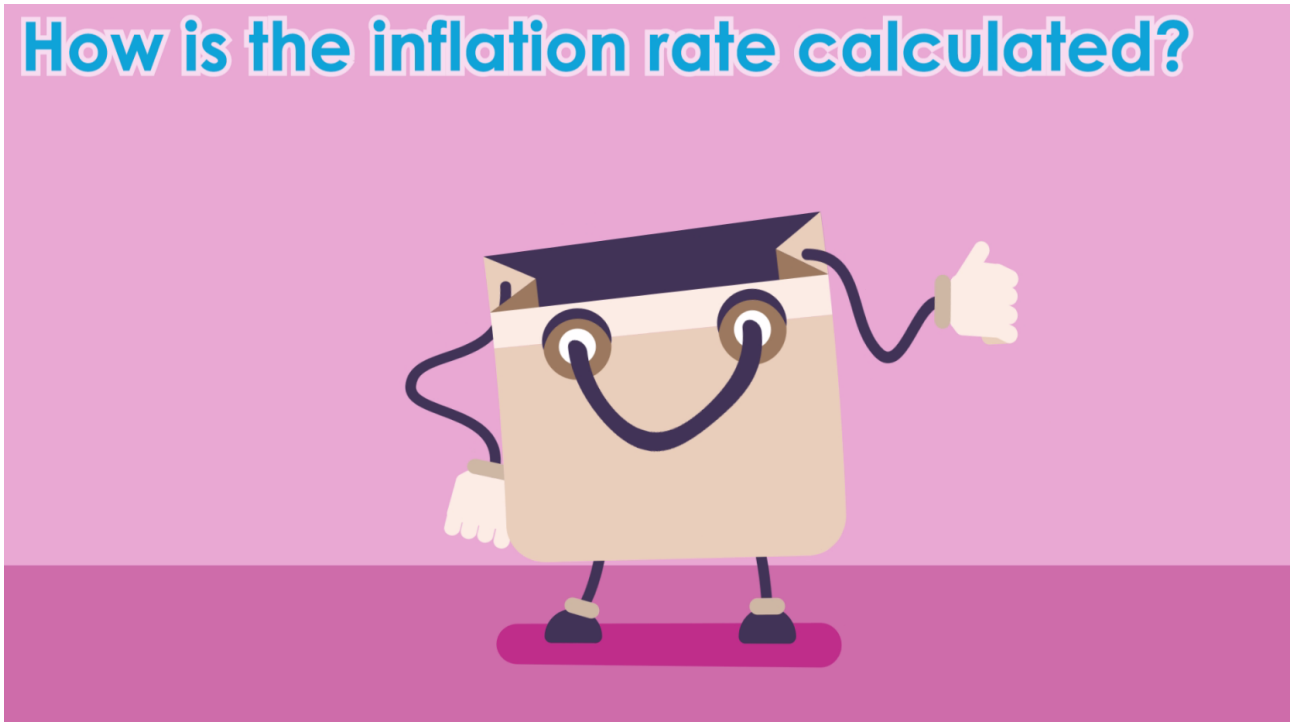
Beginners:Inflation

Statistics Explained

In this article you will learn all about inflation and the indicators used to measure it: the Harmonised Index of Consumer Prices abbreviated as (HICP) and the inflation rate.

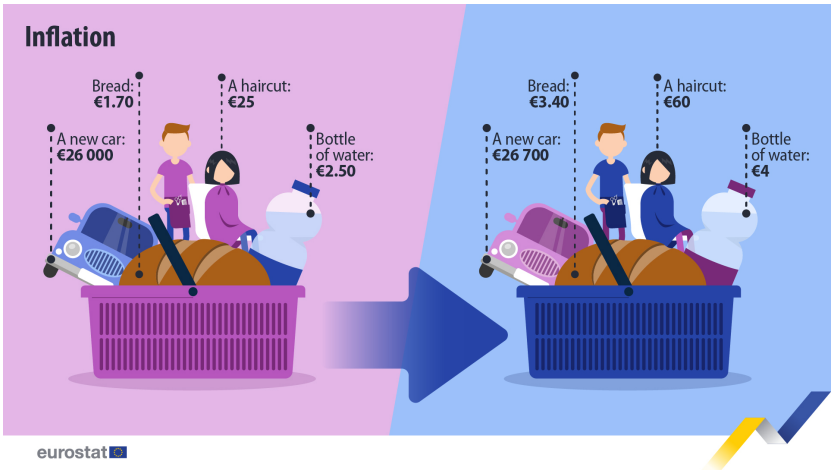


Watch the video for answers to the question what is inflation and how do we calculate it!

