

Exercise 1
Introduction to
Macroeconomics

1. What are the four macroeconomic agents? What are the three markets in which the agents interact?

Answer: The four macroeconomics agents are households, firms, the government, and the rest of the world. The three markets in which they interact are the goods and services market, the labor market, the money (financial) market.

2. What is sticky price? Explain why price may be sticky

Answer: sticky price is when sometimes prices takes too long to adjust or the price adjusts slowly to the equilibrium. This is because wages are too high and there's minimum wage.

3. Explain the four main categories of unemployment.

1. Frictional unemployment: result of normal turnover in the labor market.
e.g. people change jobs for better jobs or unemployment looking for jobs.
2. structural unemployment: result of changes in the structure of economy like technological change, geographical change (job location).
e.g. newspapers workers replaced by E-book.
3. Cyclical unemployment: rises in the recession, fall in demand for whole economy.
e.g. during covid, captains and flights attendances loss their jobs.

4. Seasonal unemployment: due to changing seasons, Fall in demand for specific products.

e.g. Farmers, hotel workers.

4. Classify the following events into the categories of unemployment.

- Some friends just graduated from college and have been looking for jobs.

Answer: Frictional unemployment.

- Christine lost her job as a biologist at a biotech-company when the whole industry went into recession.

Answer: cyclical unemployment.

- Gerhard, who used to be a taxi driver, stopped looking for a job three months after he lost his job.

Answer: Frictional unemployment

- Dirk used to work as a wooden-doll maker. Now all kids want plastic dolls, so he is out of work.

Answer: structural unemployment.

- The hotel part-timers were laid off during low season.

Answer: Seasonal unemployment.

- Aditi, a high-tech engineer, just decided to quit her job; she is being interviewed for a better-paid job in a multinational company.

Answer: **Frictional unemployment**

- A man lost his job as a public reader as literacy has increased in his village.

Answer: **Structural unemployment.**

5. Suppose there are 100 people in labor force and 60 people currently in employment. Find the unemployment rate. Can we find labor force participation rate? If not, what information do we need?

Answer:
$$\text{Unemployment Rate} = \frac{\text{unemployment}}{\text{labor force}} = \frac{40}{100} = 40\%$$

* labor force: employ + unemploy

- we can't find labor force participation yet because we don't know the value of the population.

6. What is the discouraged-worker effect? How can it affect the unemployment rate?

Answer: People who want to work but cannot find jobs become discouraged and stop looking for work. It can affect the unemployment rate by misleading us to think that more people have got their jobs. It also has a direct impact in calculating the unemployment rate because this group of people does not count in the system.

7. On average, nations in Europe pay higher unemployment benefits for longer periods of time than the US. How would this affect the unemployment rates in these nations? Explain which type of unemployment is most directly affected.

Answer: Europe will have more unemployment rate because Europe is paying larger benefits to USA. This will increase the frictional unemployment as people tend to find jobs that give them better benefits.

8. What is inflation? It is often said that inflation reduces one's purchasing power, and hence inflation is bad. How can inflation reduce one's purchasing power? Is there a case where inflation may not be bad?

Answer: Inflation is an increase in the overall price level. Price level is the prices of some sets of goods and services. Inflation does not necessarily reduce purchasing power but if the wages are fixed, purchasing power will be reduced.

For example: you have 100\$ and the item price is 10\$ per item, you can buy 10 items. But if the price increased to 20\$ per item, you can only buy 5 items with 100\$. This case will reduce your purchasing power if your wages are fixed.

But if your wages are increased to 200\$, you will be able to buy 10 items the same which means your purchasing power is still the same and this might not be bad.

9. Who – lender or borrower – is better off, given unanticipated deflation? Explain with examples.

Answer: The lender will be better off because

when there's deflation, the money value increases. For example, my friend borrow me money and when there's no deflation yet, I can buy one apple. But when my friend return me money when there's deflation, I can buy 2 apples because the price of the apple decrease but the money value increases.

10. When inflation is anticipated, what will the central bank do with the interest rate? (Hint: Fisher Equation)

Answer: the central bank will increase the interest rate and they will use Fisher equation to decide the interest rate they should charge. The reason that they charge interest rate is to let people deposit money because when the interest rate is high in inflation, people don't want to keep money with them. So people will spend less money and it won't cause hyperinflation.

11. The CPI is 120 in year 1 and 150 in year 2. All inflation is anticipated. If the bank charges an interest rate of 30%, what is the bank's real interest rate?

* CPI measures inflation on

consumers goods and services.

Answer: change in CPI = $\frac{150 - 120}{120} \times 100 = 25\%$

* we use fisher equation to find real interest rate.

$$i = r + \pi$$

i = nominal interest rate

r = real interest rate

π = inflation rate

Solution:

$$30 = r + 25$$

$$r = 5\%$$

The real interest rate is 5%.

12. Explain why inflation is necessary to a growing economy with reference to the money supply.

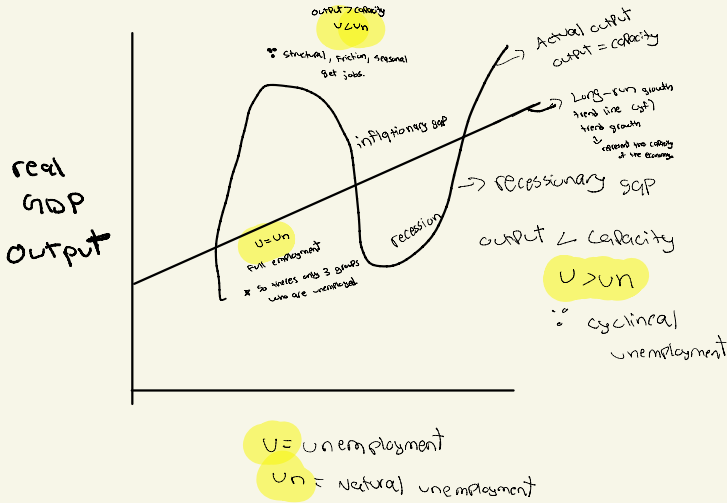
Answer: So the main cause of inflation is printing money which is increasing money supply. It is necessary because as the economy and its population grows, more and more people will need money for transactions so if there's fixed money supply, there won't be enough cash for everyone.

* printing money can cause hyperinflation, but it's necessary.

13. What are the two administrative costs of inflation?
Explain.

- Answer :
1. menu cost = cost from changing menus / price lists frequently.
 2. shoe leather cost = cost of time and effort that people expend by holding less cash in order to reduce inflation tax. high inflation, people don't hold cash because value reduces quickly.

14. Draw a diagram of business cycles and the trend line. Label the four phases of business cycles. Answer the following questions.



- Which phase do you expect to see inflation?

During the expansion to peak phase

- Which phase do you expect to see high unemployment?

During the recession to trough.

→ boost up economy

- Which phase should the government use **expansionary** policy? Give example.

slow down economy. During the recession to trough phase because it occur inflation.

- Which phase should the government use **contractionary** policy? Give example.

During the expansion to peak phase because it occur deflation.

- What factors determine the trend line?

It determined by the quality and quantity of labor and capital.

15. An article states that capital stock and labor force are both increasing at an annual rate of 7%. The same article also states that real output is growing by 11%. Explain why this is possible.

Answer: Due to the increasing in capital and labor, product will have a high level of quality and labor will produce more goods. So the output grows.