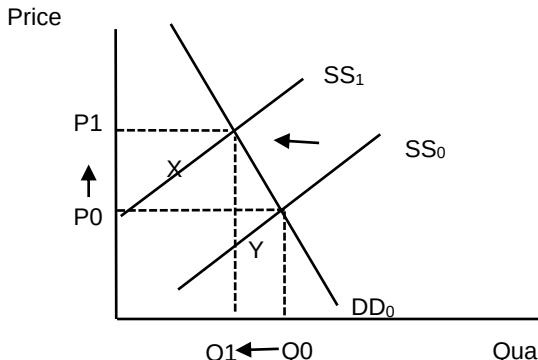
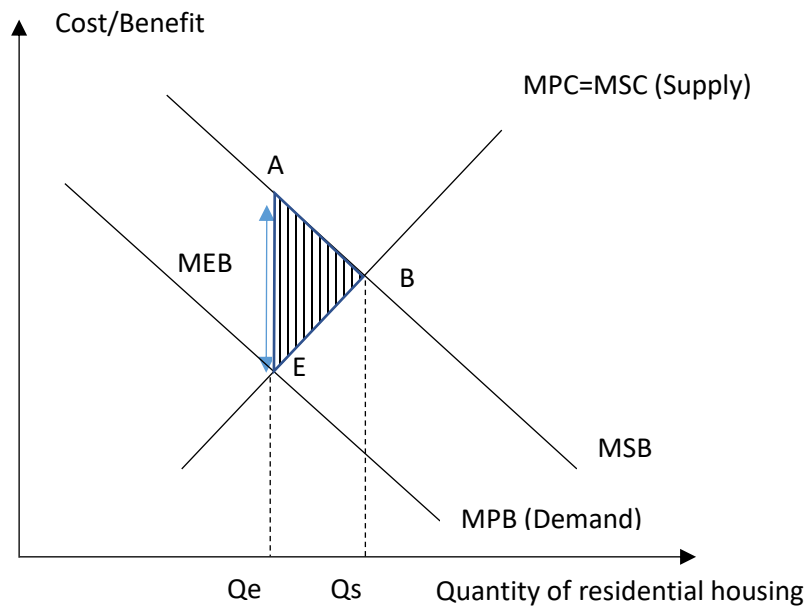


H1 GCE A Level Examinations 2022
Question 1: The Housing market – Global perspectives
Suggested Answers

(a)	With reference to Figure 1, compare the trend in the real house price index for Singapore with that of Germany and Turkey over the period shown.	[3]
	The real house price index for both Singapore and Germany generally increased over the period shown [1], while that of Turkey fell over the period shown [1]. The increase in real house price index for Singapore is larger than for Germany[1].	
(b)	With reference to Extract 1, explain how well-functioning housing markets where the 'consumer is sovereign' can affect the supply of houses.	[4]
	In a well-functioning housing market, the price mechanism performs the signaling and incentive functions and thus solves the problem of resource allocation. In a market, there is consumers' sovereignty. This means that consumers would determine how resources are to be allocated based on their willingness and ability to pay and this in turn would affect the supply of housing. Thus, housebuilding firms would respond to changes in housing prices brought about by changes in demand. Cities are growing at unprecedented rates coupled with a growth in their population sizes. This leads to an increase in demand for housing. The increase in demand results in a shortage of housing. Consumers will compete for the limited quantities available and offer higher prices. The higher price signals to firms that there is a shortage of housing. It also provides a "financial incentive" for firms to increase quantity supplied of houses as they become more profitable. Price continues to increase until a new market equilibrium is attained. We can thus see that where consumer is sovereign, the quantity of houses supplied would increase with an increase in demand.	
(c)	Using price elasticity of demand, explain how 'an increase in stamp duty' (Extract 2) is likely to affect total expenditure on private housing.	[5]
	The increase in stamp duty would cause an increase in the cost of production for housebuilding firms, as it is a tax they must pay on the sale of a house. As cost of production rises and hence fall in profitability, the supply of private housing will fall. This is represented by a leftward shift of the supply curve from SS_0 to SS_1 in fig. 1. This fall in supply resulted in shortage and an increase in equilibrium price (P_0 to P_1) and a decrease in equilibrium quantity (Q_0 to Q_1).	

