

Chapter 4

Price Concepts and Quality

Introduction

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1. This chapter and the following chapter are concerned mainly with how to draw up the lists of products for pricing in different countries. As in the case of CPIs and other temporal price indices, it is impossible to include every product on the market; thus prices are collected only for a selection of products. Drawing up suitable lists of products for international price comparisons is much more difficult and complex, both conceptually and in practice, than selecting a sample of products for a temporal price index within a single country. The establishment of appropriate lists of products whose prices are to be collected and compared between countries, and also the preparation of adequate descriptions of those products, are key factors on which the success of the entire ICP depends.
2. This chapter focuses on conceptual issues while Chapter 5 focuses on more practical issues. This chapter therefore addresses topics such as basic price concepts, representivity, comparability, brands, quality and methods of quality adjustment. It also includes a summary description of how purchasing power parities are calculated at the level of the basic heading as an understanding of the methodology used helps elucidate the role of representivity and comparability in drawing up lists of products. Chapter 5 explains how the Structured Product Descriptions, or SPDs, are constructed and how the detailed Product Specifications or PSs which are used by the price collectors in the field are derived from the SPDs. A large part of the chapter is devoted to the elaborate and complex process known as the *pre-survey* whereby the product lists and product specifications are slowly built up and tested over a period of time by continual interaction between the regional coordinators and national statistical offices.
3. Purchasing Power Parities are estimated initially for each of the basic headings for Gross Domestic Product, the resulting basic PPPs then being aggregated using the basic heading expenditures as weights. As explained in Chapter 1, at the level of an individual product, a purchasing power parity reduces simply to the ratio of its prices in two different countries. If currency is converted from one country to the other at that ratio, it must purchase the same quantity of that product in both countries. As a basic heading may contain a large number of products, price ratios can be calculated for only a limited selection of individual products within the heading. These have then to be averaged in some way in order to arrive at the PPP for the basic heading as a whole. There are various ways in which the PPPs may be averaged, as explained in some detail in Chapter 12.

- The first step in the calculation of PPPs is to draw up lists of products whose prices are to be collected in the various regional groups participating in the ICP. However, the way in which the basic heading PPPs are to be calculated affects the way in which the product lists are drawn up. In order to appreciate the full significance of many of the points made in this and the following chapter, it is necessary to understand the way in which the planned method of calculation interacts with the selection of products. Accordingly, it is necessary to start by giving a very brief overview of the methodology used to calculate the basic PPPs. Reference may, of course, be made to Chapter 11 for a fuller explanation of the points made in the following section.

The Calculation of the PPP for a Basic Heading

- The methodology can be explained by means of a simple worked example. In Table 1, the rows refer to different products within the same basic heading and the columns refer to different countries. The entry in each cell denotes the national average price of that product in that country. The prices with an asterisk refer to products that countries identify as being *representative* of their country. A representative product is one that accounts for a significant share of the expenditures within a basic heading in the country in question. The concept of representivity is explained in more detail later.

Table 1

Product	Prices			Price ratios		
	Country A	Country B	Country C	B / A	C / A	C / B
1	10*	40	100	4	10	2.5
2	12*	16*		1.25		
3	15	15*	30*	1	2	2
4	25		100*		4	
Geometric average of the price ratios				1.71	4.31	2.24
PPPs based on representative products				1.58	5.32	2
EKS PPPs				1.88	4.47	2.38

6. Patterns of consumption can vary greatly from country to country. Products that are representative in some countries may be unrepresentative in others, because of differences in supply conditions, income levels, tastes, climate, customs, *etc.* Economic theory suggests that one reason why some products are consumed in *relatively* greater quantities in some countries than others is simply that their prices are *relatively* low in those countries. Relative prices and relative quantities tend to be negatively correlated therefore. There is ample empirical evidence to support this hypothesis. The *relative* prices of representative products tend to be *low* as compared with the *relative* prices of the same products in other countries in which they are not representative. This factor must be taken into account when drawing up the lists of products for pricing and calculating the basic PPPs.
7. In Table 1, products 2 and 4 are not available in all three countries so that there are two empty cells in the price tableau on the left side of the table. The fact that some prices are typically missing not only reduces the amount of information available but complicates the calculation of the PPPs.
8. The price ratios for the individual products are shown in the right side of the Table. One possible way to calculate the basic PPP for a given pair of countries would be simply to take a geometric average of all their price ratios. These geometric averages are shown in the fifth row of the table. For example, the average PPP for country B based on country A is 1.71. However, because there are empty cells in the table, these average PPPs are not transitive: that is, they are not mutually consistent. The implied PPP for B on A obtained by dividing the average PPP for B on C, namely 4.31, by the PPP for C on A, namely 2.24, is 1.92, not 1.71. The geometric means are transitive only when the price tableau is complete and there are no missing prices. However, this special case is of little interest in practice because some prices are invariably missing in some countries.
9. There is a deeper problem with simply averaging the individual price ratios, namely that it fails to draw any distinction between representative and unrepresentative products. From the point of view of each individual country, more weight should be attached to its own representative products as they should account for a greater proportion of the consumption expenditures within the country than the unrepresentative products.
10. A second approach is therefore to recognize the fact that there are essentially three kinds of products in the Table, namely representative products, products that are available but not representative and products that are not available at all in the country. These distinctions must be explicitly recognized and factored into the calculation of the PPPs. The method which is actually used in the ICP is as follows.
11. From the point of view of country A in Table 1, the PPP with B which is most relevant is that based on its own representative products, namely products 1 and 2. The geometric average of the price ratios for these two products for B based on A

is $(4 \times 1.25)^{1/2} = 2.24$. From the point of view of country B, however, the most relevant PPP is that based on its own representative products, namely products 2 and 3. The PPP for B on A using B's representative products is the geometric average of the price ratios for these two products, namely $(1 \times 1.25)^{1/2} = 1.12$. If equal importance is attached to both countries and both countries are to be treated symmetrically, the appropriate solution is take a geometric average of both the PPPs just calculated. This is $(2.24 \times 1.12)^{1/2} = 1.58$. As compared with the simple average PPP of 1.71 given above, this PPP gives more weight to product 2 than products 1 and 3 because product 2 is representative in both countries.

12. PPPs between the other two pairs of countries can be calculated in a similar manner and are shown in Table 1. However, these PPPs, like the simple geometric averages, are also not transitive and are therefore not suitable as they stand when the objective is to calculate a set of *multilateral* PPPs. They can be adjusted to make them transitive by using the EKS formula described in Chapter 9. The EKS PPP is a geometric average of the direct PPP between a pair of countries and all the indirect PPPs derived through third countries, with the direct PPP having twice the weight of each indirect PPP. Here, the indirect PPP between B and A derived via country C is obtained by dividing the PPP between C and A by that between B and C. The final transitive EKS PPP for B on A is 1.88.

