Question

In a simple economy, people consume only 2 goods, food and clothing. The market basket of goods used to compute the CPI has 50 units of food and 10 units of clothing. The prices for these for the years 2012 and 2013 are given below:

Year	Food	Clothing
2012 (Base year)	$4	$10
2013	$6	$20
2014	$8	$25

(a) Calculate the value of the basket and CPI for each year.

(a) Calculate the inflation rate for year 2013 and 2014.

Answer

In a simple economy, people consume only 2 goods, food and clothing. The market basket of goods used to compute the CPI has **50 units** of food and **10 units** of clothing.

(a)

Value of the basket

We know that value of the basket in a particular year $= \sum Quantity * price\ in\ that\ year$

Therefore,

The value of the basket in 2012 = (50 * 4) + (10 * 10) = 200 + 100 = 300

The value of the basket in 2013 = (50 * 6) + (10 * 20) = 300 + 200 = 500

The value of the basket in 2014 = (50 * 8) + (10 * 25) = 400 + 250 = 650

CPI for each year

We know that CPI for a particular year $= \dfrac{Value\ of\ the\ basket\ in\ the\ particular\ year}{Value\ of\ the\ basket\ in\ the\ base\ year} * 100$

Given that 2012 is the base year

Therefore,

CPI for 2012 $= \dfrac{Value\ of\ the\ basket\ in\ 2012}{Value\ of\ the\ basket\ in\ 2012} * 100 = \dfrac{300}{300} * 100 = 100$

CPI for 2013 $= \dfrac{Value\ of\ the\ basket\ in\ 2013}{Value\ of\ the\ basket\ in\ 2012} * 100 = \dfrac{500}{300} * 100 = 166.67$

CPI for 2014 $= \dfrac{Value\ of\ the\ basket\ in\ 2014}{Value\ of\ the\ basket\ in\ 2012} * 100 = \dfrac{650}{300} * 100 = 216.67$

(b)

Inflation rate

We know that Inflation rate $= \dfrac{CPI\ this\ year - CPI\ previous\ year}{CPI\ previous\ year} * 100$

Therefore,

Inflation rate in 2013 $= \dfrac{CPI\ in\ 2013 - CPI\ in\ 2012}{CPI\ in\ 2012} * 100 = \dfrac{166.67 - 100}{100} * 100 = 66.67\%$

66.67% inflation in 2013 implies that the price of the goods and services that are included in the CPI basket rises 66.67% from 2012 to 2013

Inflation rate in 2014 $= \dfrac{CPI\ in\ 2014 - CPI\ in\ 2013}{CPI\ in\ 2013} * 100 = \dfrac{216.67 - 16.67}{166.67} * 100 = 29.99\%$

29.99% inflation in 2014 implies that the price of the goods and services that are included in the CPI basket rises 29.99% from 2013 to 2014