

Fundamental of Economics

(GDP) → Gross Domestic Product

The GDP:

- ① measures the value of economic activity.
 - ② This gives an idea how well an economy is performing.
 - ③ Two way of explanation →
- ① Total income of everyone in the economy.
 - ② Total expenditure on the economy's output of goods and services.

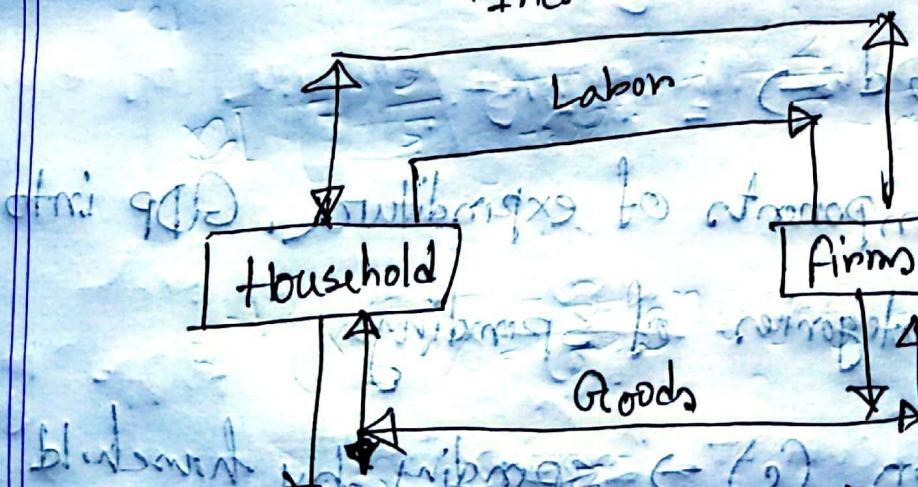
Circular flow

Income

House hold supply the labor, firms demand the labor. In flow is about Inputs & outputs

output loop is about the flow of Income and expenditure..

Household expenditure exactly equal the firm.



GDP Calculation

GDP is the market value of all final goods and services produced domestically or within an economy "a given period of time".

Method of GDP calculation (3)

① Income method \rightarrow GDP is the total income from the production of good and services which equals the sum wages and profits.

$$\text{GDP} = \text{Rents} + \text{Profits} + \text{Compensation of employees} + \text{Interest}$$

② Expenditure \rightarrow GDP

③ Value method \rightarrow

GDP and components of expenditure. GDP into 4 broad categories of spending

① Consumption (c) \rightarrow spending by household for durable goods or non durable goods of services.
Largest component of expenditure.

Residential investment, non-residential investment and inventory.

Investment (I) → The higher the interest the higher the borrow.

Government purchase (G) →

Net export (NX)

$$\text{Thus } GDP = C + I + G + NX$$

A sell out of inventory doesn't influence the GDP

$$\text{Nominal GDP} = P_{\text{current year}} \times Q_{\text{current year}}$$

$$\text{Real GDP} = P_{\text{base year}} \times Q_{\text{Current year.}}$$

$$100 \times \frac{0.25}{0.1} =$$

$$2.5 =$$

$$= \frac{25}{10} = 2.5$$

GDP Deflator or GDP Price Index:

$$\text{GDP Price Index} = \frac{\text{NGDP (current year)}}{\text{RGDP (base year)}} \times 100$$

$$= \frac{\text{Price (current)} \times \text{Quantity (current)}}{\text{Price (base year)} \times \text{Quantity (current)}} \times 100$$

2017

$$\text{GDP Deflator} = \frac{80}{50} \times 100 \\ = 160$$

2018

$$\text{GDP Deflator} = \frac{130}{80} \times 100$$

2019

$$\text{GDP Deflator} = \frac{250}{110} \times 100$$

$$\text{Nominal GDP} = \text{Real GDP} \times \text{GDP Deflator} \\ = 227.2$$

Real GDP \rightarrow [Base year duration 10 years]

① Base year \rightarrow (2017) [No calamities, no problem and a normal year]

Real GDP in 2017 is \$ 50

$$\text{① } 2017 = \$ (1 \times 10) + \$ (2 \times 20)$$
$$= \$ 50$$

$$\text{② } 2018 = \$ (1 \times 20) + \$ (2 \times 30)$$

$$\text{③ } 2019 = \$ (1 \times 30) + \$ (2 \times 40)$$

$$= \$ 110$$

NGDP is higher than RGDP actually shows the economy's performance. RGDP increases if only the production increase Base year NGDP and

RGDP is same.

Real GDP

is the better measure of economic well-being.

GDP of Apples and oranges

$$GDP = P_A Q_A + P_o Q_o$$

- # GDP includes the currently produced foods
- # GDP includes sell out of inventory doesn't count.
- # A sell out of inventory doesn't count.

Real GDP vs Nominal GDP?

i) Nominal GDP - Value of goods and services measured at current prices.

ii) Real GDP - Value of goods and services measured at "Constant Price" = (a base year)

Real GDP is the better measure of economic well-being, 1999.

Nominal

Real

$$NGDP = P_{\text{current}} \times Q_{\text{current}}$$

Year

$$RGDP = P_{\text{base year}} \times Q_{\text{base year}}$$

Dried Moon

	Rice	Potato	Year
PR	QR	PP	BP
\$1	10	\$2	20
\$2	20	\$3	30
\$3	30	\$4	40

NGDP in 2017

$$\textcircled{1} \text{ NGDP}_{2017} \rightarrow \text{Rice} = \$ (1 \times 10) \\ \text{Potato} = \$ (2 \times 20)$$

$$\textcircled{2} \text{ NGDP} = \text{Rice} + \text{Potato} \\ = (\$ 10 + \$ 40)$$

$$\textcircled{2} 2018 \rightarrow \$ (2 \times 20) + \$ (3 \times 30)$$

$$= \$ 130$$

$$\textcircled{3} 2019 \rightarrow \$ (3 \times 30) + \$ (4 \times 40) \\ = \$ 250$$

Growth Rate

✓ ~~market~~
economic

✓ ~~social inflows~~

$$\% \Delta x = \frac{x_2 - x_1}{\frac{x_1 + x_2}{2}} \times 100$$

Calculate the growth rate of Real GDP.

$$2018 \text{ Growth Rate} = \frac{\text{Current year GDP} - \text{Previous GDP}}{\text{Previous year GDP}} \times 100$$

$$= \frac{80 - 50}{(0.1 \times 1) + 50} \times 100$$

$$(0.1 \times 1) + 50 \approx 50.60\%$$

2019,

$$\text{Growth Rate} = \frac{110 - 80}{80} \times 100$$

37.5%

$$(0.1 \times 9) + (0.1 \times 1) \leftarrow \text{bias}$$

0.1

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0.1