13. Two points should be noted.

- The PPP for country C based on A uses one representative product for A and two products for C. However, this does not mean that the products for C carry more weight than the characteristic products for A because the price ratios for C's products are averaged before the resulting PPP is averaged with that based on A's product.
- Product 1 is not included in calculation of the direct PPP between countries B and C because it is of both countries even though it is found in both countries. However, the prices of Product 1 in countries B and C do enter into the calculation of the indirect PPP between B and C through country A so that they do have some impact on the final EKS PPP between B and C.

14. In general, the EKS PPP for a pair of countries implicitly assigns weights by giving most weight to products that are representative of both countries compared, less weight to products that are representative in only one or other country and least weight to products that unrepresentative in both countries.

15. A number of important conclusions can be drawn from this simple example.

- The process of making a set of multilateral PPPs transitive means that the PPP between any pair of countries is influenced to some extent by the PPPs between all the other pairs of countries. Insufficient or poor

quality data for some countries can affect the results for all countries and not just the PPPs for the country concerned.

- The representative products play a key role. Each country needs to have enough of its own representative products on the product list. If none of a country's representative products were included on the product list, that country would have to be excluded from the calculation of that particular PPP.
- The PPP based on the representative products of a country will tend to be *higher* than the PPP based on the representative products of the partner country. This follows because representative products tend to have *relatively* low prices. In the example, the PPP for B based on A that uses A's representative products is 2.24 while that using B's products is 1.12.
- Although some products may be representative in more than one country, the sets of representative products tend to differ from country to country. It follows that in order to have enough individual price ratios to enable robust estimates of the parities to be made, countries have to collect prices for at least some products that are not representative. They have to collect prices for a mix of products, some of which are representative of their own country and others that are representative of other countries.

Price concepts

16. The first step is to determine exactly what kinds of prices are to be collected and recorded for ICP purposes. As the PPPs are intended to be used to convert, or deflate, expenditure data from the national accounts, the prices used must be the same as those used in the System of National Accounts, or SNA. As already noted in Chapter 3, the SNA values expenditure data from the perspective of the purchasers. A 'purchaser's price' in the SNA is the amount actually paid by the purchaser to acquire the good or service, including any delivery or installation charges incurred by the purchaser, whether paid to included to the seller or some third party. Such charges may be substantial for large goods, especially capital goods.
17. The purchaser's price includes any taxes on the products payable by the purchaser, whether itemized separately or not. The purchaser's price payable on final consumption goods and services therefore includes any value added tax, or VAT, payable by households. On the other hand, the purchaser's price payable by a business does not include any deductible VAT: that is, invoiced VAT on intermediate and capital goods that the business is subsequently entitled to deduct from its own VAT liability.

18. In practice, however, the prices used to calculate both CPIs and PPPs are usually collected from sellers, and not the purchasers. Households do not usually keep complete records of the prices they pay and, in general, it would be impractical and too costly to try to collect price data directly from the purchasing households. The prices collected are usually the prices at which goods and services are offered for sale in retail outlets rather than actual transactions prices. However, when goods are purchased through electronic points of sale where both the prices and quantities are 'scanned' it may be possible to collect information about the actual transactions prices paid by households.
19. Most sellers display the prices at which they are prepared to sell. The prices may be listed in the shop or advertised in magazines or elsewhere. These prices should be treated as 'offer' prices. They are not necessarily the prices at which the actual transactions take place. In many cases, the transaction prices are lower. The transaction price is the list price *less* any discounts that may offered or negotiated. For example, discounts may be made for bulk purchases or cash purchases. Discounts may be offered to all purchasers for limited periods of time in order to promote sales. They may also be offered to dispose of perishable goods quickly. In every case, the purchaser's price need for ICP purposes is the price actually paid by the purchaser, irrespectively of the price at which the good or service may have been previously listed or offered for sale. This is the price at which the purchase will be recorded in the expenditure data of the national accounts.
20. In the case of services, the purchaser's price includes any service charge payable in restaurants or hotels. Similarly, if a tip or gratuity is normally expected, it should be included in the purchaser's price even if not shown on the bill presented to the customer. Tips may be payable in a wide variety of circumstances and should be included in the purchaser's price.
21. Although the prices collected for CPI or ICP purposes must rely heavily on the prices observed in retail outlets or similar establishments, adjusted as necessary for discounts *etc.*, there may be exceptional cases where it may be difficult to ascertain the purchaser's price without approaching the purchasers directly. For example, some prices may be individually negotiated as the outcome of some bargaining process. Sellers may well be selling the same goods or services to different purchasers at different prices. Some sellers may not display any prices, all prices being negotiated. This happens in both developed and developing countries. In many local or informal markets, especially in rural areas in developing countries, it is customary for the price paid to be determined by a process of bargaining between the buyers and the sellers. The prices paid may vary from one transaction to another depending on the bargaining skills of the buyers and sellers who frequent such markets. Bargaining, as such, does not create a conceptual problem. The relevant purchaser's price is simply the price eventually paid by the purchaser. The problem is to ascertain the price actually paid. It may be necessary to approach the purchasers after they have left the market to obtain this information.

22. In developed as well as developing countries, buyers and sellers frequently bargain over the price of expensive durables, including automobiles. The extent of such bargaining may depend on general economic conditions. When the general level of sales is falling, purchasers may be able to negotiate considerable discounts off some notional list price, the discounts possibly varying significantly from customer to customer.
23. In the case of expensive purchases, the seller commonly provides credit or arranges for a third party, some kind of financial institution, to provide credit. There are two distinct transactions involved here: the purchase of the good or service in question and a financial transaction in which the purchaser borrows an amount equal to the purchaser's price actually paid. Even if it is the seller who provides the loan or credit, the transaction price is the price excluding any interest charges. Obviously, the total interest payable depends on the period over which the payments are made as well as the price paid. The loan or credit is irrelevant for ICP purposes.
24. Given that it is necessary, in practice, to rely heavily on prices collected from retail outlets and similar establishments, price collectors need to be given clear guidance about what kind of prices they should be trying to collect and how they may differ from the advertised prices on display which are easier to collect. Price collectors should approach the proprietors or managers of the outlets in order to obtain the necessary information about discounts, promotional prices and sales prices.

