**Economics Tuition – Intensive June Revision**

Chapter 2 – Demand and Supply (set C)

**Question 1**

**Explain why the price elasticity of demand differs for different products. (12)**

Introduction

The price elasticity of demand (PED) refers to the degree of responsiveness of quantity demanded to a given change in its price. It measures the percentage change in quantity demanded of a good with respect to the percentage change in the price, ceteris paribus. It is calculated as follows: Price elasticity of demand = % change in quantity demanded of good X / % change in price of good X.

Main Body

It is often noted that the coefficient of PED is always often negative showing the inverse relationship between the change in quantity demanded and the change in the price of good. This implies that an increase in price of the good itself will lead to a decrease in the quantity demanded and vice versa. The PED value can differ under different types of goods due to the nature of demand. The value of elasticity of demand can range from zero to infinity. When the value of elasticity is 0, the demand is perfectly inelastic. When it is less than 1, the demand is inelastic. When the value of PED is equal to 1, the demand is unitary, when the value is greater than 1, demand is elastic. When value is at infinity, the demand is perfectly elastic.

To understand why the price elasticity of demand differs for different products, we must examine the determinants of price-elasticity of demand. One such determinant is the degree of necessity of the good to the consumer. If the consumer feels that the demand for the good is necessary, the increase in price will not affect the decrease in the quantity demanded extensively (less than proportionate). This will mean that the demand is price inelastic. Consumers will feel that the good is necessary to them if it is a habitual and staple consumption, just like the consumption of cigarettes which is an undesirable, cultivated consumption behaviour. For goods that consumer does not consume often, the demand is price elastic (change in price will lead to a more than proportionate change in quantity demanded). For goods such as restaurant dining, the consumer does not see it as a definite need, he will be easily switch to other form of consumption and thus consume less of the dining once given a choice.

Another determinant that explains the difference in price elasticity of demand is proportion of income spent on the good. When the proportion of income spent on the good is small, demand will tend to be price inelastic. Consumer will be more price insensitive in this situation. However, with the proportion of income spent on the good is large, demand will tend to be price elastic, which means that consumers are price sensitive. This can be seen on how consumer buys good like sweets in the provision stores which occupies a small percentage of the consumer’s income and a Plasma TV from an electrical store which occupies a large percentage of the consumer income. It is obvious that the consumer will be more price-sensitive when he buys the Plasma TV.

Besides this, the time period for the consideration of purchase will affect the price elasticity of demand. When the time period for consideration of purchase is longer, the consumer behaviour will have more time to find for alternative choices and tend to switch their choice of consumption more often and easily and thus, the PED will most likely be price elastic. For those who begin their search of holiday tours earlier before the tour, the consumer will have more choices than those who sign up for tour very near to tour date. The first group of consumer will decrease their quantity demanded more extensively if there is a small increase in the price level of the tour offered by the tour agency as they have more alternatives and are not decisive over the given choices.

Lastly, the availability of close substitutes affects price elasticity of demand. When more substitutes are available, the consumer will have more choices and hence, they will change their quantity demanded upon a slight change in price, contributing to a price elastic demand. There are availability of substitutes depending on how the relationship of the goods is defined and the degree of market competition which are affected by the relationship of goods and the number of firms in the industry. In an industry such as tour coaches to Malaysia, the broader definition of transport services with the inclusion of air travels and cruises will expand the availability of transport services, making it easier for consumers to switch to other alternatives if the price increases. However, when the market competition is low as the demand is high during the peak season, it will be difficult for the consumer to look for alternative form of traveling, influencing the PED to become inelastic.

Conclusion

In conclusion, the above information will help to explain why there is different value of elasticity of demand for different products. This will be helpful in helping firms to derive price strategies to maximize total revenue.

**2010 marked a trying time for the airline business. The eruption of the Icelandic volcano caused cancellations of 95,000 flights over Europe. One week later, the BP oil well exploded in the Gulf of Mexico, resulting in the worst oil spill in US history.**

**Using economic analysis, discuss the likely impact of the above events on the airline industry and related markets. [25]**

Introduction

The impact of the eruption of the Icelandic volcano and the BP oil well explosion will contribute to changes in demand and supply for the airline industry. This will affect the market equilibrium which will create changes in the price and output level of the airline industry. Consequently, this will affect other related markets which can be observed through the understanding of the different types of demand and supply.

Main Body

In the airline market, the eruption of the Icelandic volcano will lead to a fall in demand as seen from the cancellations of 95,000 flights over Europe while the explosion in the BP oil well will indicate a reduction in the supply of the airline flight due to higher cost of production when the cost of oil increases as a result of the reduction in the supply of oil which is a critical resource for the production of air flights. The reduction in demand for the air flights will be greater than the reduction in supply of air flight as the fall in demand is based on the whole industry while the cost of oil is only part of the cost of production, implying that the rise in cost of production may reduce supply extensively.

