



## [FAQ about Purchasing Power Parities](#)

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### [What does the Eurostat-OECD PPP Programme do?](#)

The purpose of the Eurostat-OECD PPP Programme is to compare on a regular and timely basis the GDPs of three groups of countries: EU Member States, OECD Member Countries and associate non-member countries (countries that have an association other than membership with the European Union or the OECD). More precisely, the Programme's objective is to compare the price and volume levels of GDP and its component expenditures across the three groups of countries. To make such comparisons, it is first necessary to express the GDPs and the component expenditures - which are in national currencies and valued at national price levels - in a common currency at a uniform price level. Purchasing power parities (PPPs) are used to effect this double conversion. The PPPs are calculated by Eurostat and the OECD with the price and expenditure data that countries participating in the Programme supply specifically for the calculation.

The prices and expenditures that participating countries report have to be **comparable** with those of other participating countries and available at the same time. Eurostat's and the OECD's initial task is therefore to organise, co-ordinate and oversee the provision of data by participating countries and to ensure that they follow established methodology and procedures and adhere to the timetable

when collecting, reporting and validating their data. The second task for Eurostat and the OECD is to compute the PPPs with the validated price and expenditure data provided by countries and use the PPPs to derive the price and volume measures with which the GDPs and component expenditures of EU Member States, OECD Member Countries and associate non-member countries can be compared. A third task is to disseminate the price and volume measures and to explain them to users.

### Why is GDP compared from the expenditure side?

GDP values can be estimated from the production side, the expenditure side and the income side. The values are made up of a price component and a volume component (value = price x volume). To make price and volume comparisons of GDP, it is necessary to split the values into these two components. Unlike GDP values estimated from the production side and the expenditure side, GDP values from the income side cannot be split into meaningful price and volume components. Price and volume comparisons of GDP can only be made from the production side or the expenditure side. Eurostat and OECD comparisons are made from the expenditure side which identifies the components of final demand: consumption, investment and net exports.

The reasons for this are: the inherent usefulness of making comparisons from the expenditure or demand side; the difficulties of organising comparisons from the production or supply side which require data for both intermediate consumption and gross output in order to effect double deflation; and the generally better comparability among countries of their detailed breakdowns of GDP expenditures. The disadvantage of the expenditure side is that, although it enables levels and structures of consumption and investment to be compared, it does not identify individual industries. Therefore, productivity comparisons can be made only at the level of the whole economy. To compare productivity at the industry level, comparisons have to be made from the production side.

### What are PPPs?

PPPs serve both as currency convertors and as spatial price deflators. They convert different currencies to a common currency and, in the process of conversion, equalise their purchasing power by eliminating the differences in price levels between countries. Thus, when the GDPs and component expenditures of countries are converted to a common currency with PPPs, they are valued at the same price level and so reflect only differences in the volumes of goods and services purchased in the countries.

In their simplest form, PPPs are nothing more than price relatives that show the ratio of the prices in national currencies of the same good or service in different countries. For example, if the price of a litre of Coca Cola is 2.30 euros in France and 2.00 dollars in the United States, then the PPP for Coca Cola between France and the United States is the ratio 2.30 euros to 2.00 dollars or 1.15 euros to the dollar. This means that for every dollar spent on Coca Cola in the United States, 1.15 euros would have to be spent in France to obtain the same quantity and quality – or, in other words, the same volume - of Coca Cola.

In their more complex form, PPPs refer to the various levels of aggregation that make up GDP. But they are still price relatives. It is just that in moving up the hierarchy of aggregation the price relatives refer to increasingly elaborate assortments of goods and services. Therefore, if the PPP for GDP between France and the United States is 0.97 euros to the dollar, it can be inferred that for every dollar spent on the GDP in the United States, 0.97 euros would have to be spent in France to purchase an equivalent volume of goods and services.

## What are PPPs used for?

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PPPs are used to generate the price and volume indices needed for economic research and policy analysis that involves inter-country comparisons of GDP and GDP expenditures. The volume indices are used to compare the size of economies and their levels of material well-being, consumption, investment, government expenditure and overall productivity. The price indices are used to compare price levels, price structures, price convergence and competitiveness.