Price variation and average prices

25. The expenditure flows in the national accounts are the *aggregate* values of transactions taking place during a period of time, usually a year, and within a particular area, namely the economic territory of the country, as defined in the SNA. There are therefore two dimensions of price variation: over time and over space.
26. The price at which any single good or service is purchased is liable to vary considerably during the course of a year and also between different locations, especially in large countries. In these circumstances, the PPPs for individual products have to be defined as ratios of *average* prices. Given that the PPPs are used to make quantity comparisons, the requisite target price is the average obtained by dividing the total value of the purchases by the total quantities sold. It is the *average value*, or *unit value*, as defined in (1) below.

$$(1) \quad \bar{p}_i = \frac{\sum_j (p_{ij} q_{ij})}{\sum_j q_{ij}} = \sum_j w_{ij} p_{ij} \quad \text{where} \quad w_{ij} = \frac{q_{ij}}{\sum_j q_{ij}}$$

27. The subscript j distinguishes the various prices at which a given good or service i is sold at different times and/or different places. The average or unit value defined by (1) is a quantity weighted average price. Notice that in order to be able to add the quantities they must be *homogeneous*. Provided that the quantities are homogeneous, the total value of the annual expenditures can be factored into two components: the average price multiplied by the total quantity.

Price variation due to quality differences

28. A distinction needs to be drawn between *genuine* price differences between products that are the same and *apparent* price differences which reflect differences in quality. When the quantities are not homogeneous they are not additive from an economic point of view and their prices should not be averaged. Consider the following example of two countries, A and B, which for convenience are assumed to belong to a single currency area so that their prices are denominated in the same currency units.

29. Suppose that two different models of automobile, G and H, are on sale in both countries and suppose that the prices and the numbers sold are as shown in the Table 2.

Table 2

	Automobile G		Automobile H		Average price per automobile sold
	Price	Number sold	Price	Number sold	
Country A	1000	500	2000	500	1500
Country B	1000	200	2000	800	1800

30. As the price of model G is exactly the same in both countries, its price ratios is unity. Similarly, the price ratio of H is also unity. The PPP for automobiles must be unity. However, because a much higher proportion of the automobiles sold in B consist of the more expensive and better quality model H, the average price per automobile sold is 20% higher in B than A. A PPP based on the ratio of the average prices per automobile sold would therefore be incorrect. The prices of different models of automobile should not be averaged because an automobile is not a homogeneous unit. Model H counts as ‘more’ automobile than G from an economic point of view. One unit of H is equivalent to two units of G because purchasers in either country can buy two automobiles of model G for each model H.

31. Different models, or qualities, of automobile should not be added together. The total number of automobiles purchased may be the same in both countries, but this does not mean that the volume of automobiles purchased is the same. Consumers in B spend 20 % more on their automobiles than consumers in A. The ratio of the

average prices of the two automobiles is in fact measuring the difference in the average quality of the cars purchased. It is biased and highly misleading if it is interpreted as measuring the ratio of automobile prices in the two countries.

32. The conclusion is clear. In general, if the quantities of some generic product are not homogeneous, they cannot be added and their prices should not be averaged. In principle, different qualities must be treated as different products and a separate PPP calculated for each different quality. However, there is a limit to how many different qualities can be distinguished in practice. Moreover, statistical offices may not always have sufficient information to be able to discriminate between qualities and be obliged to treat sets of products that are not homogeneous as if they were homogeneous. However, it is necessary to be aware of the risks involved in averaging prices for products that are not homogeneous and to try to minimize the risk of bias from this source.

Genuine price variation

33. Price differences are said to be genuine when exactly the same product is sold at different prices. It may be argued that genuine price differences would be eliminated by market forces because all consumers would buy at the lowest price. However, markets are far from perfect. Consumers may simply not be aware of the different prices at which products are sold in different outlets. Sellers, especially producers of services such as transportation or health, may also deliberately discriminate between different categories of customers by charging them different prices.

Regions and types of outlet

34. One question is whether or not to treat products that are otherwise exactly the same but sold in different locations or types of outlet as different qualities. Consumers in one region may regard the same products sold in other regions as being of lower quality because of the additional costs that would be incurred in traveling to purchase them. However, bearing in mind that households tend to purchase in the region in which they live, the same products sold in different regions are not necessarily different qualities from the perspective of the households who actually buy them. Price differences between regions are likely to be genuine price differences. However, the same products sold in different kinds of outlets may be of different quality because some outlets, such as supermarkets, may offer a greater range of choice, more facilities and greater convenience, including longer opening hours, to their customers than other outlets.

35. The types of products sold in different outlets may also be qualitatively different. For example, a large supermarket may sell fruit and vegetables that have been cleaned, graded and packaged, these attributes affecting the quality of the goods sold. On the other hand, a farm shop or rural market may sell fruit and vegetables that are much fresher, freshness being an important qualitative characteristic for many purchasers. There must be some presumption, therefore,

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that at least some of the goods sold in different kinds of outlets tend to be qualitatively different, so that type of outlet may be a relevant characteristic in defining quality.

36. It may be concluded that significant differences in prices between regions are likely to be mainly genuine price differences that do not reflect corresponding differences in quality. On the other hand, significant differences in prices between different types of outlets in the same area are more likely to be attributable to differences in quality.

Average annual national prices

37. The ICP requires *average annual national prices* to match the corresponding national accounts data in which the expenditures cover all transactions that take place throughout the country and throughout the year. In principle, the required annual national average price for an individual product, as defined in equation (1), is a weighted average of the prices at which it is sold in the different months of the year and in the different regions of the country, using the quantities purchased in each month and region as weights.

Average annual prices

38. Prices vary during the course of a year because of seasonal variations in prices, because of structural changes and because of general inflation. There are some products whose prices change very infrequently, such as electricity or postal tariffs, but for many products it may be necessary to collect prices monthly, or at the least quarterly. Provided there is no strong seasonal variation in the quantities, a simple average of the monthly or quarterly prices should be sufficient. If prices can only be collected in one or two months, it may be possible to interpolate and extrapolate prices in the remaining months using the relevant sub-index from the CPI, provided the CPI is sufficiently detailed or reliable.
39. In the case of a product subject to seasonal variations in prices, there is likely to be seasonal variation in the quantities as well as the prices. In this case, a satisfactory approximation to the weighted average of the monthly prices may be obtained by collecting prices only in the two or three months when most of the products are sold and then taking a simple average of those prices.
40. In some countries, and at certain periods of time, rates of inflation have been so high as to cause prices to double or treble during the course of the year. With such high rates of price increase it might be preferable to estimate the annual average prices by mid-year prices, say those for July¹, at least for non-seasonal

¹ If prices are rising at a steady percentage rate, the arithmetic annual average price will correspond to the price level at some point of time after the middle of the year.

products. If there is a significant acceleration or deceleration in the rate of price increase during the course of the year, some adjustment to the July price would be required. Of course, a very high rate of inflation means that the PPP itself is changing rapidly over time vis-à-vis other countries with low rates of inflation so that the PPP is inevitably somewhat unstable.

