

Question:

'Taxi operators in Singapore have raised their fares, citing rising fuel costs and other reasons.'

- a) Using demand and supply analysis, explain the reasons for the increase in taxi fares. (10m)
- b) Evaluate the measures the Singapore government can implement to deal with rising fuel costs. (15m)

Specimen Essay:

A) Fuel Cost forms a significant portion of taxi operators' cost of production. Hence, with rising fuel costs, taxi operators raise their rates to offset the increase in their cost of production, thereby causing supply to fall.

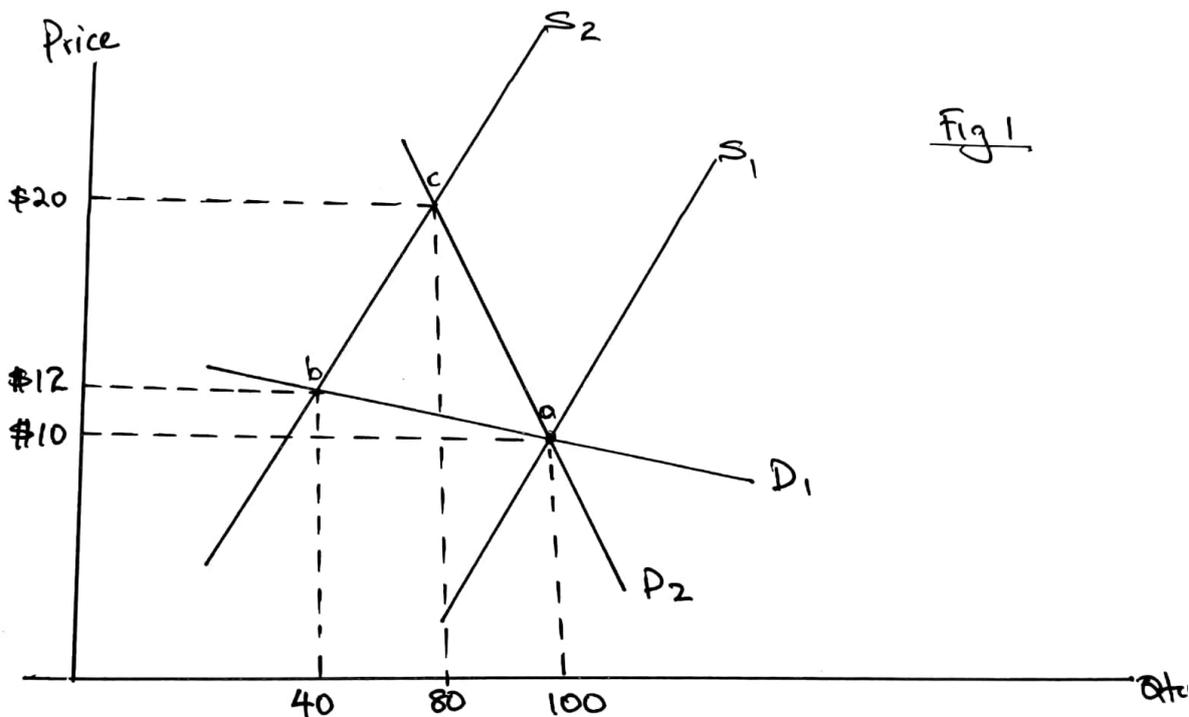


Fig 1

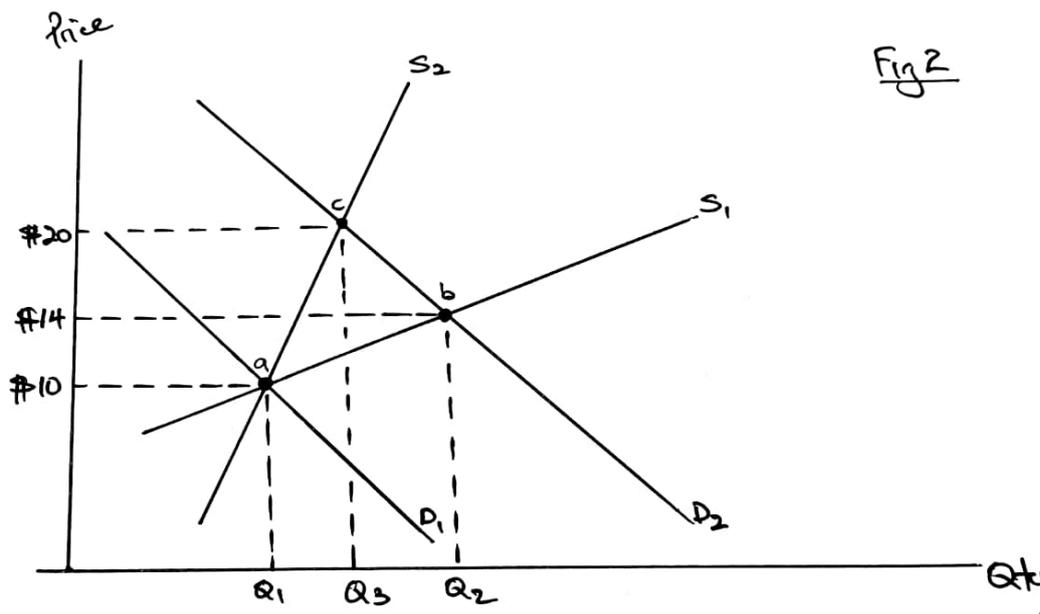
Assume supply falls, shifting S_1 to the left to S_2 .

If demand is price elastic (D_1), equilibrium moves from pt A to pt B. Quantity demanded falls more than proportionately from 100 to 40 units. Price rises only slightly from \$10 to \$12.

However, demand for taxis tend to be more price inelastic (D_2) due to convenience relative to other forms of public transport (eg train, bus) especially to outlying areas after midnight when most public transport services no longer operate.

