2024 JPJC JC2 Prelim H2 P2 Suggested Answer

Question 1:
Rental prices across the US have soared over the past year. As the pandemic wears on, incomes start to rise, and more people are looking for their own space. At the same time, pandemic-related supply chain disruptions that led to shortages of both workers and materials have resulted in widespread construction delays. As rental prices soar across the country, more local governments are turning to rent control measures to help contain housing costs.

(a) Explain how the abovementioned events caused rental prices to soar in the US. [10]
(b) Discuss whether rent control is the best policy to address the rental crisis in the US. [15]

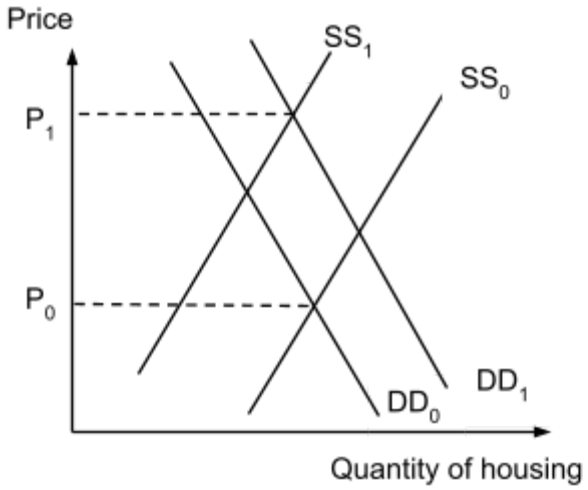
Suggested Answer (a)

The equilibrium rental price in the US is determined by the demand and supply of housing in the market. A rise in income, more people looking for their own space and shortages of both workers and materials have caused rental prices to soar in the US.

The rise in demand and fall in supply of housing have caused rental price to increase in the US. As the pandemic wears off, incomes start to rise with economies reopening and job creation. This increases the purchasing power and demand for normal goods that include housing in the US. In addition, there is a change in taste and preference as more people are looking for their own space as a personal lifestyle preference, increasing demand for housing. Hence demand curve shifts rightwards from DD0 to DD1, causing a shortage at original P0 and a rise in equilibrium rental price.

In addition, pandemic-related supply chain disruptions that led to shortages of both workers and materials have resulted in widespread construction delays. These result in a rise in labour and materials cost, increasing the cost of production of housing. Hence profits fall and profit-maximising producers have less incentive to produce, causing a fall in supply of housing. Hence supply curve shifts leftwards from SS0 to SS1, causing a shortage at original P0 and a rise in equilibrium rental price.

Both the combined effect of a rise in demand and fall in supply caused a mutually reinforcing effect on the rise in equilibrium rental price, causing rental prices to soar in the US.



The soar in rental prices in the US can also be attributed by the concepts of price elasticity of demand (PED) and price elasticity of supply (PES).

Demand for housing is price inelastic (PED<1) as it is a broadly defined good that lacks close substitutes. Demand curve is relatively steeper and the rise in price will cause a less than proportionate fall in quantity demanded. Hence a larger rise in equilibrium rental price is needed to clear the shortage given the fall in supply of housing.

Supply of housing is price inelastic (PES<1) as it has a long construction period that is furthermore delayed due to supply chain disruptions. Supply curve is relatively steep and the rise in price will cause a less than proportionate rise in quantity supplied. Hence a larger rise in equilibrium rental price is needed to clear the shortage given the rise in demand for housing.

Hence, given that both demand and supply of housing is price inelastic, there will be a large rise in equilibrium rental price to clear the shortage, causing rental prices to soar in the US.

In conclusion, the rise in demand and fall in supply, together with price inelasticity of demand and supply have caused rental prices to soar in the US.

Suggested Answer (b)

A rise in income, more people looking for their own space and shortages of both workers and materials have caused rental prices to soar in the US. As rents soar across the country, more local governments are turning to rent control measures to help contain housing prices. Whether rent control is the best policy to address the rental crisis in the US depends on its benefits, costs and unintended consequences.
Rent control refers to a price ceiling on rents, which is the highest permissible rent that landlords can legally charge. In order for rent control to be effective, they must be set below the equilibrium price of rented accommodation. The imposition of rent control seeks to ensure affordable accommodation for those belonging to the lower income group.