		 fig. 1: Market for Private housing The demand for private housing tends to be more price inelastic, as a 12% increase in prices has led to a less than proportionate decrease in the quantity demanded (Ext 2). The increase in consumers' expenditure due to rise in price (illustrated by area X) is more than the fall in consumers' expenditure due to the less than proportionate fall in quantity demanded (as shown by area Y). Thus, total expenditure on private housing would increase.	
(d)		'The benefits to society of residential homeownership are greater than the private benefits perceived by the homeowner' (Extract 3). With the use of a diagram, explain how this situation would cause the housing market to fail.	[6]
		Assuming a perfectly competitive market, the demand curve reflects the marginal private benefits (MPB) of consuming an additional unit of residential housing such as having a safe place to live while the supply curve reflects the marginal private costs (MPC) of producing an additional unit of residential housing such as the cost of labour and capital. In the free market, consumers and producers being rational and pursuing self-interest will seek to maximise their utility and profits. They consider only their private costs and benefits when deciding how much to consume/produce. This means that the free market equilibrium, where demand meets supply or when $MPB = MPC$ is at Q_e.	



However, the benefits to society of residential home ownership are greater than the private benefits to the homeowners. This is because the consumption of residential home also generates positive externalities, i.e. marginal external benefits (MEB) to third parties. A higher rate of homeownership creates a safe neighbourhood and community as the residents feel that they have a greater sense of ownership and belonging to the estate and the community. This leads to fewer neighbourhood crimes and higher youth academic achievement which can help to increase their productivity and incomes. Employers can also earn higher profits from the increased productivity due to a more educated workforce and lower crimes. In this case, the firms are the third parties as they do not pay for the benefits.

The MEB results in divergence between MSB and MPB. Hence, the marginal social benefit (MSB) curve is above the MPB curve and $MSB = MPB + MEB$.

However, the socially optimal level of consumption of residential housing is at Q_s where $MSC = MSB$. As $Q_e < Q_s$, there is under-consumption of residential housing. $Q_s - Q_e$ represents an under-consumption of residential housing, that is, the price mechanism under-allocates resources to the market for residential housing. From Q_e to Q_s , the MSB is greater than the MSC, indicating that the additional benefit to society is more than the cost to society of producing these units. By summing the excess of the marginal social benefit over the marginal social cost for $Q_e - Q_s$, we arrive at a monetary measure of total deadweight loss to society equal to the area ABE. Thus, society welfare is not maximised when society under-consumed residential housing.

(e)	Comment on the extent to which the information in RESIDENTIAL HOUSING SUPPLY (Extract 1) supports the view that the short-run price elasticity of supply of housing is likely to be inelastic.	[6]
	Price elasticity of supply measures the degree of responsiveness of quantity supplied of a good to a change in its price, ceteris paribus. The supply of residential housing in the short-run is price inelastic. The main reason for this is the time it takes to build a new house. The construction of a house can take years, from the planning process to the project's completion. As shown in Table 1, the planning process alone takes an average of 196 days in Latin America and 201 days in Asia. Hence, the short-run supply of housing is likely to be price inelastic. This means that even with the shortage, an increase in price will only cause a less than proportionate increase in the quantity supplied of housing due to housebuilding being a lengthy process. <u>Comment</u> However the information provided in Table 1 is only for the planning stage. After the planning stage comes the other stages such as land purchase, clearance and construction, but information on the number of days involved in these stages is not provided. Thus more information is needed. Nonetheless, Table 1 shows that just the planning process alone takes more than six months. Thus when we factor in all the other stages, including land clearance and construction which are expected to take a longer time, the information is fairly sufficient to support the view that the short-run price elasticity of supply of housing is likely to be inelastic. [Other possible Comment] The information provided in the case is insufficient to support the view that supply of housing in the short run is price inelastic. There are other factors that also determine elasticity of supply such as the stock of (unsold) houses. Houses are durable items and if the units could not be sold in the current period, they could be left unoccupied until a buyer is found. In countries where there is a problem of housing shortage, then stocks are low and supply tends to be more price inelastic. However, if there is a high level of stocks, they could easily release the housing stock for sale in the market when there is a surge in demand for it. Hence supply would be more price elastic even in the short run. In conclusion, I think the information provided is incomplete to support the view. We need other relevant information such as the stock of (unsold) housing units as well as the length of time required to build a unit. Nonetheless, the information provided on the length of the planning process alone, which takes more than six months, is fairly sufficient because if we consider the construction process as well, we can infer that the supply of housing will be price inelastic in the short run.	

