

Wholesale 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. Wholesale is one of the first two industries to be reviewed (the other is Motor Trades) as part of the IoS Development Industry Review Programme. This paper outlines the findings of the Wholesale industry review.

Executive Summary

This industry review has made changes to the data sources and methods currently used by IoS and GDP(O) (they both use the same data sources and methodology) to measure the wholesale industry. The main thrust of the changes are to replace the Retail Sales Indices (RSI) and Index of Production (IoP) proxies that are currently used to estimate wholesale output with deflated monthly wholesale turnover data and to improve the current deflators.

How important is Wholesale?

In terms of gross value added (GVA), wholesale (Division 51) represents:

- 39% of the Index of Distribution
- 7% of the Index of Services
- 5% of Total GVA

Methodology

Previous methodology¹

In summary, wholesale was measured by RSI proxies (42%), IoP proxies (35%) and deflated monthly wholesale turnover (23%). The table over the page provides a more detailed description.

¹ In this report, the previous methodology refers to the methodology used prior to Blue Book 2002, and the new methodology to the methodology taken on at Blue Book 2002

SIC	Industry Description	Weight in Div. 51 (%)	Indicator type	Deflators - Producer Price Indices
51.10	Wholesale on a fee or contract basis	4	Monthly turnover data	<ul style="list-style-type: none"> • Other materials • Clothing, furs, textiles and footwear • Builder merchant goods and materials • Food and drink • Other goods
	Wholesale of:			
51.20	Agricultural raw materials and live animals	1	Monthly turnover data	<ul style="list-style-type: none"> • Agricultural and raw materials • Textiles • Clothing and footwear
51.3 and 51.4	Food, beverages, tobacco and household goods	42	RSI proxies	N/A
51.511	Petroleum and petroleum products	3	Monthly turnover data	<ul style="list-style-type: none"> • Fuels • Industrial materials • Coal
51.519	Other fuels and related products	1	Monthly turnover data	<ul style="list-style-type: none"> • Fuels • Industrial materials • Coal
51.52	Metals and metal ores	2	Monthly turnover data	<ul style="list-style-type: none"> • Fuels • Industrial materials • Coal
51.53	Wood, construction materials and sanitary equipment	6	Monthly turnover data	<ul style="list-style-type: none"> • Non-metallic mineral products • Timber and wooden furniture
51.54	Hardware, plumbing and heating equipment supplies	3	Monthly turnover data	<ul style="list-style-type: none"> • Non-metallic mineral products • Timber and wooden furniture
51.55	Chemical products	2	Monthly turnover data	<ul style="list-style-type: none"> • Fuels • Industrial materials • Coal
51.56, 51.6 and 51.7	Other intermediate products, machinery, equipment, supplies and other wholesale	35	IoP proxies for: <ul style="list-style-type: none"> • Mechanical engineering • Electrical machinery • Office machinery and Computers • Agricultural and forestry Machinery 	N/A
51.57	Waste and Scrap	1	Monthly turnover data	<ul style="list-style-type: none"> • Waste and scrap

Background to data

Monthly wholesale turnover data are provided via ONS's Monthly Inquiry into the Distribution and Services Sector (MIDSS)

The Retail Sales proxies are provided via ONS's Retail Sales Inquiry; this inquiry provides retail turnover data. These data are deflated using Retail Price Indices to produce volume of retail sales data.

The IoP proxies are provided via ONS's Monthly Production Inquiry (MPI); this inquiry provides turnover data for the production sector. These data are then deflated using Producer Price Indices to produce volume of production sales data.

The PPIs measure the price movement of goods bought and sold by UK manufacturers. It is a based weighted index working on a basket of goods concept. These price indices are used to deflate the wholesale and production turnover data.

These data sources were introduced into the methodology around 10 years ago, and at that time were the most appropriate data sources available.

Reasons for change

The Output of 77% of wholesaling was not measured directly

The output of 77% of wholesalers was not measured directly, but through Retail Sales or IoP proxies. The weaknesses of this approach included:

- it assumed that there is no time interval between wholesale and retail, or between production and wholesale.

A comparison between the current proxies and deflated monthly wholesale turnover proved this assumption correct for the relationship between production and wholesale but incorrect (for monthly data) for the relationship between retail and wholesale

- the IoP proxies do not capture wholesaler's import activity.
- the Retail Sales and IoP proxies do not directly correspond to the products being wholesaled.

The weakness of the Retail Sales and IoP proxies is not only that they measure the activity either side of wholesale but they also do not have a direct relationship with the products that they are attempting to measure. For example, the IoP proxies for Mechanical Engineering and Electrical Machinery was used to measure the wholesale of:

- other intermediate products
 - machine tools and construction machinery
 - machinery for use in industry, trade and navigation
 - other wholesale
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- the Retail Sales proxies includes retail activity not originated from wholesalers, i.e. retailers importing their own goods
 - more appropriate PPIs are now available to use as deflators
 - current deflation methods take a limited account of the price of imported goods

Although imports can be a significant source of goods for wholesalers only a few of the current deflators take account of the price of imported goods.

As well as the weaknesses that are specified above, there are also alternative data sources now available e.g. monthly wholesale turnover data via the MIDSS.

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 and the same rules apply to sub-annual data.

For the wholesale trade, in accordance with Eurostat guidance, the A method for margin output is a method taking the changes in quality of the trade services into account. So far, the only method that can do so - in theory - is by taking the difference between deflated sales and deflated purchases.

The B method is to use the assumption that the volume of margins follows the volume of sales, or - equivalently - that margin-to-sales ratios are constant in constant prices.

