ECON 421: Business Fluctuations

Spring 2015
Tu 6:00PM–9:00PM
Section 102

Created by

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Based on
Macroeconomics, Blanchard and Johnson [2011]

Suppose your employer, an IT analytics firm, wants to open an office in another country. The proprietor thinks that offering alternative offices around the world will attract more talented employees.

What are the 3 appealing destinations?
What about three unappealing destinations?

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What about three unappealing destinations?

Three Ways to Measure GDP

- Production
  - 1. GDP equals the value of the final goods and services produced in the economy during a given period.

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

  - 2. GDP is the sum of value added in the economy during a given period.
- Income
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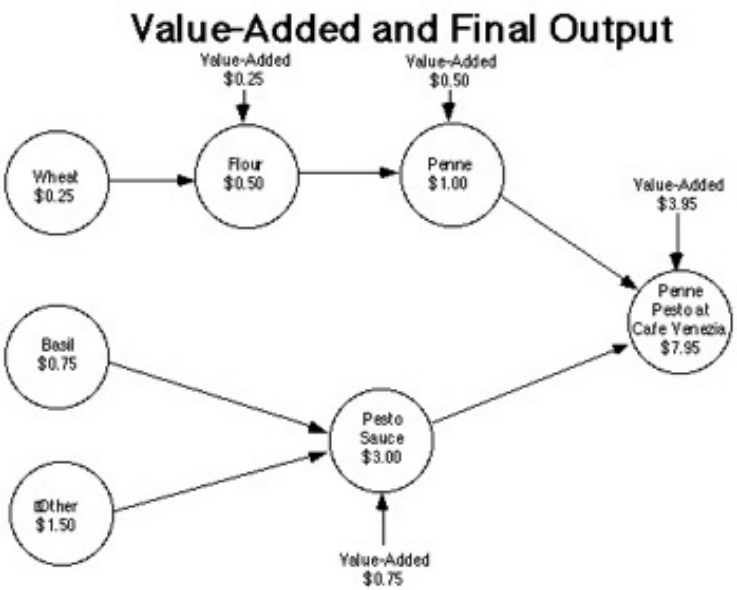
Value Added



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3. $q_{i,t} = quantity\ of\ good\ i\ produced\ in\ year\ t$
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5. $NGDP_t = \sum_{i=1}^{N} q_{i,t} p_{i,t}$
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Nominal GDP in Year 0 and in Year 1.

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	Quantity	$ Price	$ Value
Potatoes (pounds)	10	1	10
Wine (bottles),	5	2	10
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$$\frac{\$30 - \$20}{\$20} = 50\%$$

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- What growth rate is implied?

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- Growth based on Year 0 as the base year is different from growth based on Year 1 as the base year.
- This problem extends over time.
- Suppose real GDP is calculated using a new base year, say using 2010 instead of 2005, then the growth rate for 1980 to 1981 may change!
- The solution is simple:
  - Define real GDP based on growth, rather than calculating growth from real GDP.
  - This is achieved by measuring growth between any two years as the average growth rate using each as a base year.
  - In our example, growth is simply $\frac{20\%+25\%}{2} = 22.5\%$
  - Growths are calculated in this way across all years, then real GDP is simply nominal GDP in the base year times the growth factor.

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Growth Rate (g)	*2.880%*	0.000%	2.532%	1.602%	2.321%	2.219%	2.862%
Growth Factor (1+g)	1.029	1.000	1.025	1.016	1.023	1.022	1.029
Relative to 2009	1.029	1.000	1.025	1.042	1.066	1.090	1.121
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Calculate Real GDP for the missing years.

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Unemployment

- An **unemployed person** is someone who does not have a job, but is looking for one.
- The **labor force** is the sum of those who have jobs, (*the employed*, and the unemployed.
- The **unemployment rate** is the ratio of unemployed persons to the labor force.
- Those persons of working age who do not have a job and are not looking for one are classified as **out of the labor force**.
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Suppose a country has an adult population of 25 million, labor-force participation rate of 60 percent, and unemployment rate of 6 percent.
What are the number of people employed and the number of people in the labor force?

Two primary measures of the aggregate price level:

- The **GDP deflator**, is the ratio of nominal to real GDP.
- The **consumer price index (CPI)** measures the price level by weighting the prices of various goods according to average consumer expenditure shares.

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GDP Deflator

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- The GDP deflator is an index number.

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Year	Nominal GDP	Real GDP	GDP Deflator	Growth Rate
2011	$6000	$6000		
2012	$8250	$7200		
2013	$10,800	$8400		

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Year	Nominal GDP	Real GDP	GDP Deflator	Growth Rate
2011	$6000	$6000	100	-
2012	$8250	$7200	114.6	14.6%
2013	$10,800	$8400	128.6	12.2%

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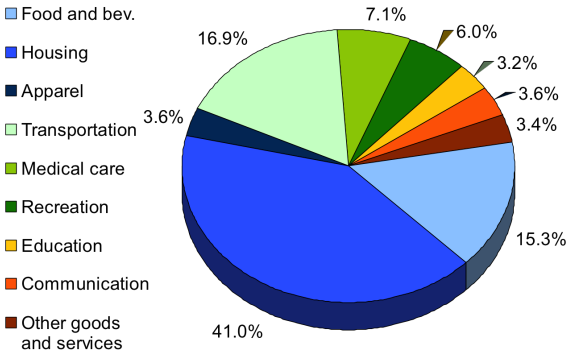

So what?

- If inflation means all prices are rising (including wages), then why do we care?
- This question makes incorrect assumptions. Although it is correct that if all prices moved together, economists would be unconcerned.
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- Inflation distorts relative prices because some nominal variables do not adjust immediately to the rise in the aggregate price level.
- Inflation redistributes income because some transactions involve fixed nominal payments.
- For example, *some* retirees receive fixed nominal incomes.
- Nevertheless, most economists favor a stable inflation rate somewhere between 0 and 3%.

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Macroeconomists view the economy in terms of three time frames.

- In the short run (a few years or so) demand for goods and services determines output. And prices are modeled as stable. (IS-LM Model)
- In the medium run (a decade or so) the level of technology and the size of the capital stock determine output. Since these variables change slowly, it is a useful simplification to assume that they are fixed in the medium run. Here prices fluctuate. (AS-AD Model)
- Finally, in the long run, technological progress and capital accumulation are the primary determinants of output growth.

All of the models in the first 13 chapters of the book assume the economy is closed ($NX = 0$). In lieu of focusing on the long run, we relax that assumption and devote our attention to open economy macroeconomics.

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Practice Problem (part i)

An economy produces three goods: cars, computers, and oranges. Quantities and prices per unit for years 2005 and 2006 are as follows:

	2005		2006	
	Quantity	Price	Quantity	Price
Cars	10	\$2000	12	\$3000
Computers	4	\$1000	6	\$500
Oranges	1000	\$1	1000	\$1

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GDP Forecasting Contest

First place wins a box of cookies.

1. The BEA releases its Gross Domestic Product, 4th quarter and annual 2014 (second estimate) on February 27 at 8:30 am
2. It also releases its third estimate of Gross Domestic Product, 4th quarter and annual 2014 on March 27 8:30 am
3. I will give prizes to the three students with the closest forecasts
4. You will be allowed to update your forecasts until Thursday before the data are released

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2. It also releases its third estimate of Gross Domestic Product, 4th quarter and annual 2014 on March 27 8:30 am
3. I will give prizes to the three students with the closest forecasts
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Comments, questions, or concerns?

References

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