1. Singapore government is set to raise GST from 7% to 9% sometime between 2021 and 2025, depending on the state of the country's economy / economic growth. It will also increase the GST Voucher cash pay-outs when the GST is increased, to provide more help to lower-income households and seniors.

Source: Straits Time, 20 February 2018

Discuss how the combination of an increase in GST and rising economic growth might affect expenditure by consumers on different types of products. [25]

#### Approaching the question:

- **Unpacking** the effects of each change in question:
  - Using PED to explain the effects of GST on consumer expenditure (CE) on different types of products e.g. luxury goods and necessities.
  - Using YED to explain the effect of higher economic growth on CE on different products.
- Weighing/considering the effects of concurrent changes (of both GST and economic growth increases), making considered conclusions on whether CE will rise or fall.
- Evaluation will include factors that will contribute to the outcomes, such as government's mitigation measures to help lower income households deal with effects of GST rise.

#### Introduction

- Consumers' total expenditure is the product of price and quantity bought (price x quantity demanded). Price is determined by the demand and supply of the good. Demand is the willingness and ability to pay for a goods at given prices at a given time ceteris paribus.
   Supply on the other hand is the producer's ability and willingness to sell or produce the good at given prices in a period of time ceteris paribus.
- The **overall effects** of the combined changes of higher GST and economic growth on different goods **depends on these two critical forces**:
  - Whether demand for a good is price inelastic or elastic in demand
  - Whether demand for a good will rise or fall in response to higher earnings from higher economic growth
  - The extent of change in demand from income change

# Considering how GST affects CE on different products: CE will rise if demand for good is price inelastic, vice versa for those goods with price elastic demand

- **GST** is an indirect tax paid through the producers / sellers on the consumers' behalf. An Increase in GST by 2% will cause **SS curve to pivot out to the left**, shifting upward and the gap between old and new SS curves is larger for higher prices as GST is in percentage. This supply shift will cause prices to rise towards higher equilibrium points and quantity will fall towards lower equilibrium points.
- Prices will tend to rise more for products or consumers which are less sensitive to price increases. The impact of higher GST on CE arising from the increase in price can be explained by using the concept of price elasticity of demand (PED).
- PED refers to the degree of change in quantity demanded in response to a change in the price of the good. PED differs between goods and for a specific good, between consumer groups, determined by **extent of substitutes, importance in consumption and consumers' income.** Differentiate between price elastic and inelastic demand. Demand for

necessities such as food products can be considered price inelastic, while demand for nonessentials such as electronic products and luxury goods can be considered price elastic. Also, PED of food products will be lower for higher income consumers as the expenditure takes a smaller proportion of their income, while the PED will be higher for lower income consumers. Demand for high end products which have niche markets can be considered price inelastic as these goods have limited substitutes, offer high quality, cater to high income market, hence consumers' demand for them will not be responsive to price change.

• For a given increase in GST, equilibrium price will increase more than the equilibrium quantity if demand is price inelastic. This steep increase in price will have strong influence on CE, resulting in rising CE. For price elastic demand, while equilibrium price will still go up, the increase is to a smaller extent than the decrease in quantity demanded. The more significant fall in quantity demanded will push down CE, resulting in lower CE.



- As seen from figure 1 above, a leftward shift in supply curve due to the increase in GST causes a larger increase in price of goods with inelastic PED like food (to P<sub>3</sub>) than the increase in the price of products with price elastic demand (to P<sub>2</sub>).
- Generally, goods with price inelastic demand, whether due to their characteristics or the income level of consumers will see CE rising due to increased GST. With price inelastic demand, sellers have greater ability to transfer the GST increase to consumers.