Staggering price collection

41. Some countries prefer to spread the price collection over a long period of time by collecting prices for different categories of goods and services in different months. The prices for any one group of goods and services are collected in one month only, the prices for other months being obtained by extrapolation using the movements in the relevant component of the CPI. However, the same month is not used for different categories of goods and services. This avoids bottlenecks in the collection and the processing of the prices. This is the strategy adopted within the EU for their regular ongoing PPP program which spreads the price collection for consumption goods and services into six segments distributed over a rolling three year cycle. Prices for only two of the segments are collected in any one year. This has the advantage of distributing the work load more evenly for both the member countries and Eurostat.
42. This method may achieve a very efficient use of resources *provided* that the CPIs are reliable and the general rate of inflation is quite low. When CPIs are not reliable, however, the estimates of the annual average prices will also be not reliable. Moreover, when the rate of inflation is very high, estimating the average annual prices on the basis of a single month, especially if it is very early or late in the year, may produce erratic results.

Average national prices

43. As prices may vary between regions as well as over time, it is necessary to calculate average national prices in which the prices in the different regions are weighted by the relative quantities consumed in the regions. The price surveys have therefore to cover the country as a whole, and not just selected areas.
44. In some countries, however, it is customary to collect prices only in urban areas, or even only in the capital city, for CPI purposes, especially if the great majority of the population lives in or near the capital city. However, average prices in the capital city are not sufficient for ICP purposes as they are liable to be higher than prices in the rest of the country, especially rents and other services prices. It would be quite inappropriate to base a PPP on a comparison of capital city prices in one country and average national prices in another country. Such a PPP could be seriously biased.
45. If the CPI is confined to the capital city, it will be necessary to carry out some supplementary price collection for consumer goods and services in order to estimate the ratio of the capital city prices to those in the rest of the country. This

ratio may vary significantly from one product to another, and especially between goods and services.

Representivity

46. One of the first and most important tasks of the regional coordinators is to establish the list of products for which prices have to be collected by the various participating countries in the region. The same list is used for all the countries in the same region, but different regions use different lists. This section is concerned with the criteria used to select products for inclusion on the list. *Any given basic heading may contain a very large number of individual products, but for practical and resource reasons only a small number of them can be selected for inclusion on the list of products for which prices are to be collected.* Similarly, in inter-temporal CPIs, it is also feasible to price only a quite limited selection of individual products.
47. As a CPI measures changes in prices within a single country, a desirable method of selecting products within a basic heading for CPI purposes would be random selection with probabilities proportional to the expenditures on the products within the country. The resulting sample of products could be expected to be representative of the products within the heading. In practice, the requisite sampling frames and detailed information about expenditures are usually not available, so that this kind of random sampling cannot generally be used and countries have to resort to some kind of purposive sampling instead. The purposive selection is intended to result in the same kinds of products being selected as would be chosen with random selection with probabilities proportional to expenditures. However, in the case of the ICP, many countries are involved, each with its own expenditure pattern. Even if it were feasible to select products with probabilities proportional to the expenditure pattern in each country, the difficulty is that each country would come up with its own separate list. With n countries, there would be n different lists, but the ICP has to work with a *single* list. All countries have to try to price the same products even though each country will find that there are some products on the list which are not to be found on its markets and cannot be priced. As there has to be a common list for ICP purposes, it may not match the pattern of expenditure in any one of the countries covered.
48. The objective for ICP purposes is therefore to arrive at a common list that is as representative as possible of expenditures in all the countries covered. Such a list might be described as one that is equi-representative of all countries even though it may not be representative of any one country. From the perspective of an individual country, however, such a list may contain products that are rarely purchased or even not available at all in the country. They have to be on the list because they are important in other countries and needed for comparisons between other pairs of countries.

49. The ICP arrives at its common list of products for pricing by a lengthy and complex iterative process that is described in some detail in the following chapter. The objective is to ensure that the final common list of products contains enough products that are representative of each individual country participating in the comparisons. As explained in section B above, each country is expected to price at least all its own representative products. The PPP based on its own representative products is then an essential input into the process of calculating the final PPPs. There must be enough representative products for each country on the overall list therefore. As already noted, the overall list may not be representative of any single country and all countries will have to price some products that are representative of other countries even though they are not products of a kind that they would select themselves for their own CPI.
50. It is necessary to clarify what is meant by a representative product in an ICP context, as representative products have a critical role to play in the comparisons. Representative products figure prominently in the expenditures within a basic heading within a country. They are therefore products that are frequently purchased by resident households and are likely to be widely available throughout the country. Suppose the products within a basic heading are ranked by order of the size of the expenditures on each product. The n most representative products are then the first n products in this ranking. If it is desired to include at least n representative products for a country on the overall list, then ideally the first n products should be selected.
51. As already explained, a country will have to price some products that are representative of other countries. Such products may come well down in the ranking of products for that country and would not be selected as representative by that country. They are therefore described as unrepresentative products.
52. A representative product does not have to account for a certain minimum share of the expenditures within a basic heading. If only five products can be distinguished within a basic heading, it follows that a representative product selected in the way just described must account for at least 20% of the expenditures within the heading. If twenty products can be distinguished, however, a representative product might not account for much more than 5% of the expenditures.
53. In practice, the requisite detailed information enabling expenditures on individual products within a basic heading to be ranked will not be available. Statistical offices have therefore to make a purposive selection of the products that they deem to be representative. The method of selection outlined above is merely intended to provide guidance to statistical offices about the kinds of criteria they should use in selecting representative products.

