
Macroeconomics Winter Term 2023

Tutorium 3

1. Given is the following table on the development of prices and quantities of two goods in an economy over time.

	Cars		Weat	
	Price	Quantity	Price	Quantity
2017	2,6	61	1,6	87
2018	2,9	64	1,4	88
2019	3	74	1,7	94
2020	2,6	51	1,3	102

- Calculate nominal economic growth.
 - Calculate real economic growth.
 - Calculate the GDP deflator and the rate of change of the GDP deflator. What do you notice when you compare the rate of change with nominal and real economic growth?
 - Calculate the average real and nominal economic growth and compare these values with the growth rates calculated using the arithmetic mean.
2. Two goods are produced in a country, which are included in the price index with the given weights and which have developed as follows over the last three years. The price index have undergone the following development in the last three years.

	A		B	
	Preis	Gewicht	Preis	Gewicht
2017	3	0,2	5	0,8
2018	9	0,2	4	0,8
2019	6	0,2	6	0,8

- Determine the inflation rates for 2018 and 2019.
- Determine the average inflation rate and compare it to the value determined by the arithmetic mean.
- Explain the difference between the rate of change of the GDP deflator and the inflation rate calculated from the rate of change of the CPI.

3. Total economic output in the USA, measured in terms of nominal GDP, was \$20.9 trillion USD in 2020. This represents a 2.3% decline in nominal GDP from the previous year. Two years earlier, nominal GDP was \$20.6 trillion USD. Prices (according to the rate of change of the GDP deflator) increased by 1.8% in 2019 and the index of the GDP deflator is 103 in 2020 (the base year of the national accounts is 2018 with an index=100 in the task).
 - a. By what percentage did the U.S. economy grow in real terms in 2019 and 2020?
 - b. What was the annual average real growth in the last two years?