# Considering how economic growth affects CE on different products: CE will rise for goods with positive income elasticity of demand (YED), vice versa for those with negative YED

- Economic growth is the **rate of increase in GDP**. GDP is the monetary value of goods and services produced in a country within a period. Higher economic growth means GDP rises at a larger rate of increase. This can make possible job creation and rising household earnings. With higher earnings, households' purchasing power to consume goods and services will rise too.
- Impact of economic growth on CE can be explained using income elasticity of demand (YED). It refers to the change in demand arising from a given change in income. Goods with positive YED are normal goods, which means demand will rise. For inferior goods, demand will fall and YED is negative because consumers switch to consuming higher quality goods or non-essentials. YED can be elastic or inelastic depending on whether income change or demand change is larger proportionately.
- Effect of higher economic growth on CE depends on whether YED of the product is positive or negative.

- Normal goods such as luxury goods or goods of higher quality will likely have positive YED. With increase in income, demand will increase, likely leading to a rise in CE.
- Inferior goods such as imitation leather bags, however, have negative YED because consumers are likely to switch to better quality goods i.e. demand and CE fall as income rises.
- Hence consumer expenditure on normal goods such as luxury products increases with rising income, whereas consumer expenditure on inferior goods falls when the consumers' income rises.
- The extent of the change in demand, **depends on the magnitude of YED of the different products. For both normal and inferior goods, they can have elastic or inelastic income elasticity.** Students should use examples to illustrate what kind of normal goods will have high or low income elasticity, e.g. cheaper luxuries such as restaurant meals can have higher positive income elasticity due to their affordability, compared to more expensive and less affordable luxuries such as cars and private housing.

# Considering the combined effects of GST hike and increase in economic growth [putting together how PED and YED determine net outcomes in CE]

- GST hike can cause households having to spend more in their expenditure on various goods and services. However, with the GST hike taking place during the same period of higher economic growth, changes in CE for different goods and services is also due to shifts in pattern of consumption. Higher purchasing power can cause consumers spending more on higher quality goods.
- **CE** will more likely increase for goods which are price inelastic in demand and with positive YED. These can be goods with some degree of brand loyalty and the quality is high enough to pull in more demand due to the income rise. The higher the extent of the positive YED, the greater the increase in demand, therefore, the greater the increase of CE sellers will receive.
- On the other hand, there can be necessities with price inelastic demand and yet becoming inferior goods when income rises. For these goods, CE may in fall. These can be lower end grocery products, such as house brands by supermarket chains. When household income rises, consumers switch to better and more expensive goods. With this switching, although the price inelastic demand will lead to a hike in price, but the switch towards better quality products or brands actually causes a significant drop in demand, leading to an overall drop in CE.

# Evaluation: there are many factors that will determine the PED and YED outcomes of consumer demand, consequentially the changes in CE

- Although this answer refers to house brands as examples of goods with inferior goods, for which due to price inelastic demand the CE can rise but due to negative YED the CE can fall, hence causing the potential of falling CE overall, it is possible for **some house brands to have positive YED** because of reasonable quality they offer to consumers. Lower income households which may make up the majority consumer group may also lack the ability to switch to better products in spite of income rising hence they simply demand more of these products.
- How well sellers can achieve rising CE from rising income depends on how well they are improving the range and quality of their products to make these positive and income

elastic demand in nature. With Singapore government pre-emptying earlier about GST hike, sellers that can improve their marketing and branding strategies to take advantage of rising income to draw in consumer demand and raise CE.

- How large the impact of rising income on consumer demand **depends on how much the increase in wages**. Higher GDP growth does not necessarily translate into significant pay rises for households. The increase in household earnings can also be uneven, it could be the higher income employees getting more pay increase, hence it is the goods and services consumed by these employees that will more likely see rising CE.
- Higher economic growth can also lower PED. Consumers become less sensitive to price increases due to buoyant economic performance, hence sellers more readily increase prices with GST hikes knowing that their total revenue or CE will rise. This means that there is a greater likelihood that CE for many goods and services will rise.
- Effects on CE are also influenced by government policies. The Singapore government has promised to increase the GST cash pay-outs to the lower income group to help with the rising prices caused by the GST hike. The GST cash pay-outs will increase their disposable income to help them cover the higher expenditure on the various products.
- **CE** also depends on sellers' corporate social responsibility in their pricing decisions. As in the case in 2007 when the GST was increased from 5% to 7%, some big firms like the supermarket NTUC FairPrice absorbed the GST increase for the first few months, cushioning the effect of the increase in price for their customers. If this is done in the next GST hike, and it happens during strong economic growth, impact on CE will be more determined by income change rather than the GST hike.