In addition to research and analysis, PPPs and the real expenditures they produce are used for statistical compilation. International organisations aggregate real GDP and its components across countries to provide totals for groups of countries, such as the European Union or the OECD. They also use the country shares in these totals as weights when economic indicators, such as price indices or growth rates, are combined to obtain averages for groups of countries.

PPPs are employed for administrative purposes as well. The European Commission uses them when allocating the Structural Funds to Member States. The Structural Funds were set up to reduce economic disparities between and within Member States. The principal indicator determining the eligibility of a region is PPP-deflated intra-country regional GDP per capita. The International Monetary Fund (IMF) uses PPPs when deciding the quota subscriptions of its members. A country's quota subscription determines among other things the financial resources it is obliged to provide the IMF. The weight of PPP-deflated GDP in the quota formula is 20 per cent.

## What are the price and volume indices that PPPs generate?

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PPPs are used to derive price level indices, volume indices and per capita volume indices for each of the various levels of aggregation comprising GDP. The indices for GDP are the most important, but the indices below the level of GDP are also useful in their own right as they enable inter-country comparisons of price and volume levels to be made for product groups and aggregates as well as for GDP.

The volume indices and per capita volume indices are based on real expenditures. Real expenditures are national expenditures – that is, expenditures expressed in national currencies and valued at national price levels – that have been converted to a common currency and valued at a uniform price level with PPPs. The expenditures are real because, being at the same price level, they reflect only differences in the volume of goods and services purchased in countries. Both indices are indicative of the relative magnitudes of the component expenditure being compared with the per capita indices also taking into account the differences in the size of populations between countries. At the level of GDP, the volume indices are used to compare the economic size of countries and the per capita volume indices the material well-being of their residents.

The price level indices (PLIs) are the ratios of PPPs to exchange rates. As such, they provide a measure of the differences in price levels between countries by indicating for a given component expenditure the number of units of common currency needed to buy the same volume of the component expenditure in each country. At the level of GDP, PLIs provide a measure of the differences in the general price levels of countries.

For example, if the PPP for GDP between the European Union and the United States is 1.28 dollars per euro and between the European Union and Japan it is 150 yen per euro, it can be inferred that a given volume of GDP that costs 1.00 euro in the European Union will cost 1.28 dollars in the United States and 150 yen in Japan. By converting these costs to a common currency with exchange rates (1 euro = 1.47 dollars = 151 yen), they can be compared. After conversion, the costs are 1.00 euro in the European Union, 0.87 euro in the United States and 0.99 euro in Japan from which it can be seen that the given volume of GDP costs more in the European Union and Japan than in United States and

that it costs almost the same in the European Union and Japan. From this it can be concluded that the general price level of the European Union is higher than that of the United States but only marginally higher than that of Japan.

### Why not to use exchange rates to make international comparisons of GDP?

Before PPPs became available, exchange rates were used to make international comparisons of GDP. This was partly because there was no alternative, but the use of exchange rates was also underpinned by the theory of purchasing power parity in international economics. In its simplest form, the theory suggests that national price levels converted to a common currency using exchange rates should be equal. Arbitrage will ensure that the price of an individual good will be the same in all countries in which it is traded - the law of one price. Thus, when the individual goods are taken together, there will be high correlation in general price levels – at least in the medium and long term. The two principle assumptions underlying the theory are that the demand and supply for currency is driven entirely by international trade and that all goods (and services) are internationally tradable.

In reality, the supply and demand for currencies are influenced principally by factors such as currency speculation, interest rates, government intervention and capital flows between countries and not by the currency requirements of international trade. Furthermore, many goods and services, such as buildings, all government services and most market services, are not traded internationally. In other words, the two principle assumptions underlying the theory do not hold: exchange rates do not reflect the relative purchasing powers of currencies in their national markets. Hence, while exchange rates provide GDPs that are expressed in the same currency unit, they do not provide GDPs that are valued at the same price level. The GDPs remain valued at national price levels and, as a result, they reflect not only differences in the volumes produced in the countries being compared, but also differences in the price levels of these countries.