Comparability

54. If the products whose prices are compared are not identical, some of the difference between their prices may be due to differences in their characteristics. Pure price comparisons require the products to be the same. Comparability is secured in inter-temporal price indices by making repeated observations of the price of the same product over time. But international comparisons require the prices of products in different countries to be compared and it is obviously difficult to ensure that the products in different countries are in fact the same. In order for the prices of products in different countries to be included among the price ratios used to calculate PPPs, the products must at least be comparable for pricing purposes even if they are not identical.
55. Two, or more, products are said to be *comparable* either
- If their physical and economic characteristics are identical, or
 - If they are sufficiently similar that consumers are indifferent between them.
56. Two similar products may be said to be comparable if consumers are indifferent as to which of the two they consume. This implies that consumers are not prepared to pay more for one than the other.
57. Product descriptions used for CPI and ICP purposes consist of listings of the various physical and economic characteristics that the products possess. Some examples are given in the next chapter. Not all of a product's characteristics are necessarily price determining. When a characteristic is price determining the absence or presence of that characteristic will affect the price that consumers are prepared to pay for the product. For example, the possession, or absence, of air conditioning will usually affect the price of an automobile. Consumers in most countries will pay more to obtain it. The size of a packet of rice is price determining as consumers will pay more for a kilo than half a kilo. And so on: there are endless examples of price determining characteristics.
58. On the other hand, the colour of an automobile, or the make of its tyres, may not be price determining. Some consumers may prefer one colour and other consumers another colour, but they may not be prepared to pay more to obtain their colour. Some standardised goods may be produced by a number of different manufacturers. Consumers may be indifferent as to the manufacturer even though the goods they produce may not be identical.
59. Two products that differ in respect of some price determining characteristic cannot be comparable for ICP purposes as, by definition, consumers would be prepared to pay more for one or the other. On the other hand, products that differ only in respect of one or more non-price determining characteristics may be treated as comparable. Thus, products in different countries do not have to be

completely identical for their price ratios to be used as inputs into the calculation of PPPs.

60. Price collectors have to be provided with a product specification -- that is, a list of characteristics -- that enables them to identify any particular product in retail outlets in their own countries. The way in which the ICP product specifications are determined is explained in some detail in the following chapter. In the present context, it may be noted that one way to achieve comparability is to make the descriptions, or specifications, of the products so precise and exhaustive that the price collectors in different countries must choose the same products, assuming of course that the products can be found in their countries. The price collectors themselves are not in a position to compare whether the products they price are the same as the corresponding products being priced by other collectors in other countries, but if the specification of the product is tight enough all collectors must choose the same product.
61. Price collectors may have some experience of collecting prices for CPIs or other intertemporal price indices, but CPI price collectors need to be aware that there is an important difference between intertemporal and international comparisons. Product definitions and specifications are often loose in CPIs, so that price collectors are left with some latitude about exactly which particular products in an outlet to select for pricing. Inter-temporal comparability is then achieved by the individual price collectors themselves who stick with the same products over time, repeatedly pricing the same products from period to period. However, the price collectors are not in a position to ensure comparability in international comparisons as they cannot see what price collectors in other countries are doing. They must be provided with such precise product descriptions and instructions that every price collector, working independently of the others, is bound to select the same product.
62. Although price collectors may have to be provided with a tight product specification as a target, it is also possible to give them some discretion to choose close substitutes if they cannot find the exact product specified. In this way, the number of prices actually reported may be significantly increased. In this case, the price collectors must also record and report in exactly which way the characteristics of the product priced differ from the target specification. With this information, it may be possible to adjust the price collected for the difference between the actual and the target specifications: in other words, to make a quality adjustment. After adjusting for the difference in quality the price may provide a satisfactory estimate of the price of the product targeted. Comparability is achieved *ex post*. The next section considers the types of quality adjustment that may be made.

Quality differences

63. Economic theory shows that the relative prices of two products, or different qualities of the same kind of product, should reflect *both* their relative costs of
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production and their relative utilities from the perspective of the purchaser or user. In practice, it is easier to quantify and measure relative costs of production than relative utilities.

64. In an ICP context, if two non-identical products J and K are judged to be comparable for pricing purposes, they must be of the same quality. This means that if the two products were to be offered for sale side by side on the same market, consumers would be indifferent between them. Consumers would not be prepared to pay more for one than the other. On the other hand, if consumers are prepared to pay more for J than K, then J is of higher quality than K. The difference in their prices *on the same market* measures the value of the difference in their qualities. When J and K are on sale in two different countries the price of one or other of them has to be adjusted for the difference in their qualities before the two prices can be compared for PPP purposes. Estimating the value of the quality difference is difficult but may be possible in some circumstances if enough information is available about the physical and economic characteristics of the products.

Characteristics and quality

65. There are various kinds of characteristics that affect the quality of a product and its utility from the consumer's viewpoint. They may be used to help define a generic product more precisely. In the case of goods, the following kinds of physical characteristics are relevant:

- Types of materials used as inputs; *e.g.*, ingredients for foodstuffs or drinks; fibres or other materials for clothing; type of wood, plastic or other materials used for furniture *etc.*;
- Styling, finishing and craftsmanship;
- Weight, length, cubic capacity or other dimensions;
- Type of container or packaging;
- Purity, strength or durability;
- Method of production;
- Power of electric or electronic goods;
- Capacity and speed of engines or processors.

66. The above list is illustrative and is not meant to be exhaustive. Clearly, the kinds of characteristics may vary considerably from product to product, depending on whether the good is a simple product such as a particular kind of food or a complex product such as a consumer durable. In addition to these physical characteristics, the quality of product may be affected by the location and type of outlet in which it is sold and the terms and conditions of sale. It may also be affected by the time of year at which the good was purchased. Consumers' perceptions of the quality of a product may also be affected by advertising and brand imaging.

67. In the case of services, the following kinds of characteristics affect the quality of the services such as repairs, housing, transportation, entertainment, recreation, health and education:

- Skill, qualifications and experience of the service provider(s);
- Equipment used by the provider;
- Type of outlet, premises or establishment in which the service is provided;
- Timeliness, reliability and frequency with which the service is provided;
- Accessibility of the service provider;
- Time of day or day of the week.

68. For example, the quality of a journey from X to Y depends on the frequency with which it may be available, the reliability and safety of the equipment used, the furnishing of the vehicle and the comfort of the traveller, and so on. The price of a ticket from X to Y may vary greatly depending upon these factors, so that the distance travelled is an inadequate specification of the product. A passenger mile is only a crude generic unit of quantity.

Quality adjustment based on hedonics

69. The most general approach to the treatment of quality is the so-called hedonic approach. This method is not widely used in practice because it requires a lot of detailed data, but from a conceptual point of view it is extremely important and for this reason it is considered first. All methods of quality adjustment use the same underlying logic as the hedonic method. The hedonic method uses a simple economic model and classic statistical estimation procedures. It is objective and replicable.

