



UNITED INTERNATIONAL UNIVERSITY

Assignment 02

Name of course: Economics

Course Code: ECO 213

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Section: A

Department: Computer science and Engineering (CSE)

Answers to the question no-1

* Note that base year is 1980.

Year 1980;

Nominal GDP = Total value of final goods produced at a current price

$$\begin{aligned} &= 1 \times 500 + 5 \times 300 + 0.70 \times 300 \\ &= 2210 \end{aligned}$$

Real GDP = Total value of final goods and services produced at base year price.

$$\begin{aligned} &= 1 \times 500 + 5 \times 300 + 0.70 \times 300 \\ &= 2210 \end{aligned}$$

$$\begin{aligned} \text{GDP Deflator} &= \frac{\text{Nominal GDP}}{\text{Real GDP}} \times 100 \\ &= \frac{2210}{2210} \times 100 = 100 \end{aligned}$$

Year 1990:

$$\begin{aligned}\text{Nominal GDP} &= 1 \times 600 + 10 \times 200 + 0.80 \times 400 \\ &= 2920\end{aligned}$$

$$\begin{aligned}\text{Real GDP} &= 1 \times 600 + 5 \times 200 + 0.70 \times 400 \\ &= 1880\end{aligned}$$

$$\begin{aligned}\text{GDP Deflator} &= \frac{\text{Nominal GDP}}{\text{Real GDP}} \times 100 \\ &= \frac{2920}{1880} \times 100 \\ &= 155.31\end{aligned}$$

$$\begin{aligned}\text{Inflation Rate} &= \frac{155.31 - 100}{100} \times 100 \\ &= 55.31\%\end{aligned}$$

GDP Deflator raised
100 to 155.31
in 1990.

Year: 1991:

$$\begin{aligned}\text{Nominal GDP} &= 1.05 \times 590 + 10.50 \times 210 + 0.75 \times 420 \\ &= 3139.5\end{aligned}$$

$$\begin{aligned}\text{Real GDP} &= 1 \times 590 + 5 \times 210 + 0.70 \times 420 \\ &= 1934\end{aligned}$$

$$\begin{aligned}\text{GDP Deflator} &= \frac{\text{Nominal GDP}}{\text{Real GDP}} \times 100 \\ &= \frac{3139.5}{1934} \times 100 \\ &= 162.33\end{aligned}$$

$$\begin{aligned}\text{Inflation rate} &= \frac{162.33 - 155.31}{155.31} \times 100 \\ &= 4.51\%\end{aligned}$$

GDP deflator
raised 155.31
to 162.33
in 1991.

Inflation rate between 1980 and 1991 is:

$$\text{Inflation rate} = \frac{\text{GDP Deflator in 1991} - \text{GDP Deflator in 1980}}{\text{GDP Deflator in 1980}} \times 100$$

$$= \frac{162.33 - 100}{100} \times 100$$

$$= 62.33\%$$

Answers to the question no-2

Year 1980:

$$\begin{aligned}\text{cost of the basket} &= 1 \times 5 + 5 \times 3 + 0.70 \times 2 \\ &= 22.1\end{aligned}$$

Year 1990:

$$\begin{aligned}\text{cost of the basket} &= 1 \times 5 + 10 \times 3 + 0.8 \times 2 \\ &= 37.4\end{aligned}$$

Year 1991:

$$\begin{aligned}\text{cost of the basket} &= 1.25 \times 5 + 10.50 \times 2 + 0.75 \times 2 \\ &= 29\end{aligned}$$

* Base year is 1980:

CPI in 1980:

$$\begin{aligned}\text{CPI} &= \frac{22.1}{22.1} \times 100 \\ &= 100\end{aligned}$$

CPI in 1990:

$$\begin{aligned}\text{CPI} &= \frac{37.4}{22.1} \times 100 \\ &= 169.23\end{aligned}$$

CPI in 1991:

$$\begin{aligned}\text{CPI} &= \frac{39}{22.1} \times 100 \\ &= 176.47\%\end{aligned}$$

Inflation rate in ~~1980~~ 1990:

$$\begin{aligned}\text{Inflation rate} &= \frac{169.23 - 100}{100} \times 100 \\ &= 69.23\%\end{aligned}$$

Inflation rate in 1991:

$$\begin{aligned}\text{Inflation rate} &= \frac{176.47 - 169.23}{169.23} \times 100 \\ &= 4.27\%\end{aligned}$$

Inflation rate between 1980 and 1991 is

$$\begin{aligned}&= \frac{176.47 - 100}{100} \times 100 \\ &= 76.47\%\end{aligned}$$