INSTITUTE OF ACTUARIAL & QUANTITATIVE STUDIES

Subject: **Business Economics - Micro**

Category: **Assignment 1 – Answers**

1.

- Left to itself the market will equate supply and demand via changes in price. If the government intervenes in the pricing decision it may cause a disequilibrium to occur which is likely to have adverse consequences.
- An example of problems induced by setting a price floor or minimum guaranteed price is in the agricultural market. When governments set a high guaranteed minimum price for agricultural output which is above the free market price there are two effects Consumers face higher food prices and cut back on consumption and farmers are encouraged to increase agricultural output. The result is an agricultural surplus, the government has to purchase the surplus and then decide what to do with it, it might store it but this is costly, it might give it away or it might dump the food on the world market. The policy while highly beneficial to farmers will damage the interests of consumers.
- A price ceiling (maximum permissible price) that is set below the free market price will also cause problems. For example, in the housing rental market governments sometimes set maximum rents below the free market rent that equated the supply and demand in the market. The effect of the rental control is that the supply of rented housing falls while the demand for rented housing rises resulting in a shortage of housing. The rental controls are to the benefit of those that are able to obtain rented accommodation but mean that many people are unable to do so. All in all, there can be little doubt that while government intervention in the free market can be beneficial in some respects the interventions can harm the interests of other parties and create problems of surpluses and shortages which are invariably inefficient. To obtain rented accommodation. The shortage problem will then have to be solved either by some means of rationing and the government might find itself under pressure to build new subsidised housing. Another possibility is that landlords will try to get around the rent controls either by charging for other items such as furniture rather than the accommodation. One might also witness the emergence of a black market for housing.

2.

i. An accounting firm would use labour to undertake accounting activities for clients, this could include specialists in different areas of accounting such as tax and audit as well as general professional services staff such as receptionist, human resources, payroll and other workers such as cleaners and maintenance staff

ii. Accounting firms are also likely to be using capital (machinery) to undertake their work, examples would include computers, telephones, calculators, printers and other office equipment and the building in which they conduct their activities

3. A. PES = % change in quantity supplied/% change in price or %Δ in Qs/%Δ in P
All three methods below are acceptable:

- The arc method gives:

$$\frac{dQs}{dP} \times \frac{P}{Q} = \frac{200}{3} \times \frac{6.5}{300} = 1.44$$

- At price 5 the point elasticity is:

$$\frac{dQs}{dP} \times \frac{P}{Q} = \frac{200}{3} \times \frac{5}{200} = 1.67$$

At price 8 the point elasticity is:

$$\frac{dQs}{dP} \times \frac{P}{Q} = \frac{200}{3} \times \frac{8}{400} = 1.33$$

B. Three factors could include:

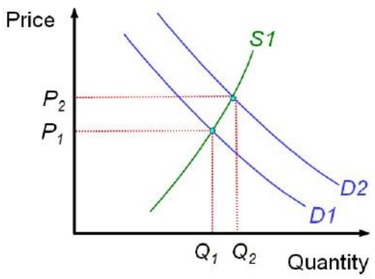
- The time period - PES is usually more elastic in the long rather than the short run. In the short run firms would find it difficult to change their output in response to a change in price as it is difficult to adjust input levels; the size of the workforce or factory. In the long run, firms can change the workforce, raw materials and build new factories. Hence, in the long run supply should be much more responsive to changes in price.
- Productive capacity - In the short run, firms tend to have a finite capacity given the factors of production. Firms may be unable to expand when the economy is at its peak and/or growth has been strong. When the economy is growing more slowly or contracting firms may have some spare capacity and thus be able to respond more readily to changes in prices.

