



Soochow University, Summer Session I, 2022

ECON202: Macroeconomics

Discussion Session I Solution

**Question 1.** Why is it desirable for a country to have a large GDP? Give an example of something that would raise GDP and yet be undesirable.

**Solution:** It is desirable for a country to have large GDP because people could enjoy more goods and services. But GDP is not the only important measure of well-being. For example, laws that restrict pollution cause GDP to be lower. If law against pollution were eliminated, GDP would be higher but the pollution might make us worse off. Or, for example, an earthquake would raise GDP, as expenditures on cleanup, repair, and rebuilding increase. But an earthquake is an undesirable event that lowers our welfare.

**Question 2.** Discuss each of the following questions:

(a) If GDP is a good measure of well-being, why is Switzerland's GDP so much lower than India's GDP or Russia's GDP?

**Solution:** GDP itself tells very little; Switzerland's GDP is much lower than that of India or Russia, yet Swiss citizens have one of the highest standards of living in the world. The difference, of course, is population. Switzerland is a small country, so its GDP is relatively small, despite its wealth. The appropriate comparison is per capita GDP. A more interesting question is "Is per capita GDP a good measure of well-being?" or worded another way "What constitutes well-being?"

(b) What measures would be better to compare the well-being of different countries?

**Solution:** Health care, food security, education etc. These are certainly better measures than money income, but they can be difficult to collect and interpret.

(c) How do you expect these direct measures to correlate with per capita GDP?

**Solution:** Although per capita GDP is not a direct measure of well-being, it can be used as a proxy for direct measure. The wealthiest countries have per capita incomes over 10 times higher than the poorest.

**Question 3.** Which do you think has a greater effect on the CPI: a 10 percent increase in the price of chicken or a 10 percent increase in the price of caviar? Why?

**Solution:** A 10% increase in the price of chicken has a greater effect on the consumer price index than a 10% increase in the price of caviar because chicken is a bigger part of the average consumer's market basket.

**Question 4.** If the price of a Navy submarine rises, is the CPI or the GDP deflator affected more? Why?

**Solution:** If the price of a Navy submarine rises, there is no effect on the consumer price index, because Navy submarines are not consumer goods. But the GDP price index is affected, because Navy submarines are included in GDP as a part of government purchases.

**Question 5.** Sally Saver deposits \$1,000 into a bank account that pays an annual interest rate of 10%. One year later, she withdraws \$1,100.

(a) If there is no inflation, how much has her purchasing power risen?

**Solution:** Real interest rate = Nominal interest rate – inflation rate = 10% - 0% = 10%. Therefore, her purchasing power has risen by 10%.

(b) What if the inflation rate now becomes 12%?

**Solution:** Her purchasing power has declined by about 2% (10% - 12% = -2%).

**Question 6.** Suppose that a borrower and a lender agree on the nominal interest rate to be paid on a loan. Then inflation turns out to be higher than they both expected.

(a) Is the real interest rate on this loan higher or lower than expected?

**Solution:** When inflation is higher than was expected, the real interest rate is lower than expected. For example, suppose the market equilibrium has an expected real interest rate of 3% and people expect inflation to be 4%, so the nominal interest rate is 7%. If the inflation turns out to be 5%, the real interest rate is 7% minus 5% equals 2%, which is less than the 3% that was expected.

(b) Does the lender gain or lose from this unexpected high inflation? Does the borrower gain or lose?

**Solution:** Because the real interest rate is lower than was expected, the lender loses and the borrowers gains. The borrower is repaying the loan with dollars that are worth less than was expected.

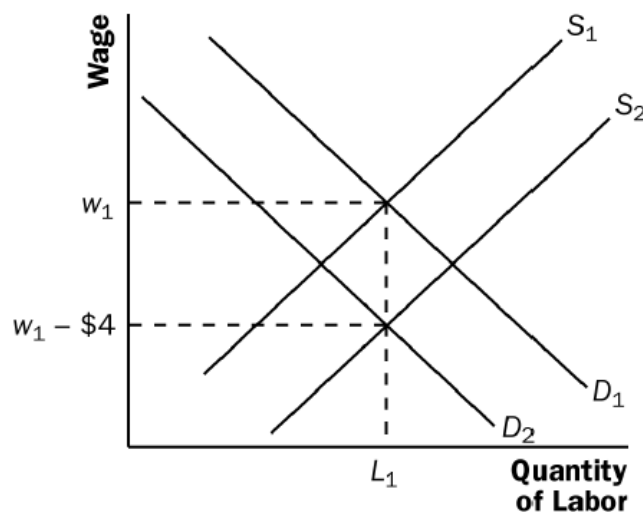
(c) Inflation during the 1970s in the US was much higher than most people had expected when the decade began. How did this affect homeowners who obtained fixed-rate mortgages during the 1960s? How did it affect the banks that lent the money?

**Solution:** Homeowners in the 1970s who had fixed-rate mortgages from the 1960s benefited from the unexpected inflation, while the banks that made the mortgage loans were harmed.

**Question 7.** Suppose that congress passes a law requiring employers to provide employees some benefits (such as healthcare) that raises the cost of an employee by \$4 per hour.

(a) What effect does this employer mandate have on the demand for labour? (In answering this and the following questions, be quantitate when you can.)

**Solution:** If a firm was not providing such benefits prior to the legislation, the curve showing the demand for labour would shift down by exactly \$4 at each quantity of labour (see the figure below), because the firm would not be willing to pay as high a wage given the increased cost of the benefits.



(b) If employees place a value on this benefit exactly equal to its cost, what effect does this employer mandate have on the supply of labour?

**Solution:** If employees value the benefit by exactly \$4 per hour, they would be willing to work the same amount for a wage that is \$4 less per hour, so the supply curve of labour shifts down by exactly \$4.

(c) If the wage can freely adjust to balance supply and demand, how does this affect the wage and the level of employment? Are employers better or worse off? Are employees better or worse off?

**Solution:** The above figure shows the equilibrium in the labour market. Because the demand and supply curves of labour both shift down by \$4, the equilibrium quantity of labour is unchanged and the wage rate declines by \$4. Both employees and employers are just as well off as before.