

In-class Exercise: Measuring the Macroeconomy

Directions: Work in groups of up to four people and answer the following questions. All papers will be collected, but only one member's paper will be randomly selected and graded and all members of the group will receive the same grade.

By signing below, you agree that the following work represents the efforts of everyone in the group, and you are willing to accept as your own grade for the group project the grade earned from this representation of your group's work. Every member must agree to these terms to earn a non-zero grade for this assignment.

| | | |
|-----------------------------------|---------------------|---------------|
| _____ Signature Group Member 1 | _____ Print Name | _____ Date |
| _____ Signature Group Member 2 | _____ Print Name | _____ Date |
| _____ Signature Group Member 3 | _____ Print Name | _____ Date |
| _____ Signature Group Member 4 | _____ Print Name | _____ Date |

1. Define **Nominal Gross Domestic Product (GDP)** and **Real GDP**. Explain which should be of more interest in economics and why.
2. List and define the five expenditure components of real GDP.
3. Describe the difference between a **stock** variable and a **flow variable**. For each of the following, state whether it is a stock or a flow: real GDP, consumption, investment, capital stock, deficit, debt, saving, wealth.
4. Define the **consumer price index (CPI)** and the **GDP deflator**. What do these measure?

5. Suppose an economy produces only veggie burgers and vegetarian chili, and the prices and quantities that prevailed for the last two years were given by,

| | 2012 | | 2013 | |
|----------------|-------|----------|-------|----------|
| | Price | Quantity | Price | Quantity |
| Veggie Burgers | \$5 | 8 | \$6 | 12 |
| Veggie Chili | \$4 | 10 | \$5 | 12 |

- (a) Compute nominal GDP for 2012 and 2013.
- (b) Use 2013 as a base year and compute real GDP for 2012 and 2013.
- (c) Compute a measure of the price level for 2012 and 2013, using 2013 as a base year. What measure did you use?
- (d) Define **inflation**. What is the inflation rate from 2012 to 2013, using 2013 as a base year?

(e) Suppose in 2012 you earned \$10.00 per hour working full time. In 2013 you earned \$12 per hour working full time. What was the growth rate of your nominal (i.e. unadjusted) wages? In terms of purchasing power of wages, do you think you earned more in 2012 or 2013? Explain.

6. Suppose the country of LoompaLand has a non-institutionalized, civilian adult population of 10,000. Of these people (Oompa Loompas, actually), 5,500 are employed at Willy Wanka's Chocolate Factory; 1,000 are employed as chocolate industry spies by Sluggworth's Chocolates; 1,500 are employed as vocalists in the local music industry; another 500 Oompa Loompas are looking for jobs, but are not yet employed; and 1,000 Oompa Loompas are not employed, but are not looking for jobs because they became frustrated and gave up trying to find a job. The remaining Oompa Loompas are suffering permanent injuries from previous conflicts with Horn Swagglers and Rotten Vermicious Kinids, and are therefore unable and unwilling to work.

(a) (10 points) Define the **labor force participation rate**. Compute the labor force participation rate for LoompaLand.

(b) (10 points) Define the **unemployment rate**. Compute the unemployment rate for LoompaLand.

(c) (10 points) Define **discouraged worker**. How many discouraged workers are there in LoompaLand?