



# **VOORBURG 2004**

## **APPENDIX TO PRINCIPAL PAPER: UK BUSINESS TELECOMMUNICATION PPI FOR SERVICES**

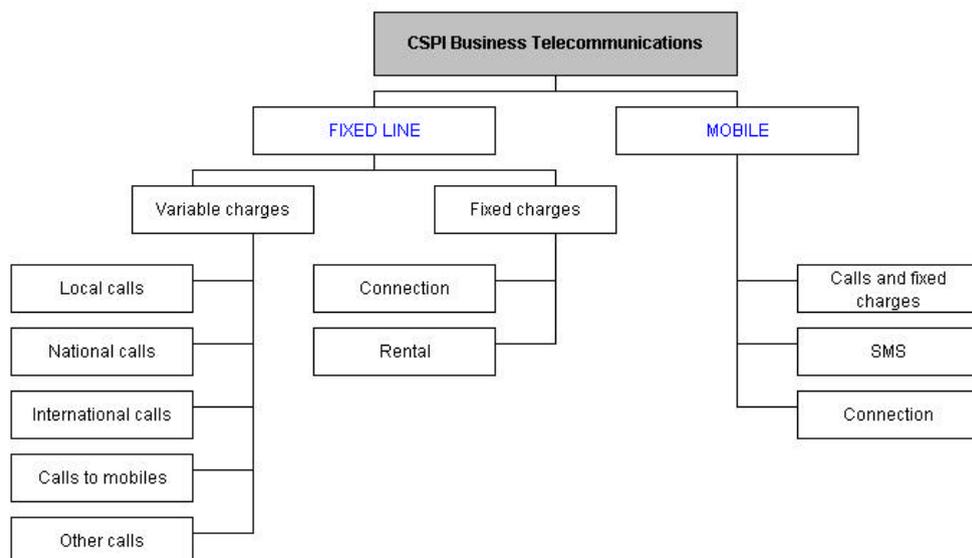
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## A. Business model

The business model for the UK business telecommunications CSPI has been recently reviewed and redeveloped. The UK CSPI has partitioned telecommunications service activity into fixed line and mobile telephony. UK fixed line activity remains dominated by a single service provider with other suppliers using the infrastructure of the main supplier. UK mobile services are supplied by four major companies, with relatively even shares (by turnover) of the competitive mobile market.

The UK telecommunications sector-activity presently represents two per cent of the Gross Domestic Product (GDP) with an estimated turnover of £41.6 billion (Source: ONS Annual Business Survey) in 2001/2002. In recent years, the UK telecommunications market has seen strong growth in internet and mobile services. The telecommunications sector appears to change contract conditions on services as frequently as price changes, supporting the need for an appropriate quality adjustment method. The UK business telecommunications industry structure, as used in the CSPI, is shown in Figure 1.

**Figure 1 The UK business telecommunication industry structure**



## B. Government regulation

Ofcom is the regulator for the UK communications industries, with responsibilities across television, radio, telecommunications and wireless communications services. Ofcom exists to further the interests of citizen-consumers as the communications industries enter the digital age through promoting fair competition within the industry.

Until recently, the market for fixed telephony in the UK was an example of a near monopoly, with the market almost entirely dominated by a single service provider. The consequent lack of any competition prevented substantial price decreases. However, since the mid 1990s, government deregulation (combined with further regulation of existing suppliers) and technological innovation have allowed new service providers to enter the market. In the late 1990s government deregulation of the fixed and mobile markets, combined with a generally favourable UK economic environment, led to strong competition for new and existing customers.

### **C. Pricing methodology**

The UK business telecommunications price index has recently been redeveloped, from one based on a rate method of pricing to one based on a unit-value pricing method. The index is compiled from the aggregation of unit-values, defined as the ratio of revenues in pounds to volumes in minutes, for a homogeneous group of telecommunication products. The source of the quarterly price data for the ONS index is the UK telecommunications regulator Ofcom, which provides a census of all turnover and volume data from companies. As such, it provides complete coverage and representation of the UK service activity over the reference quarter.

The unit-value method calculates an average price at a detailed level of disaggregation that yields a proxy estimate, rather than a true value. The unit-value approach is considered to be more appropriate than the rate method for telecommunications, which is characterised by bias and difficulty in maintaining a constant quality of index. The unit-value approach offers advantages over the bill and rate method, particularly when services are bundled and service charge is tied to usage.

### **D. Limitations/concerns about the data and future plans**

The following points identify the limitations of the UK business telecommunication CSPI and describe development plans to address those concerns.

- A latency in the quarterly data provision from Ofcom has necessitated the use of forecasting, with a revision of the index when data becomes available. The Holt-Winters forecasting method has been used at product group level (i.e. at the fixed and mobile levels) as fixed line data lags by two quarters and mobiles data lags by one quarter. This means that the available mobile data is utilised. Future research will assess the use of Holt-Winters forecasting.
- The homogeneity of products at the lowest level of aggregation is an important factor in the use of the unit value pricing method. An area of potential index improvement could be the future disaggregation of the 'other calls' category of the fixed line product group. Although, this group is currently dominated by dial-up internet services, the movement to broadband internet access could merit a separation of the dial-up internet-service activity from the other service products. Indeed, it could be argued that in the future this group should constitute a completely separate sub-index within the overall index (on the same status as fixed line and mobile markets).
- An area of potential concern is the high weight of the Mobiles - Calls & Fixed product group, which is a large weight for effective application of the unit value approach. Representatives from ONS and Ofcom have agreed that future development will separate Outgoing International and Roaming services, in the mobile sector, as individual products because they have separate charging structures

### E. Analysis of published data

In Figure 2, the newly redeveloped business-telecommunication CSPI series (solid line) captures a steeper decline in service price than the previous ONS index based on the rate method (dotted line). This corresponded to a period of intense price competition between the four, major mobile-service providers with fixed line services producing a smaller reduction in price. Over the last three years the telecommunication companies have largely consolidated their positions within the market and have reduced the rate of price reductions substantially.

Through recent discussions with the UK regulator, Ofcom, the new CPSI time-series is known to reflect the regulator's understanding of the price movements that have occurred in recent years.

**Figure 2 Old and new CSPIs for business telecommunications**