Issues faced by the Industry Review

PPI v Retail Price Indices (RPIs) to deflate the wholesale of food, drink, tobacco and household goods

Retail Sales proxies are currently used to measure the wholesale of food, drink, tobacco and household goods. Does this indicate that historically it was thought that RPIs rather than PPIs better reflect the wholesale prices of these products? The strengths of each approach were weighed up to help reach a conclusion.

+ for PPIs

Better weighting structure available (from ONS's PRODCOM inquiry, which provides turnover by type of product information)

Consistent approach to measuring wholesale (PPIs are used as deflators elsewhere in wholesale)

PPIs match up better to the products being wholesaled

Other countries use PPIs (if wholesale prices not available)

+ for RPIs

Historically, RPIs were thought to better reflect the wholesale price of products that tend to be bought by households

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It was concluded that PPIs should be used.

Deflating the wholesale of computers

Issue

The wholesale margin should be measured but this is not possible to do directly with the data sources that are available; therefore deflated turnover is used as a proxy (in line with Eurostat guidelines). This approach causes a problem with the deflation of the wholesale of computers because of the level of quality adjustment made to ONS's computer PPI (the price index is now at about a third of the level it was in 1994). When this PPI is used as a deflator, the output of wholesalers of computers rise at an indefensible rate.

When measuring the volume of trade services (margins) it is only changes in the quality of the service that should be accounted for, not changes in the quality of the products. Wholesalers, in their roles as middlemen, do not contribute significantly to the increase in quality of the computers being distributed by them. For example, the fact that the computer being sold by them today may be twice as powerful as the one they were selling last year is largely irrelevant to them. Computers, whatever their features, come in boxes, and wholesalers are primarily in the business of managing the flow of boxes into and out of their warehouses.

What does Eurostat recommend?

Eurostat recommends that a non-quality adjusted PPI should be used; unfortunately, this price index is not currently available.

What has been recommended?

A view has been taken that over time, computer prices have stayed relatively stable but due to changes in product specifications you get much more 'computer' for your money, which, as explained earlier, is irrelevant to wholesalers. Based on this assumption, and the further assumptions that:

- the quality of the service provided by wholesalers does not change greatly
- as middle-men, wholesalers do not significantly increase the quality of the computers they distribute (and therefore the wholesale price remains stable),

it was felt that the deflator that should be used for the wholesaling of computers should be relatively flat. It would be too simplistic to simply use a flat deflator and therefore price movements of similar products to computers (which do not have the same level of quality adjustment) was studied. The best option was to use an electrical goods PPI.

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. Externally the main source for consultation was with Eurostat, for guidance with measuring the output of wholesale in constant prices (their draft handbook on price and volume was used in assessing the options). The Department of Trade and Industry was also consulted.

New methodology

The new methodology is to use monthly wholesale turnover data deflated by appropriate and representative PPIs and Import Prices (IPIs). This is a conceptually better methodology in accordance with Eurostat guidance.

Full details can be found in the [source data](#) of the IoS methodology on the NS website

Benefits of new methodology

- the output of wholesale is measured more directly
- import activities of wholesalers are captured
- the wholesale turnover data are representative of the products being wholesaled
- turnover from retailers importing their own goods will no longer be included in the wholesale output estimate
- deflators are more appropriate and representative and includes the effects of imported goods
- proposed methods are in line with Eurostat's guidelines
- consistent methods are used to measure the output of wholesale

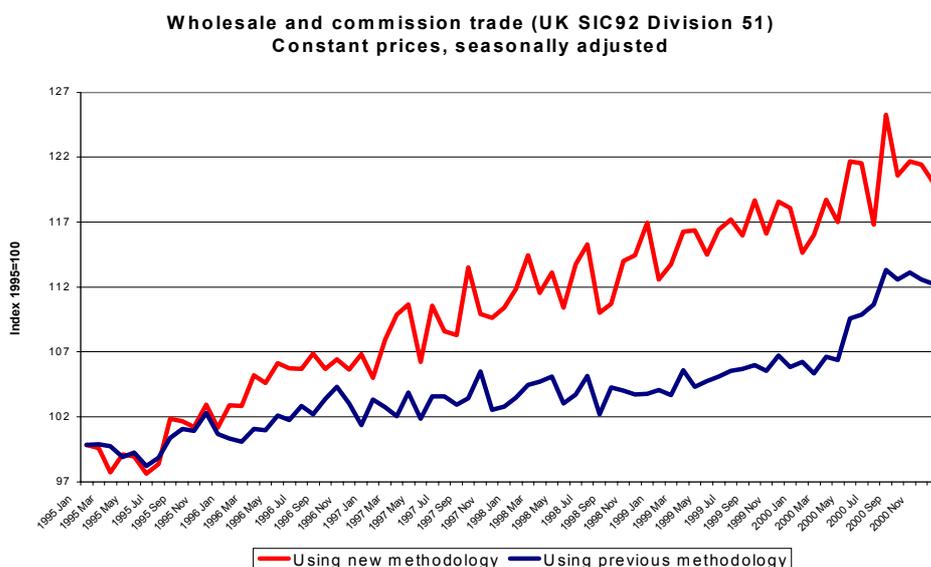
Assumptions

There are some assumptions that have to be made with the new methods e.g.

- volume of margins follows the volume of sales.
- PPIs are a reasonable proxy for wholesale prices
- electrical goods PPI is a reasonable proxy for deflating the wholesale of computers

Impact of new methodology

The graph below shows the impact of the new methodology on Division 51.



The stronger growth is mainly due to the fact that the turnover data captures wholesalers import activities (the IoP proxies previously used did not); imports can be significant for certain industries where the IoP proxies were used.

The data has been revised back to January 1996. This is in line with National Accounts Revisions Policy for Blue Book 2002.

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

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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 www.statistics.gov.uk/ios