

## PJC 2017 H2 Prelim Exam Paper 2 Q1

### Question:

Oil prices have fallen after the OPEC group of oil producing nations said global crude stocks had risen coupled with Saudi Arabia's production increasing to 10.011 million barrels per day from 9.748 million barrels per day. In addition, a weaker economic outlook means demand for oil in 2017 is likely to grow at a slower rate.

Discuss how the above events are likely to impact the market for oil and its related markets. [25]

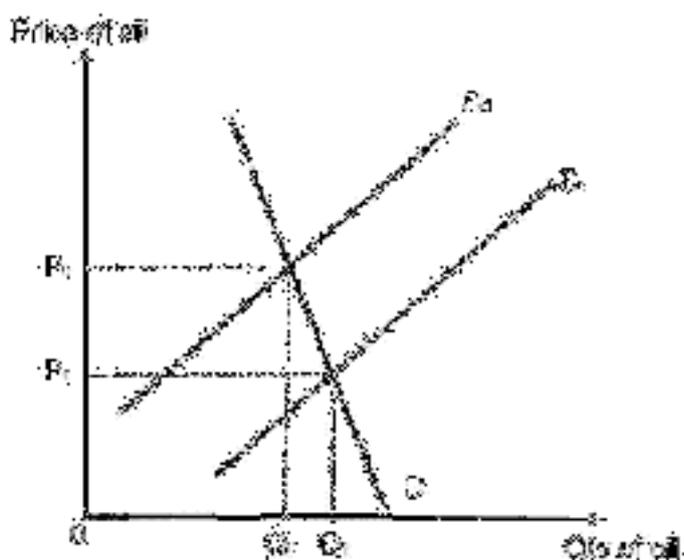
The market for oil works through the forces of demand and supply. Demand refers to the willingness and ability to pay at each and every price while supply refers to the willingness and ability to produce a good at each and every price level.

Hence, if there are any changes to demand and/or supply for oil, the market will be affected and the equilibrium quantity and price will change depending on the extent and direction of the changes in demand and supply. In addition, the price elasticity of demand and supply can also impact the extent of price changes when demand and supply change.

Being an essential factor input that is involved in almost the production of all other goods and services, the change in the price of oil would definitely have an impact on many other markets such as air travel, energy and manufactured goods.

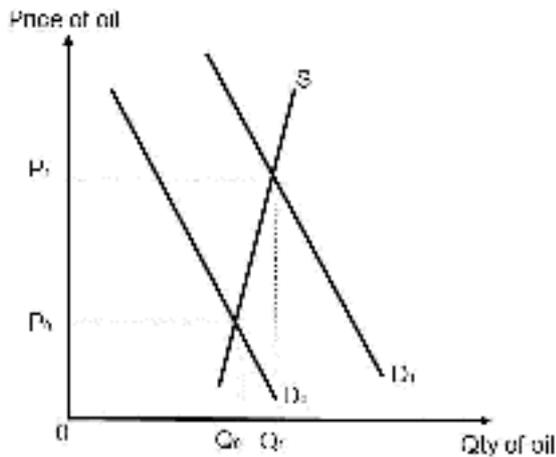
With reference to the preamble, the rise production of oil by Saudi Arabia and slower growth will impact the supply and demand for oil respectively.

With a rise in supply of oil due to the higher production by Saudi Arabia, this will result in a rightward shift of the supply curve. A surplus will occur at the original price, causing downward pressure on price and a subsequent fall in oil prices and an increase in equilibrium quantity. As demand for oil is price inelastic due to the fact that it is an essential factor input used for producing almost all goods and services and a basic commodity, a rise in supply against a price inelastic demand curve will result in a huge fall in its price.

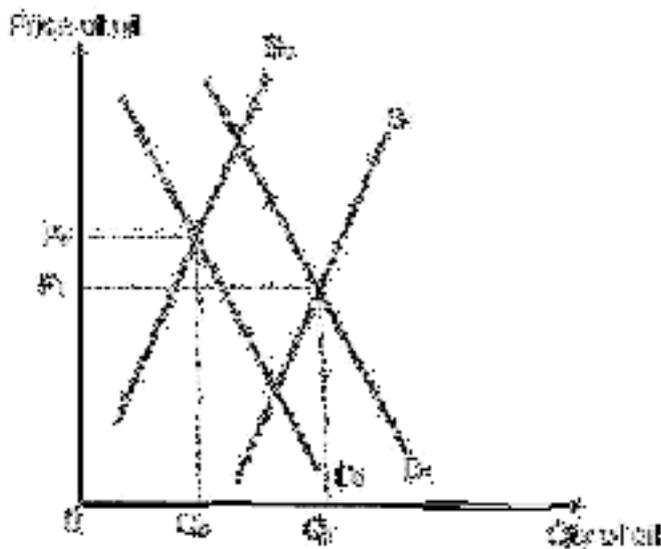


The preamble also mentioned that growth rate is expected to slow down amidst the weaker economic outlook. With slower growth, income levels will rise but at a much slower rate. Demand for goods and services will still increase and this raises the demand for oil as oil is a necessary factor input used in essential areas such as transport and energy. The rise in demand for oil will result in a

shortage at the original price, with upward pressure on price and ultimately causing the equilibrium price and quantity to increase. With supply of oil being price inelastic as it takes a long time to carry out exploration and extraction, the rise in demand against a price inelastic supply will cause the price of oil to rise significantly.