- The size of the industry - Supply tends to be more elastic in smaller firms. Increased purchases of raw materials on a small scale are unlikely to impact unit costs, whereas large firms buying larger quantities of raw materials could influence the price of raw materials and raise unit costs. The more firms there are in the industry the easier it is to increase supply.
- Mobility of factors of production - The more readily a resource can be used for other purposes the more elastic supply will be, land which can be easily switched from one crop to another for example or firms with plants across the globe so that disruption at one can be managed at another to ensure that production continues. Labour in particular fields cannot be switched so readily, heart surgeons cannot readily be renal surgeons as it's a very different type of medicine and supply is much more inelastic.
- Ease of storing stock and inventory - If firms have the facility to store stock then they can respond to changes in price very quickly. If building up stock and inventory is cheap then firms would have more elastic supply. For others the cost of storage could be prohibitive or the good could be perishable and thus not suitable for storage and therefore supply would be relatively inelastic.
- Barriers to entry - The lower the barriers to entry to produce the product the more easily new firms can enter and supply the product which increases the price elasticity of supply.

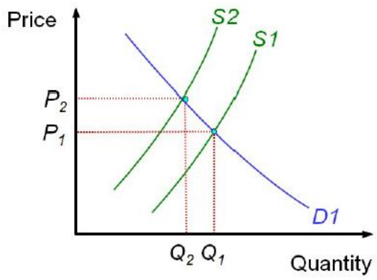
4. A. A normal good is one for which demand increases with an increase in income, in contrast demand falls with an increase in income for an inferior good. In the context of travelling to work travelling by bus or walking could be viewed as an inferior good and as income rises, demand would fall for these modes of transport in favour of another such as car travel. An important point to note here is that the normal or inferior good noted in the example is generally true, in some cases it could equally be suggested that bus travel is the normal good and walking is the inferior good or bus travel is the normal good instead of cycling.

   B. (i) A negative and very large cross price elasticity of demand implies that the two goods are complementary and are very closely related.
   B. (ii) The two examples must be food products that are commonly considered to be very closely related. For example, bread and butter, tea and sugar, strawberries and ice cream.

5. (i)


Price
S1
P2
P1
D2
D1
Q1 Q2
Quantity

(ii)


Price
S2
S1
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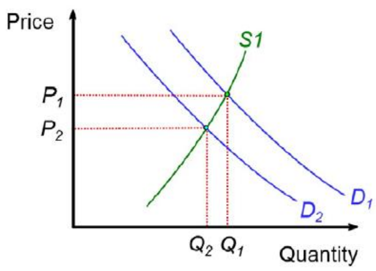
D1
Q2 Q1
Quantity

(iii)


Price
S1
P1
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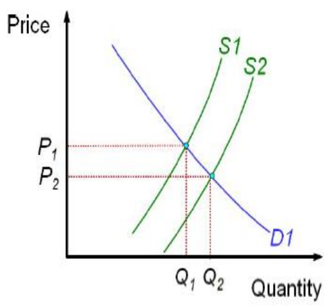
D2
Q2 Q1
Quantity

(iv)


Price
S1
S2
P1
P2
D1
Q1 Q2
Quantity

6.

i. -173 or 1.73 are acceptable answers
ii. 1.19
iii. 0.34 normal good
iv. –1.60 complements

7. Using ice cream as an example, as the price of ice cream rises and income is unchanged, the purchasing power of income falls as we can buy less ice cream. This is the income effect. The substitution effect arises as when the price of ice cream rises, it becomes relatively more expensive compared to other goods such as yoghurt/mousse/other chilled desserts. People may switch away from ice cream to an alternative. Both effects serve to reduce the demand for ice cream as its price rises.
These factors are the reason why we have a downward sloping demand curve.

8.

i. Macroeconomics examines the economy as a whole or in aggregate and is therefore concerned with aggregate demand and supply. Aggregate demand is concerned with the total amount of spending within the economy by the different groups (consumers, overseas customers via exports, government and firms). Aggregate supply is associated with the total national output of goods and services. Microeconomics on the other hand examines the individual parts of an economy and the factors that determine supply and demand for particular goods, services and resources.
ii. A market is a place where buyers and sellers come together. This may be in a physical space such as a street or store or it could be online. An example would be someone seeking to sell their hairdressing services whilst customers seek out a hairdresser. The two parties meet and agree on a price and trade; a haircut for payment.