The same fall in supply causes eqm to move from pt A to pt C. Qty dd falls less than proportionate (100 to 80 units) and price rises more significantly from \$10 to \$20.

In addition, taxi rides are seen as somewhat of a luxury (compared to bus/MRT with higher positive income elasticity of demand). Spore's steady economic growth has increased consumer income, thereby resulting in a more than proportionate increase in demand for taxis.



As demand rises from D_1 to D_2 , eqm moves from pt A to pt B. Taxi fares rise from \$10 to \$14.

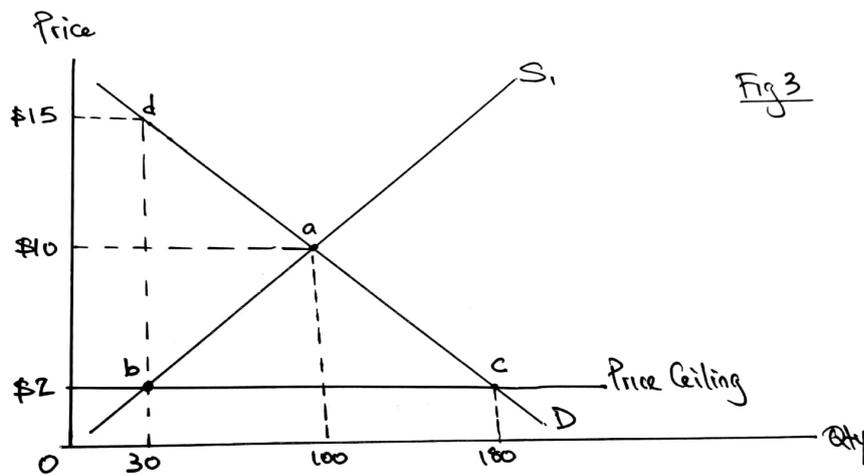
However, supply of taxis in Spore tends to be price inelastic (S_2). This is because taxi licenses are controlled by the government. Therefore, taxi fares rise even higher from \$10 to \$20 instead (pt A to pt C).

In conclusion, the rise in taxi fares is due to a combination of falling supply (due to rising oil prices) as well as rising demand (due to rising consumer income) plus the price inelasticity of BOTH demand and supply of taxis in Singapore.

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B) Fuel consumption is mainly by private motorists (petrol) and taxis/buses/lorries/ other commercial vehicles (diesel). The govt can help offset rising fuel prices in various ways.

