

Changes in Relative Price and Inflation

Relative Price:

A **relative price** is the price of a commodity such as a good or service in terms of another; i.e., the ratio of two prices. A relative price may be expressed in terms of a ratio between the prices of any two goods or the ratio between the price of one good and the price of a market basket of goods (a weighted average of the prices of all other goods available in the market). A relative price is an opportunity cost. Microeconomics can be seen as the study of how economic agents react to changes in relative prices, and of how relative prices are affected by the behavior of those agents.

A **market basket** or **commodity bundle** is a fixed list of items, in given proportions. Its most common use is to track the progress of inflation in an economy or specific market. That is, to measure the changes in the value of money over time. A market basket is also used with the theory of purchasing price parity to measure the value of money in different places.

1. Consumer Basket :

The most common type of market basket is the basket of consumer goods used to define the Consumer Price Index (CPI). It is a sample of goods and services, offered at the consumer market.

2. Other Basket

Other types of baskets are used to define the Producer Price Index (PPI), previously known as the Wholesale Price Index (WPI), as well as various commodity price indices.

The GDP deflator essentially uses a basket made of every good in the economy, in proportion to the amount produced.

Purchasing power parity (PPP)

PPP is a theory that measures prices at different locations using a common good or goods to contrast the real purchasing power between different currencies. In that case, PPP produces an exchange rate that equals the price of the basket of goods at one location over the price of the basket of goods at a different location. The PPP exchange rate may be different than the market

exchange rate because of transportation costs, tariffs, and other frictions. PPP exchange rates are widely used when comparing GDP from different countries.

Relative Purchasing Power Parity (RPPP) is an expansion of the traditional [purchasing power parity](#) (PPP) theory to include changes in inflation over time. Purchasing power is the power of money expressed by the number of goods or services that one unit can buy, and which can be reduced by inflation. RPPP suggests that countries with higher rates of inflation will have a devalued currency.

Understanding Relative Purchasing Power Parity (RPPP)

According to relative purchasing power parity (RPPP), the difference between the two countries' rates of inflation and the cost of commodities will drive changes in the [exchange rate](#) between the two countries. RPPP expands on the idea of purchasing power parity and complements the theory of absolute purchasing power parity (APPP). The APPP concept declares that the exchange rate between the two nations will be equal to the ratio of the price levels for those two countries.

The relative version of PPP is calculated with the following formula:

Purchasing Power Parity Formula

$$\text{S} = \frac{P1}{P2}$$

Where:

S= Exchange rate of currency 1 to currency 2

P1= Cost of good X in currency 1

P2= Cost of good X in currency 2

Purchasing Power Parity in Theory:

Purchasing power parity (PPP) is the idea that goods in one country will cost the same in another country, once their exchange rate is applied. According to this theory, two [currencies](#) are at par when a market basket of goods is valued the same in both countries. The comparison of prices of identical items in different countries will determine the PPP rate. However, an exact comparison is difficult due to differences in product quality, consumer attitudes, and economic conditions in

each nation. Also, purchasing power parity is a theoretical concept which may not be true in the real world, especially in the short run.

Dynamics of Relative PPP:

RPPP is essentially a dynamic form of PPP, as it relates the change in two countries' inflation rates to the change in their exchange rate. The theory holds that inflation will reduce the real [purchasing power](#) of a nation's currency. Thus if a country has an annual inflation rate of 10%, that country's currency will be able to purchase 10% less real goods at the end of one year.

RPPP also complements the theory of absolute purchasing power parity (APPP), which maintains that the exchange rate between two countries will be identical to the ratio of the price levels for those two countries. This concept comes from a basic idea known as the [law of one price](#). This theory states that the real cost of a good must be the same across all countries after the consideration of the exchange rate.

Example of Relative Purchasing Power Parity

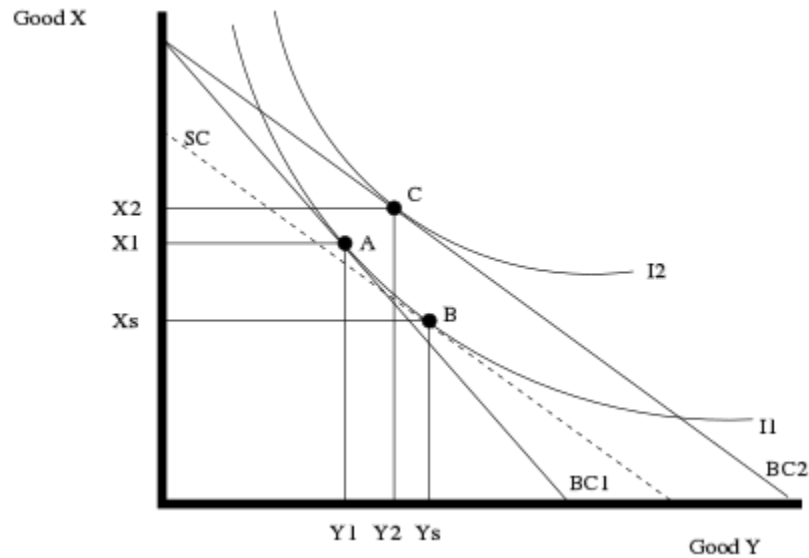
Suppose that over the next year, inflation causes average prices for goods in the U.S. to increase by 3%. In the same period, prices for products in Mexico increased by 6%. We can say that Mexico has had higher inflation than the U.S. since prices there have risen faster by three points.

According to the concept of relative purchase power parity, that three-point difference will drive a three-point change in the exchange rate between the U.S. and Mexico. So we can expect the Mexican peso to depreciate at the rate of 3% per year, or that the U.S. dollar should appreciate at the rate of 3% per year.

In a demand equation:

In the demand equation $Q = f(P)$ (in which Q is the number of units of a good or service demanded), P is the relative price of the good or service rather than the nominal price. It is the change in a relative price that prompts a change in the quantity demanded. For example, if all prices rise by 10% there is no change in any relative prices, so if consumers' nominal income and wealth also go up by 10% leaving real income and real wealth unchanged, then demand for each good or service will be unaffected. But if the price of a particular good goes up by, say, 2% while the prices of the other goods and services go down enough that the overall price level is unchanged, then the relative price of the particular good has increased while purchasing power has been unaffected, so the quantity of the good demanded will go down.

Budget constraint and indifference curves



In the graphical rendition of the theory of consumer choice, as shown in the accompanying graph, the consumer's choice of the optimal quantities to demand of two goods is the point of tangency between an indifference curve (curved) and the budget constraint (a straight line). The graph shows an initial budget constraint BC1 with resulting choice at tangency point A, and a new budget constraint after a decrease in the absolute price of Y (the good whose quantity is shown horizontally), with resulting choice at tangency point C. In each case the absolute value of the slope of the budget constraint is the ratio of the price of good Y to the price of good X – that is, the relative price of good Y in terms of X.

Distinguishing relative and general price changes:

Often inflation makes it difficult for economic agents to immediately distinguish increases in the price of a good which are due to relative price changes from changes in the price which are due to inflation of prices in general. This situation can lead to allocative inefficiency, and is one of the negative effects of inflation.