One consequence of this is that exchange rate converted GDPs are usually misleading on the relative sizes of economies. Price levels are typically higher in high-income countries than they are in low-income countries. If no account is taken of this when converting the GDPs of countries to a common currency, then the size of high-income countries will be overstated and the size of low-income countries will be understated. Exchange rate converted GDPs do not take account of the price level differences between countries and therefore overstate the size of economies with relatively high price levels and understate the size of economies with relatively low price levels. It is for this reason that exchange rates should not be used to make international comparisons of GDP.

### Are PPPs necessary if countries share a common currency?

PPPs serve two functions. They are used to convert the GDP expenditures of the countries being compared to a common currency when the countries have different national currencies and, because the GDP expenditures of the countries are valued at national price levels, they are used to revalue the expenditures at a uniform price level. The two functions are independent of each other. If countries have a common currency, as do countries in the euro area, it does not mean that they have a common price level. The purchasing power of the common currency will vary from country to country in line with national price levels. Hence, although PPPs are not needed to convert the GDP expenditures to a common currency when countries share a common currency, they are still needed to value the GDP expenditures at a uniform price level. In other words, PPPs are employed as spatial price deflators only and not as both currency convertors and spatial deflators.

### Can PPPs be used to determine whether a currency is undervalued or overvalued?

PPPs appear in international trade theory in the context of equilibrium exchange rates where they are defined as the underlying rates of exchange to which actual exchange rates will converge in the long term. Hence, the ratios of the GDP PPPs to exchange rates - that is, the price level indices (PLIs) for GDP - will indicate whether or not currencies are undervalued or overvalued with respect to a reference currency. A PLI above 100 indicates that the currency is undervalued; a PLI below 100 indicates that the currency is overvalued. But this only holds true if the PPPs on which the PLIs are based refer solely to domestically-produced tradable goods and services valued at export prices and this is not the case with the PPPs being considered here.

These PPPs have been calculated specifically to enable international price and volume comparisons to be made for GDP. They refer to the entire range of goods and services which make up GDP - both domestically produced and imported - and include many items that are not traded internationally. In addition, except for net foreign trade, they are valued at domestic market prices and are calculated using expenditure weights that reflect domestic demand. As such, they provide PLIs for GDP which allow the general price levels of countries to be compared with that of a reference country. In doing so, they also indicate the degree to which a country's exchange rate reflects its general price level vis-à-vis the general price level of the reference country. Hence, a PLI more than 100 indicates a higher general price level and one that is understated by the exchange rate; a PLI less than 100 indicates a lower general price level and one that is overstated by the exchange rate. This is not the same as saying a currency is undervalued or overvalued.

### Should PPPs always be used to make international comparisons?

The purpose of the PPPs produced by Eurostat and the OECD is to make international price and volume comparisons of GDP and GDP expenditures. They are designed specifically to compare the size or the price levels of these expenditures between countries and should always be used to effect such comparisons. They are not designed, however, to make international comparisons of monetary flows, such as aid and foreign direct investment, or trade flows. For such comparisons, exchange rates should be used. Note that many international comparisons require neither PPPs nor exchange rates. For example, to compare real growth rates of GDP between countries, each country's own published growth rate can be used. Similarly, for a comparison of government debt as a ratio of GDP, the ratios are calculated in each country's own currency.

### How are PPPs calculated?

PPPs are calculated in three stages. The first stage is at the product level, where price relatives are calculated for individual goods and services. The second stage is at the product group level, where the price relatives calculated for the products in the group are averaged, usually without weights, to obtain PPPs for the group. And the third is at the aggregation levels, where the PPPs for the product groups covered by the aggregation level are weighted and averaged to obtain weighted PPPs for the aggregation level. The weights used to aggregate the PPPs in the third stage are the expenditures on the product groups as estimated in the national accounts.