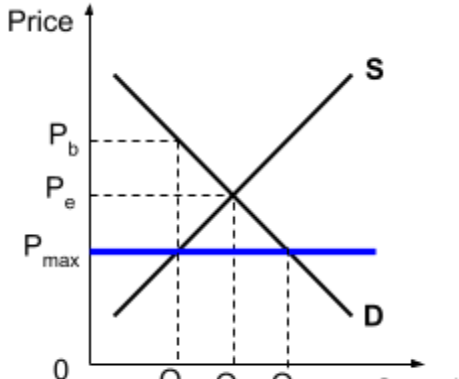
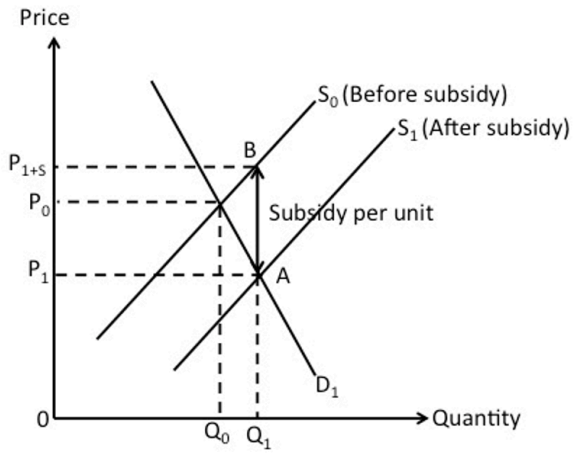


Figure illustrates the effects of the imposition of rent control. Without government intervention, the equilibrium price of rented accommodation would be at 0Pe and the equilibrium quantity at 0Qe. When the government imposes rent control by fixing the price below the equilibrium level, say at 0Pmax, producers produce at a lower quantity, 0Qs, while consumers are willing and able to purchase a much larger quantity, 0Qd. Due to the excess demand at 0Pmax, a shortage of QsQd results.

Consumers (0Qs) who are able to enjoy the good at the lower price of 0Pmax are better off. It may be beneficial for equity reasons, to allow low-income households to have access to a basic necessity such as shelter.
Producers are also worse off, because they now sell less of the good, and at a lower per unit price of 0Pmax, resulting in a fall in revenue from OPeEQe to OPmaxAQs. Assuming ceteris paribus condition (i.e. no change in costs), this results in lower profits.
In addition, some consumers (QsQe) are worse off because they are not able to consume the good even if they were both willing and able to pay a higher price of Pe. This could lead to the emergence of black market which may result in consumers renting at a price even higher than Pe at Pb, causing them to be worse off. Furthermore, given the shortage, landlords also lose the incentive to maintain their properties knowing that demand will outstrip supply due to the artificial ceiling on rent. As a result, consumers who rent are ultimately harmed as the houses they rent will be of lower quality, having fallen into disrepair. With lower rental revenue, landlords are incentivised to convert rental units into housing units for sale as this would generate more revenue for them. This would further reduce the supply of rental units and worsen the shortage further. This reduces the availability of rental units, forcing consumers to move elsewhere.
Furthermore, governments may face a rise in administrative costs due to the need to mediate an increase in conflicts between landlords and tenants arising from rent control disputes. They may also incur costs should they need to manage riots and social problems stemming from high rents.
Hence, rent control may not be the best policy to address the rental crisis in the US due to the severe costs and unintended consequences.

A better policy in the long term could be implemented to increase the supply of housing and reduce its equilibrium price.

The US government could provide subsidies to housebuilding firms, reducing their cost of production. This financial support would increase the firms' profits, providing greater incentive to construct new housing. As a result, the rise in supply of new housing causes the supply of rental housing to increase, shifting the supply curve from S0 to S1. This shift creates a surplus at the original rental price, P0. Consequently, the equilibrium rental price decreases from P0 to P1, making rental housing more affordable for consumers. This increase in the supply of rental housing directly addresses the rental crisis in the US by making more units available at lower prices.



The benefit of providing subsidies to producers is that it is relatively easy to implement assuming that the US government has sufficient funds. In addition, it does not distort and prevent the price mechanism from functioning properly.

