

## Practice Set 7

### Macroeconomic Aggregates & Global Inequality

This set contains problems for your own practice. It is highly recommended to work on the problems on your own. Do not just read the provided solutions. Instead, try to solve the problems and use the solutions only when you cannot continue on your own. Reading problems that someone else has solved has the same value for your preparation like watching someone else running a marathon on TV and then expecting to be able to run it, too. If you have questions on this set, please ask your section's teaching assistant.

- A dentist gives a root canal to a patient. The price of the root canal is 460 dollars. For this root canal, the patient paid 50 dollars and the patient's insurance paid another 410 dollars. The dentist pays 80 dollars to his nurse for helping him, another 60 dollars for sales taxes and another 100 dollars for raw materials. How will the service of this root canal be counted in GDP?
- Firm A imports from abroad raw materials valued at \$2,000 and produces goods valued at \$7,000. Firm B buys those goods, processes them, and sells them to firm C for \$13,000. Firm C retails the goods for \$15,000. How much GDP was produced in this scenario?
- A Singaporean consumer orders a vacuum cleaner from China and paid a total of \$40. The Chinese seller pays a Singaporean company \$5 for handling the online sale and the delivery in Singapore.
  - How is this transaction going to affect the Singapore's national income accounts of *production*?
  - How is this transaction going to affect the Singapore's national income accounts of *expenditure*?
  - How is this transaction going to affect the Singapore's national income accounts of *income*?
- In 2012, Mr. Chung bought a brand-new Toyota Corolla for 70,000 dollars. In 2022, he sold it to Ms. Ong for 22,000 dollars. How did this transaction affect the GDP of 2022?
- An economy produces only one good the price and quantity of which evolved as:
 

Year	2015	2016	2017	2018
Price	10	11	14	12
Quantity	100	105	95	122

  - Calculate *real GDP* for all 4 years using 2015 as the base year.
  - Calculate real GDP for all 4 years using 2018 as the base year.
  - Calculate percentage change in *nominal GDP* from 2015 to 2016.
  - Calculate percentage change in *real GDP* (base year 2015) from 2015 to 2016.
  - Compare your results in (c) and (d) and explain the reason for the difference.
- Explain how a positive externality may have a negative effect on the GDP.