Eurostat and the OECD apply the Èltetö-Köves-Szulc (EKS) method first to calculate PPPs for product groups (stage 2) and then to aggregate product group PPPs (stage 3).

### What products are used to calculate PPPs?

The sample of products used to calculate PPPs is drawn from the whole range of final goods and services comprising GDP. Countries collect prices for consumer goods and services, government services and capital goods. The final product list from which countries select items to price covers around 2500 consumer goods and services (including housing, pharmaceuticals, and other medical goods and services), 26 occupations in government services, 230 types of equipment goods and 8 construction projects. Prices are not collected for education, and in some countries for housing, because the PPPs are derived indirectly with volume measures. The volume measures are computed with the quantity and quality data that countries report instead of prices.

### What prices are used to calculate PPPs?

The prices that countries collect are broadly consistent with the prices used to estimate their GDP and its component expenditures. If the prices are not consistent, the volume indices are likely to be biased. The prices that countries use to estimate GDP and GDP expenditures are, in principle, national annual purchasers' prices of actual market transactions. Ideally, such prices would be collected nationwide throughout the reference year from purchasers. In practice, countries tend to collect prices from sellers for a specified survey month. In some cases the prices collected are national prices, in others they are capital city prices. Capital city prices are only collected for consumer goods and services and these are converted to national prices with spatial adjustment factors prior to the calculation of PPPs.

The prices at which sellers offer their products for sale are not necessarily actual transaction prices and, before they are recorded as such, it has to be established whether or not they include elements such as delivery and installation costs (if applicable), VAT and other indirect tax on products, discounts, surcharges and rebates, and, in the case of certain services, invoiced service charges and voluntary gratuities. If they do not, the offer prices of sellers are converted to proxies for actual transaction prices by adding on the missing elements. Subsequently, the transaction prices are converted to annual prices with temporal adjustment factors. This adjustment is only made for consumer goods and services. Mid-year national prices are collected for capital goods and annual national prices are collected for housing and government services.

### In what circumstances could PPPs be biased?

The prices that countries collect for the calculation of PPPs have to meet three criteria. They have to be consistent with the prices underlying the estimates of GDP and its component expenditures; they have to be for products that are comparable across countries; they have also to be for products that are representative of their expenditures. Failure to observe any of these three requirements can lead to biased PPPs resulting in an overestimation of price levels and a corresponding underestimation of volumes or an underestimation of price levels and a corresponding overestimation of volumes.

Consistency is essential because the basis of a comparison is the identity: expenditure = price x volume. Volumes are obtained by dividing expenditures by prices. To estimate the volumes correctly, the prices collected should be consistent with those used to derive the expenditures. Deflating with prices that are not consistent with those underlying the expenditure values can result in volumes being underestimated if the prices are too high or overestimated if the prices are too low.

Comparability requires countries to price products that have the same or similar technical parameters and price determining properties. 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. If products are not comparable, quality differences will be mistaken for apparent price differences and the consequent underestimation or overestimation of price levels.

Countries are required to price a selection of representative products (that is, products that are representative of their own pattern of expenditure) and a selection of unrepresentative products (that is, products that are representative of the expenditure patterns of other countries). Products that are representative generally have a lower price level than products that are unrepresentative and, unless this is taken into account when calculating the PPPs, the PPPs can be biased. There is a risk that price levels for countries pricing a smaller number of representative products will be overestimated and that price levels for countries pricing a larger number of representative products will be underestimated.

In principle, this bias is avoided because the method of calculating PPPs used by Eurostat and the OECD takes account of representativity of products in a way that disparities in the number of representative products priced between countries is not an issue. However, the method requires countries to identify which of the products they have priced are representative. This can be difficult because usually explicit expenditure weights are not available for products. Their representativity has to be determined by other means. If countries fail to identify correctly the representative products among those they price, the bias described above may not be avoided.