Price of air flights

S0

S1

Diagram 1 – Fall in demand and Fall in supply for air flights

SS is price-inelastic

DD is price-elastic

P0

P1

D0

D1

Qty of air flights

Q0

Q1

As seen from the diagram, the reduction in demand from D0 to D1 is greater than the reduction in supply of aircrafts, creating an excess supply condition. Consequently, there will be a reduction in price of air flight from P0 to P1 and a fall in quantity from Q0 to Q1. The fall in price of air flight is quite extensive as the supply is price-inelastic as it is not easy to reduce flights due to lengthy administrative procedure and strong competition for flight routes. At the same time, the fall in quantity is extensive as the demand is price-elastic, given that air flight is a normal good since the proportion of income spent on the good is large for average consumers

As for related market like hotel accommodation abroad, the reduction in demand for air flight will contribute to the fall in demand for hotel accommodation aboard as the demand for air flights and the demand for hotel accommodation are joint demand or complementary goods. This will imply that there will be a fall in quantity for hotel accommodation abroad due to the fall in demand for air flight.

Price of hotel accommodation abroad

S0

Q1

P1

Diagram 2 – Fall in demand for hotel accommodation abroad

SS is price-inelastic

P0

D0

D1

Qty of hotel accommodation abroad

Q0

As seen from the diagram, the decrease in demand for hotel accommodation abroad will contribute to an excess supply condition, which will contribute to the fall in price of hotel accommodation from P0 to P1 and a fall in quantity for the market of hotel accommodation abroad. The fall in price will be quite extensive when there is a fall in demand for hotel accommodation in this industry as the price-elasticity of supply for hotel accommodation abroad is price-inelastic, given that there is limited supply in the supply of land to build hotels.

As for related markets like other modes of transportation like rail transport, the fall in demand for air flight will induce an increase in demand for rail transport as demand for rail transport and demand for air flight are competitive demand or substitutes. This will then contribute to a rise in the price of the rail transport and increase in the quantity for the market of rail transport as there is an excess demand condition.

Price of rail transport

S0

P1

Q1

D1

D0

Q0

P0

Diagram 3 – Increase in demand for rail transport

SS is price-inelastic

Qty of rail transport

As seen from the diagram, the increase in demand for rail transport due to the decrease in demand for air travel will contribute to an excess demand condition which will lead to an increase in price from P0 to P1. The rise in price from P0 to P1 is quite extensive, given that the supply will be price-inelastic as the supply of rail transport needs long duration of planning and administration and thus, there is limited quantity supply in the short run.

Lastly, the impact of the above events which affect the air aviation industry will also create an impact on the aircraft manufacturing industry as the demand for aircraft manufacturing is a derived demand for air flight. This implies that there will be a reduction in demand for aircrafts when there is a fall in demands for air flights, creating an excess supply condition which will lead to a fall in the price of the aircraft.

S0

P0

Q0

D0

D1

Q1

P1

Price of aircraft

Diagram 4 – Increase in demand in demand for aircraft

SS is price-inelastic

Qty of aircraft

As seen from the diagram, the decrease in demand for aircraft due to the decrease in demand for air flight will contribute to an excess supply condition which will cause the price of aircraft to fall from P0 to P1 and the quantity to fall from Q0 to Q1. The fall in price for aircraft is extensive as the supply is price-inelastic, given that there is a long production period which will make the adjustment of production in short run rigid.

Conclusion

In sum, it can be observed that the above events will affect the market for air aviation industry and related markets through the demand and supply analysis. The understanding of the impact must also consider the concepts of price elasticity of demand and supply.

Question 3

***The economic downturn has forced many food and beverage outlets to compete more aggressively as customer tighten their belts. The Hard Rock Café is usually advertising a recession menu – two set lunches for the price of $12.80 for the price of one – on Mondays to Tuesdays. Even hawker stalls and coffee shops, stalwarts of good, cheap fare, have had to shave up to $1 off to $3.50 meal.***

***The Strait Times, 21 Aug 2001***

**Distinguish between price elasticity of demand, income elasticity of demand and cross price elasticity of demand. (12)**

Elasticity of demand is the measurement of the responsiveness of the change in quantity demanded due to the change in a variable influencing it. These variables are different for all three types of elasticity – The price of the good for price elasticity; the income of the consumer for income elasticity; the price of other goods for cross elasticity. These different concepts can be distinguished from several perspectives as will be seen in this essay.

One differing factor would **be the implications of the co-efficient of the respective types of elasticity of demand**. In the case of Price Elasticity, a negative elasticity would refer to both an inferior good and normal. On the other hand, for income elasticity, the same would refer to an inferior good and for cross elasticity it would refer to a complement good. For positive elasticity, this would refer to a giffen good for price elasticity, normal good for income elasticity and a substitute good for cross price elasticity.

