



Economics, Markets and Organizations

Tutorial 7



Continuous exam 1

- 1) How does a firm decide optimally about the combination of inputs of production? Assume a firm employs capital and labor only. How would an increase in wages affect the optimal combination of inputs?





Continuous exam 2

- 2) Explain how the monopolistic firm sets its price. Why does the monopolistic firm produce below the competitive equilibrium? How does it behave under price discrimination? Provide examples of monopolies. Provide examples of price discrimination.





Key objectives

- Key concept: GDP, nominal GDP, real GDP, GDP-deflator, well-being and quality of life, inflation, Consumer Price Index (CPI), the differences between the GDP-deflator and CPI





Useful links:

<https://www.youtube.com/watch?v=rGqhTQyY6g4>

<https://www.youtube.com/watch?v=Z0qHA93oOSc>

<https://www.youtube.com/watch?v=0fqU8BXYfV0>





Chapter 20

GDP





Questions for Review on page 454

- Q1. Explain why an economy's income must equal its expenditure.
- Q3. Which contributes more to the GDP – the production of an economy car or a production of a luxury car? Why?
- Q4. A farmer sells wheat to a baker for 2 euro. The baker uses the wheat to make bread, which is sold for 3 euro. What is the total contribution of these transactions to GDP?



Answers

Q1. Because every transaction has two parties: a seeller and a buyer. Income is received by the seller, expenditure is paid by the buyer. They must be equal in total.

Q3. The production of a luxury car, since its value added (market price – costs of inputs) is probably larger.

Q4. 2 and 1 euro respectively, in total 3 euro. Do not forget that wheat is here an intermediate good.



Questions for Review on page 454

- Q5. Many years ago, Jamanda paid 500 euro to put together a record collection. Today she sold her albums at a car boot sale for 100 euro. How does this sale affect current GDP?



Answer

Q5. Absolutely not. Sale of second-hand goods does not constitute a part of GDP. Namely, no new value was produced.





Questions for Review on page 454

- Q8. In the year 2014, the economy produces 100 loaves of bread that sell 2 euro each. In the year 2015, the economy produces 200 loaves that sell 3 euro each. Calculate the nominal GDP, real GDP and GDP-deflator for each year (use 2014 as base year). By what percentage these statistics rise from one year to the next?

Solution

Year	Nominal GDP	Real GDP	GDP Deflator
2014	$100 \times \text{€}2 = \text{€}200$	$100 \times \text{€}2 = \text{€}200$	$(\text{€}200/\text{€}200) \times 100 = 100$
2015	$200 \times \text{€}3 = \text{€}600$	$200 \times \text{€}2 = \text{€}400$	$(\text{€}600/\text{€}400) \times 100 = 150$

The percentage change in nominal GDP is $(600-200)/200 \times 100 = 200\%$. The percentage change in real GDP is $(400-200)/200 \times 100 = 100\%$. The percentage change in the deflator is $(150-100)/100 \times 100 = 50\%$.



Problems and applications on page 455

tip: use the concepts from page 442

- Q7. One day Boris the barber collects 400 euro for haircuts. Over this day, his equipment depreciates in value by 50 euro. Of the remaining 350 euro, Boris sends 30 euro to the government in sales taxes, takes home 220 euro in wages, and retains 100 euro in his business to add new equipment in the future. From the 220 euro that he takes home, he pays 70 euro in income taxes. Compute the following measures of income:
 - GDP, NNP, national income, personal income, disposable personal income



Answer

- a) $\text{GDP} = \text{GNP}$ (only in this example) = €400, this is Boris's value added.
- b) $\text{NNP} = \text{GNP} - \text{depreciation} = €400 - €50 = €350$
- c) Net National Income (NNI) = NNP - indirect taxes = €350 - €30 = €320.
- d) Personal income = national income - retained earnings = €320 - €100 = €220.
- e) Disposable personal income = personal income - personal income tax = €220 - €70 = €150.



Problems and applications on page 455

The participation of women in many European and North American countries has risen in the past three decades.

- a) How do you think this rise affected GDP?
- b) Now imagine a measure of well-being that includes time spent working in the home and leisure. How would the change in measure of well-being affect change in GDP?
- c) Can you think of other aspects of well-being that are associated with the rise of women's labor force participation? Would it be practical to construct a measure that considers these aspects?



Answers

- a) The GDP increased as result since more labor income was created in the economy. With working women some domestic services had also be done in the market (nursing, childcare, household) which also increased GDP.
- b) This would increase less than GDP as a result, since women would have less leisure time now.
- c) Gender equality would increase, the time spent with children would on the other hand decrease.



Chapter 21

INFLATION MEASURES - CPI



Questions for review on page 471

- Q3. Which do you think has a greater effect on the consumer price index: a 10 percent increase in the price of chicken or a 10 percent increase in the price of caviar? Why?
- Q4. Describe the three problems that make CPI an imperfect measure of costs of living.
- Q5. Why do statisticians change the composition of the basket of goods used in constructing a price index from time to time?



Answers

Q3: Chicken has a larger weight in the consumer basket, so a chicken price increase would have greater impact on CPI.

Q4: (1) substitution bias, which arises because people substitute toward goods that have become relatively less expensive; (2) the introduction of new goods, which are not reflected quickly in the CPI; and (3) unmeasured quality change.

Q5: Because the structure of consumption changes over time.



Questions for review on page 471

- Q6. Assume that the price of a bottle of wine in 1990 was 3.5 euro and in 2012 it is 8.50 euro. Further assume that the price index in 1990 was 95 and in 2012 was 160. Was the wine cheaper in 1990 than in 2012? Explain.



Answer

- In nominal terms it was cheaper. In real terms, the 3.5 euro in 1990 had the same purchasing power as $(160/95) \times 3.5 = 5.89$ euro in 2012. So in 1990 the wine was cheaper than in 2012 in real terms as well.

