Exercise 6

Inflation, Unemployment & the Public Sector

November 20, 2018

1. Take the economy from Exercise 4 Problem 1, which produces only three goods (A, B and C). We have data on quantities produced and the sales prices of these three goods for four consecutive years

Year	Good A		Good B		Good C	
	Price	Quantity	Price	Quantity	Price	Quantity
0	15	120	8	80	20	200
1	18	150	9	100	22	250
2	21	130	10	100	25	220
3	19	140	10	110	21	240

   (a) Find the GDP deflator for all periods (in Exercise 4 Problem 1 we calculated nominal GDP and real GDP for each period. Continue taking 0 as the base period).

   (b) Calculate the inflation rate between periods 0 and 1, 1 and 2, 2 and 3, 0 and 3, using the GDP deflator.

   (c) Interpret the results.

2. The CPI in a given year is equal to the cost of a basket of consumer goods in that year divided by the cost of the same basket in a base year. Although the cost of the basket varies, its composition remains constant. This ratio is the CPI, which in the base year is always equal to 1. Take the following economy

	Computers sold	Price of computers	Cars sold	Price of cars
Year 1	200 000	10 000	1 000 000	6 000
Year 2	1 500 000	2 000	1 500 000	10 000

   (a) If the reference product basket is the number of computers and cars purchased in the base year, use the data from the table to calculate the CPI in year 2 using year 1 as the base.

   (b) Calculate the GDP deflator in year 2 using year 1 as the base year.

   (c) Calculate the percentage change in the CPI and the GDP deflator between year 1 and year 2

   (d) What is the difference?

3. The following information give production and prices of different goods produced in a hypothetical economy.

	Year 1		Year 2	
	Quantity	Price	Quantity	Price
Motorcycles	126	800	117.81	834.4
Televisions	80	900	85.36	877.5

Take year 1 as base year.

(a) Calculate the nominal and real GDP for each year and discuss the results. What has been the growth of this economy and why?

(b) From the results of the previous section, calculate the percentage change of nominal GDP and compare it with the the percentage change of real GDP one. What is the difference? Has there been inflation or deflation? How much? What is it due to?

(c) In year 1, the population of this country was 1250 inhabitants, whereas in year 2 it increased 0.6%. Does the welfare improve or worsen? What are the limitations of real GDP per capita as an indicator of welfare?

4. The following data refer to the number of employed and unemployed by age and sex in Spain in 2008 (expressed in thousands of people)

	Age	Employed	Unemployed	Active
Women	16–24	799.7	277.6	1077.3
	25–54	6899.4	923.1	7822.5
	≥55	837.9	79.2	917.1
	Total	8537.0	1279.9	9816.9
Men	16–24	1015.3	315.4	1330.7
	25–54	9168.1	895.4	10063.5
	≥55	1537.3	100.1	1637.4
	Total	11720.7	1310.9	13031.6
Total				22848.5

We also know that in total there were 15 359.6 thousand inactive people, of which 9 639.2 were women.

(a) Calculate the total population, women and men.

(b) Calculate the labour force participation rate of women and men.

(c) Calculate the unemployment rate for men, women and the whole population.

(d) Calculate the unemployment rate for young women and men.

(e) Discuss the characteristics of the Spanish labour market in 2008.

5. In Macroland there are 200,000 inhabitants. Of these, 35,000 are too old to work and 45,000 are too young to work. Of the remaining inhabitants, there are 50,000 without job and that don't seek a job, including 15,000 who want to work but have given up seeking a job. 60,000 are working and the rest are looking for work but so far they have not found a job.

(a) What is the global activity rate in Macroland? And the labour force participation rate?

(b) What is the unemployment rate in Macroland?

(c) How many "discouraged workers" are in Macroland?