

National Income Accounting

NUMERICAL QUESTIONS

1. A farmer grows a bushel of wheat and sells it to a miller for 1 dollar. The miller turns the wheat into flour and then sells the flour to a baker for 3 dollars. The baker uses the flour to make bread and sells the bread to an engineer for 6 dollars. The engineer eats the bread. What is the value added by each person?

2. Suppose a woman marries her butler. After they are married, her husband continues to wait on her as before, and she continues to support him as before (but as a husband rather than as an employee): How does marriage affect GDP? How should it affect GDP?

3. Place each of the following transactions in one of the four components of expenditures: consumption, investment, government purchases, and net exports.

a. Boeing sells an airplane to the Air Force.

b. Boeing sells an airplane to American Airlines.

c. Boeing sells an airplane to Air France.

d. Boeing sells an airplane to a private person. 4e. Boeing builds an airplane to be sold next year.

4. Abby consumes only apples. In year 1, red apples cost one dollar each, green apples cost two dollars each, and Abby buys 10 red apples. In year 2, red apples cost two dollars, green apples cost one dollar, and Abby buys 10 green apples.

a. Compute a consumer price index for apples for each year. Assume that year 1 is the base year in which the consumer basket is fixed. How does your index change from year 1 to year 2?

b. Compute Abby's nominal spending on apples in each year. How does it change from year 1 to year 2?

c. Using year 1 as the base year, compute Abby's real spending on apples in each year. How does it change from year 1 to year 2?

d. Defining the implicit price deflator as nominal spending divided by real spending, compute the deflator for each year. How does the deflator change from year 1 to year 2?

e. Suppose that Abby is equally happy eating red or green apples. How much has the true cost of living increased for Abby? Compare this answer to your answers to parts (a) and (d). What does this example tell you about Laspeyres and Paasche price indices?

5. Consider how each of the following events is likely to affect real GDP. Do you think the change in real GDP reflects a similar change in economic well-being?

- a. A hurricane in Florida forces Disney World to shut down for a month.
- b. The discovery of a new, easy-to-grow strain of wheat increases farm harvests.
- c. Increased hostility between unions and management sparks a rash of strikes.
- d. Firms throughout the economy experience falling demand, causing them to lay off workers.
- e. Congress passes new environmental laws that prohibit firms from using production methods that emit large quantities of pollution.
- f. More high-school students drop out of school to take jobs mowing lawns.
- g. Fathers around the country reduce their work-weeks to spend more time with their children.

(Questions set by Joakim Persson)

Answers:

1. The value added by the farmer, the miller, and the baker is 1, 2, and 3. GDP is total value added, or $1 + 2 + 3 = 6$, which equals the value of the final good.
2. GDP falls by the amount of the butler's salary.
3. a. G. b. I. c. NX. d. C. e. I, inventory investment.
4. A. $CPI = 2$ in year 2. B. Nominal spending remains constant at 10 dollars. C. Real spending in year 2 in year 1 prices is 20 dollars. D. Implicit price deflator = 0.5 in year 2. E. If Abby thinks that red and green apples are perfect substitutes, the true cost of living is the same in year 1 and in year 2.
- 5: A. Real GDP falls. B. Real GDP increases. C. Real GDP falls. D. Real GDP falls. E. Real GDP is likely to fall. F. Real GDP rises but future real GDP may fall. G. Real GDP falls.

THEORETICAL QUESTIONS.

1. Explain the 2 and 3 sector circular flow model.
2. Explain the 4-sector circular flow model.
3. What is the difference between intermediate goods & final goods and services?
4. Who are nominal residents of a country?
5. Explain the concept of Depreciation.
6. What is domestic income and net factor income from abroad?
7. What are private and personal income?
8. Why are the imports subtracted when GDP is calculated in expenditure approach?
9. If you woke up in the morning & found that nominal GDP has doubled overnight, what statistic would you need to check before you began to celebrate: Why?

10. What are the principal difference between government purchases of goods & service and transfer payments?
11. Why are interest payments by the government considered part of personal income but not part of national income?
12. Define production as an income generating activity.
13. What do you mean by inventory investment?
14. Why do the economists use real GDP rather than nominal GDP to gauge economic well-being?
15. Why do you think households' purchase of new housing is included in the investment components of GDP rather than the consumption component?
16. Discuss critically GDP as a measure of economic welfare.
17. What is the difference between GDP & GNP? Which one is the better measure of income? Why?
18. How each of the following events is likely to affect GDP?
 - a) Environmental laws prohibit the firms from emitting pollution
 - b) Strikes by trade unions.
 - c) Discovery of new seed increases farm harvest.

(Taken from questions prepared by the faculties of the Department of Economics, B.Com (Evening) and my own questions).

GDP Determination in a 2, 3 and 4-sector Economy.

1. What are induced and autonomous variables?
2. Describe the difference between Accounting Identity (Expenditure Approach) and Equilibrium GDP.
3. What is the Equilibrium Condition for GDP Determination in a 2-sector Economy? How is the adjustment to Equilibrium attained?
4. State the Assumptions of the 2-sector model.
5. Given: $C = 75 + 0.75 Y$, $I = 25$ (Numbers in Rs. Crores). Find Equilibrium Y and the value of the multiplier.
6. Given: $S = -100 + 0.2Y$; $I = 200$ (Numbers in Rs. Crores). Find Equilibrium Y . Derive the Consumption Function and find its equilibrium value.
7. Explain the paradox of thrift.
8. Provide a diagrammatic illustration of the multiplier process.
9. Derive the Equilibrium Condition for GDP Determination in a 4-sector Economy? How is the adjustment to Equilibrium attained?
10. Given (Numbers in Rs. Crores):
 - $C = 50 + 0.8Y_d$
 - $I = 100$
 - $G = 200$
 - $X = 250$
 - $M = 20 + 0.25 Y$
 - $T = 0.3Y$

Find Equilibrium Y .

Money

1. Define Money. What are its functions.
2. Explain the process of credit creation.
3. Explain the process of equilibrium in money markets.