MERIDIAN EDUCATION

Government Intervention

Taxes, subsidies and price controls

TOPIC 1.3 | SAMPLE ESSAYS

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- Indirect tax incidence and PED
- Agricultural subsidies and stakeholder effects
- Price ceiling and price floor evaluation

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Level-7 Econ Sample essays written by Ryan Reagan
Written by Ryan Reagan- the most popular IB Econ strategist in the world
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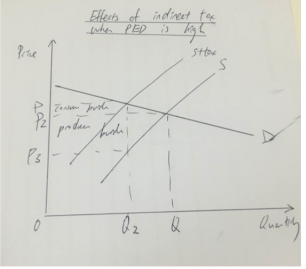
Topic 1.3: Government intervention

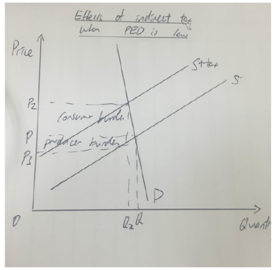
Question: Explain how PED influence the effects of an indirect tax
(10 mark)

Sample Level-7 Answer:

PED is a measure of the responsiveness of quantity demanded to change in price. Indirect tax, on the other hand, is a tax on expenditure. An example is a 2 dollar tax on each package of cigarettes.

The effects of an indirect tax on a good with high PED and on a good with low PED can be shown in the two diagrams below.





After a tax is imposed, there is a higher cost of production for producers, leading to a leftward shift of the supply curve. As supply curve shifts left, equilibrium price increases to P2 while equilibrium quantity decreases to Q2.

PED influences the effects of an indirect tax in 3 ways. Firstly, if PED is high, the indirect tax will be more effective in reducing the quantity demanded of a good. This is because consumers are more responsive to price change. Hence, as the price increases, there will be a greater fall in quantity demanded. If PED is low, the fall in quantity demanded will be less. For example, an indirect tax tend to only have a small effect on reducing quantity demanded for cigarettes due to low PED. Secondly, PED influences the consumer and producer burden of the indirect tax. When PED is low, consumer burden tend to be higher. This is because consumers are less responsive to changes in price and producers can increase price more to pass on a greater tax burden to consumers. In the case of cigarettes, consumers tend to have most of tax burden as there is a low PED. Thirdly, PED influences the amount of tax revenue that the government can collect from the indirect tax. If PED is low, tax revenue will be greater. This is because there is only a small decrease in quantity demanded. Consequently, the government can collect tax revenue on a large quantity of goods. In the case of cigarettes, tax revenue tend to be high because many smokers will continue smoking even after the imposition of the indirect tax.

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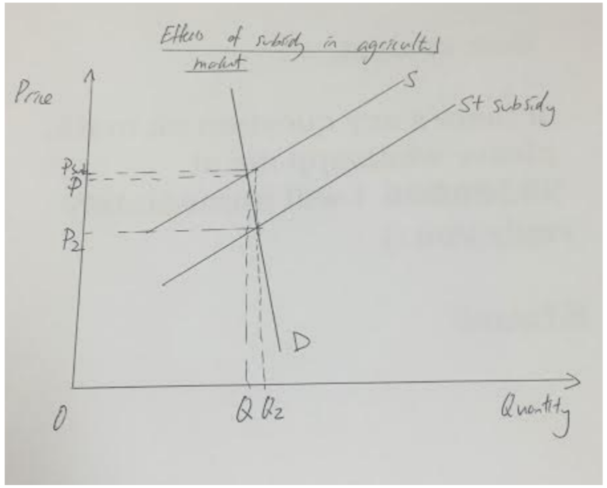
Question: Evaluate the view that agricultural producers should be subsidized. (15 marks)

Sample Level-7 Answer:

A subsidy is a grant from the government to producers in order to lower cost of production and to lower price for a certain good or service. The effects of a subsidy on an agricultural good can be shown in the diagram below.



After a subsidy is imposed, cost of production for producers fall, which lead to a rightward shift of the supply curve. This then leads to an increase in equilibrium quantity and a fall in equilibrium price. It is important to note that since agricultural goods are necessities, they tend to have a low PED. Since PED is low, after the subsidy is imposed, there will be a significant drop in price for consumers, but only a small rise in quantity demanded.

There are a number of advantages of subsidizing agricultural producers. Firstly, it lowers equilibrium price, which will lead to lower cost of production for food. Since food is a necessity, a subsidy will increase the disposable income of consumers and contribute to higher living standards. Secondly, as shown in the diagram above, the supply and quantity demanded of food will rise after the subsidy. Hence, it can be argued that a

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subsidy can help to ensure a stable a sufficient food supply and thereby help to reduce poverty. Thirdly, revenue for producers will also rise. Before the subsidy, producers revenue is PxQ. After the subsidy, they receive the price of Psub and sell a quantity of Q2, which leads to a revenue of Psub x Q2. It is important to note that farmers often suffer from low living standards, because the supply of agricultural goods tend to be unstable and prices tend to fluctuate significantly. This makes it difficult for farmers to plan investment in health and education to improve living standards. Hence, one may argue that governments should subsidize farmers in order to improve their standards of living.

