal adjustment and data primacy.
- the schedule for future industry reviews
- increasing the monthliness of the IoS
- seasonal adjustment and data primacy.

Evaluation of the IoS: progress made and future plans

The evaluation process to determine if it is appropriate for the IoS to be classified to National Statistics status has started. As noted earlier in this article, a quality assurance team from ONS's methodology directorate has been set up to evaluate the IoS. The IoS team and ONS methodologists have developed a framework and process for assessing the IoS. The framework and process has been applied and tested on three trailblazer industries (two-digit SIC divisions) and has worked well.

Hotels & Restaurants, Land Transport and Post & Telecommunications were chosen to test the process as their:

- data sources and methods have been improved as part of the IoS development programme; this means that the current methods are unlikely to change in the near future
- data sources are based on monthly, quarterly and annual periodicity, ONS and non-ONS surveys and deflated turnover and direct-volume indicators.

This means that these industries should provide many of the different scenarios that will be faced when the remainder of the IoS is evaluated and so should be a good test of the evaluation process.

The recommendations from the evaluation of the trailblazer industries are:

- Hotels & Restaurants should be awarded National Statistics status.
- Land Transport and Post & Telecommunications should first be published as an experimental series before a final decision is made on reclassifying the industries from experimental to National Statistics status. In fact, as noted earlier in the article, it has been recommended that all two-digit SIC divisional level data should be published as experimental series as part of the evaluation process.

Hotels & Restaurants can now be awarded National Statistics status because it has been published as an experimental series since December 2000.

The main rationale to publish divisional level data, before a final decision is made on the National Statistics status, is to give users an opportunity to comment on the robustness and quality of the data before a final decision is made on the suitability of the industries to be classified to National Statistics status.

Future programme for the evaluation of the IoS

The Hotels & Restaurants component of the IoS will become a National Statistic in the September IoS release, published in November 2005. We will assess the remaining industries in line with the evaluation programme that has been put in place. This programme will lead to the entire IoS being evaluated and a decision made towards the end of 2006/ early 2007 on whether the total IoS should be classified as a National Statistic. We will keep users informed of progress via the monthly experimental IoS release and future articles in *Economic Trends*.

The issues surrounding publishing additional detail in the IoS were raised earlier in this article. We are already working with our colleagues in Methodology and National Accounts to assess the impact of publishing divisional level data a month earlier than is current practice and how best to do this. This work includes analysing the data content and the revisions performance of the divisional level data as if these data were published one month earlier.

We expect to be in a position to publish additional detail in the IoS release before the end of 2005.

Schedule for industry reviews

This article has already highlighted the progress made on the industry review programme. The future schedule of reviews has been set out below – the relative priorities for the review order have been agreed in consultation with our main users. It should be noted that some of the reviews will now be completed in 2007.

Table 2

Industries to be reviewed	Implementation date
Financial Intermediation	Blue Book 2006
Air transport	Blue Book 2006
Membership organisations	Blue Book 2006
Other service activities	Blue Book 2006
Activities of households as employers of domestic staff	Blue Book 2006
Business services (phase 2)	Blue Book 2007
Computer services (phase 2)	Blue Book 2007
Research & Development	Blue Book 2007
Renting	Blue Book 2007

Increasing the monthliness of the IoS

As has already been set out earlier in this article, IoS is now using as monthly series, 15 out of 44 of those series that moved from quarterly to monthly data collection in 2000 and 2001. We will continue to:

- review the seasonal adjustment of the remaining 29 industries to determine if the quality of the adjustment of the relatively short time series of monthly data is robust enough for the monthly data to be seasonally adjusted. The next review is due in December 2005
- seek monthly data through the industry review programme.

Seasonal adjustment and data primacy

As with the issue of increasing the level of detail published in the IoS release, we are already working with our colleagues in National Accounts to assess the impact of and how best to implement this methodological change.

We expect to be able to implement this change before the end of 2005.

Conclusion

Good progress continues to be made in the development of the IoS. The IoD and the IoS are now published coincidental with all three quarterly GDP first releases. The industry review programme has now covered the majority of service sector industries and has delivered further improvements to the data sources and methods. The review programme has now covered 76 per cent of the service sector.

On methods developments, it has been recommended that the monthly seasonal adjustment of an additional 23 per cent of the service sector takes primacy over quarterly GDP.

On revisions performance, there has been a general improvement at the IoS level and the lower level components. At the lower level the improvements are most significant in the industries that have already been reviewed.

