

Homework 1: Measuring Production, Employment, and Prices

Write your answers in the space provided or on your own paper. When you have finished, scan or take pictures of your work, combine all images to a single PDF file, assure that all pictures are oriented right-side up, and upload your work as a single PDF file to the Canvas Assignment area. You may use <https://www.easypdfcloud.com/> to combine your images to a single PDF file.

Suppose an economy produces only vegetarian burgers and vegetarian chili, and the prices and quantities that prevailed for 2020 and 2021 are given in the following table.

	2020		2021	
	Price	Quantity	Price	Quantity
Veggie Burgers	\$7	95	\$8	100
Veggie Chili	\$5	50	\$6	55

1. Compute nominal GDP for 2020 and 2021.

2. Use 2020 as a base year and compute real GDP for 2020 and 2021.

3. Compute the price level with the GDP deflator for 2020 and 2021, using 2020 as a base year.
4. Define the **inflation rate**. Compute the inflation rate from 2020 and 2021 using your answers above.
5. Suppose in 2020 you earned \$12.00 per hour working full time. In 2021 you earned \$14 per hour working full time. Use these nominal wages and the GDP deflator to compute your real wage for each year. In terms of purchasing power of wages, do you think you earned more in 2020 or 2021? Explain.

6. With technology growth over the last several decades, automobile manufacturing facilities have become increasingly automated. As a result, there has been a permanent reduction in demand for automobile manufacturing employment in the United States. What type of unemployment does this cause? Explain.
7. Suppose the country of LoompaLand has a working-age population of 13,000 Oompa Loompas who are characterized as follows:
- 8,000 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
 - 500 Oompa Loompas are looking for jobs, but are not yet employed
 - 1,200 Oompa Loompas are not employed, but are not looking for jobs because they became frustrated and gave up trying to find a job
 - 800 Oompa Loompas are retired, not interested in working.
- (a) Define the **labor force participation rate**. Compute the labor force participation rate for LoompaLand.
- (b) Define the **unemployment rate**. Compute the unemployment rate for LoompaLand.
- (c) Define **discouraged worker**. How many discouraged workers are there in LoompaLand?