### What has to be considered when comparing PPP-derived data over time?

Indices of real GDP provide a snapshot of the relative volume levels of GDP among participating countries for a given reference year. When placed side by side, the indices of consecutive reference years appear to provide a moving picture of relative GDP volume levels over these years. This apparent time series of volume measures is actually equivalent to a time series of value indices. This is because the volume indices for each reference year are calculated using the prices and expenditures of that year. Year-to-year changes in the volume indices are thus due to changes in relative price levels as well as changes in relative volume levels. As a result, the rates of relative growth derived from the indices are not consistent with those obtained from GDP volumes estimated by countries.

To trace the evolution of relative GDP volume levels between countries over time, it is necessary to select one of the reference years as a base year and to extrapolate its relative GDP volume levels over the other years. Extrapolation is done by applying the relative rates of GDP volume growth observed in the different countries. This provides a time series of volume indices at a constant uniform price level that replicates exactly the relative movements of GDP volume growth of each country. Underlying this method is the assumption that price structures do not change over time. But relative prices do change over time and, if such changes are ignored over long periods, a biased picture of the relative economic developments of countries can result. The choice of base year can also influence the picture that emerges.

The convergence or divergence of prices among countries is of interest in a number of contexts such as competition policy and consumer protection. PLIs provide a means of observing the movement of price levels over time, but they have to be used with caution. First, except within the euro area, they are influenced by exchange rate fluctuations (being the ratios between PPPs and exchange rates). Second, independently of exchange rates, they are volatile. This is generally so at the lower aggregation levels where sample sizes are small. Usually such volatility diminishes, if not disappears, with aggregation. Volatility particularly arises when the basket of goods and services to be priced changes from one price survey to another in order to accommodate market developments. For example, in this respect, the basket for food and non-alcoholic beverages is relatively stable, while that for electronic goods is altered substantially each time it is surveyed. Volatility of this type also diminishes with aggregation. For these reasons, PLIs are better suited to monitoring price convergence at higher levels of aggregation over long periods of time.

### Who is responsible for calculating PPPs and for the quality and accuracy of PPP results?

Eurostat and OECD comparisons involve close collaboration between three parties: Eurostat, the OECD and the National Statistical Institutes (NSIs) of participating countries. Each party has its own set of responsibilities which, in the case of Eurostat and countries participating in Eurostat comparisons, are set out in the PPP Regulation. Responsibility for the calculation of PPPs and for the quality and accuracy of PPP results is shared.

Eurostat is responsible for the calculation, aggregation and validation of the PPPs for countries participating in its annual comparisons and the OECD is responsible for the calculation, aggregation and validation of the PPPs for those countries participating in the three-yearly joint comparisons that are not covered by Eurostat comparisons. The OECD is responsible as well for including the countries coordinated by Eurostat in the joint comparison in a way that ensures that the PPPs for the Eurostat countries are not affected. Eurostat and the OECD are also responsible for ensuring the accuracy, relevance and timeliness of the PPPs and of the price and volume indices to which they give rise.

For their part, the NSIs of participating countries are responsible for providing the national annual purchasers' prices and the detailed breakdown of GDP expenditures required to calculate and aggregate the PPPs according to the commonly agreed timetable. The prices should conform to the standards that are set by Eurostat and the OECD in consultation with the NSIs. Similarly, the detailed expenditures should conform to the classification agreed by Eurostat, the OECD and the NSIs. The NSIs are also responsible for validating price and expenditure data together with Eurostat and the OECD. They are required to give written approval of the validated data for which they are responsible.

In addition, the NSIs of countries participating in Eurostat comparisons are required to supply Eurostat with all the detail necessary to evaluate the quality of the basic information reported for a comparison. Specifically, countries are expected to provide Eurostat with an inventory of their sources and methods which will allow Eurostat to assess whether the procedures used by the NSIs meet minimum quality standards and are comparable across countries. Countries are also expected to prepare a report after each price survey that will enable Eurostat to assess the quality of the price collection and the subsequent validation of the prices collected.

