

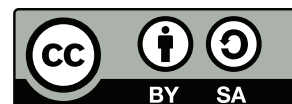
ECO208 Macroeconomic Theory

Lecture Note

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1 Lecture 1 May. 8 2018

Note No notes for this lecture.

2 Lecture 2 May. 9 2018

2.1 Measuring GDP, three measures

Gross Domestic Product (GDP) dollar value of goods and services produced during a given period of time within the borders of a country.

Product/Value-added approach Sum of value-added to goods and services in production across all productive units in the economy.

Expenditure approach Sum of all spending on goods and services in the economy.

Income approach Sum of all incomes received by economic agents contributing to production.

Note All three measures must add up to the same value.

2.2 Other measures

Gross National Product (GNP) Dollar value of goods and services produced during a given period of time by the residents or citizens of a country.

Net Factor Payments (NFP) Income paid to domestic factors of production by the rest of the world, minus income paid to foreign factors of production by the domestic economy.

$$GNP = GDP + NFP$$

2.3 Problems with Measures of GDP

- Inequality
- Non-market activity/home production
- Underground economy
- Value-added for government services (e.g. military, education)

2.4 Nominal GDP and Real GDP

2.4.1 Real GDP at Constant Price

Computation Let there be N goods in economy, nominal GDP at time t is

$$GDP_t = \sum_{n=1}^N p_n^t q_n^t$$

and Real GDP at constant prices at t using based year $t = b$ is

$$RGDP_t^b = \sum_{n=1}^N p_n^b q_n^t$$

2.4.2 Chain-weighted Real GDP

Definition Real GDP using chain-weighted method between year t and year $t + 1$ is

$$RGDP_{t+1}^{c,t} = GDP_t \times (1 + g_c)$$

where

$$1 + g_c = \sqrt{(1 + g_t) \times (1 + g_{t+1})}$$

and

$$1 + g_t = \frac{RGDP_{t+1}^t}{RGDP_t^t}, \quad 1 + g_{t+1} = \frac{RGDP_{t+1}^{t+1}}{RGDP_t^{t+1}}$$

where g_i is the growth rate of real GDP using $t = i$ as base year.

2.5 Price Level

(General) Price level A hypothetical measure of overall prices for some set of goods and services in the economy.

$$\text{Implicit GDP Price Deflator} = \frac{\text{Nominal GDP}}{\text{Real GDP}} \times 100$$

Consumer Price Index (CPI) is the other most commonly used price level measure.

$$CPI_t^b = \frac{\sum_{n=1}^N p_n^t q_n^b}{\sum_{n=1}^N p_n^b q_n^b} \times 100$$

2.6 Saving, Wealth and Capital

Flow is a quantity measured per unit of time.

Stock is a quantity measured at a moment of time.

Private disposable income

$$Y^d = Y + NFP + TR + INT - T$$

Private sector saving

$$S^p = Y^d - C$$

Government saving

$$S^g = T - TR - INT - G$$

National Saving

$$S = C + I + G + NX + NFP - C - G$$

2.7 Labour Market Measurement

Employed Worked full-time or part-time during the last week.

Unemployed Not employed during the last week, but actively searched for work during the past 4 weeks.

Out of the labour force

3 Lecture 3 May. 10 2018

3.1 Representative Consumer: Preference

Good 1: Physical good The average bundle of goods purchased and consumed the representative consumer. Also represents consumption C .

Good 2: Leisure time spent not working in the market.

Indifference curve is a set of points in the space of consumption bundles among which the consumer is indifferent.

Utility function

$$U(C, I)$$

3.2 Budget constraint

Constraint

$$wN^s + \pi - T \geq C$$