It can impose a price ceiling (max price) on fuel



The free market eqm price is at \$10 (pt A). To make fuel more affordable, the govt imposes a price ceiling of \$2. However, a shortage 150 units (BC) will occur. Thus, the govt has to decide how to distribute the limited fuel supplies among consumers eg rationing, first come first served, etc. In addition, a black market may occur, since consumers are willing to pay up to \$15 (pt D) for the limited fuel quantity of 30 units. Thus, black markets actually backfire the govt's initial aim of making fuel more affordable by making it even more expensive.

Secondly, the govt can provide fuel subsidies (or reduce current fuel taxes) to lower fuel prices.

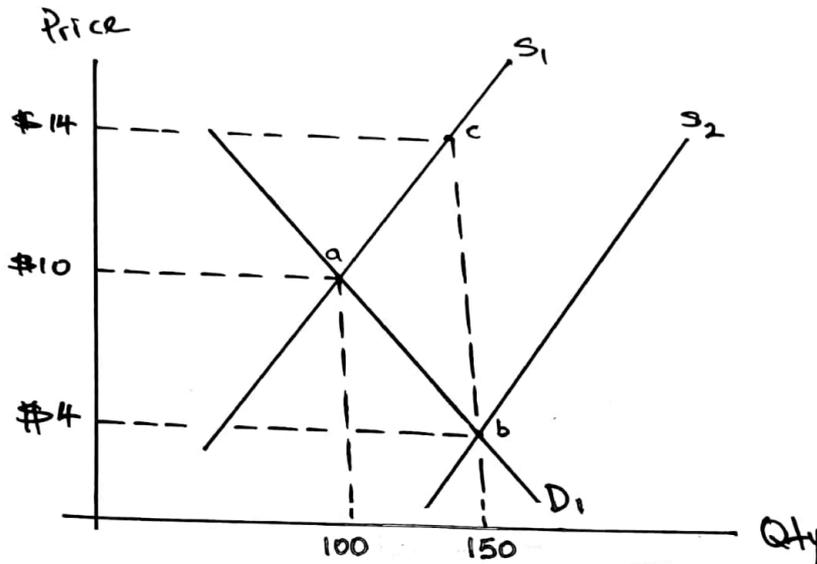
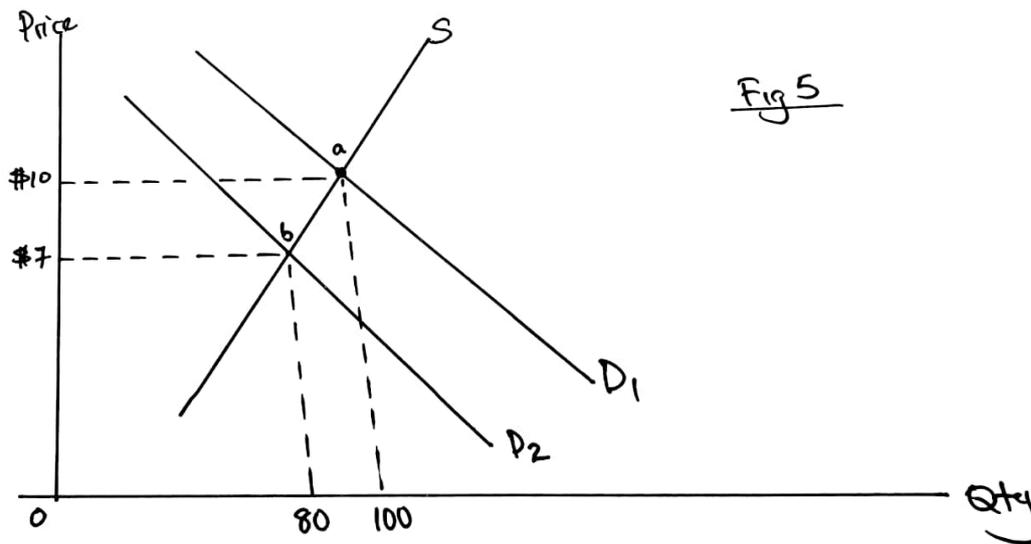


Fig 4

With fuel subsidy of \$10 per unit, operating costs fall, thereby increasing supply from S1 to S2. Eqm moves from pt A to pt B. Fuel prices fall from \$10 to \$4 and qty demanded rises from 100 to 150 units. However, the total subsidy cost to the govt ($\$10 \times 150 = \1500). The govt may need to divert funds from other important areas eg healthcare, education, public housing etc to finance such subsidies. Also, fuel subsidies tend to benefit the high income groups more since they have higher fuel consumption (eg large cars) compared to low income groups (eg motorcycles). Hence, such subsidies may actually worsen the income inequality in the country.