### How often are comparisons made and the results updated?

Eurostat comparisons are made every year (t, t+1, t+2, etc.) and cover 37 countries. Results are disseminated through the Eurostat public database. Joint Eurostat-OECD comparisons are made every three years (t, t+3, t+6, etc.) and cover 47 countries. Results are disseminated through the OECD public database.

For the years between joint comparisons (t+1, t+2, t+4, etc.) and for joint comparison years (t, t+3, t+6, etc.) before comparison results are available, the OECD uses global extrapolation to estimate PPPs for GDP, actual individual consumption and individual consumption expenditure by households for the ten countries that participate in the joint comparisons but are not covered in the Eurostat comparisons. The extrapolated PPPs are linked to the PPPs calculated by Eurostat for the three aggregates to provide annual PPPs for the aggregates for all countries covered by the joint comparison. These annual PPPs, and the PLIs and volume measures to which they give rise, are disseminated through the OECD public database.

Eurostat first estimates and releases PPPs for the reference year t in June of t+1. Later in t+1, these preliminary PPPs are recalculated with updated price and expenditure data to provide provisional PPPs for t. The provisional PPPs are released in December of t+1. Subsequently, in t+2, the provisional PPPs are recalculated, with updated data to obtain intermediate PPPs for t. The intermediate PPPs are released in December of t+2. They, in their turn, are recalculated with updated data in t+3 to produce the final PPPs for t. The final PPPs are released in December of t+3. They are not recalculated even when the data on which they are based have been revised.



The OECD calculates and releases provisional estimates of joint comparison PPPs for the reference year  $t$  in December of  $t+1$ . These provisional PPPs are recalculated with updated and revised price and expenditure data during  $t+2$  to produce final PPPs for  $t$ . The final PPPs are released in December of  $t+2$ . They are not recalculated, but they are adjusted to accommodate the final PPPs for  $t$  that Eurostat releases in December of  $t+3$ .

## What are purchasing power standards (PPS) and OECD dollars?

PPS and OECD dollars are the artificial reference currency units in which the PPPs and real expenditures for the European Union and the OECD are expressed.

PPS are euros valued at average EU price levels, that is, they are euros that have the same purchasing power over the whole of the European Union. Their purchasing power is a weighted average of the purchasing power of the national currencies of EU Member States. They reflect the average price level in the European Union or, more precisely, the weighted average of the price levels of Member States. PPS are defined by equating the total real expenditure of the European Union on a specific basic heading, aggregation level or analytical category to the total nominal expenditure of the European Union on the same basic heading, aggregation level or analytical category.

Similarly, OECD dollars are US dollars valued at average OECD price levels. In other words, they are US dollars that have the same purchasing power over the whole of the OECD. Their purchasing power is a weighted average of the purchasing power of the national currencies of OECD Member Countries. They reflect the average price level in the OECD or, more precisely, the weighted average of the price levels of Member Countries. OECD dollars are defined by equating the total real expenditure of the OECD on a specific basic heading, aggregation level or analytical category to the total nominal expenditure of the OECD on the same basic heading, aggregation level or analytical category.

## What data are published?

Results of Eurostat comparisons are disseminated through the Eurostat public database and results of joint Eurostat-OECD comparisons are disseminated through the OECD public database. Eurostat comparisons are conducted annually, cover 37 countries, have the European Union as reference and purchasing power standards (PPS) as numéraire. Joint comparisons are carried out every three years, cover 47 countries, have the OECD as reference and the OECD dollar as numéraire. Results are presented both for individual participating countries and for groups of countries such as the euro area, the European Union and the OECD.

For the presentation of results, GDP expenditures are broken down into analytical categories. The aggregation level of an analytical category varies. For example, main aggregates such as GDP and actual individual consumption are analytical categories, but so too are expenditure groups such as food, clothing and transport, and expenditure classes such as meat, alcoholic beverages and personal transport equipment. Eurostat uses 60 analytical categories, the OECD 49 (of which 46 are the same as Eurostat). The level of detail at which the results are published is determined inter alia on the basis of an assessment of the reliability of the data.