However, subsidy also have limitations. It takes time to construct houses. Thus, such a policy can only work in the long run. It is also very costly and pose a strain to the government's budget. The US government is likely to borrow to finance the subsidy due to its budget deficit and government debt problems. Such a budget constraint may render subsidy to housebuilding firms not feasible. Opportunity cost is still incurred as there are not lesser funds available for other areas such as education and healthcare. In addition, by allocating more land for housing has unintended consequences in the form of rising opportunity costs for other aspects of the economy. More land for housing would imply less land for commercial or industrial purpose. The opportunity costs could be in terms of economic growth lost. More importantly, producers may become reliant on the government for subsidies and may not have the incentive remain competitive and lower cost. This means that prices will continue to remain high, and the subsidy cannot be removed. Thus, the policy is not sustainable in the long run.

Though increasing the supply of housing via subsidising the housebuilding firms to reduce the rental price may be a better policy to address the rental crisis in the US, it also poses certain costs, constraints and unintended consequences.

Rent control is not the best policy to address the rental crisis in the US because it fails to tackle the root cause of high rents, which is the imbalance between supply and demand for rental housing. Rent control can provide temporary relief by capping rental prices, but it distorts market forces and can exacerbate housing shortages in the long term.

The primary issue is that the demand for rental housing exceeds the available supply. To effectively address this, the US government should focus on subsidising the construction of more rental units. Increasing the housing supply would help reduce rents through market mechanisms.
Rent control is, at best, a short-term solution to curb rental prices. Similarly, demand-side measures like taxing housing purchases can also offer only temporary relief. Sustainable long-term solutions require supply-side policies, such as incentivising the development of new housing.

To mitigate the limitations of rent control, such as the worsening of housing shortages, the government must actively engage in policies that balance both supply and demand. This involves a combination of measures to reduce demand and increase supply, ultimately providing a more holistic approach to the rental crisis.

Question 2:
The price mechanism allocates scarce resources in a free market through its signalling, incentive, and rationing functions. However, it may not always achieve the microeconomic goal of efficiency. Therefore, government intervention is often required to ensure efficient resource allocation.

(a) Explain what is involved in rational decision-making by economic agents such as consumers and producers. [10]
(b) Discuss the view that government intervention is necessary to ensure an efficient resource allocation in the provision of public goods and goods with positive externalities. [15]

Suggested Answer (a)

Economic agents such as consumers aim to maximize their utility / satisfaction while firms will aim to profit maximize. And both the consumers and producers would apply the marginalist principal in its rational decision making by weighing the marginal benefits / marginal revenue against the marginal costs when consuming or producing an additional unit of a good.

Consumers can maximize its utility / satisfaction in consumption by considering the marginal private cost (MPC) in consuming an additional unit of a good and the marginal private benefits (MPB) derived from the consumption of that additional unit of good.

A rationale consumer will consume up to the level where the MPB = MPC as shown in Figure 1 below. MPB is downward sloping because a consumer feels lesser satisfaction from consuming increasingly additional unit of a good based on the law of diminishing marginal utility. MPC is upward sloping because the opportunity cost incurred (next best alternative forgone) rises from consuming increasingly additional unit of a good due to scarcity (fixed income of consumers).

If the MPB of consuming an additional unit of a good exceeds MPC (e.g. at $0Q_1$), the additional cost incurred is less than the additional benefit gained from consuming an additional unit of the good, the consumer would increase consumption of the good up to the level where the MPB = MPC at Qe.

On the other hand, if the MPC of consuming an additional unit of a good exceeds MPB (e.g. at $0Q_2$), the additional cost incurred exceeds the additional benefit gained from consuming an additional unit of the good, the consumer would reduce the level of consumption to MC = MR at Qe.

At the equilibrium level of consumption 0Qe where MPB = MPC, consumers satisfaction is maximized and there is no tendency for the rationale consumer to increase or reduce consumption of the good.

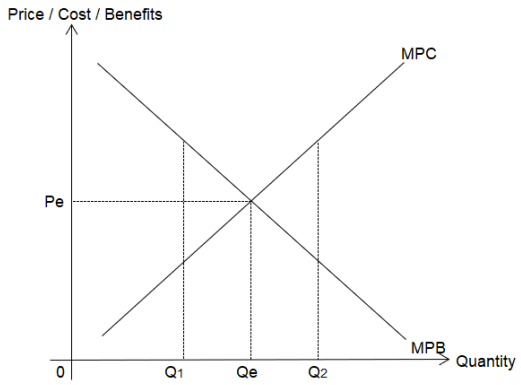


Figure 1: Consumers utility maximisation level of consumption

Therefore, in the process of rational decision making, consumers will consume up to the level where the final unit of a good provides an extra satisfaction that is exactly equivalent of the price of that good. At this level of consumption, the consumers' satisfaction is maximized and cannot be increased further.

