

Exercise 1

Introduction to Macroeconomics

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

4 macroeconomics Agents

1. Household

2. Firms

3. The government

4. The rest of the world

3 Market

1. Good & service
Supply: Household, Firms, The rest of the world
Demand: Household, Firms, government, the rest of the world
2. Labour market
Supply: the rest of the world
Demand: Household, Firms, government, the rest of the world
3. Market money
Supply: Household, The rest of the world
Demand: Household, Firms, government, the rest of the world

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

Sticky price - when a price adjust slowly to equilibrium, so the market takes time to clear. The price may be sticky because of many reasons like labor contract, government and the cost of changing.

3. Explain the four main categories of unemployment.

4 main categories of unemployment

Frictional unemployment - as a result of the normal turnover

in the labour market. Because of the short-run job-skill matching problem. People need a time to find the right jobs that match their skill.

Structural Unemployment - is a result of change in the structure of the economy - Because a mismatch of skill between the unemployed and available jobs

Cyclical unemployment - is above frictional, unemployment plus structural unemployment due to fluctuations in business cycle. In a period of negative economic growth or economic slowdown, cyclical unemployment will tend to rise

Seasonal Unemployment - is due to changing seasons for example, in agriculture, builder etc.

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

- Some friends just graduated from college and have **been looking for jobs**. *Frictional unemployment*
- Christine lost her job as a biologist at a biotech-company when the whole industry went into **recession**. *Cyclical unemployment*
- Gerhard, who used to be a taxi driver, **stopped looking for a job three months** after he lost his job. *Not considered in unemployment*
- Dirk used to work as a wooden-doll maker. **Now all kids want plastic dolls**, so he is out of work. *Structural unemployment*
- The hotel part-timers were laid off during **low season**. *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. *Structural unemployment*
- A man lost his job as a public reader **as literacy has increased** in his village. *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?

$$\text{unemployment rate} = \frac{\text{labour force}}{\text{population}}$$

∴ We cannot find labor force participation rate because we need to know the amount of population.

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

Workers quit and stop finding job. If they quitted but still looking for jobs, they are counted as unemployed so, the unemployment rate will increase, However, for the workers that stop finding jobs, they are not counted as unemployed. They are not in the labor force so, these people will not effect the unemployment rate.

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.

Paying higher unemployment benefits for longer period of time will increase the unemployment rate especially frictional unemployment rate especially frictional unemployment because the unemployed spend less time and effort finding jobs and become more selective about the jobs.

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?

Inflation is an increase in overall price level
How it reduce purchasing power \Rightarrow during inflation, prices tend to rise together but if your income is fixed, so your purchasing power will fall.
Inflation also have benefits the borrower because the value of money is decrease but they have to pay the lenders the same.

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

Lender is better off because the value of money at the time borrower borrowed is less than the value of money at time borrower have to give the money back

Example A borrowed B 100 \$ (before deflation)
which 100 \$ can buy 3 apples
3 month later B give 100\$ back to A
which 100\$ can buy 4 apples

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

Fisher Equation

$$i = r + \pi$$

i = nominal interest rate
 r = real interest rate
 π = inflation rate

The central bank should increase interest rate because it will make the citizen want to keep their money in the bank in order to gain more interest and less people will want to borrow money from a bank. So basically there will be less money in the market and more money in the bank.

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?

$$\begin{aligned} \text{Percent change in CPI} &= \frac{P_1 - P_0}{P_0} \\ &= \frac{150 - 120}{120} \\ &= \frac{30}{120} = 25\% \end{aligned}$$

$$i = r + \pi \quad ; \text{ Fisher equation}$$

$$30 = r + 25$$

$$r = 5\%$$

∴ real interest rate 5%

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

As a number of population is increased.
Gov. have to print more money that lead to inflation
Inflation accommodate money supply.

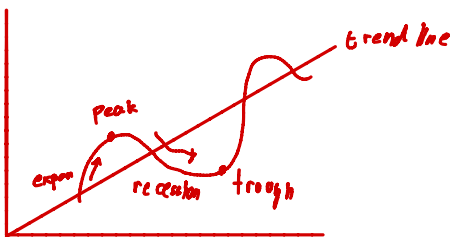
13. What are the two administrative costs of inflation? Explain.

two administrative costs of inflation

- ① menu cost; the cost to a firm resulting from changing price
- ② Shoes leathers cost; the cost of the time and effort that population trying to contract the effect of inflation opportunity cost of holding cash increased

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? *peak/expansion*
- Which phase do you expect to see high unemployment? *Trough/recession*
- Which phase should the government use expansionary policy? Give example. *Trough/Recession Example Decreasing interest rate & taxation*
- Which phase should the government use contractionary policy? Give example. *Peak/expansion Example Increasing interest rate and taxation*
- What factors determine the trend line? *Quality & Quantity of capital and labor*



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.

- It mean that the quantity of labor force increase such as better technology so this increases output rate