Results presented by analytical categories include: PPPs, PLIs, national expenditures at national price levels in national currencies, real expenditures and real expenditure per capita in PPS and OECD dollars, indices of real expenditure and real expenditure per capita levels.

Eurostat and OECD both maintain on their websites dedicated pages to PPPs in which links to the

latest data, publications, metadata and other material, including product lists, can be found:

- [http://epp.eurostat.ec.europa.eu/portal/page/portal/purchasing\\_power\\_parities/introduction](http://epp.eurostat.ec.europa.eu/portal/page/portal/purchasing_power_parities/introduction)
- <http://www.oecd.org/std/prices-ppp>

## Which measure to use to compare material well-being?

GDP is a measure of production but it can also be defined as the sum of all final expenditures incurred by the country's resident institutional sectors during the accounting period which, in the case of Eurostat and OECD comparisons, is a year. GDP is widely used to compare the economic size of countries and GDP per capita is frequently used to compare the material well-being of their resident households. While GDP is a good indicator of the level of economic activity, it is not an accurate measure of material well-being, when material well-being is defined in terms of individual goods and services consumed by households (that is, the goods and services that households consume to satisfy their individual needs). This is because GDP covers not only individual goods and services but also collective services provided to the community by government, capital goods and net exports.

Individual consumption expenditure by households is defined as the final consumption expenditure incurred by households on individual goods and services. In other words, it covers only the goods and services that households purchase to satisfy their individual needs. Even so, it is not a good measure for comparing material well-being between countries because it covers only the purchase of individual services by households and does not include the provision of individual services, particularly health and education services, to households by government and Non-Profit Institutions serving Households (NPISHs).

In some countries, government and NPISHs provide the greater part of health and education services and these expenditures are included in the individual consumption expenditure of government and the individual consumption expenditure of NPISHs. In other countries, households purchase nearly all health and education services from market producers and these expenditures are included in the individual consumption expenditure of households. Under these circumstances, individual consumption expenditure by households is not the correct measure with which to compare the volumes of individual goods and services actually consumed by households in different countries. Households in countries where government and NPISHs are the main providers of individual services will appear to consume a smaller volume of goods and services than households in countries where the households themselves pay directly for the bulk of these services. This can be avoided by comparing the actual individual consumption of countries.

Actual individual consumption is defined as individual consumption expenditure by households plus individual consumption expenditure by government plus individual consumption expenditure by NPISHs. Of the three national accounting aggregates discussed, it is the best measure of material well-being. This is because it comprises only the goods and services that households actually consume to satisfy their individual needs. It covers all such goods and services irrespective of whether they are purchased by the households themselves or are provided as social transfers in kind by government and NPISHs.

## How to get access to more data?

Eurostat and the OECD disseminate comparison results – that is, the PPPs, PLIs, volume indices and expenditure weights for analytical categories – through their public databases. All users have free access to these data.

Underlying the comparison results are other data that users would like to access, such as the average prices used to calculate the PPPs, the individual price observations from which the average

prices are derived, the detailed definitions of the products for which the price observation were collected and the PPPs, PLIs, volume measures and expenditure weights for basic headings (the lowest aggregation level for which PPPs are calculated).

Only Eurostat has access to individual price observations. There are no exceptions to this, as individual price observations are covered by confidentiality restrictions. Only Eurostat, the OECD and the NSIs of participating countries have unrestricted access to average prices, detailed product definitions and basic heading data, but other users can obtain special access rights under certain conditions.

The users that can obtain special access rights are those in Commission services (other than Eurostat), in OECD directorates (other than the Statistics Directorate), in government departments of participating countries and in research institutes. Special access rights have to be applied for. This involves providing a project description to Eurostat or the OECD that specifies the data requested and how they will be used and then, if the project is considered worthwhile, signing a declaration that states that the data will not be made public in any form and that the results of the research will not be published in more detail than the analytical category level.

The responsibility for granting special access rights is shared between the NSIs of participating countries, Eurostat and the OECD depending on the number of countries involved and on whether the countries are coordinated by Eurostat or by the OECD.