The focus of the project is now on dropping the experimental label of the IoS. To this end, good progress has also been made, and a quality assurance framework and evaluation process has been put in place to assess the appropriateness of the IoS to be given National Statistics status.

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

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

Appendix 1

SIC 2003 – changes affecting the service sector

Whilst the survey collection in ONS moved over to the SIC 2003 classification at the beginning of 2003, because the UK has a coherent set of national accounts, the short-term indicators have remained on the SIC 1992 classification until the annual accounts are also available on the new basis. This annex sets out the main changes that affect the service sector. It should be noted that the impact of SIC 2003 has mostly been cosmetic, as most of the changes were at the level below compilation within the IoS.

Table 3 – List of SIC changes

SIC(92) structure	SIC 2003 structure changes are shown in **bold** type	Type of change
51.33 Wholesale of dairy produce, eggs and edible oils and fats	**51.33/1 Wholesale of dairy produce** **51.33/2 Wholesale of eggs and egg products** **51.33/3 Wholesale of edible oils and fats**	$4<^{5}_{5}$
51.34 Wholesale of alcoholic and other beverages	**51.34/1 Wholesale of fruit and vegetable juices, mineral waters and soft drinks** **51.34/2 Wholesale of wine, beer, spirits and other alcoholic beverages**	$4<^{5}_{5}$
51.61 Wholesale of machine tools	**51.81 Wholesale of machine tools**	Re-number
51.62 Wholesale of construction machinery	**51.82 Wholesale of mining, construction and civil engineering machinery**	Re-number
51.63 Wholesale of machinery for the textile industry, and of sewing and knitting machines	**51.83 Wholesale of machinery for the textile industry, and of sewing and knitting machines**	Re-number
51.64 Wholesale of office machinery and equipment	**51.84 Wholesale of computers, computer peripheral equipment and software** **54.85 Wholesale of other office machinery and equipment**	$4<^{4}_{4}$
51.65 Wholesale of other machinery for use in industry, trade and navigation	**51.86 Wholesale of other electronic parts and equipment** **51.87 Wholesale of other machinery for use in industry, trade and navigation**	$4<^{4}_{4}$
51.66 Wholesale of agricultural machinery and accessories and implements, including tractors	**51.88 Wholesale of agricultural machinery and accessories and implements, including tractors**	Re-number
51.70 Other wholesale	**51.90** Other wholesale	Re-number
52.11/1 Retail sale by confectioners, tobacconists and newsagents (CTNs') 52.11/9 Retail sale in non-specialised stores with food, beverages or tobacco predominating, not elsewhere classified	52.11/1 Retail sale by confectioners, tobacconists and newsagents (CTNs) **52.11/2 Retail in non-specialised stores holding an alcohol licence, with food, beverages or tobacco predominating, not elsewhere classified** (currently coded to 52.11/9) **52.11/3 Retail in non-specialised stores not holding an alcohol licence, with food, beverages or tobacco predominating, not elsewhere classified** (currently coded to 52.11/9)	$5<^{5}_{5}$
52.48/1 Retail sale of floor coverings 52.48/2 Retail sale of photochartic, optical and precision equipment, office supplies and equipment (including computers, etc.) 52.48/3 This code is no longer in use 52.48/4 Retail sale of jewellery, clocks and watches	52.48/1 Retail sale of floor coverings 52.48/2 Retail sale of photochartic, optical and precision equipment, office supplies and equipment (including computers, etc.) 52.48/3 This code is no longer in use 52.48/4 Retail sale of jewellery, clocks and watches	$5<^{5}_{5}$