9.

i. Shifts to left.
ii. Shifts to right.
iii. No shift.
iv. Shifts to right.

10.

i. Factors of production are:
Human resources/labour, natural resources/land and raw materials and manufactured resources/capital.'
ii. Human resources can be scarce in terms of the number of people and/or the skills that they have.
Natural resources may be scarce as land is limited and the raw materials that come from the land may also be limited.
Manufactured resources may be scarce as there are a limited number of machines, equipment, transportation and factories. The productivity of the capital is also limited by the state of technology.

11. Income
If current or future income increases, then demand for housing may rise (rightward shift). This increase in demand would ceteris paribus increase the price of housing in the market. The reverse is true if income were to (or were anticipated to) fall.

Desire for ownership
If there is an increase in the desire to own a home (rather than rent) then the demand for housing would rise (rightward shift), increasing house prices. Factors that may influence this could be social/demographic patterns such as single parent families or migration and increased life expectancy.

Cost of mortgages
As the cost of mortgages falls given a fall in interest rates, home ownership may become more affordable and accessible. Therefore, an increase in demand (rightward shift) would lead to an increase in price. Likewise, as interest rates rise, this is likely to curb demand (leftward shift) and ceteris paribus, prices would fall.

The availability of mortgages
An increase in the number of providers who can grant mortgages would make it potentially easier for people to purchase a house. Alternatively, providers may be willing to loan larger sums and this may increase the demand for more expensive housing (rightward shift).

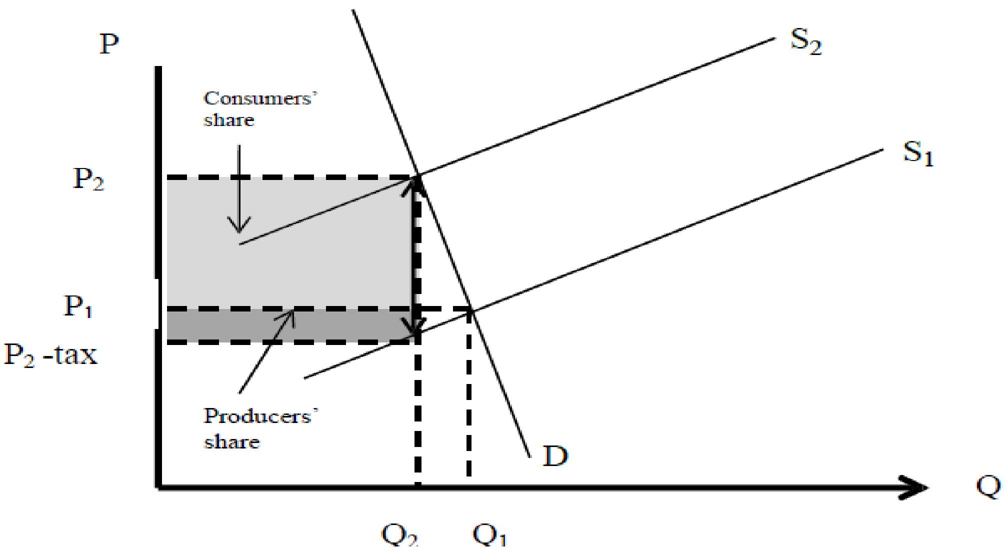
Speculation
If house prices are expected to rise over time, then people may choose to purchase sooner (rightward shift in demand) and this may drive an increase in price. Equally those selling their homes will seek to hold onto their properties for longer to gain a higher selling price (leftward shift in supply). The reverse is true if prices are falling. In both cases, speculation about future prices may drive current prices in a particular direction.

Supply
As the supply of housing rises due to new builds in the long run (rightward shift), ceteris paribus the price would fall.

12.

i. Inelastic demand is preferable as an increase in price (as a result of the imposition of tax) would not result in a substantial fall in quantity. Therefore, government revenue would be higher in this case relative to a situation where the good was relatively price elastic where quantity would fall by a larger amount. In this case, consumer's share of the tax is larger than producers.

ii.