The main disadvantage of a subsidy is that it incurs a high cost on the government. This will lead to an opportunity cost because the government must cut back on spending on other areas. For example, government may need to reduce spending on healthcare. Ultimately, whether to impose a subsidy on an agricultural good depends on a number of factors. Firstly, it may depend on the type of agricultural good. Some agricultural goods, such as wheat, are used to produce neccesities such as rice. For such agricultural goods, a subsidy will be more justifiable because a reduction in price for a necessity can bring a significant improvement to standards of living. Agricultural goods that have positive externalities, such as organic healthy crops, should also be subsidized. This is because increase consumption of goods with positive externalities can lead to a welfare gain. Another factor that the government should consider is the current affordability of agricultural goods. In some countries where income is low, such as Philipines, governments often subsidize important agricultural goods to reduce poverty. However, in more developed countries, there may be less of a reason to subsidize agricultural goods. Moreover, some countries such as Japan also impose subsidies to protect their farmers who will suffer without a subsidy due to fierce international competition. In cases where farmers suffer low living standards without government protection, the benefits of a subsidy may also be more significant.

In conclusion, a subsidy for agricultural goods will benefit both consumers and producers in the market. However, there is an opportunity cost for the government. A subsidy on agricultural products means that there must be less spending on another area. The government should carefully consider the type of agricultural good and the current living standards of consumers and producers to decide whether a subsidy is worthwhile.

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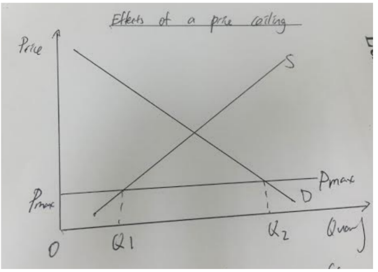
Question: Evaluate the view that price ceilings and price floor often lead to undesirable side effects. (15 marks)

Sample Level-7 Answer:

Price ceiling is a maximum price control where the government sets a legislation in which prices can only be lower than a specific level but not higher than a specific level. Price ceilings are generally used to lower the price of certain necessities to help consumers. For examples, some countries may impose a price ceiling for food. A price floor, on the other hand, is when a government sets a legislation in which price can be higher than a specific level but not lower than a specific level. Price floors are generally used to protect producers by increasing their profit margins. For example, some countries may impose a price floor for agricultural goods to protect farmers. Another example is minimum wage to protect low skilled workers.

It is true that a price ceiling can often lead to undesirable consequences. The market effects of a price ceiling can be shown in the diagram below.



After a price ceiling is imposed, the market price drops to a level below equilibrium. There will be an increase in quantity demanded and a fall in quantity supplied. This leads to a shortage in the market by Q2-Q1. In this situation, producers will suffer a loss in revenue in profits as the quantity supplied and price both falls. Lower revenue by producers may lead to unemployment. The government may also suffer, because in order to monitor and enforce compliance to the policy, a cost will be incurred. There will be an opportunity cost to implementing such a policy, because the government will need to cut back on spending on other areas such as healthcare and education. For consumers, although they can purchase the good at a lower price, they will likely have less access to the good. This is because the quantity demand is now higher than the quantity supplied. In other words, some consumers who are willing and able to buy the good at the market price will not be able to buy the good because of a shortage in quantity supplied. For example, a price ceiling for rice can actually increase poverty in a country, because it discourages

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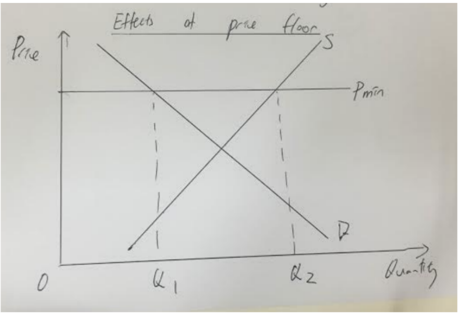
producers from producing rice. The shortage also represents a source of inefficiency in the market, because the price ceiling prevents the shortage from clearing and the market from reaching equilibrium. Moreover, the price ceiling will lead to a fall in consumer surplus to only triangle A and the producer surplus will fall to triangle B. This represents a loss in social surplus by triangle C.

A price floor on the other hand, can also lead to many undesirable consequences. The effects of a price floor can be shown in the diagram below.



After a price floor is imposed, the market price will rise to Pmin, which is above equilibrium. The higher price increases quantity supplied in the market and reduces quantity demanded. There will be excess supply by Q2-Q1. For consumers, there is a negative impact as prices rise. In the case of minimum wage, firms will suffer higher costs of production and lower profitability as a result of minimum wage. For producers, although price is higher, the quantity demanded is also less. Hence, whether total revenue rise would depend on the price elasticity of demand (PED). If PED is lower than 1, the percentage increase in price will exceed percentage fall in quantity demand, leading to a rise in revenue for producers. If PED is higher than 1, the revenue will fall as the percentage fall in quantity demanded will exceeded the percentage rise in price. Another potential negative consequence on producers is that the increase in price will cushion inefficiency as producers are guaranteed a higher price. The excess supply also represents an inefficiency caused by the price floor because the price floor prevents market price to fall in order to clear the surplus. Moreover, there is a fall in consumer surplus to triangle A and a fall in producer surplus to triangle b, resulting in a loss in social surplus by triangle C. In the case of a minimum wage, unemployment also tends to rise because the increase in market wage will lead to excess supply of labour.

In conclusion, the costs of price controls tend to outweigh its benefits. In both a price ceiling or price floor, there is a loss in social welfare. Hence, in the real world, government will only consider using price controls in extreme conditions to protect certain stakeholders. For example, in Hong Kong, low skilled workers cannot afford basic

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necessities. Hence, despite of the potential negative consequences, minimum wage policy was implemented in 2011.

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