Problem Set 2

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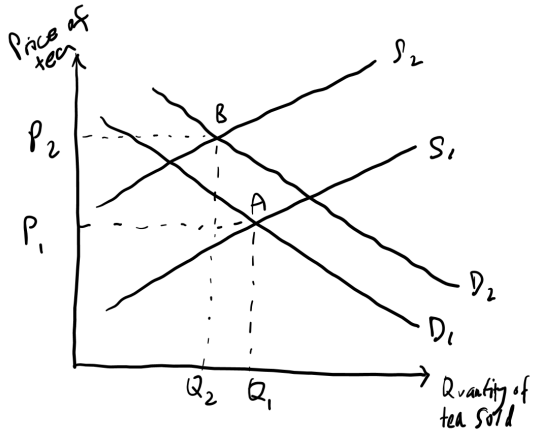
Section B

1.

(a) The coronavirus outbreak has caused a series of factors that have decreased the supply of tea. The main factors caused by the virus outbreak are the labour lockdowns and restrictions that disrupts workers during tea-picking season, causing a shortage in output and supply of tea.

(b) The demand for tea has also been affected, mainly by the coronavirus outbreak. With the outbreak, more people are turning to tea due to its apparent immune-boosting properties. This causes an increase in demand for tea during the pandemic.

(c)



The coronavirus pandemic has affected the demand and supply of tea. However, the impact is greater on the supply side, as supply of tea decreases a lot more as all countries do not have the manpower to sustain their output for tea production. The demand curve shifts to the right as demand for tea increases and the supply curve shifts to the left, but to a greater degree. The market equilibrium point changes from point A to B, where an increase in price and a decrease in quantity of tea sold can be observed.

2.

(a) Leading up to Thanksgiving during the October-November period, many households look to purchase turkeys for consumption making demand for turkeys very high. So from the supply-side, sellers drop the prices of their turkey stock instead of increasing as they want to capture as much sales as possible during this period. This strategy centres around customers purchasing other goods from their shop on top of their turkey purchases, in hope of gaining from the large influx of customers.

(b) Another good with a similar supply-side pattern are electronic goods such as televisions during the Christmas period. Shops selling TV's will entice customers with huge deals and discounts, in hopes of attracting customers to purchase their discounted TVs on top of other goods they may get for gift-giving during the festivity.

(c) From the demand-side, consumers are more price sensitive with their turkey purchases during this peak period. This may involve comparing prices of turkey from shop to shop which forces sellers to reduce their prices for turkeys during this peak period to maximise sales.

(d) Another good with a similar demand-side pattern is durians during peak seasons. During these periods, price-sensitive customers look for lower priced durians, forcing sellers to lower their prices.

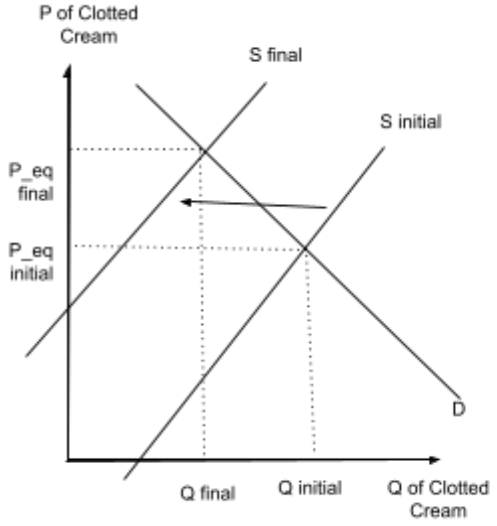
3.