13. Utility for consumer durables is uncertain as whilst the initial cost is known, the future costs and benefits are uncertain. A refrigerator for example has a known original cost but there may be repair costs that are unknown and therefore the full price of the refrigerator over a lifetime of the good is uncertain. The benefits of the refrigerators are also uncertain. When the refrigerator is selected you may have liked it in the shop, from a brochure but over time it may become clear that the refrigerator is less energy efficient than you had anticipated, you may find the shelving is insufficient, it's difficult to defrost or not large enough for your needs. Therefore, there is uncertainty with such goods unlike goods and services that are consumed immediately such as a bar of chocolate or a packet of crisps.

14.
   i. Price will fall, quantity supplied will fall, quantity demanded will rise.
   There will be a shortage.
   ii. Price will rise, quantity supplied will rise, quantity demanded will fall.
   There will be a surplus.

15.
   i. Risk is when the probability of an outcome occurring is known. In contrast uncertainty refers to a situation in which the probability of an outcome is not known.
   ii. Reference may be made to holding stocks – suppliers hold additional stocks in anticipation of potential changes in price or demand.
   For example, if farmers hold stocks of a good such as wheat, if the price is low in the market they can hold onto some stock and then release it to the market once prices rise and vice versa.
   OR
   Alternatively, one can purchase information.
   This could be from market research, specialist sources/organisations.
   Additional information about the market may help to reduce uncertainty. An important point to note is that such information must be reliable in order to reduce uncertainty.

16. Supply and demand diagrams should be included for each scenario presented. Discussion may refer to how the initial equilibrium price and quantity is achieved within the market. A key requirement is to explain how the new equilibrium is reached.

    i. An increase in interest rates would raise the cost of borrowing, leading to a potential reduction in the demand for house purchases if housing then becomes unaffordable. This would be represented by a leftward shift in the demand for housing. At the same time, house builders who are borrowing to finance builds would find that their overall costs increase. Such an increase in costs would be represented by a leftward shift in the supply curve. Current homeowners may also supply less housing to the market if they find that alternative house purchases will cost them more due to increased interest rates which would increase their cost of borrowing. Instead of moving, such individuals may continue to stay in their current home and thus reduce the supply of houses onto the market.
    The overall effect would be to reduce the amount of housing traded in the market but the price effect will be dependent on the magnitude of the shifts in supply and demand. Discussion may also include the effect of flexible mortgage rates and the effect this would have. People would have higher repayment charges and therefore may decide to sell/default/face repossession on their property leading to an increase in the supply of housing.

    ii. An expected rise in future house prices would be likely to increase current demand for house purchases, particularly as a house represents a large financial commitment. An increase in the demand for housing would cause the demand curve to shift to the right. House builders and current home owners may limit the supply of housing onto the market with a view to increase their profits in future. Therefore, supply may be unchanged or reduced in expectation of future gains. The overall effect would be to increase prices but the effect on the quantity traded would be dependent on the magnitude of the shifts in supply and demand.

    iii. An increase in taxes for house builders would increase their costs. The supply curve will shift upwards by the amount of the tax levied. As a result of the tax increase, the price of houses built will increase and the amount of houses available will fall.

17. Factors affecting the demand for shares:
    The dividend yield, the price and/or return on substitutes, incomes, wealth, expectations.

    The dividend yield: Investors look for a high return when buying shares. This is the dividend they receive on a share in relation to its price. The higher the dividend yield on shares, the more attractive the shares would be as a form of saving.

    The price and/or return on substitutes: the main substitutes for shares in a company are the shares in other companies. Investors will substitute shares with higher dividend yield for those with a lower dividend yield. The main substitute for shares in general are other forms of saving such as saving accounts in banks and building societies as well as property and bonds. If the interest rates received on saving accounts fall, instead. Similarly, if house prices rise rapidly, savers may switch from holding shares to buying property in anticipation of even higher prices in the property market.