70. A product is specified by the characteristics it possesses. It can be viewed as possessing a bundle of characteristics that identify the product. Each characteristic is assumed to affect the amount of utility derived by the consumer and therefore exerts an influence on the price the consumer is prepared to pay. The price of the product is therefore assumed to be a function of the particular set, or mix, of characteristics it possesses.

71. If one of the characteristics varies between otherwise identical products, say the wattage of electric light bulbs, the prices may be expected also to differ. Hedonic analysis seeks to estimate by how much an increase in the wattage may be expected to change the market price of a bulb. This can be estimated by observing the prices of electric light bulbs on the same market at the same time and then calculating a least squares regression of the price on the wattage. Notice that relationship need not be a simple linear one. In particular, there is no presumption that price is proportional to wattage. On the basis of the estimated relationship, it is then possible to predict by how much the price of a 100 watt bulb may be expected to exceed a 60 or 40 watt bulb on the sale on the market at the same time. In an ICP context, a situation might arise in which the average

price reported by one country is the average price of a 40 watt bulb while the target price, and hence presumably the prices collected in other countries, refers to a 100 watt bulb. In this case, the price of the 40 watt bulb may be adjusted to that of a 100 watt bulb on the basis of the estimated hedonic relationship. The resulting quality adjusted price may then be compared with the prices of 100 watt bulbs in other countries to obtain a price ratio for PPP purposes.

72. This approach can be generalised to deal with several characteristics simultaneously. In order to estimate the contribution of each characteristic to the price, multiple regression may be used in which the observed market prices of products of different qualities are the dependent variables and the characteristics are the explanatory variables. In order to obtain robust estimates of the coefficient of the characteristics, a sufficiently large number of different qualities, or models, of the product need to be for sale on the market at the same time. The estimated partial regression coefficients of the various characteristics are then interpreted as providing estimates of the marginal contribution of each characteristic to the price. Some characteristics such as weight or power may be represented by continuous variables. Characteristics in the form of non-numerical attributes, such as being manufactured out of leather rather than synthetic materials, can be represented by dummy variables that take the value of unity or zero.
73. It may be concluded, therefore, that it may not be necessary for the products whose prices are collected in different countries to be perfectly matched for their prices to be usable. The characteristics of the products may differ somewhat provided it is possible to predict by how much the prices may be expected to differ as a result of the differences in the characteristics. The predicted difference can be used to adjust one or other of the two prices to obtain a quality adjusted price which can then be treated as being *comparable* with the other price for PPP purposes. For more information and explanation about the use of hedonics for quality adjustment, reference may be made to Chapters 7 and 8 of the forthcoming manual.
74. If the estimated coefficient of some characteristic is zero, that characteristic is not price determining. As already suggested, this might happen for a characteristic such as colour. Characteristics that are not price determining can be ignored.
75. As already noted, it is not expected that it will be feasible to make much use of hedonics in the 2003-2006 ICP round, but still they provide the most widely accepted conceptual or theoretical framework for analysing quality differences. Hedonic coefficients are estimated from prices observed on the market using objective statistical methods. It is the market's assessment of the contributions of the various characteristics to the price that provides the means for adjusting for quality differences, as distinct from intuitive subjective judgements about the effects of quality on price. The method has recently attracted widespread interest and attention because it has been used successfully to deal with the very rapid and substantial improvement in the quality of computers over time. Simpler methods
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of quality adjustment may be developed that rely on the same underlying principles and these methods are described in the following sections.

Quality adjustments in the ICP

76. As explained in the next chapter, the price collectors for the ICP 2003-2006 round are provided with tight product specifications: that is, very precise product descriptions that are intended to leave little or no room for variation in the characteristics of the products selected. These tight specifications serve as targets for the price collectors. If all the characteristics of the products priced actually match the target specifications, then it can be assumed that the products in different countries are really comparable.
77. It often happens that price collectors are unable to find the exact product specified but can price another product that has most, but not all, of the required characteristics: in other words, a close substitute for the target product. In this case, price collectors are advised to collect the price of the substitute while at the same time noting exactly how its characteristics differ from those of the target product. As explained in the next chapter, the forms provided to price collectors are designed in such a way as to make it easy for price collectors to take note of the characteristics of the product actually priced. Of course, price collectors should be advised not to abandon the search for the target product too quickly by pricing a replacement product, but in many cases the target product may simply not be available.
78. Thus, provided price collectors take proper note of the characteristics, statistical offices should have the necessary information about any differences between the actual and the target characteristics. This information may make it possible for the statistical office to adjust the price for the difference in quality between the product priced and the target product. If the price can be adjusted to the target specifications then it becomes comparable with prices collected in other countries. Of course, all other countries are also expected to make quality adjustments whenever their products do not match the target specifications.
79. The methodology used to make quality adjustments must be agreed with the regional coordinators. RCs also need to maintain tight control over the methods used. This may require visiting the countries to discuss methods or to review the adjustments actually made by statistical offices.
80. There are a number of fairly simple methods of making adjustments for quality differences that are summarized in the following sections. The first question, however, is how large the difference between an actual characteristic and a target characteristic has to be in order to make worthwhile any adjustment, given that quality adjustments are often rather crude and subject to error. For example, if the quality adjustment changes the price by less than 5% it may not be worth making. The product could be treated as being sufficiently comparable with the target product as to make its price acceptable without any adjustment. Inevitably,

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some judgment enters into this decision, much depending on how much confidence can be placed on the particular quality adjustment in question.

Quality adjustments based on relative costs

81. One method commonly used in inter-temporal price indices is to use the actual, or estimated, relative costs of production as a measure of the relative qualities of two products. Quite simply, if Y is the substitute product actually priced and product X is the target specification, and Y is estimated to have cost 25% more to produce than X, then the price of Y should be reduced by 20% to provide an estimate of the price of X that can be compared with the actual or estimated prices of X in other countries. As stated above, such an adjustment can be made within the national statistical office concerned, in collaboration with the regional coordinator.
82. Conceptually, the method uses the same underlying rationale for quality adjustment as the hedonic method. As relative prices are expected to reflect both the relative costs of production and the relative utilities of the two products, relative costs of production may often be expected to provide an acceptable approximation to the relative prices of different qualities. Like any other method of quality adjustment, however, the method based on relative costs needs to be used carefully.