Overall, it is likely that the rise in supply of oil will outweigh the rise in demand as economic outlook is still bleak and many economies' growth rates are only starting to pick up. Hence, taking into account the change in demand and supply factors, the price of oil should fall in conjunction with a rise in equilibrium quantity.



**Evaluation:** The extent to which price of oil may fall might be limited as Saudi Arabia would attempt limit its production in view of the rapidly falling prices. This is because the fall in oil prices will have an adverse impact of the country's economy since oil is one of their main sources of export revenue and it is likely the Saudi Arabian government will intervene accordingly to boost oil prices to minimize the negative consequences of falling oil prices.

One of the markets that would be heavily affected by changes in the oil market would be air travel. Oil is an essential factor input used in the production of fuel and petrol. As oil prices fall, the cost of production for airline will fall as fuel costs take up a huge percentage of their total costs of production. This will result in a significant rise in supply of air travel services, resulting in a fall in equilibrium quantity and a fall in the equilibrium price. In addition, demand for air travel should also rise significantly due to the fact that income levels are actually still increasing and air travel to most consumers are luxurious goods. Thus the overall impact on price depends on the extent of the shifts in demand and supply while equilibrium quantity has increased.

**Evaluation:** The extent to which the price of air travel will be affected by the fall in oil prices might be mitigated by rising costs of labour and other expenses which airlines might incur such as airport taxes. With many developed countries such as Singapore, Japan and UK facing demographic challenges such as an ageing population, labour costs will rise significant and this may have a greater impact on airlines' operating costs. Thus, the net rise in supply for air travel could be limited with opposing factors working against each other.

With falling oil prices resulting in lower fuel costs for airlines, the airlines may see this as an excellent opportunity to expand their operations due to the existence of higher potential profits and offer more routes and choices for consumers. For instance, Scoot has embarked on providing flights to places such as Athens, Honolulu and Osaka. With more marketing and options for consumers, the demand for air travel will increase, leading to a rise in equilibrium price and quantity.

The overall impact on the air travel industry will depend on the extent of the shifts of the demand and supply curves. In the short term, the rise in supply of air travel is likely to outweigh the demand for air travel as expansion plans always take time to materialize and the fall in oil prices seemed substantial and is likely to persist in the midst of weak economic outlook.

Another related market that is affected by falling oil prices would be the energy market.

As oil is an essential factor input used in the production of many forms of energy and fuel such as electricity and petrol, the fall in oil prices would imply a fall in cost of production for energy. This would lead to a rise in supply of energy in the energy market, causing energy prices to fall and the equilibrium quantity to fall. The fall in energy prices could even reduce cost pressures greatly, increasing the short run aggregate supply curve for economies and lead to a fall in cost push inflation.

The impact on the traditional energy market may impact the market for alternative sources of energy such as natural gas. As traditional sources of energy is now cheaper, the substitution effect will reduce the demand for these alternative sources of energy, leading to a lower price and quantity traded in the market.

**Evaluation:** The impact of falling oil prices on the alternative energy market is uncertain. This is because many governments in the world are heavily subsidizing and supportive of the use of such energy sources to combat climate change. The market price of such energy sources may be driven to very low levels through government intervention and despite the fall in traditional sources of energy derived from oil, the demand for alternative sources of energy such as natural gas may not be affected to a large extent.

Falling oil prices will have an impact on the market for manufactured goods and services. As oil has a direct impact on energy prices and energy is required to produce all kinds of goods and services, the cost of production for all types of goods and services will rise. A fall in cost of production will increase the willingness and ability of firms to produce goods and services at each and every price. Supply for goods and services hence will rise. With economic growth, demand for goods and services generally will increase with a rise in income. Similar to the impact stated above, the overall impact on equilibrium quantity depends on the extent of the shifts in demand and supply.

**Evaluation:** However, the extent of the impact of falling oil prices on markets of manufactured goods depends on how much a change in energy price affects the total costs of production of a manufactured good. For instance, using the example of a smartphone, labour costs and electronic components may take up a larger proportion out of its total costs of production compared to energy costs. So, even when energy prices fall due to a decrease in oil prices, the overall positive impact on the costs of production of a smartphone may be negligible.

Lastly, a fall in oil prices will positively affect a related market such as the public transport sector. The fall in oil prices will lead to a fall in fuel costs for public transport providers such as SMRT and SBS Transit in Singapore. As explained earlier, this will lead to a rise in supply and lower transport prices in Singapore with an increase in equilibrium quantity.

**Evaluation:** However, due to recent breakdowns, the public transport operators have strengthened their maintenance regime, which brings about more cost pressures. Therefore, even with a fall in oil prices, public transport fares in Singapore have not been reduced significantly.

Being a crucial essential factor input for producing other goods and service and as a basic commodity, a fall in oil prices will generally create an impact of many other related markets.

However, the extent of the impact is not always very predictable as it depends on government intervention, whether the fall in price of oil is substantial and also whether fall in oil prices is substantial.