    Incomes: When the economy is growing and incomes are rising, there is likely to be more demand for shares leading to a rise in share prices. When the economy slows down and incomes fall, the demand for shares and share prices may fall.

    Wealth: Individuals use their increased wealth to buy more shares.

    Expectations: If investors are optimistic about the economy and expect the share prices to rise, they will buy more shares which will raise share prices, leading to an expectation of even higher prices and more demand for shares. Conversely, lack of confidence in the economy in the future would lead to an expectation of a fall in share prices and lower demand for shares.

    (Other reasonable factors such as capital appreciation were accepted. However, the factors needed to be distinct.)

18. Factors that shift the demand for sports cars:

Incomes: As people's incomes rise, their demand for most goods including sports cars will increase. Higher incomes will shift to the right the demand for these cars.

Tastes: If individuals have a preference for sports cars, they will tend to buy the car. Advertising, fashion, other people's choice and safety considerations in favour of this type of car, could affect a consumer's decision and shift the market demand for these cars to the right.

The price of complementary goods such as petrol: If the price of petrol falls, with cheaper petrol, people would be more inclined to buy these types of car since these tend to be less energy efficient and the demand will shift right.

(Alternatively other factors such as a reduction in the price of sports cars relative to other types of cars, expectation of future increases in the price of sports cars and a reduction in car tax were accepted.)

19. Some of the factors affecting the supply of oil:

Cost of production: The cost of extraction and refining oil, improvements in technology, labour costs and government taxes.

Profitability of goods in joint supply: Oil derivative products such as petrol, gasoline and paraffin.

Profitability of supply substitutes: Other sources of energy such as coal. Nature, unpredictable events: Earthquakes and fires in oil fields, wars.

The aims of the producers of oil: Oil producing countries forming a cartel and restricting supply in order to increase the price and profits.

20. Macroeconomics examines the economy as a whole and considers aggregate supply and demand. This means that it is concerned with total spending in the economy by all groups; consumers, government, investors, exporters and importers.

Microeconomics considers individual parts/units of the economy. It is concerned with the factors that influence the supply and demand for specific/particular goods, services and resources.

21.

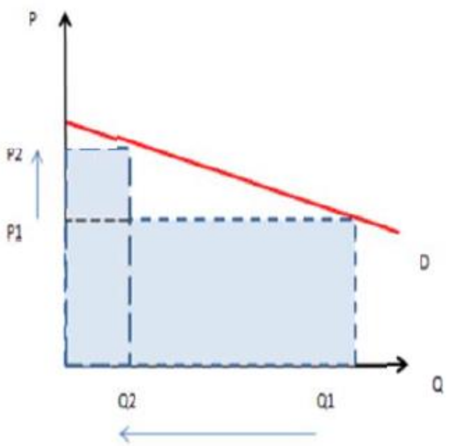
When demand is elastic, total revenue changes in the same direction as quantity. Whereas when demand is inelastic, total revenue changes in the same direction as price.

When demand is inelastic:

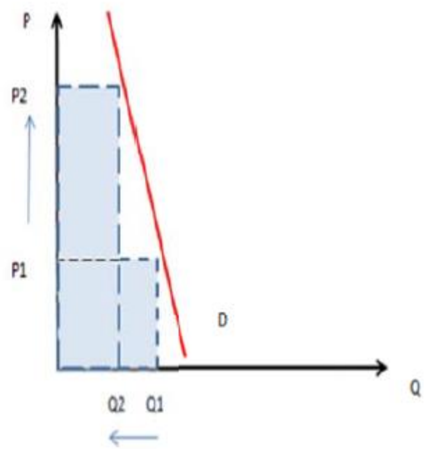
P rises; *Q* falls proportionately less and therefore TR increases.

Therefore, a firm which is raising its prices will prefer demand to be inelastic since this will raise total revenue.

The diagrams below illustrate the changes in total revenue.



Elastic demand



Inelastic demand

CHAPTER NAME

PRACTICE/NOTES/ASSIGNMENT