In the case of producers, rational decision making involves considering the marginal revenue gained from producing an additional unit of a good and the marginal costs incurred in producing that additional unit good to maximize their profits.

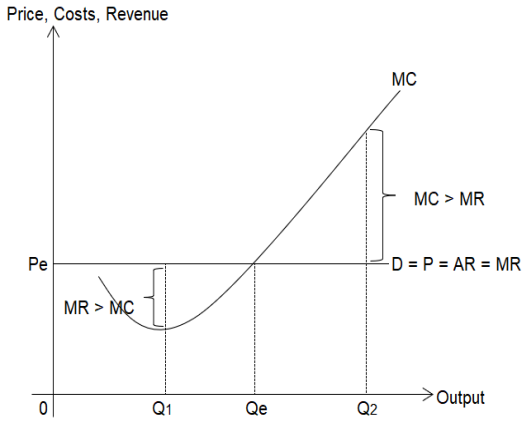


Figure 2: Producers profits maximising level of output

With reference to Figure 2 above, if the firm were to produce at Q_1 whereby MC < MR, the firm would choose to produce additional units as the additional revenue from the last unit is more that the costs of producing that unit, thus adding on to the profits level. It would hence produce additional units up till the level of output at Qe where MC = MR and where no additional profits could be reaped, maximizing its profits at level of output Qe.

If the firm were to produce at Q_2 whereby MC > MR, the firm would reduce its level of output, as the additional revenue gained from the additional unit of good sold is lower than the additional costs incurred in producing the good. The costs of producing an additional unit of a good is higher than the revenue that can be gained and the firm would cut back on production to the level Qe where MC = MR which is the level of output where profits is maximized.

Therefore, in rational decision making, producers will produce up to the level of output where the MC = MR where profits is maximized and cannot be increased further.

In conclusion, in the process of rational decision making, both the consumers and producers will take into consideration the marginal costs and marginal benefits of consuming or producing an additional unit of good to determine their level of consumption and production to derive maximum satisfaction or profits.

Suggested Answer (b)

All government aims to achieve efficiency in the allocation of resources to maximize society's welfare. But due to the nature of certain goods such as public goods and goods with positive externalities or merit goods, government intervention may be necessary due to the failure of the free- market price mechanism to allocate resources efficiently. However, government intervention does not automatically guarantee an efficient allocation of resources.

Due to the nature of certain goods such as public goods and merit goods, there is a need for government intervention to achieve an efficient allocation of resources.

In the case of public goods with its characteristics of non-rivalry and non-excludability in consumption, it results in complete market failure due to non-provision in the free market via the price mechanism.

Public goods are non-rivalry in consumption where a person's consumption of the good does not reduce the quantity available to another person. For example, in the provision of defense, once it is provided, all the people living in the country will enjoy the same level of security and the amount of security / defense will not diminish with the addition of another person. Thus, once the amount of defense is provided, there will be no additional cost incurred to provide the security to one more user. In other words, the marginal cost (MC) of provision to an additional user is zero (MC = 0). And the allocation of resources is efficient only when the price, P = MC. Since the marginal cost of public goods is zero, it implies that at the allocative efficient level, P = MC and MC = 0, price of the good is also zero. As no firms will provide the goods at price = 0, there is therefore non-provision of the public goods by the free market at the allocative efficient level.

A public good is also non-excludable in consumption where it is very costly or impossible to exclude non-payers from enjoying the good. This gives rise to a free rider problem. Since non-payers can also enjoy the good without paying, no one would be willing to pay for it. Consumers will not reveal their desire for the goods and hence there is no effective demand for the good and hence there is no provision of the good in the free market as producers are not able to know the demand and charge a price for the good. Thus, for public goods, non-provision by the free market necessitates government intervention in the form of direct provision.