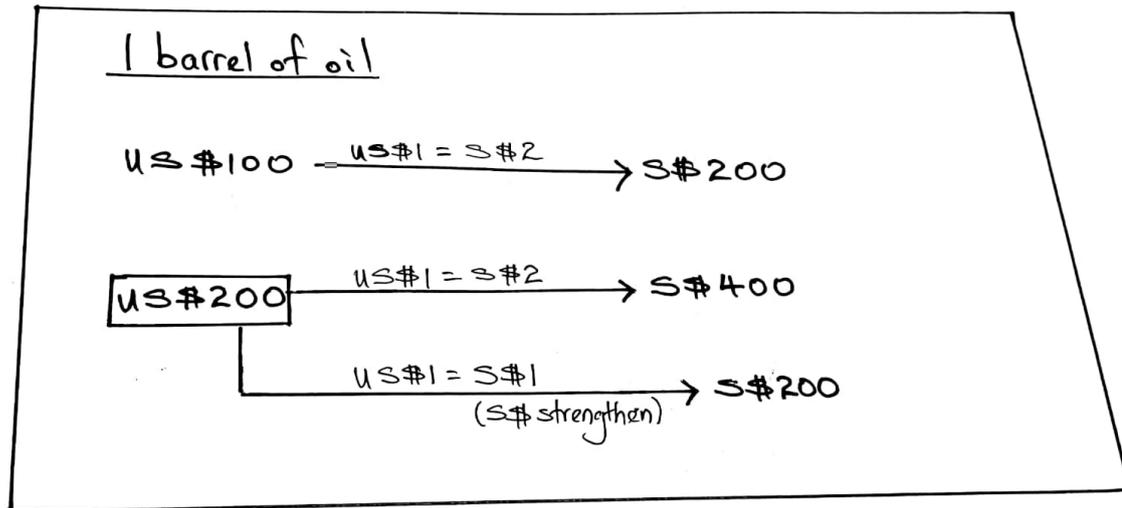
Thirdly, the govt can help to introduce cheaper fuel alternatives eg CNG, biodiesel, electric cars etc. This will lower demand for conventional fuel (petrol/ diesel).



As demand falls from D_1 to D_2 , eqm moves from pt A to pt B. Fuel prices fall from \$10 to \$7, making fuel more affordable. However, motorists may not be so willing to switch over to such alternatives due to scarcity of filling stations, high initial cost of necessary conversion kits, etc. Thus, the demand may not fall as much as hoped for.

Similarly, the govt can subsidise public transport services eg buses, MRT etc. This will encourage more private motorists to switch over to public transport, thereby decreasing the overall demand for fuel. However, public and private transport are not close substitutes, having low positive cross elasticity of demand due to the convenience, status symbol of private transport. Hence, demand for fuel may not fall much.

Lastly, the spore govt can strengthen the S\$ against the US\$. Since oil prices are in US\$, a stronger S\$ will help offset the rising international price of oil.



Initially, oil price is at US\$100 (=S\$200)
 Assume crude oil prices rise tremendously from US\$100 to US\$200 per barrel. At current exchange rates, oil prices in S\$ rises accordingly from S\$200 to S\$400. But if the S\$ strengthens (or US\$ weakens) from US\$1= S\$2 to US\$1 = S\$1, then crude oil prices will still remain unchanged at S\$200. Thus, a stronger S\$ can help cushion the impact of rising global oil prices for Singapore consumers.

However, when the S\$ strengthens, it causes Spore-made exports to become more expensive in foreign markets. This will hurt export revenue and affect Spore's economic growth especially since Spore is an export based economy.

In conclusion, govt intervention can help reduce the impact of higher oil prices, up to a certain extent. To be more effective, the govt needs to pursue more long term policies eg energy conservation, increasing fuel efficiency etc.

=====The End=====