

Econ 108: Principles of Macroeconomics _ Spring 2023

Review Questions on Ch 19

Ch 19: GDP- Measuring Total Production and Income

MULTIPLE CHOICE QUESTIONS

1. GDP –Measurement

Over the last few decades, Turkish people have chosen to cook less at home and eat more at restaurants. This change in behavior, by itself, has

- a) increased measured GDP by the market value of the restaurant meals.
- b) reduced measured GDP by the market value of the ingredients bought by households to cook meals.
- c) increased measured GDP by the value added by the restaurant's preparation and serving of the meals.
- d) not changed measured GDP since the total production is the same whether done at home or in a restaurant.

2. GDP –Spending Approach

In measuring GDP which of the following is categorized differently?

- a) Build up in business inventories.
- b) Government purchases of an aircraft.
- c) Purchases of machine and equipment by firms.
- d) Household's purchases of new housing.

3. GDP vs GNP –Other Income Statistics

Which of the following activities is included in America's GDP?

- a) A woman living in New York spends a day cleaning her house.
- b) An American businessman opens a plant in Japan that produces computers.
- c) Nick volunteers at the animal rescue shelter in Washington, DC.
- d) An American businessman produces computers in Idaho and sells these to consumers in Japan.

SHORT ANSWER QUESTIONS

4. Final &Intermediate Goods and Services

Label the following as either being a final or an intermediate good or service in GDP calculations:

Labor services used in construction.

Labor services used by government to provide public services.

Steel used up by a car manufacturer.

Steel bought and not yet used by a car manufacturer.

Cheese purchased by Migros (a grocery store) for resale.

A truck purchased by a cargo delivery company.

Flour purchased by households.

Flour purchased by bakery and used in baking bread.

5. Measuring GDP – [problem 19.1.3 pg 692-modified]

Describe the three methods of calculating GDP that are suggested by the concept of the circular flow of income.

6. Components of GDP – Imports

Explain why imports are subtracted in the expenditure approach to calculating GDP. Explain how we should treat imports in production approach?

7. Components of GDP – Changes in Business Inventories

Explain why we must take into account changes in business inventories when calculating GDP.

8. GDP as a Measure of Output and Welfare – [problem 19.2. 3 pg 693]

Is GDP a good measure of total production? What types of production does GDP not measure? Even if GDP included these types of production, why would it still be an imperfect measure of well-being?

9. Other National Income Definitions: GNP & NNP

- Explain the difference between GDP and GNP
- The Bahamas is a group of islands whose economy relies heavily on tourism. The majority of the hotels and resorts in the islands are owned by foreign countries. Which do you think is larger, Bahamas' GDP or GNP? Explain why.
- Explain the difference between GNP and NNP. Explain why NNP is sometimes a better measure of how the economy is doing than GNP is.

PROBLEMS

10. Three Approaches to Calculating GDP

The total market value of the final goods and services produced, the expenditure made on these final goods and services and the total income earned in return for producing these goods and services are identical. This allows us to measure GDP in three alternative ways. Independent of which approach you are using, output or expenditures or income approach, your answer should be the same when it comes to the value of GDP, so remember to compare your results from each part.

Texas is an isolated economy with only three producers: Roy the cowboy, Harriet the butcher, and Arnold the restaurant owner. The following transactions are the only ones that take place in Texas during the year.

- Roy raises 10 cows and he sells them to Harriet for \$200 each. While Roy does not employ any labor, he pays a \$500 rent for the grazing land.
- Harriet turns 10 cows into a total of 800 steaks. She sells all of the steaks to Arnold for \$5 each. She pays a \$200 wage for the only labor she employs.
- Arnold sells a total of 900 steaks at his restaurant at a price of \$10 each; 800 of them purchased from Harriet this year and the additional 100 steaks coming from the freezer (last year's purchase of steaks each with \$5 value). He pays a total of \$1000 to the waiters and the cook, \$500 consumption tax to the government.

Production Approach:

In production approach we can use the final goods method or value-added method.

- Calculate GDP using the **final goods approach**. Explain your work.
- Calculate GDP of this small economy using the **value added approach**. Clearly indicate the value added by each sector.

Expenditures Approach:

- Calculate GDP using the expenditures approach this time; indicating specifically to which one of the five spending categories each expenditure belongs to [C, I, G, X or M].

Income Approach:

- Calculate GDP using the income approach. Here you should be able to represent the income to various groups [total wages earned, total rent earned, profits earned, and tax revenues collected].

11. Measuring Total Output: Value Added / Final Goods / Expenditure Approaches

Consider a small economy's production during the year 2014:

- 100 liters of milk was imported from the neighboring country; the market price of milk was 10 TL per liter.
- 60 liters of this milk were sold to cheese makers and used in the production of cheese, and 40 liters of this milk were sold to households.
- Cheese makers produced 50 kg of cheese and sold to the grocery store chain at a price of 20 TL per kg.
- Households bought 30 kg of cheese from the grocery store at a price of 30 TL per kg.
- Grocery store stored the 20 kg of cheese in their freezers to sell next year.

[Assume these are the only transactions that take place, and milk is the only good that is necessary to produce cheese, and grocery store does not need any other intermediate good than cheese in its services.]

- Calculate GDP using the **expenditures approach**, indicating specifically to which spending category each expenditure belongs to.
- Calculate GDP of this small economy using the **value-added approach**. Clearly indicate the value added by each firm.
- Calculate GDP of this small economy using the **final good** approach.
- Suppose there is no government, and only three factors of production: labor, entrepreneur, and land in this country. If the total rent on land is 50 TL and the total profits earned in the economy is 300 TL, what is the amount of wages earned during the year? Show your argument.

12. Nominal and Real GDP & Growth

Suppose an economy only produces two final goods during the years 2005, 2006 and 2007. The table below gives the production levels and the prices of these goods for these three years.

	Good X		Good Y	
Year	Price	Production	Price	Production
2005	10	200	5	500
2006	15	300	4	400
2007	20	400	2	200

- Calculate nominal GDP and real GDP for all three years taking year 2007 as the base year.
- On an annual basis, how fast has the real economy grown? Which measure should be used nominal or real GDP in your calculations, why?

13. Measuring Total Output: Spending Approach and Components of GDP

How do the following spending activities influence Turkey's GDP, if they do? Clearly state which component (s) of the GDP will be affected: C, I, G, or X and/or M.

- Burcu (a domestic hh) buys a new car from a dealer produced this year in the country.
- Burcu buys a new foreign car from a dealer.
- Burcu buys a second hand car.
- Burcu buys a house built during the year.
- Burcu gives her daughter some pocket money.
- An American traveling in Istanbul gets a haircut.

- g. An aircraft carrier is purchased by the government.
- h. Some unemployment benefits are paid by the government.
- i. Government pays salaries to the teachers in public schools.
- j. A bottle of wine is purchased by a restaurant.
- k. A bottle of wine is purchased by a consumer.
- l. Flour is purchased by a bakery.
- m. At the end of the year a domestic firm finds its inventories build up.
- n. An US firm in Turkey buys a machine that is produced by a Turkish firm producing domestically.
- o. An American firm operating in US buys a machine that was produced within the borders of Turkey.
- p. A firm that is operating within the borders of the country pays a long-standing debt.
- q. Government employs a useless employee and pays him a wage.
- r. A car manufacturer employs a useless employee and pays him a wage.