What is inflation?

Inflation is an increase in the general price level of goods and services. Deflation is the opposite of inflation, it is a decrease in prices.

When there is **inflation** in an economy, the value of money decreases, which in simple terms means that people need to spend more money to pay for the same goods and services than they did before.



Why do we measure inflation?

Inflation is measured to see how prices change over time for things that households regularly buy, such as food and clothing. By keeping track of these changes, we can see how much more, or how much less money people need to spend to buy the same products.

Understanding inflation is essential. It may seem that when there is no inflation or there is deflation it is beneficial since prices remain stable or they drop, giving you more for your money. However, deflation can slow spending and hurt the economy. For example, if the price of a car is expected to drop, buyers might wait. This leads to reduced sales, causing businesses to produce less, reduce investment and possibly cut jobs. When people lose jobs, they spend even less money, which slows down the economy even more. The cycle continues, resulting in slower economic growth or even a recession, affecting everyone. On the other hand, high inflation reduces the value of money and creates unpredictability.

Inflation data help policymakers, economists, and businesses make informed decisions regarding economic policy, interest rates, and business strategy.

Inflation data is also crucial for the European Central Bank , as it informs the setting of monetary policy in the euro area . The ECB sets a specific target for inflation and adjusts interest rates or other policies to keep inflation near that level. This approach helps to ensure stable prices and supports a healthy economy.

How do we measure inflation?

Inflation is measured by 2 main indicators: the **harmonised index of consumer prices** and the **inflation rate** .

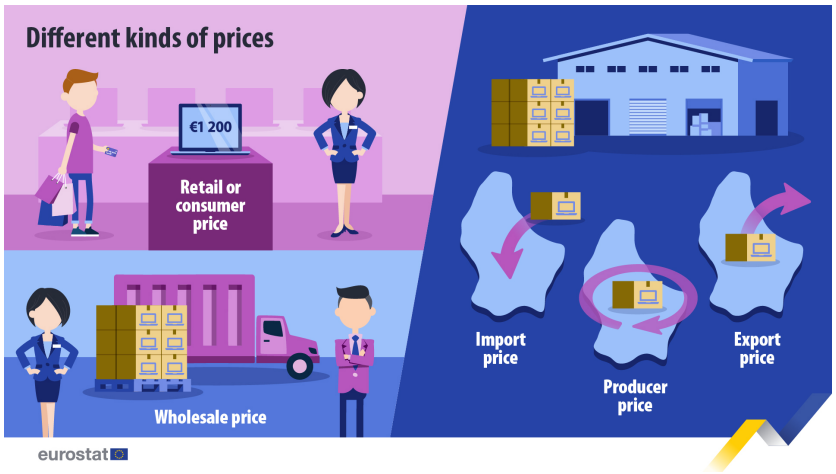
What is the harmonised index of consumer prices?

The European Union (EU) has developed a harmonised index of consumer prices (HICP) , which uses a harmonised approach and a set of definitions defined in regulations and recommendations. These common definitions make it possible to compare inflation rates between EU countries. HICP data are published monthly and annually by Eurostat.

To better understand the harmonised index of consumer prices, first we need to understand consumer prices. **Consumer prices** are prices consumers must pay for a product, which can be either a physical item, such as a book or a pair of shoes (these are known as goods), or a haircut or a taxi ride (these are called services).

Prices change over time and also vary from place to place. For example, the price of a pair of jeans can vary

depending on the brand or style and when and where it is bought (for example, during sales) or on how many pairs are bought - a shop might offer a discount if the customer buys several pairs. In the market economy, the price of a product can change based on the amount of
a product available in the market (supply) and the amount of goods or services that consumers want to buy (demand).



Different types of prices are involved in the supply chain, and they all influence consumer prices.