The benefits of direct provision by the government are that the government can directly control the quality and the quantity of the goods to be produced. However, this does not guarantee an efficient allocation of resources as the government also suffers from imperfect information. The government may not know the optimal level of provision of the good.

Hence, in the case of public goods, due to its characteristics of non-rivalry and non-excludable in consumption, resulting in non-provision by the free market via the price mechanism, it necessitates the intervention of the government in the form of direct provision. But such intervention does not guarantee an efficient allocation of resources.

For the case of goods with positive externalities which are socially desirable where there is deemed to be an under allocation of resources in the production and consumption of these goods, government intervention is also necessary.

Goods with positive externalities and which are socially desirable are deemed to be merit goods. In the free market, producers and consumers will only take into considerations the marginal private benefits (MPB) and the marginal private costs (MPC) of producing / consuming the goods. They do not take into consideration the external benefits which are spill over effects on 3rd parties who are not directly involved in the production or consumption of the goods and these benefits are not reflected in the price of the goods. Hence, the producers or consumers will only produce / consumer up to the level where MPB = MPC at Q_m to maximise their welfare as shown in Figure 3 below.

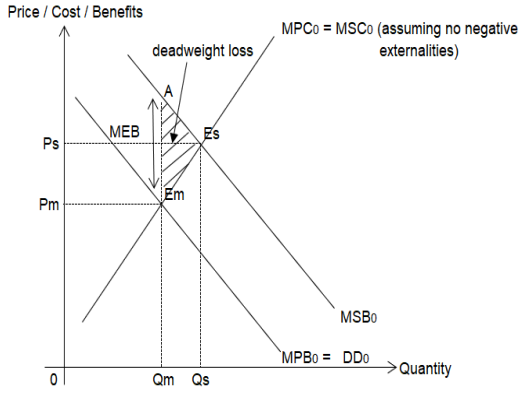


Figure 3: Market for goods with positive externalities

But taking into consideration the positive benefits on 3rd parties, the socially optimal level of consumption should be at Qs where the marginal social benefits (MSB) is equal to the marginal social costs (MSC), MSB = MSC. Since the socially optimal level of production / consumption, Qs is higher than the free market level of production / consumption, Qs >Qp, there is deemed to be an under allocation of resources to the production / consumption of the goods and allocative efficiency of resources is not being achieved. Hence, goods with positive externalities necessitates government intervention and government can help to achieve an efficient allocation of resources for such goods in the form of a subsidy equal to the MEB at the socially optimal level of consumption / output either to the consumers or producers.

If the subsidy is given to the producers, it will lower the costs of production and increases the supply and lower the prices of the goods. This will increase the quantity demanded of the goods and consumption increases to the socially optimal level of consumption.

However, due to the intangible nature of the positive externalities, the government may not know the optimal amounts of subsidies to provide. There is thus a possibility of under or over provision of subsidies, resulting in an under or over allocation of resources, both which will not

result in achieving an efficient allocation of resources. Also, it may not be necessary for government to intervene in the free market for all goods with positive externalities or when the positive externalities are not significant.

Hence, goods with positive externalities, due to the failure of the free- market mechanism to take into accounts the spillover positive benefits on 3rd parties, there is an under allocation of resources which necessitates government intervention. The government may intervene by subsidizing the production or consumption of the goods, supplementing the under production or under consumption of the goods to achieve an efficient allocation of resources.

On the other hand, in the free market where the allocation of resources worked via price mechanism by the forces of demand and supply, serves as a signaling, incentive and rationing functions to achieve an efficient allocation of resources.

When there is an increase in income or a change in taste and preference, causing an increase in demand for a good, causing an increase in the prices of the good, it is a signal to producers to allocate more resources to the production of the good. And with the increase in prices, there is an increase in profitability and hence incentive for the producers to allocate more resources to the production of the goods which is enjoying an increase in demand while rationing the allocation of resources to the production of goods which has experience a fall in demand, achieving an efficient allocation of resources as scarce resources are allocated to the production of goods that experience an increase in demand.

