

Topic 14 – Macroeconomic Indicators

Big Question – How do we measure the economy?Overview of Macroeconomics

I. What is “The Economy”?

Listen to clip from “Episode 522: The Invention of the Economy” from Planet Money. Think about what’s included in GDP and what it means.

1. Macroeconomic Indicators
2. Money and Banking
3. Economic Growth and Business Cycle Fluctuations

II. Measuring Aggregate Production

1. Why do we care?

2. Definition of GDP

Gross Domestic Product (GDP): The market value of all final goods and services produced within a country in a given period of time.

$$Y = C + I + G + NX$$

3. Expenditures Method

Example: Using the information in the table below, sort each value into the expenditure categories – C, I, G, NX, or N/A, and calculate GDP using the expenditures method.

Category	Value	Category
Consumption Expenditures	\$1000	
Exports	\$125	
Government Purchases (Goods and Services)	\$300	
Construction of New Homes	\$125	
Sales of Existing Homes	\$320	
Imports	\$90	
Beginning of the Year Inventory	\$140	
End of the Year Inventory	\$160	
Business Fixed Investments	\$250	
Government Payments to Retirees	\$160	
Household purchases of durable goods	\$265	

4. Comparisons Over time: Real GDP vs. Nominal GDP

Example: Assume a country produces only two products – wheat and milk.

Year	Wheat		Milk		Nominal GDP	Real GDP
	Quantity	Price	Quantity	Price		
2004	100	\$1.00	100	\$2.50		
2005	120	\$2.50	100	\$3.00		
2006	125	\$3.00	110	\$3.50		

- a. Calculate Real and Nominal GDP using 2004 as the base year.

- a. Calculate the annual growth rate of Real GDP.

Year	Nominal GDP	Real GDP	Growth Rate
2004	\$350	\$350	---
2005	\$600	\$370	
2006	\$760	\$400	

$$\text{Percent Change} = \frac{(\text{new} - \text{old})}{\text{old}}$$

III. Measuring Aggregate Prices

Inflation Rate: The rate of change in the aggregate prices level over time

1. GDP Deflator Method

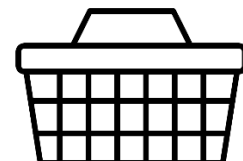
$$\text{GDP Deflator} = \frac{\text{Nominal GDP}}{\text{Real GDP}} \times 100$$

Year	GDP Deflator	Inflation Rate
2004		---
2005		
2006		

2. CPI Method

$$\text{CPI}_t = \frac{\text{Basket Price}_t}{\text{Basket Price}_{\text{Base}}} \times 100$$

What's in the Basket?



Example: Assume people in a country consume only 3 products – Pizza, Apples, and Carrots. Pizza and Apples are produced domestically, but all carrots are imported from abroad.

BASE	Pizza		Apples		Carrots		
	Year	Quantity	Price	Quantity	Price	Quantity	Price
	2011	100	\$4.00	60	\$1.00	180	\$1.00
	2012	150	\$6.00	70	\$2.00	200	\$1.25
	2013	170	\$6.00	80	\$2.50	250	\$1.50

- a. Calculate the GDP Deflator in each year, and use it to calculate the annual inflation rate. Hint: Keep in mind that carrots are imported.

Nominal GDP	Real GDP	GDP Deflator	Inflation Rate

- b. Calculate CPI for each year using a consumption basket = 2 Pizzas + 1 Apple + 3 Carrots. Use CPI to calculate the annual inflation rate.

Price of Basket	CPI	Inflation Rate

3. Contrast the GDP Deflator and CPI Methods for Calculating Inflation

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4. Adjusting for Inflation over Time

$$Price_x = Price_t \cdot \frac{CPI_x}{CPI_t}$$

Example: Use the information in the table below to compare the starting salaries of everyone in this family. Who had the highest starting salary in real terms?

Person	Year	CPI	Nominal Salary	Salary in 2010\$
Sally	2010	110	\$33,000	
Dad	1975	80	\$24,000	
Mom	1985	90	\$30,000	
Sister	2000	100	\$26,000	

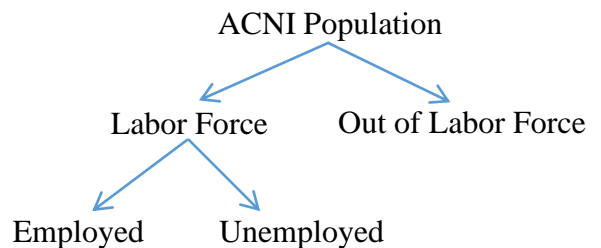
IV. Characterizing The Labor Market

1. Why do we care about labor markets?
2. Calculating the Unemployment Rate and the Labor Force Participation Rate (LFPR)

The Adult Civilian Non-Institutionalized Population (ACNI Pop.) excludes

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	September 2018
Civilian non-institutional population	258,290
Civilian labor force	
Employed	155,962
Unemployed	5,964
Not in labor force	



LFPR = _____

Unemployment Rate = _____

3. Interpreting the Unemployment Rate

Who is included in the standard unemployment figures?

Who is not included in the standard unemployment figures?

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4. Types of Unemployment

- Frictional Unemployment

- Cyclical Unemployment

- Structural Unemployment

V. How do the Three Primary Macroeconomic Indicators Move Together?

IV. Assignments

1. Video Assignment and Problem Set 14 due on 4/17/20