Adjustments based on size, weight, dimensions or capacity

83. The product priced may differ from the required product specified on the product list simply because it is sold in a different size of package or it has rather different dimensions or capacity from the specified product. For example, rice may be sold in packets of 750 grams rather 500 grams. The cubic capacity of a refrigerator may 20% larger or smaller than that specified on the product list. The size of a television screen may be 17 rather than 15 inches. And so on. Weight, length, area, volume, *etc* are straightforward physical characteristics that are easily measurable and well suited to be used as characteristics in hedonic regressions. They also offer the possibility of relatively simple direct adjustments for quality differences.
84. If the characteristic is a major one, such as the quantity of some foodstuff, it may be reasonable to assume that the price is a simple function of the relevant characteristic. For example, if the target specification is a packet of 500 grams of a particular kind of rice, whereas the price collected refers to a packet of 750 grams, it may be assumed that the price of a 500 gram packet would be two thirds of the price of a 750 gram packet. The price of the 750 gram packet is simply reduced by a third to obtain an estimate of the price of a 500 gram packet.
85. However, simply adjusting the price in proportion to the size of the relevant characteristic is not always appropriate, especially if the difference is large. The relationship between price and quantity may not even be linear. As the size of the package or quantity sold increases, the market price may increase but at

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decreasing rate. A package containing ten kilos usually sells for significantly less than ten times the price of a one kilo package.

86. When the market is accepted as the arbiter of quality, the fact that the price per unit of quantity typically falls as the quantity sold increases means that quantities sold in bulk are lower quality than the same quantities sold in small packets. The 'quality' of rice in a 20 kilo packet may be less than the 'quality' of rice in a 1 kilo packet, even though the rice is physically the same. First, looked at from the production side, a 10 kilo packet will usually not cost 10 times as much to produce and market as a 1 kilo packet. Second, consumers will not generally not be indifferent between one 10 kilo packet and ten 1 kilo packets. Most consumers may prefer to buy in smaller packets because they do not have the physical capacity to carry or store large quantities and they may also not have the financial resources to make bulk purchases. If therefore the target specification is a 1 kilo packet of rice and a price is reported for a 10 kilo packet, it is not feasible on the basis of this information alone to estimate what the price of a 1 kilo packet would be. Quality adjustment may not possible and the price of the 10 kilo packet may have to be rejected.
87. These arguments apply to a wide range of products and characteristics. For example, a fridge may be priced of the required type but which has twice the cubic capacity of the target specification. However, halving its price would not be an appropriate quality adjustment. It will not have cost twice as much to produce, while most consumers would not rate it as providing twice as much utility, especially if they have limited space to house their durables. Similarly, while the quality of a computer may an increasing function of characteristics such as speed and memory size, this relationship is also unlikely to be linear.
88. For some products, adjustments based on simple physical characteristics may not be at all straightforward. For example, the quality of milk is not proportional to its fat content. Some consumers want rich milk with high fat content while others want skimmed or semi-skimmed milk with a low fat content. It may even cost more to reduce the fat content. A similar argument applies to a drink such as beer whose quality cannot be assumed to vary in any simple way with its alcoholic content.
89. One special problem is that very poor people are obliged to buy in small quantities because of lack of resources. The quantities may often be inconveniently small necessitating inconveniently frequent purchases. In effect, the very poor may be obliged to buy at prices that are high per unit of quantity.

Brands

90. A brand is the advertised name for a specific kind of product. The brand name may be legally protected by means of copyright or a registered trademark to prevent other producers from using the same name. Brands may be international, national or local: that is, the products may be advertised, recognised and sold in

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many countries or only in a single country or area. The owner of a brand name tries to create and foster an image by advertising and publicity, the manufacturer trying to convince consumers that the product has distinctive or unique qualities that other products do not possess. In many cases, other competing products that do have the same physical characteristics may be on sale: for example, non-proprietary drugs that have exactly the same composition and properties as the corresponding proprietary drugs. In such cases, some consumers may regard the branded goods as being more reliable or trustworthy than the unbranded ones and the producers of branded goods will try to exploit the fact that consumers are not well informed about the properties of all the various different products on sale.

91. International brands are particularly attractive for PPP purposes because the same international branded goods may be presumed to be comparable when they are sold in different countries. In fact, producers may sometimes modify the branded products to suit local tastes or conform with local regulations or laws, but such differences tend to be small.
92. Through sustained advertising campaigns, producers of branded products try to present their products as being intrinsically superior or more reliable and trustworthy than equivalent unbranded ones. In practice, producers of branded goods attach importance to their brand image and, for this reason, they may take care to ensure that their products do continue to meet certain standards that consumers may rely on. Some branded goods may therefore actually be superior and more reliable and trustworthy than some competing unbranded goods, being made of better materials or ingredients. However, the advertising is designed to convince consumers that the differences in quality are much greater than any genuine differences in their characteristics.
93. To the extent that producers of branded goods succeed in convincing most consumers that their products are superior, the brand name becomes a characteristic that has value in itself. People may be persuaded to buy branded products, such as proprietary drugs, at high prices because consumers perceive them to be superior even if they are not materially different from equivalent non-branded goods.
94. In the case of fashion goods, the brand itself may be the principal attraction to the consumer. The main satisfaction derived by some purchasers of branded goods is to display the branded goods to other people. This applies not only to high fashion and haute couture but to goods such as jeans or trainers for school children and others. There may be considerable incentives to buy named brands as a result of pressure from peer groups
95. Thus, a brand may become a major characteristic in its own right even though it is only a name rather than any kind of physical characteristic. It can become an economic characteristic that is price determining. In this case it is essential that it

should be treated as one of the characteristics that enter into the target specification.

96. The relative prices of branded and unbranded goods are unlikely to reflect both their relative costs of production and their relative utilities to consumers. On the contrary, the brand is often deliberately designed to drive a wedge between relative production costs and relative utilities by exploiting market imperfections, especially consumer's lack of information. It is worth noting that this implies that adjusting for quality differences on the basis of relative costs of production may be quite inappropriate when dealing with branded and unbranded products. If consumers willingly and knowingly purchase branded and unbranded products at different prices on the same market at the same time, they must be treated as qualitatively different products even though the products may be physically identical in all other respects. It is also possible, of course, that the branded product does not sell at a significantly higher price if the objective of the producer is to expand the branded product's share of the market at the expense of the unbranded products.
97. Given the hypothesis, or assumption, that consumers are prepared to pay a higher price, possibly a much higher price, for branded goods than otherwise identical unbranded goods when confronted with a choice between them, it follows that branded goods in country A should not be compared with unbranded goods in country B even if their physical characteristics are otherwise identical. To do so would introduce an upward bias into the PPP for A. Products should be stratified on the basis of their brand status and comparisons made only between goods in the same strata. At least four strata can be distinguished: international brands, national brands, local brands and no brands. In practice, it may be difficult to separate national from local brands.
98. Brands are therefore important for ICP purposes for two main reasons. First, international brands are useful because they can effectively tighten the specification considerably and make it possible to identify exactly the same goods in different countries. However, it should be noted that producers may sometimes modify the branded products to suit local tastes or conform to local regulations or laws, but such differences tend to be small. Second, and much more important, as brand status may be a major price determining characteristic it is necessary to include it in the specification of every product that may be liable to be branded. Comparability requires that products should have the same characteristics, which implies that products with different brand status are not comparable. There is no suggestion that the selection of products to be priced should be biased in favour of international brands simply because they help to ensure comparability. The recommendation is that the brand status of the goods compared should be the same in different countries. Extensive use may be made of unbranded goods so long as they are only compared with unbranded goods in other countries. In practice, unbranded goods are often the most representative goods in poorer countries.

