
Macroeconomics Winter Term 2023

Tutorium 3a

Task 1:

- a) Differentiate between the concepts of real and nominal economic growth.
- b) In 2021, nominal GDP in Germany was 3.6 trillion euros. In 2022, GDP was 3.87 trillion euros and the macroeconomic price level increased by 5.5% compared to the previous year. Furthermore, assume a real stagnation of the overall economic performance in 2023. From this, calculate mathematically exactly the nominal and real economic growth of the year 2022, as well as assuming that nominal GDP in 2023 is 4.0 trillion. euros, calculate the (expected) overall price increase rate for 2023.

	BIP (nominal)	BIP-Index (nominal)	Wachstumsrate BIP (nominal)	BIP-Index (real)	Wachstumsrate BIP (real)	BIP-Deflator	Wachstumsrate BIP-Deflator
2021		100,00		100,00		100,00	
2022							
2023							

Task 2:

- a) Consider the weighted division of the CPI into the components *housing, water, electricity, gas and other fuels (HWEGF)* and *Rest* with the following given values of the years 2021 and 2022. Furthermore, use the current inflation forecast of the HRI (Handelsblatt Research Institute) of 3% for the overall index and the index value 120,**Z** for the subindex of the component *HWEGF* from in 2023. From these values, determine mathematically exact the inflation rate for 2022, the rate of change of the *Rest* component for 2023, and the (expected) average inflation rate p.a. of the *HWEGF* subcomponent.

	<i>WWSGB</i>		<i>Rest</i>		VPI	Inflation
	Index	Gewicht	Index	Gewicht		
2021	100,00	0,25	100,00	0,75		
2022	118,00	0,25	103,20	0,75		
2023		0,25		0,75		

- b) After the ad hoc publication of the 2022 inflation rate for Germany in January 2023, this value has been corrected downward by one percentage point only one month later in February 2023 due to the reweighting of the CPI subcategories. Assume that the value you calculated in (b) corresponds to the currently reported inflation rate for the German economy in 2022. Given this assumption, determine the original weighting of the *HWEGF* category before the February 2023 CPI correction.