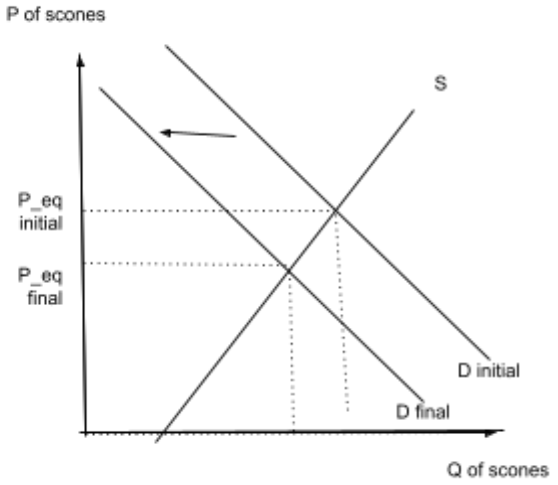
(a) The fall in price of durians is likely due to a massive increase in the supply for durians as a result of the durian season. During the durian season, output per unit factor of production will increase and hence quantity supplied increases at each price, leading to higher supply and thus a fall in equilibrium price. Furthermore, demand is expected to increase, but more likely than not this will cause an increase in price if the supply curve is held constant or shifts less than the demand. Hence we argue that the fall in price is due to a massive increase in the supply for durian such that the supply curve shifts rightwards more than demand.

(b) In line 7, it is written that Durian 26 has seen its “business improve by 20 percent compared to last year”. However, the term business here is ambiguous as it can refer to multiple things: revenue, quantity of goods sold, or even profit. Furthermore in page 2 line 7 “Mr Teo told CNA that supply increased …” which might be incorrectly used as the term quantity supplied should be used instead. Supply in this case refers to the quantity supplied at each price and so it is not quantifiable, whereas quantity supplied is quantifiable and can be physically recorded.

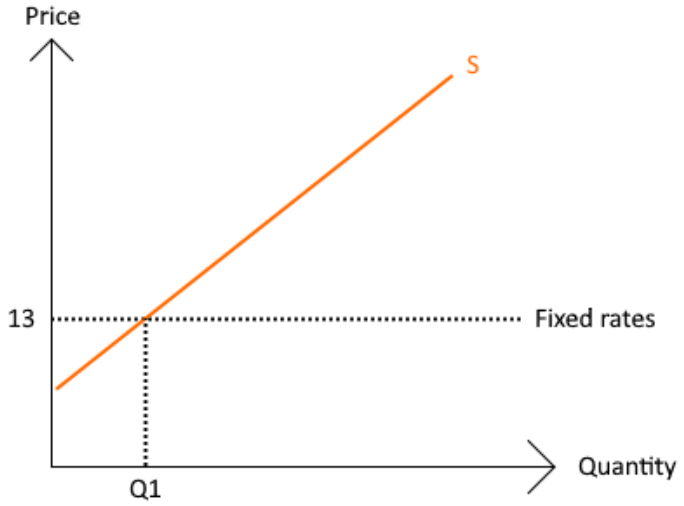
4.

If there was a rise in the price of flours, supply for scones would decrease as flours are one of the main ingredients for scones; there would be a decrease in profitability at each price due to higher costs of production. Assuming demand for scones is held constant, the decrease in scones supply would create a shortage at initial price level which causes the equilibrium price of scones to rise which is not what we want. Therefore, the price of cream should increase. By the same token, supply for clotted cream will decrease and there will be shortage at the initial price level. Assuming demand is held constant, this will cause a decrease in the equilibrium quantity of clotted cream. Since price of clotted cream increases due to increase in supply for clotted cream, consumers consume less scones at each price level as the two are complements; an increase in price of clotted cream would mean that consumers would either have to pay more if they want to consume both or decrease the consumption of scones. Hence there will be a decrease in demand for scones and thus assuming supply for scones is held constant, there will be a surplus of scones at the initial price level and this will result in lower equilibrium price for scones.



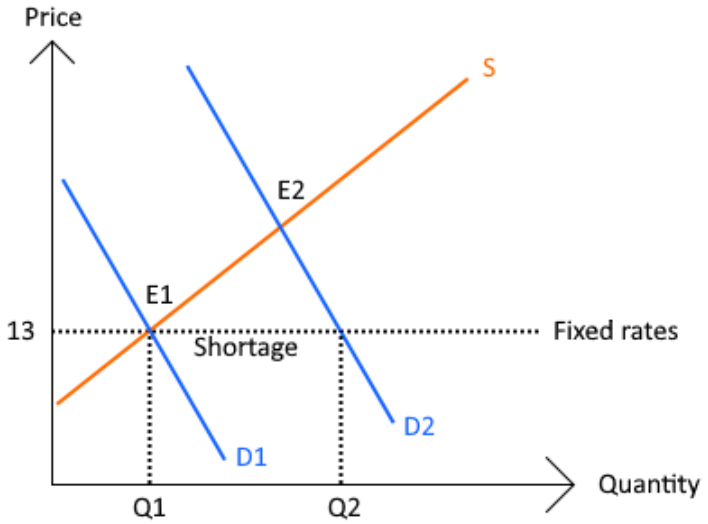


5.a



Without government intervention, the supply curve for taxi services should be upward sloping(S). When the rate is fixed at $13, the quantity of taxi services supplied is at Q1

b.