- Wholesale prices affect how much retailers pay for goods.
- Producer prices reflect the costs of manufacturing.
- Import prices determine the cost of goods sourced from abroad.
- Export prices can impact the domestic economy.

Put together, these prices contribute to the overall cost for consumers purchasing products (consumer price).

Max goes to a shop to buy a smartphone. He is a consumer. The price that Max pays in the shop is called a **retail or consumer price** . 'Retail' reflects the fact that Max bought the phone from a retail outlet such as a shop; 'consumer' reflects the fact that Max has bought the phone for his own **personal use** , and not to use it in a business.

The retail shop owner, Sandra, receives the payment from Max. Some of the money received is used to order another phone to replace her stock of the phone she has just sold, some of it (the value added tax or VAT) must be paid to the state while the rest is for Sandra to use for other payments and for profit.

Sandra buys the phones from Stefan: he is a wholesaler selling phones in the country where Sandra has her shop. The price that Stefan charges Sandra is called the **wholesale price** . Stefan's phones come from 2 sources: some of them are manufactured in the country where he has his wholesale business and some are imported from abroad.

If the phone is produced in the country where Stefan has his business, the price that he pays for the phone is called a **producer price** . The name comes from the fact that this is the price charged to Stefan by the producer (local manufacturer).

However, if the phone is imported, Stefan will pay an **import price** . The local manufacturer of the phone not only sells goods locally within the domestic economy, but may also export phones abroad, for which they charge an **export price** .

The HICP tracks the average change over time in the prices people pay for a fixed basket of goods and services. By **comparing the total cost of this basket between 2 time periods** , it shows us how much this cost has changed, for example compared to the previous month or to the same month of the previous year.

The basket of goods, which typically includes food, clothing, housing and transportation, aims to be as representative as possible and reflects the consumer spending habits of the total population. To find out how to calculate the HICP see section **'Calculating the harmonised index of consumer prices'** .

What is the inflation rate?

The inflation rate is the **percentage change in the harmonised consumer price index for a given period compared to the previous period** . Therefore, to calculate the inflation rate for a specific month, we need the HICPs for that month and for the reference month. More details on the calculation are provided in the section **'Calculating the inflation rate'** .

Calculating the harmonised index of consumer prices

To calculate the harmonised index of consumer prices and the inflation rate, there are several stages.

1. Classification of products into categories

To describe the different types of products that are used to calculate the harmonised index of consumer prices in the EU, statisticians use the European classification of individual consumption by purpose (ECOICOP) . This is a comprehensive list that includes every type of goods and services, divided into 13 divisions or categories.

2. Representative items for each product category

As statistical offices cannot afford to constantly monitor the price of every single product, they select items for each category that are representative of households' expenditure and monitor any changes in the price. To obtain reliable data at different times, these individual items must be precisely defined. It is not enough to simply measure the price of a carton of juice: you also need detailed information about the size of the carton, the manufacturer and the particular type of juice (its ingredients). For the complete picture, you also need to know where the juice is bought.

If Markus buys a chocolate bar from a late-night store, he expects to pay more than in a discount supermarket. This is why it is important to also consider the choice of the shop or outlet when measuring the price, and not just the choice of items.

The items must be carefully selected to be genuinely representative of what people buy and the conditions under which they buy them. The selected items whose prices are surveyed each month make up the reference shopping basket of goods and services. The 'shopping basket' of items is reviewed each year to ensure it remains relevant. Some
items are removed, and others are put in, to ensure it is up to date and representative of consumer spending patterns.

3. Items for the shopping basket

Every month, national statistical offices record the prices of the items in the 'shopping basket', making sure they collect prices from the different regions and different types of shops in their country. These prices are collected through price surveys, often by visiting shops and service providers and recording the price. In some cases, prices may be collected directly by telephone or by looking on websites for example, at the price of an air fare.

4. Price indices for each product category

Once the prices for each item in the 'shopping basket' have been collected, the index is calculated as follows:

Check price change and get the index: The latest prices are compared with previous prices to see how they have changed. For example, if in a particular month the price of a specific item is 10% higher than the price in the reference period, the indexed value will be 110, while if the price is 5% lower than the index is 95.

Calculate average for items in the same category: After the index has been created, an average of the indices used for the same category of products must be calculated. For example, all indices for fruit will be combined to produce a price index for fruit.

