**HE5091 Revision Lecture Part II**

**Question 1**

For each of the incident occurred in the cigarette market, explain whether the demand curve or the supply curve is affected and the effects on the equilibrium price and quantity in the cigarettes market. Support your answers with suitable market diagrams.

(a) Price of electronic vaporisers (vapes) increases   
Cigarettes and vapes are substitutes in consumption. When price of vaporisers increase, demand for cigarettes increase. Hence, demand curves shift right resulting in a higher equilibrium price and quantity.

(b) Workers in cigarettes industry have wages increase

Wages increase suggest an increase in labor cost of input. Producers hire less workers hence there is a lower supply of cigarettes causing supply curve to shift to the left resulting in a higher equilibrium price and lower equilibrium quantity.

(c) Research concludes that smoking will cause cancer

As the research may affect preferences of the smokers negatively, demand for cigarettes decrease hence demand curve shifts left resulting in a decrease in equilibrium price and quantity.

**Question 2**

Due to harmful effect in smoking, the government would like to discourage smoking. Analyse the welfare effects of using price control and taxes to discourage consumption of cigarettes. Compare and contrast between the two policies and support your answers with suitable cigarettes market diagrams.

Can use price ceiling to cause a shortage of cigarettes in the cigarettes market.

By imposing tax, cost of input increases causing supply curve to shift to the left resulting in a higher equilibrium price and lower equilibrium quantity and

**Question 3**

The following table shows the total cost incurred by a firm in the short run. The firm is able to sell any amount of its output at the price of $10 per unit.

|  |  |
| --- | --- |
| Output | Total Cost |
| 0 | 10 |
| 1 | 16 |
| 2 | 20 |
| 3 | 22 |
| 4 | 23 |
| 5 | 27 |
| 6 | 36 |
| 7 | 48 |
| 8 | 61 |
| 9 | 81 |
| 10 | 106 |

(a) Expand the table and calculate the fixed cost, the variable cost, the average fixed cost, the average variable cost, the average total cost and the marginal cost for all the output. Explain the importance of marginal cost and average total cost in making business decisions.

(b) What is the quantity that the firm should produce? Compute the profit or loss at this quantity. If the market that the firm operates is perfectly competitive, explain what will happen to the firm’s price, quantity and profit in the long run.

Quantity firm should produce = MR = MC

Firms price and quantity will be equilibriu, price. Economic profit = 0

**Question 4**

Consider a monopolist with a demand equation P = 60 - 2Q, where P is the price in dollars and Q is the quantity. The monopolist is able to produce the output with a constant marginal cost of $20 which is equals to the average total cost. Assume that there is no fixed cost.

(a) If the monopolist practice single pricing, determine the price, quantity, profit, consumer surplus and producer surplus in this market with the aid of a suitable diagram. Comment on the efficiency in this market.

MR = 60 – 4Q

20 = 60 – 4Q

Q = 10

P = 40

MR = 20

Profit = 40 -

(b) If the monopolist were to practice perfect price discrimination, determine the quantity, price, profit, consumer surplus and producer surplus of the monopolist. Comment on the efficiency in this market.

**Question 5**

Wheat producers tend to use the traditional method of setting fire to clear their wheat plantation lands prior to the next round of wheat plantation. In the process, the air becomes extremely polluted, resulting in people residing in the vicinity of the wheat plantation lands falling sick. Analyse the efficiency of the wheat market with a suitable market diagram. What can be done to rectify the issue in the wheat market?

**Question 6**

What components of the expenditure method of GDP (if any) will be affected from each of the following transactions? Explain.

(a) The government hires teachers to provide free education to the people.

Increases Consumption due to increasing productivity of workers which leads to increase in demand of labor workers and a higher real wage which increases the disposable income.

(b) Tourists buy admission tickets to visit local tourist attractions.

Increases export which increases real GDP

(c) A local resident buys a bottle of foreign wine.

Increases import which decreases real GDP

(d) A foreign drug company set up a lab testing drugs in the local economy.

Increases investment

**Question 7**

(a) Suppose the resident of Portland spend all of their incomes on ham, chicken, and roast beef. In 2019, they buy 50 pounds of ham for $3 per unit, 35 pounds of chicken for $4 per unit, and 100 pounds of roast beef for $5 per unit. In 2020, they buy 35 pounds of ham for $4 per unit, 50 pounds of chicken for $4 per unit, and 100 pounds of roast beef for $6 per unit. Using 2019 as the base year, calculate the CPI for each year and the inflation rate for 2020.

CPI2019 = (3\*50) + (4\*35) + (5\*100) = 790/790 = 1

CPI2020 = (4\*50) + (4\*35) + (6\*100) = 940/790 = 1.18987

Inflation rate = 1.18987 – 1 /1 \*100% = 18.99%

(b) The Department of Statistics of an economy announced that in January 2021, of all adult residents, 141,481,000 were employed, 4,209,000 were unemployed, and 78, 463,000 were not in the labour force. Use this information to calculate the labour-force participation rate and the unemployment rate.

Labour force = employed + unemployed = 141,481,000 + 4,209,000 = 145,690,000

Participation rate = labour force / working age pop = 145690000/ 224,153,000 = 65.00%

Unemployed rate = unemployed/labour force = 2.89%

(c) Suppose the government borrows $20 billion more this year to finance government expenses compared to last year. Use a saving-investment diagram to analyze this policy. Explain the effects on interest rate, private investment, private saving, public saving and national saving of this policy

Supply of savings decrease by 20mil, move left. Higher interest rate. Hence private investment decreases, savings decreases, economy growth decreases.

**Question 8**

(a) Consider an economy where the central bank sets the reserve-deposit ratio at 10% and there is only one commercial bank which does not keep excess reserve. You take $100 you had previously kept under your pillow and deposit it in this commercial bank in your demand deposit account. If there is no cash leakage, explain the first three rounds of money creation process and determine the total money supply eventually.

First round, banks keep 10 dollar and loan out $90.

Second round, banks receive the 90$ deposit and keep 9 dollar and loan out 81 dollars

Third round, banks receive the 81 dollars and keep 8.1 dollar and loan out 72.9 dollars.

Total money supply eventually = 100/.1 = 1000, 900 dollar is created and

(b) Consider an economy where the central bank sets the reserve-deposit ratio at 8% and the commercial banks do not keep excess reserve. Initially there are $500,000 in currency available and the residents hold 40% of currency as cash and keep the balance in the commercial banks as deposits. Using M1 as the definition of money supply, compute the money supply in the economy. If the central bank sells $100,000 of government bonds, what is the effect on the economy’s money supply?

300,000.

Reserve deposit = 8%(300k)= 24,000

Money multiplier = 1/0.08 = 12.5

100,000 \* 12.5 = 1,250,000

Money supply decreases by 1.25mil as public buys 100k of government bonds

**Question 9**

Use the AD-AS framework to analyze the short run and long run effects on an economy when the government decides to reduce income taxes. Begin your analysis with a long run equilibrium.

By reducing income tax, there is a higher Consumption hence SRAS shift right. In the long run, due to expected inflationary pressure, SRAS shift left, returning real output to potential output

**Question 10**

Consider the exchange rate between Singapore dollar (S$) and Malaysian Ringgit (RM). Taking Singapore dollar as the domestic currency and define exchange rate as quantity of foreign currency to one unit of domestic currency, analyse the effect on the foreign exchange market when the opening of Universal Studio in Singapore attracts many visitors from Malaysia.

There is a greater demand for Singapore dollars hence the value of SGD increases and there is a greater quantity of SGD traded in the market