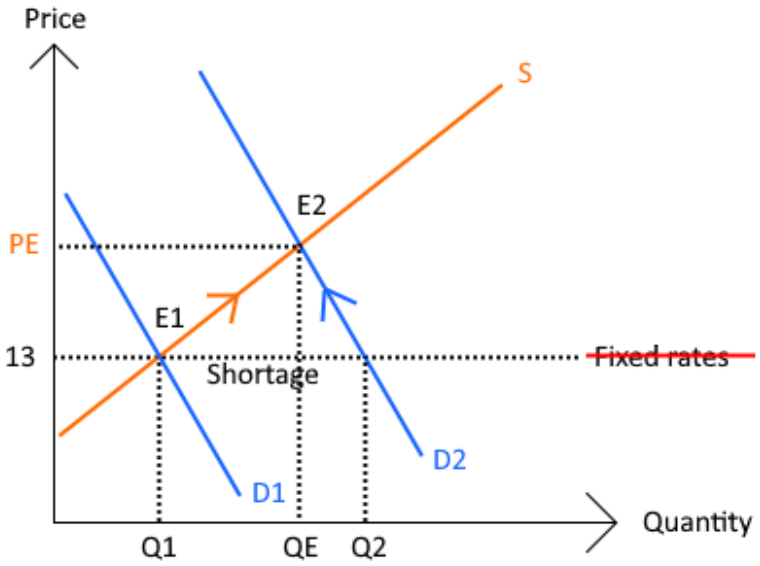
When it's 1am on New Year's Day, the demand for taxi services will increase from D1 to D2 as more people try to hire cabs to get home. Normally, this will cause the equilibrium point to shift from E1 to E2 (shortage as original price of $13).

However, because the price is fixed at 13$, drivers will not be motivated to offer more taxi service(they have to stay up late and possibly give up their own New Year celebration). As

such, the shortage of (Q2-Q1) persists and although it is still cheap to get a taxi, consumers will experience difficulties in actually getting one.

c.

As compared to scenario b, the only difference in scenario c is that the rates are no longer fixed. There are however two sides of the argument: 1.Uber simply removed the price ceiling to allow the equilibrium quantity to increase to the point where shortage is eliminated; 2. Uber is abusing the price inelastic demand for taxi services on New Year's Day at 1am.



Suppose that Uber only sidestepped the government regulations on price ceiling to allow the market to operate more efficiently, the price of $47 would be equals to the equilibrium price. The market will be efficient and both consumer and producer surplus will be maximised.

However, it is also possible that Uber is exploiting the price inelastic demand of taxi services at that particular time. Alternative transport methods are rare at 1am on New Year's Day. This means that for an increase in the price of taxi services, there will be a less than proportionate decrease in the quantity of taxi services demanded by the unlucky travellers. Revenue will therefore increase, and all that Uber did was effectively move the fixed rates from $13 to $47. (assuming that PE is less than $47)

6.a

PED = (%change in Quantity Demanded)/(%change in Price)
= (105-95)/100 / (45-35)/40
=0.4
Inelastic demand
b.

PED = (%change in Quantity Demanded)/(%change in Price)
= (75-65)/70 / (75-65)/70
= 1
Unit elastic demand

c.