Another differential would be **the factors affecting the value of elasticity of demand**. For price elasticity, the factors that would determine the value of the elasticity of demand would be the time period for decision making, the proportion of income spent on it, the of number of substitutes for the good available in the market and the income of consumers may also affect it. For income elasticity, a consumer’s income would obviously be the biggest factor affecting it. As the consumer’s income increases, the good may turn from luxury to normal and finally inferior. As for cross price elasticity, the nature of the usage of the products would be a major factor such as whether they are complements or substitutes. If the relationship of the two goods is highly interdependent, the value of the cross elasticity of demand would be elastic.

**The usage of the concepts for each concept is different from each other.** For price elasticity, firms may use them to derive price strategies. As for income elasticity, it is mainly used to explain how consumers may respond to a price change as a result of a change in their incomes. Finally, for cross price elasticity, this helps to provide information on market conditions and the relationships of goods.

However, there is a similarity between these concepts as how the **magnitude of elasticity is measured for the 3 concepts of elasticity of demand.** Basically, the bigger the value of the elasticity, the more elastic it is and the smaller the value, the more inelastic it is.

In conclusion, as the 3 concepts of elasticity of demand differ in their influences and implications, the uses of these concepts can be of great use by having a good understanding of these concepts.

**Essay Question 14**

**Crude oil can now be extracted out of the ground at a lower cost of production. In addition, global economic activity has been contracting as a result of the slowdown in China’s economy. This has resulted in crude oil prices falling by more than 50% in the second half of 2014.**

**(a) Explain the likely effects of cheaper crude oil on the market for natural gas and the market for refined oil. [10]**

i) look at the variables that affect the markets

ii) which are the markets that will be discussed (refined oil and natural gas)

Part A) – Analysis of the Question

For this question, students need to understand the following:

1. How to determine the price and output to explain the impact on consumers
2. How the cheaper price of crude oil as a resource will affect the market for refined oil
3. How the impact on the market price of crude oil will affect the market for natural gas
4. Analysis – significant factor – the extent of change in demand and supply and the price elasticity of demand and supply

Introduction ( economic principles / requirements of the question)

In order to derive the understanding of the impact of demand and supply, we need to apply the knowledge of demand and supply analysis and the knowledge of the types of demand to explain the likely effects of cheaper crude oil on the market for natural gas and the market for refined oil.

Main Body

1. Explain briefly on how the market for refined oil will be determined and how the cheaper price of crude oil will affect the market for refined oil

lower the cost of production – resource for refined oil – increase in supply of refined oil – decrease price and increase in quantity demanded – price falls and qty of output increases (draw diagram and description of diagram)

1. Explain how the impact on the market of natural gas will be affected by the cheaper price of oil (affected by the market of refined oil) – **subtitutes**

natural gases and refined oil are substitutes – increase in quantity demand for refined oil will lead to decrease in demand for natural gas (draw and describe diagram)

1. Analysis of the factor in this impact – state that the price elasticity of demand and supply will make the change in price of the good to be sharp while the change in output of the output to be little if both are price inelastic

Conclusion

In sum, the impact of the price of the refined oil will fall while the output for the refined oil will rise and the price of natural gas will fall while the output for natural gas will fall too. The extent of change in the price and output will depend on the price elasticity of demand and supply.

**Essay Question 14**

**Crude oil can now be extracted out of the ground at a lower cost of production. In addition, global economic activity has been contracting as a result of the slowdown in China’s economy. This has resulted in crude oil prices falling by more than 50% in the second half of 2014.**

**(b) Discuss the relative significance of demand and supply factors in determining whether a fall in price of crude oil will be persistent. [15]**

Part B – Analysis of the Question

For this question, students will need to understand the following:

1. The various demand and supply factors that will affect the market for crude oil
2. identify the significance of demand factors – decline of income – affect the demand for oil
3. identify the significance of supply factors – cost of oil
4. make a comparison of the influence – demand is the main source to determine whether production should increase – capacity of production will not increase the output if there is no economic activity – crude oil is a derived demand

Introduction

In explaining the persistent fall in the price and output level in the price of crude oil, there is a need to have a clear understanding of the factors that affect the demand and supply factors that affect the market for the crude oil market. In doing so, it is imperative to know more about the nature of the production and consumption nature of the market.

Main Body

1. Explain the various demand factors that will affect the demand for crude oil
   * income of the consumers – affected by sluggish growth in China
   * nature of consumers’ reliance on consumption of goods that depend on crude oil – usage of cars, consumer goods that are transported (crude is a derived demand)
2. Explain the various supply factors that will affect the supply of crude oil
   * technology like fracking will also lower cost of production
   * availability of resources
3. Analyse why the demand factors will be more significant in the influence than the supply factors in the crude oil market

consumers’ income – that will determine demand – if there is no need of demand – there is no need of supply

supply may be limited by the availability but fracking will increase the supply

* + use PED and PES to explain the significance
  + high degree of necessity of demand for crude oil – essential resource for production
  + fracking increase capacity of production supply is price elastic - easier to match demand

Conclusion

In sum, the price of crude oil is determined by the demand and supply factors and it is clear that the demand factors will be more significant in influencing the price and output level.