

2.1 Basic data requirements

To calculate PPPs from the expenditure side, it is necessary for each country participating in the comparison to provide a set of national annual purchasers' prices and a detailed breakdown of final expenditure on GDP. The prices should refer to a selection of products chosen from a common basket of well-defined goods and services. The final expenditures should be broken down by basic heading¹ according to a common classification. Both prices and expenditures should refer to the year of the comparison – or “reference year”. And both should cover the whole range of final goods and services included in GDP. Participating countries have also to provide annual average exchange rates and the mid-year resident population for the reference year.

Prices reported by participating countries need to be consistent, comparable and representative and failure to observe any of these three requirements will result in either an overestimation or underestimation of price levels and, consequently, an underestimation or overestimation of volumes.

The final product lists for the 2002 comparison covered around 3000 consumer goods and services, 34 occupations in government, education and health services², around 180 types of equipment goods and 15 construction projects³.

The number of consumer goods and services specified is particularly large. This is due to the number of countries covered (each of which had to be able to price at least one representative product per basic heading), the degree to which expenditure patterns and markets converged across countries and the preference for brand and model specifications. However, countries are not required to price all products, but only a selection of them. Deciding on which products to price is an essential part of pre-survey work undertaken by countries prior to collecting prices.

2.1.1 Consistency

National final expenditures are in national currencies at national price levels. Real final expenditures are in a common currency at a uniform price level. PPPs, besides being currency converters, are also price deflators. For this reason, the prices supplied by participating countries should be *consistent* with the methods of valuation used to estimate their final expenditures on GDP. Failure to observe this requirement will result in biased results. The basis of a comparison is the identity: Expenditure value = Price x Volume. Volumes are obtained by dividing expenditures by prices. If the volumes are to be estimated correctly, then the prices collected should be those used to derive the expenditures. Deflating with prices that are not consistent with those underlying the expenditure values will result in volumes being underestimated if the prices are too high or overestimated if the prices are too low.

In principle, the final expenditures on GDP that participating countries report for the reference year are estimated using national annual purchasers' prices of actual market transactions. Consistency requires participating countries to collect *national* and *annual*

¹ In principle, a basic heading consists of a group of similar well-defined goods or services for which a sample of products can be selected that are both representative of their type and of the purchases made in participating countries. In practice, a basic heading is defined by the lowest level of final expenditure for which explicit expenditure weights can be estimated and PPP are calculated.

² Cleaner, caretaker, labourer, messenger, maintenance electrician, switchboard operator, secretary, draughtsman, book-keeping clerk, computer operator, policeman, social worker, civil engineer, sanitary engineer, public health nurse, public health physician, executive official I (without university degree), executive official II (with university degree); kindergarten teacher, primary school teacher, secondary school teacher, head teacher; hospital cook, typist, hospital administrator, laboratory assistant, physiotherapist, nursing auxiliary, nurse I, nurse II (operating theatre), nurse III (head of department), doctor I, doctor II (assistant head of department), doctor III (head of hospital department).

³ Seven residential buildings (Northern European house, Southern European house, Nordic house, North American house, Japanese house, Australian-New Zealand house, apartment block), five non-residential buildings (agricultural shed, European factory, Japanese factory, office block, primary school) and three civil engineering works (asphalt road, bridge and sewer main).

prices. The national annual prices have to be *purchasers' prices* – where a purchaser's price is defined as the amount paid by the purchaser in order to take delivery of a unit of a good or service at the time and place required by the purchaser. Finally, the national annual purchasers' prices have to be *market* or *transaction* prices, i.e., the actual price for a transaction agreed on by the transactors.

2.1.2 Comparability

Comparability requires participating countries to price products that are identical or, if not identical, equivalent. Products are said to be comparable if they have identical or equivalent physical and economic characteristics. The pricing of comparable products ensures that differences in prices between countries for a product reflect “actual” price differences and are not influenced by differences in quality.

Comparability is obtained in Eurostat-OECD comparisons by participating countries pricing product specifications that fully define the products in terms of the principal characteristics that influence their market or transaction prices. The approach is called “specification pricing” and requires the characteristics of both the product and the transaction to be specified. Product specifications can be brand and model specific – that is, a specification in which a particular brand and model, or a cluster of comparable brands and models, is stipulated. Generic specifications have also to be employed and inevitably some variability in quality between the products priced by countries will occur. Ideally, all product specifications would be brand and model specific so that countries would price products of identical quality. In practice, this is not possible for reasons of availability and representativity.

2.1.3 Representativity

Representativity is a concept that relates to individual products within a basic heading and that is defined in terms of an individual country within a basic heading. A product is either representative or unrepresentative of the price level in country A for a given basic heading. It is representative, if in country A, its price level is close to the average for all similar products within the basic heading. Usually, though not necessarily, the purchases of the product will account for a significant proportion of the total purchases of all products covered by the basic heading.

Price levels of representative products are usually lower than the price levels of unrepresentative products. A comparison based on products that are not equally representative of all participating countries will result in biased price relatives. Price levels for countries pricing a smaller number of representative products will be overestimated, while price levels for countries pricing a larger number of representative products will be underestimated. When putting together the product list for a comparison, it is important to ensure that it is equally representative – or “equi-representative” - of all participating countries for each basic heading identified in the common expenditure classification. This means that each country should be able to price that number of representative products which is commensurate with the heterogeneity of the products and price levels covered by the basic heading and its expenditure on the basic heading.