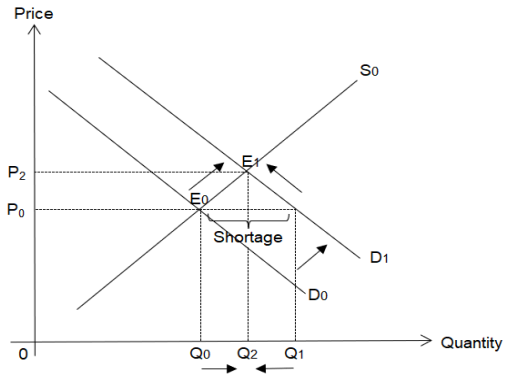


Figure 4: The demand and supply of a good and the free market price mechanism

Hence, with the price mechanism serving as the signalling, incentive and rationing functions, resources would be allocated to the production of goods and services that are in demand. There may not be a need for government intervention.

In conclusion, whether government intervention is necessary to achieve an efficient allocation of resources would depend on the type of the goods and services. For public and merit goods, due to the characteristics of the goods, scarce resources would not be allocated efficiently to the production of these goods and services which necessitates government intervention.

However, it should be noted that government intervention would not necessarily result in an efficient allocation of resources. It may even worsen the allocation of resources. This can be due to the presence of imperfect information and the government may not be aware of the optimal level of goods to be produced or the exact amount of subsidies to provide. The government may also have its own agenda or there maybe a conflict of aims between equity and efficiency in the

allocation of resources. For example, the government may impose a price ceiling to increase the affordability of a good to consumers, but it may result in an under allocation and production of the good as there is less incentive to produce the goods due to the decrease in prices.

Question 3:

Grab first announced its plan to acquire Singapore's third-largest taxi operator Trans-cab in July 2023. The proposed takeover is expected to entrench and strengthen Grab's already-dominant position in the ride-hailing market and has raised the concern of Competition and Consumer Commission of Singapore (CCCS).

(a) Explain how barriers to entry affect firms' level of profits in the short run and long run. [10]
(b) Discuss the potential benefits and costs to consumers and producers when acquisition occurs in the ride-hailing market. [15]

Suggested Answer (a)

Barriers to entry refer to the restrictions or obstacles that prevent new firms from entering a market. Erecting barriers of entry to new firms is usually necessary to protect a monopoly and firms in oligopolies (where there are only a few dominant firms) from competition. Examples of barriers to entry include brand loyalty or high start-up costs.

A firm makes supernormal profits if the total revenue (TR) > total cost (TC) or average revenue (AR) > average cost (AC).