(f)	Discuss the likely impact of a downward trend in the interest rates identified in Extract 2 on the standard of living of people in Singapore. Note: There is no 9-mark part question in your syllabus and the suggested response is tailored for 8-mark part question.	[9]
	Standard of living refers to the level of material (quantitative) and non-material (qualitative) well-being of an individual and household. Material standard of living measures the amount of goods and services that individuals within the country have available for consumption. Non-material standard of living refers to the quality of life. Life expectancy, literacy rates, quality of healthcare services, the amount of leisure time that residents have and the quality of the environment are some of the indicators used to measure non-material standard of living. R1: The downward trend in the interest rates would lead to a rise in the standard of living of people in Singapore. For debtors, a downward trend in interest rates makes loans more affordable for most home buyers. The demand for “big ticket items” such as housing, is dependent on the cost of borrowing and ability to borrow from financial institutions e.g. banks. Hence with the decrease in the cost of borrowing to finance such consumption expenditure, there would be an increase in demand for housing and an increase in house ownership. This leads to an increase in material standard of living. An increase in homeownership brings about benefits to the community in terms of lower crime rates and thus this indirectly increases the non-material standard of living of Singaporeans. Also, a fall in the rate of interest may also lead to an increase in investment expenditure. This is because previously unprofitable projects (where rate of return is lower than the rate of interest previously) are now profitable due to the lower cost of borrowing. The increase in consumption and investment expenditures by firms as mentioned above will thus lead to an increase in AD. Since the economy is near full employment, this increase in AD will create shortages of goods and services in the economy and hence an upward pressure on the general price level. There will also be an increase in real GDP but the multiplier effect is dampened by the increase in prices (AD/AS diagram with AD shift rightwards). Nonetheless because of the increase in real GDP, this would also increase the living standard of the people as they have greater purchasing power and can enjoy more goods and services. Notwithstanding, the increase in investment expenditure by firms could result in increase in efficiency and productivity and this leads to an increase in the productive capacity of the economy. Consequently LRAS increases and this will certainly benefit the population in terms of a higher future standard of living as more goods and services could be produced.	

	R2: The downward trend in the interest rates would lead to a fall in the standard of living of people in Singapore. However, with Singapore operating near full employment, the continued increase in AD could lead to demand-pull inflation. The increase in the general price level could be a cause for concern if it is a large increase that could wipe out the gains enjoyed from an increase in incomes. This is especially so if the economic growth does not benefit all sectors of the economy and the nominal income growth rate might be lower than the high inflation rate in slow growing sectors. Hence some residents may suffer from a fall in real income and purchasing power and a fall in their material standard of living due to the sharp rise in general price level. Such residents are also likely to face greater financial stress which would lead to a fall in non-material SOL. Lower interest rates would also reduce the interest returns from portfolio investments for creditors. This would reduce their real income and purchasing power, which could lead to a fall in material standard of living. Conclusion Overall, the downward trend in interest rates is likely to increase the standard of living of the people because housing becomes more affordable and thus an increase in home ownership. The interest payment for housing, when accumulate over many years, can accumulate to a large sum and hence a fall in interest rate is likely to significantly benefit debtors. The significant fall in cost of borrowing, even for existing house owners who could now refinance their loans at a lower interest rate, would mean house owners have greater ability to purchase other goods and services to increase their material SOL.	
(g)	Discuss the view that the best way for governments to achieve an increase in homeownership is through subsidising the purchase of affordable housing rather than providing tax incentives to housebuilding firms. Note: There is no 12-mark part question in your syllabus and the suggested response is tailored for 10-mark part question	[12]
	An increase in home ownership brings many benefits not only to the owners but to the society. Because of these large benefits, governments often intervene in such markets to maximise society's welfare. Subsidy to buyers is one way to boost demand whilst providing tax incentives helps to increase supply of housing. R1: The best way for government to achieve an increase in homeownership is through subsidizing the purchase of affordable housing. Some governments use subsidies to make housing more affordable to buyers. In the UK, with the government boosting home buyers' 'Help to Buy' saving account by up to 25%. In Fig 3 below, Q_e is the number of houses bought and sold in the market but Q_s is the optimal quantity of houses. The subsidy would	

increase the purchasing power of home buyers. It makes housing more affordable and increases the ability and the willingness of consumers to purchase their home. Demand for home ownership increase. Since demand reflects MPB, the increase in demand reflects an increase in MPB. As shown in Figure 3, the MPB curve shifts upwards from MPB to MPB with subsidy. The subsidy will improve the ability of consumers, as seen in the upward shift of the MPB curve and this leads to a rise in demand of houses. As a result, the quantity of houses will increase to socially optimum quantity at Q_s .