99. In practice, it may happen that the product specification requires the possession of a certain brand status but no goods with that brand status can be found in a country: only unbranded goods. In this case, if the unbranded goods have all the other required characteristics, it is clearly preferable to collect their prices than no prices. In general, in the ICP, it is recommended that the prices of close substitutes should be collected if the required products cannot be found at all. The question then is how to adjust the prices for the difference in quality between branded and unbranded goods.

100. The only way to evaluate the relative qualities of branded and unbranded products is to look for countries in which both kinds of products are on sale at the same time on the same markets. This may be perfectly possible for drugs or jeans, for example, where it is common for branded and generic products to be on sale in competition with each other. The relative prices at which the branded and unbranded products are sold provide a measure of their relative qualities which can then be used to adjust the price of an unbranded product in one country to make it comparable with that of a branded product in another country. The feasibility of making quality adjustments depends on branded and unbranded products being on sale side by side in at least some countries in order to obtain some estimate of their relative prices.

Fake Brands

101. As already noted, international brand names are normally legally protected by copyright or registered as trademarks. Similarly, major national or local brands are likely to be trademarked. It is well known, however, that even though they may be effective in the country where they were registered, patents, copyrights and trademarks may be difficult to enforce at a world level. Producers in some countries may copy both the product and the brand name and not only sell in their own country but export their products to other countries. Fake international brands may be found in any country but seem to be more common in some developing countries. .

102. If consumers and the price collectors cannot recognize a fake as a fake, the product must be treated as if it were genuine. In practice, there is obviously no alternative if it cannot be recognized as a fake. If the physical characteristics of a fake product are the same as the genuine article and it cannot be distinguished from the latter, it must be comparable with the latter for ICP purposes. If, on the other hand, both the buyer and the price collector know it to be a fake, it must be treated as a different product. Its price should not be compared with that of the genuine article in another country. However, if the price collector cannot find and price the genuine article anywhere, the price of the fake may be collected on the general principle that it must be a close substitute for the genuine article and it is better to collect the price of a close substitute than no price at all. Obviously, it is imperative that the price collector note the fact that it is known to be fake on the PS for the product. It may then be possible to make a quality adjustment for the difference between the genuine article and the fake. As explained in the previous

section, the quality adjustment must be based on the market's evaluation of the two kinds of products and not on some subjective assessment made by the price collector, NSI or regional coordinator. This requires both kinds of product to be on sale side by side in at least some countries. The relative prices of genuine and fake articles provide the necessary information.

103. In effect, fake brands constitute an additional brand stratum. Comparisons between genuine and fake brands have to be treated in the same way as comparisons between branded and unbranded goods, as explained above. The price of fake brands can be compared with those of genuine brands provided some adjustment can be made for the difference in quality based on their observed relative prices on some markets. This may not always be possible, of course.
104. Another reason for collecting the prices of known fakes when the required genuine article cannot be found is the fact that if enough such prices are reported by enough countries, their price ratios can be used for ICP purposes without attempting to compare them with genuine brands. A new product is created in which the possession of a fake international brand is actually part of the specification. It must be remembered that a detailed, precise specification of all the characteristics of the products is required in any case, whether or not a brand is included in the specification. Comparing the prices of fake brands which are known to be comparable in respect of all their other characteristics is perfectly acceptable for ICP purposes.
105. A situation may arise in which the price collector suspects the brand is fake but does not know for certain. This may apply to the purchasers also. The same principles apply as for known fakes. If the genuine article cannot be found and priced, the price of the suspected fake is should be collected and the fact that it is suspected to be a fake recorded. In this case, the RC must decide whether to classify it as genuine or a fake and process it accordingly. Much may depend on the number of countries reporting suspected fakes.

Brands and representivity

106. Internationally known brands that are sold in many countries, such as Coca Cola or Sony, can be useful for ICP purposes because the products should be comparable between many countries. There may be temptation to include such international brands on product lists simply because the products are internationally comparable. However, in order to be included on the product list, a brand must be representative in at least one of the countries in the region. Some international brands may be representative in only very few countries and for this reason they may be of limited usefulness for ICP purposes. Indeed, it is possible that some international brands, especially extremely expensive and ostentatious luxury fashion goods, may be purchased by such a minute proportion of consumers as not to be representative in any country. Such highly unrepresentative products should not be used for ICP purposes, even for comparisons between relatively rich developed countries.

Conditions of sale, type of outlet and location

107. The terms and conditions of sale attached to the purchase of a good or service can affect its quality. For example, the possession of a guarantee, or delivering the goods, tends to improve the quality of the goods concerned. Customers also tend to attach importance to the range and variety of choice that the outlet offers as well as the number of hours it is open. The location of an outlet, as between rural areas, large towns or cities and the capital city may be a relevant characteristic, but most customers have little choice but to purchase in outlets in their own locality.
108. The type of establishment in which certain kinds of goods and services are provided can be important from the consumer's point of view. A drink or a meal served in pleasant, comfortable surroundings is of better quality than one served in less pleasant surroundings. The price of a branded drink, such as a Coca Cola or a Heineken, can vary greatly depending on the kind of bar, café or restaurant in which it is provided. A high price may simply reflect the additional costs of providing more comfort and facilities, so that the consumer is effectively buying more rather than paying a higher price. The consumer purchases a composite product consisting of the drink plus a variable amount of additional services. If drinks or meals served in bars or restaurants are included on the lists of products to be priced for ICP purposes, the specification must stipulate the type of establishment in which it is served, including its location, as well as the type of the drink or meal.
109. Location is obviously extremely important for housing services. The rents payable for a given type of accommodation, and also the prices paid to purchase dwellings, can vary greatly between locations, especially between capital cities and the rest of the country. Location is therefore included as one of the most important characteristics when specifying the type of housing services to be included on the product lists.