SIC(92) structure	SIC 2003 structure changes are shown in **bold** type	Type of change
52.48/5 Retail sale of sports goods, games and toys, stamps and coins 52.48/9 Other retail sale in specialised stores not elsewhere classified	52.48/5 Retail sale of sports goods, games and toys, stamps and coins **52.48/6 Retail sale in commercial art galleries** **52.48/7 Retail sale by opticians** **52.48/8 Retail of mobile telephones** 52.48/9 Other retail sale in specialised stores not elsewhere classified	
52.50 Retail of second-hand goods in stores	**52.50/1 Retail of antiques, including antique books** **52.50/9 Retail of other second-hand goods**	$4<^{5}_{5}$
55.11/1 Hotels and motels, with restaurant (licensed) 55.11/2 Hotels and motels, with restaurant (unlicensed) 55.12 Hotels and motels without restaurant	**55.10/1** Hotels and motels, with restaurant (licensed) **55.10/2** Hotels and motels, with restaurant (unlicensed) **55.10/3** Hotels and motels, without restaurant	$^{4}_{4}>4$
63.12 Storage and warehousing	**63.12/1 Storage of frozen and refrigerated goods** **63.12/2 Storage of liquids or gases** **63.12/3 Storage of grain** **63.12/9 Other storage and warehousing**	$4<^{5}_{5}$
65.23/1 Activities of Investment Trusts 65.23/2 Activities of unit trusts and property unit trusts 65.23/3 Security dealing on own account 65.23/4 Activities of bank holding companies 65.23/5 Activities of venture and development capital companies 65.23/6 this code is no longer in use 65.23/9 Financial intermediation n.e.c.	65.23/1 Activities of Investment Trusts **65.23/2 Activities of unit trusts** 65.23/3 Security dealing on own account 65.23/4 Activities of bank holding companies 65.23/5 Activities of venture and development capital companies 65.23/6 This code is no longer in use **65.23/7 Activities of open-ended investment companies** (currently coded to 65.23/1 and 65.23/2) **65.23/8 Activities of property unit trusts** (currently coded to 65.23/2) 65.23/9 Financial intermediation n.e.c.	$5<^{5}_{5}$
66.01 Life insurance	**66.01/1 Life insurance** **66.01/2 Life re-insurance**	$4<^{5}_{5}$
66.03 Non-life insurance	**66.03/1 Non-life insurance** **66.03/2 Non-life re-insurance**	$4<^{5}_{5}$
72.20 Software consultancy and supply	**72.21 Software publishing** **72.22 Other software consultancy and supply**	$4<^{5}_{5}$
74.11/1 Activities of Patent and Copyright Agents 74.11/9 Legal activities not elsewhere classified	74.11/1 Activities of Patent and Copyright Agents **74.11/2 Barristers at Law** **74.11/3 Solicitors** 71.11/9 Other legal activities not elsewhere classified	$5<^{5}_{5}$
74.15 Holding companies	74.15 Holding companies **'Head offices' move to 74.15**. Currently they are coded to the main activity of the businesses they serve.	Definitional
74.70/1 Traditional cleaning activities 74.70/9 Cleaning activities not elsewhere classified	74.70/1 Traditional cleaning services **74.70/2 Window cleaning services** **74.70/3 Disinfecting and exterminating services** **74.70/4 Specialised cleaning services** **74.70/5 Furnace and chimney cleaning services** 74.70/9 Other cleaning services not elsewhere classified	$5<^{5}_{5}$

SIC(92) structure	SIC 2003 structure changes are shown in **bold** type	Type of change
74.81/1 Operation of coin-operated photochartic machines 74.81/2 Other portrait photochartic activities 74.81/9 Other photochartic activities n.e.c.	74.81/1 **This code is no longer in use*** 74.81/2 **Portrait photochartic activities** **74.81/3 Other specialist photocharty** (currently coded to 74.81/9) **74.81/4 Film processing** (currently coded to 74.81/9) 74.81/9 Other photochartic activities n.e.c.	$5<^{5}_{5}$ & Definitional
74.83 Secretarial and translation activities	**74.85 Secretarial and translation activities** **74.86 Call centre activities**	$4<^{4}_{4}$
74.84/1 Credit reporting and collection agency activities 74.84/2 Speciality design activities 74.84/3 Activities of exhibition and fair organisers 74.84/4 Activities of conference organisers 74.84/9 Other business activities not elsewhere classified	**74.87/1** Credit reporting and collection agency activities **74.87/2** Speciality design activities **74.87/3** Activities of exhibition and fair organisers **74.87/4** Activities of conference organisers **74.87/9** Other business activities not elsewhere classified	Re-number
90.00 /1 Sewage disposal activities 90.00/2 Refuse disposal activities 90.00/3 Sanitation and similar activities	**90.01 Collection and treatment of sewage** **90.02 Collection and treatment of other waste** **90.03 Sanitation, remediation and similar activities**	$4<^{4}_{4}$
92.72 Other recreational activities not elsewhere classified	**92.72/1 Motion picture, television and other theatrical casting** **92.72/9 Other recreational services not elsewhere classified**	$4<^{5}_{5}$
93.05 Other service activities not elsewhere classified	**93.05/1 Operation of coin-operated photochartic machines*** **93.05/9 Other service activities not elsewhere classified**	$4<^{5}_{5}$ & Definitional
New Class 96.00	**96.00 Undifferentiated goods producing activities of private households for own use**	New
New Class 97.00	**97.00 Undifferentiated services producing activities of private households for own use**	New

Key to symbols for changes:

Type of change	Description
Re-title	This is where the change is the re-titling of the SIC description
Re-number	This is where the change to the SIC is a re-numbering of the 4 or 5 digit code.
Definitional change	This is where the definition of what is included within the SIC has changed, i.e. something has been added or removed.
$^{4}_{4}>4$	This is the case where two or more existing 4-digit classifications are grouped into 1 4-digit group.
$4<^{4}_{4}$	This is where one 4-digit group is split into 2 or more 4-digit groups
$4<^{5}_{5}$	This is where one 4-digit group is split out into 2 or more 5-digit groups
$5<^{5}_{5}$	This is where one 5-digit group is split into 2 or more 5-digit groups

Appendix 2

List of CSPIs published and used by IoS

This appendix sets out the CSPIs that are published and used in IoS and GDP(O). There are two tables; one setting out the CSPIs that are used as direct deflators, and the other where they are used as proxy deflators (that is, not appropriate to the industry, but the best available price index in the circumstances).

Table 4 - CSPIs used as direct deflators

SIC	Industry	GVA wt	BB2001	BB2002	BB2003	BB2004	BB2005
50.2	Vehicle Maintenance	4.4		Y	Y	Y	Y
55.1	Hotels	8.7			Y	Y	Y
55.5	Canteens & Catering	3.8			Y	Y	Y
60.101	Business Rail Fares	1.5					
60.109	Rail Freight	0.4					
60.231	Bus & Coach Hire	0.6	Y	Y	Y	Y	Y
60.249	Road Freight Haulage	13.1	Y	Y	Y	Y	Y
61.101	Commercial Vehicle Ferries	0.4					
61.102	Sea & Coastal Water Freight	1.2					Y
62.101/201	Business Airfares	6.7					
63.4	Freight Forwarding	4.2			Y	Y	Y
64.11	National Post	6.0					
64.12	Courier Services	3.1	Y	Y	Y	Y	Y
64.2	Business Telecommunications	23.3			Y	Y	Y
65.121	Banking Services	20.1					
70.2	Property Rentals	8.7					
70.3	Real Estate	2.7				Y	Y
71.1	Contract Car Hire	4.0					
71.32	Construction Plant Hire	2.1	Y	Y	Y	Y	Y
74.13	Market Research	0.8			Y	Y	Y
74.3	Technical Testing	1.2			Y	Y	Y
74.5	Recruitment Agencies	14.0			Y	Y	Y
74.602	Security Services	2.3	Y	Y	Y	Y	Y
74.7	Industrial Cleaning	2.8	Y	Y	Y	Y	Y
74.819	Commercial Film Processing	0.9	Y	Y	Y	Y	Y
74.82	Contract Packaging	0.4			Y	Y	Y
74.83(pt)	Secretarial Services	0.2			Y	Y	Y
74.83(pt)	Translation Services	0.2			Y	Y	Y
80.42	Adult Education	6.5				Y	Y
90.001	Sewerage Services	2.6					
90.002	Waste Disposal	2.6	Y	Y	Y	Y	Y
93.01	Washing & Dry Cleaning	1.1					
Total			**8**	**9**	**19**	**21**	**22**

Weights are parts per thousand of total GVA as at 2000 consistent with Blue Book 2005

Table 5 - CSPIs used as proxy deflators

SIC	Industry	Used for	BB2001	BB2002	BB2003	BB2004	BB2005
50.2	Vehicle Maintenance						
55.1	Hotels						
55.5	Canteens & Catering	70.32				Y	
60.101	Business Rail Fares						
60.109	Rail Freight						
60.231	Bus & Coach Hire						
60.249	Road Freight Haulage	63.10					Y
61.101	Commercial Vehicle Ferries						
61.102	Sea & Coastal Water Freight						
62.101/201	Business Airfares						
63.4	Freight Forwarding	63.22					Y
64.11	National Post						
64.12	Courier Services						
64.2	Business Telecommunications						
65.121	Banking Services						
70.2	Property Rentals	70.32				Y	
70.3	Real Estate						
71.1	Contract Car Hire						
71.32	Construction Plant Hire						
74.13	Market Research						
74.3	Technical Testing						
74.5	Recruitment Agencies						
74.602	Security Services	70.32				Y	
74.7	Industrial Cleaning	70.32				Y	
74.819	Commercial Film Processing						
74.82	Contract Packaging						
74.83(pt)	Secretarial Services						
74.83(pt)	Translation Services						
80.42	Adult Education						
90.001	Sewerage Services						
90.002	Waste Disposal						
93.01	Washing & Dry Cleaning						
Total			**0**	**0**	**0**	**4**	**2**