#### <u>Note</u>: Answer to pick on just a few of these evaluation factors for discussion in order to provide depth and not mere listing.

#### <u>Synthesis</u>

- The GST hike will have a **more significant effect on the lower income group** than on the middle and higher income groups since GST has a regressive impact, taking a larger proportion of the earnings of lower income households. Hence the need for government GST pay-outs help them cope with rising expenditure.
- YED will determine the extent of the change in demand due to the economic growth. Products of better quality and purchased by higher income groups are likely to see a larger increase in CE than lower range ones.
- GST hike would cause a larger price increase for products with more inelastic PED. Consumer expenditure on these products will be even higher with a simultaneous increase in demand due to income rise.
- Generally, a combination of rising income growth and GST hike leads to CE rising on the various goods, but the extent of the increase in CE is determined by the PED and YED of the different products.

Knowledge, Understanding, Application and Analysis		
Level	Descriptors	Marks
High L3	<ul> <li>Conceptually accurate, precise and well-developed analysis of combination of increase in economic growth and GST hike, with strong contextualization to Singapore context</li> </ul>	19 – 21
Low L3	<ul> <li>Conceptually accurate and developed analysis of combination of increase in economic growth and GST hike, with strong contextualization to Singapore context</li> </ul>	15 – 18
	<ul> <li>Sound market analysis – bringing together both shifts and elasticity concepts (PED &amp; YED) in examining the combined effects of GST hike and higher economic growth on CE of different products.</li> </ul>	
	<ul> <li>Answer shows sound clarity of understanding of the difference between nature (positive or negative) and extent (elastic or inelastic) of YED</li> </ul>	
	<ul> <li>The explanation may be better in certain products but not as detailed in the other products.</li> </ul>	
High L2	• Conceptually sound in the explanation of demand and supply shifts due to economic growth and GST respectively.	13 – 14
	<ul> <li>Use of PED and YED in determining consumer expenditure on various goods but weak in application of either of these two concepts.</li> <li>Some attempt at application to Singapore context</li> </ul>	
Low L2	• Answer <b>only uses demand and supply shifts</b> to explain combined effects of GST and income change, instead of PED and YED.	10-12
	<ul> <li>Answer refers to PED or YED but to a limited extent</li> </ul>	
	Not addressing to Singapore context	
L1	Answer is largely descriptive and lacks economic analysis (e.g. not referring to demand and supply concepts), OR	5– 9
	<ul> <li>Some attempt at using demand and supply framework to answer the question, but no application of elasticity concepts in considering the combined effect if GST hike and rise in economic growth on consumer expenditure on different products.</li> </ul>	
	Major conceptual errors	
	<ul> <li>Answer is largely irrelevant or inaccurate, may contain some incidental points</li> <li>Major conceptual errors</li> </ul>	1-4
	Evaluation	
Level	Descriptors	Marks
E3	• Recognizing the significance of some factors such as sellers' and government's responses in influencing the effects of the concurrent GST hike and rising economic growth. Examples:	4 – 5
	<ul> <li>Essay considers the factors which influence how PED and YED will vary between different products or between different consumers.</li> <li>Essay identifies how the impact on CE is also dependent on government's mitigation measures for lower income or sellers' corporate social responsibility in their business strategies</li> </ul>	
E2	<ul> <li>Evaluative statements are made, but they remain largely unsubstantiated.</li> <li>Essay may lack a well-reasoned judgement as synthesis</li> </ul>	2 – 3
	<ul> <li>Essay considers how the nature of PED and YED determines effects on CE but without probing deeper the factors that cause these different circumstances</li> </ul>	
E1	Simplistic evaluative statements without judgement.	1