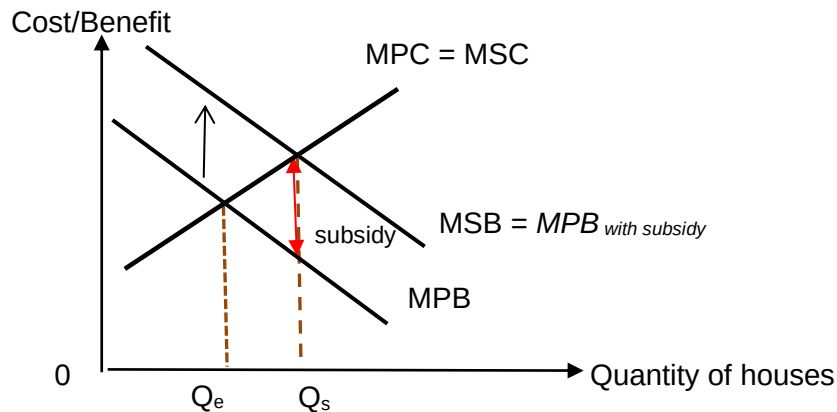


Figure 3: Subsidy to achieve Q_s

Ev for R1:

Whilst the subsidy to potential buyers could help to increase home ownership, the government has to bear the cost of the subsidy. The amount of the subsidy is likely to be large and it could lead to large government debt in the long term especially for developing countries who might not have large government revenue or might be incurring huge government expenditure in other infrastructure projects. In the long term, it might not be a sustainable means to increase homeownership for developing countries.

R2: The best way for government to achieve an increase in homeownership is by providing tax incentives to producers.

Providing tax incentives to increase housing supply is another way to increase home ownership. Tax incentives to housebuilders would lower the cost of production, and lead to increase in supply of houses. As shown in Figure 4, the MPC curve shifts downwards from MPC to MPC with tax incentives and this will lead to a rise in supply of houses. With the increase in supply, due to a fall in the cost, this would lead to an increase in the amount of houses sold. As a result, the quantity of houses will increase to socially optimum quantity at Q_s .

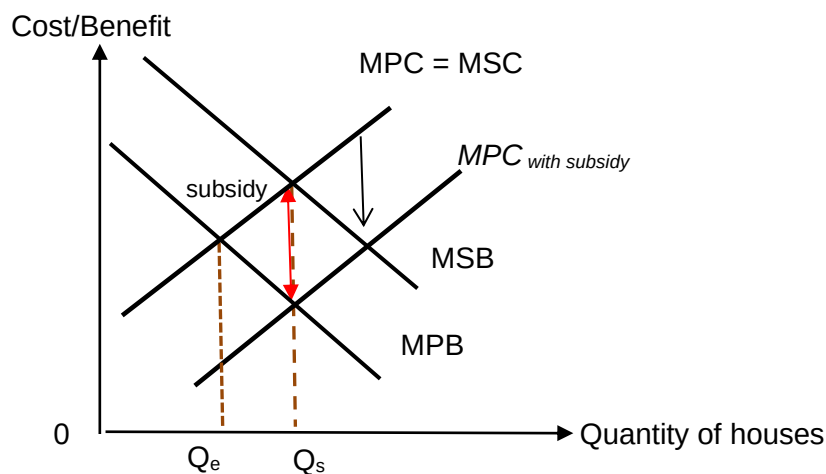


Figure 4: Tax incentives to achieve Q_s

Ev of R2: However, in implementation, the effect on market price and quantity depends on the price elasticity of demand for housing. The demand for housing is likely to be price inelastic since it is a necessity in most countries. This is especially the case in countries where the house rental rates is high and there is lack of alternative form of accommodation. A fall in the price of housing will lead to a less than proportionate increase in the quantity demanded for housing. Hence it might not be effective at increasing homeownership.

Conclusion

I think that the answer to the question as to which is the better policy depends on the cause of the problem.

In my opinion, subsidising the purchase of affordable housing is the best way to increase home ownership if there is low demand due to low incomes. However if the problem is due to low supply because of low profitability, then tax incentives is more appropriate. Depending on which cause is more severe, that will determine the most appropriate approach to increase home ownership. In many cases, the problem of lack of affordability is due to low incomes coupled with high prices due to limited supply. Hence the best government intervention must address both the demand and supply side factors to be effective.