5. The weights

Each good or service has a different significance (or weight) in terms of the money spent by consumers, who are considered as separate households. Each item in the basket is assigned a weight based on its share of total consumer expenditure. These weights reflect how much of the average household's budget is spent on each category. To obtain an overview of the total changes in prices of goods and services each change must be given an importance relative to the entire household's expenditure. Price changes are weighted according to the relative expenditure on these goods and services.

As consumers are different from one another, they spend their money in different ways, according to their income and habits. Some households will spend more on food, while others will spend more on clothing, heating, or vehicles. If these differences for every household in a country are added together, we can see the relative importance — the weight — of each product category in that country. Of course, consumption patterns differ from country to country, therefore the set of country weights will also be different.

While Markus in Germany likes to buy vegetables and cheese from the supermarket as part of his grocery shopping, Giulia in Italy prefers to purchase fruit, meat and pasta.

While Annika in Sweden spends a high share of her money on heating her flat, Miguel in Spain spends a greater share of his money on electricity for air conditioning and water for the vegetables he grows in his garden.

Tastes, products and prices change over time. For this reason, **weights are updated every year** .

6. Finally, the harmonised index of consumer prices!

Finally, the indices for the different product categories are weighted to arrive at the harmonised index of consumer prices. The weights indicate how much of the total household expenditure is spent on each type of product. The weights are shown as a value which, when all of the weights for divisions 01 to 13 have been put together, equals 1 000. In other words, these weights are calculated like percentages except that the total adds up to 1 000 rather than 100, using per mille (‰) symbol and not the percentage (%) one.

For example, in Belgium petrol represents 12‰ of consumer expenditure in 2025 which means the index for petrol will add 12‰ to the overall index in Belgium. While in Hungary the petrol represents 64‰ of consumer expenditure in 2025, so 64‰ will add to the overall index in Hungary.

By adding up the different weights, we create an overall index commonly referred to as the all-items index.

Calculating the inflation rate

The inflation rate is calculated by **comparing indices from 2 different time periods** which tells us about how prices have changed in percentage between these periods.

Statisticians can choose different reference periods to calculate inflation which lead to different kinds of inflation rates:

- **The monthly rate of change** , which shows the change between one month and the previous month, for example September 2025 and August 2025.

- **The annual rate of change** , which shows the change between one month and the same month of the previous year, for example September 2025 and September 2024.

- **The annual average rate of change** , which shows the change between one year and another. This rate can be calculated at the end of the year and shows the average inflation rate for the past year. The annual average rate of change in the EU between 2024 and 2025 was 2.5%.

- **The 12-month average rate of change** , which is an average of the monthly rate of changes for each of the previous 12 months. The 12-month average rate of change for all months in the EU from September 2024 to August 2025 was 2.4%.

The inflation rate shows the change in prices for all items. In other words, the rate that takes into account the price of goods and services across the economy. However, many users of these statistics do not want to analyse just the "all-items index" but prefer to look in more detail at price changes for different types of goods and services from the ECOICOP classification. In addition, Eurostat produces a range of special aggregates that reflect needs, for example, for energy and for all other products, which allow analysts to study the overall trend of inflation independently from the frequent fluctuations in energy prices.

Are you interested in calculating the inflation rate for a single product?

Suppose that in January apples cost € 2 per kilogram, and by February their price has increased to € 2.50. You can calculate the HICP by dividing February's price by January's price and multiplying by 100, resulting in a HICP of 125. To determine the inflation rate, which reflects the percentage price increase, use these HICP figures: the base month's HICP is 100, and the current month's HICP is 125. The change in HICP from January to February indicates a 25% inflation rate, meaning apple prices rose 25% in one month.

Now let's suppose that in January oranges cost € 4 per kilogram, and by February the price decreased to € 3. To calculate the HICP, divide February's price by January's price and multiply by 100, which results in a HICP of 75. With the base month's HICP set at 100, the current month's HICP of 75 reflects a decrease in price levels. The change in HICP from January to February indicates a 25% deflation rate, meaning orange prices fell by 25% in one month.

You can check the change of consumer prices for your country in our prices dashboard . You can choose different consumption categories and track changes on a monthly or annual basis.

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