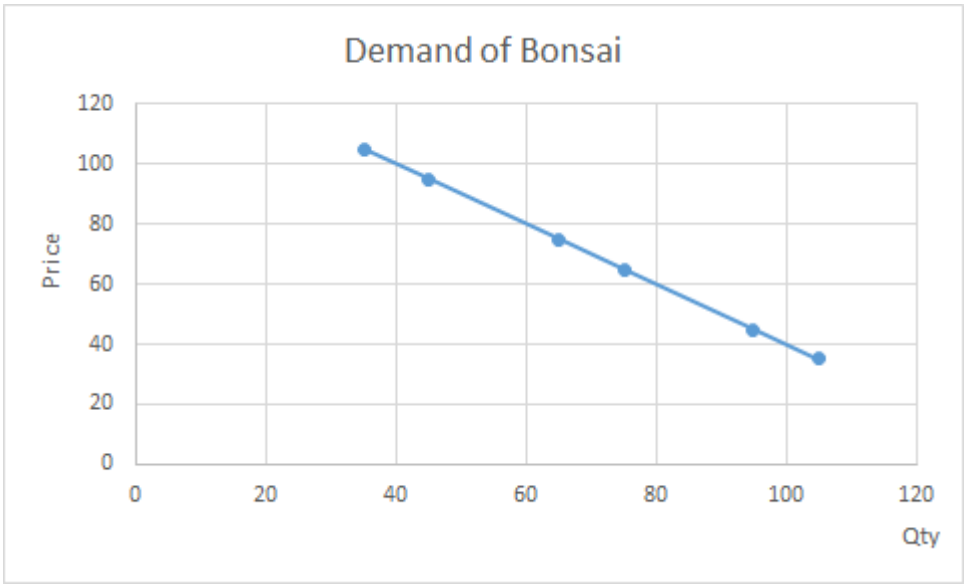
PED = (%change in Quantity Demanded)/(%change in Price)
= (45-35)/40 / (105-95)/100
= 2.5
Elastic demand

d.

Slope (gradient) should be inversely proportional to PED(price elasticity of demand). ie.the steeper the slope, the less price elastic/ more price inelastic the demand. This is because price sensitivity is calculated by comparing the changes in price to the resultant change in quantity demanded., which corresponds to the y and x axis respectively.

e.

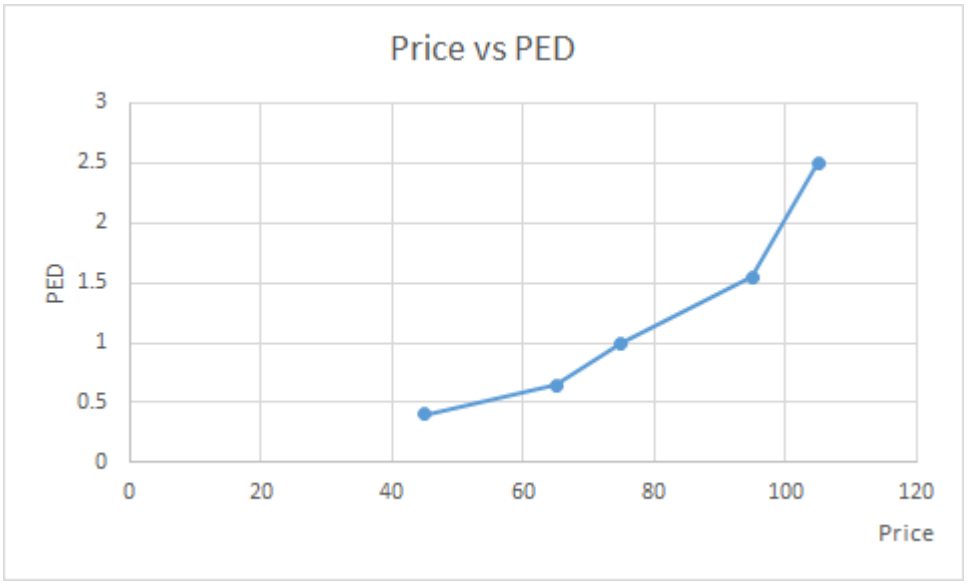
By plotting the demand curve:



The results from part a to c suggest that as the price of bonsai increases, the price elasticity of demand of bonsai also increases. However, graphically the relationship between price and quantity demanded of bonsai seems to be uniform.

This would suggest that the gradient of the demand curve is not equal to the PED of the good. Instead, if a demand curve is steeper **overall**, it would suggest that the demand for that particular good is more price inelastic as compared to other goods.

Plotting the PED:



We can see that as prices increase, the PED of bonsai also increases. This could be because the bonsai is getting more expensive(taking up a larger portion of the consumers' income), therefore at higher prices, consumers will be more sensitive to the increase in price.