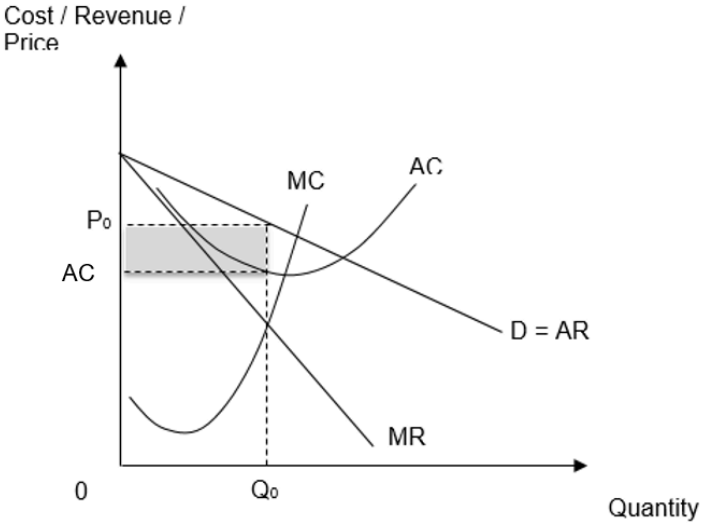


Figure 1

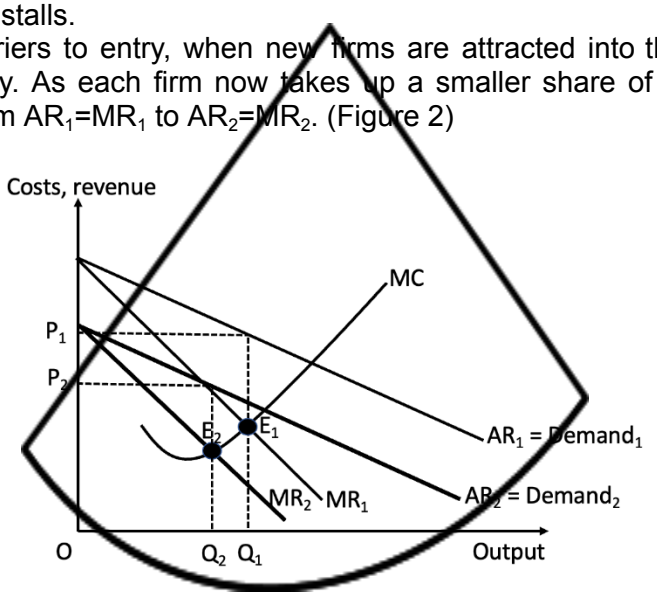
With reference to Figure 1, the firm's profit-maximising output is at Q_0. At the equilibrium output Q_0, AR > AC. Thus, the firm is making supernormal profits. The supernormal profits earned = TR (P_0 X Q_0) - TC (AC X Q_0) and is shown by the shaded area.

When a firm earns supernormal profits, it often draws other firms into the industry. However, if there are significant barriers to entry, such as those encountered in the luxury car market, new competitors might find it challenging to enter. For example, Grab is synonymous with convenience, innovation, and widespread market presence in the ride-hailing world. The company is renowned for its user-friendly app, extensive network of drivers, and influential role in transforming urban transportation. If Grab is generating massive supernormal profits, it will attract new competitors to enter the ride-hailing market. However, these new entrants would need to invest heavily in technology, customer service, and driver recruitment to compete effectively. Even then, their efforts might not succeed because Grab's established reputation, extensive infrastructure, and first-mover advantage provide a strong competitive edge. As a

result, these high barriers to entry discourage new players and allow Grab to sustain its supernormal profits over the years, with only a few other competitor firms posing any serious competition both in the short and long-run. Hence, high barriers to entry will allow a firm to retain its supernormal profits even in the long run.

On the other hand, if there are low or no barriers to entry. This leads to high levels of competition, as is typical of perfectly competitive and monopolistically competitive market structures. For these firms, it is possible to make short run supernormal profits but only normal profits in the long run. For example, a well-known hawker stall specialising in popular dishes like chicken rice. If this hawker stall is generating substantial supernormal profits, it will attract new hawker stall operators to enter the market. Given the relatively low barriers to entry—such as lower initial investment and the availability of hawker center spaces—new competitors can easily set up their own stalls.

In the absence of barriers to entry, when new firms are attracted into the industry, they could enter the market easily. As each firm now takes up a smaller share of the market, the firm's demand curve falls from AR_1=MR_1 to AR_2=MR_2. (Figure 2)



As seen in Figure 2, AR_1 represents the initial level of demand for the firm's product. AR_1 intersects the MC curve at E_1, and the initial price is at P_1. The entry of new firms causes a fall in demand for the firm's product, resulting in the demand curve shifts from AR_1 to AR_2. The MC curve intersects the new MR curve at E_2, showing a fall in price from P_1 to P_2. This is also the same as the AC and now the firm make normal profits. Hence, firm can only make normal profits in the absence of barriers to entry.

In summary, barriers to entry influence a firm's capacity to maintain excess profits by impacting the level of competition it encounters. Low barriers to entry lead to increased competition, which can reduce a firm's ability to keep excess profits. Conversely, high barriers to entry result in less competition, allowing a firm to more easily retain its excess profits.

Suggested Answer (b)

Consumer welfare refers to the price, variety and quality of service provided by the firm providing the ride-hailing service. With Grab's takeover of Trans-cab, consumers might be better off due to greater internal economies of scale and research and development, yet they might be worse off due to lower level of competition in the market. In terms of the producers, Grab would be likely to be better off as they earn higher revenue and can further lower average cost due to reaper greater economies of scale while other producers (competitors) would be worse off.

Grab will benefit from the acquisition while other producers (competitors) will be negatively affected.

Given that both Grab and Trans-cab are major players in the market, the takeover significantly reduces the level of competition in the market and significantly increases the market share of Grab. As a result, Grab will experience an increase in the demand for its services and demand for its services will become more price inelastic as the number of close substitutes in the market decreases. This allows Grab to earn greater revenue and does not need to engage in price war.

Grab will be able to produce at a larger scale and reap greater internal economies of scale (EOS). Internal EOS refers to cost savings arising from the benefits of increasing the output by expanding the firm's scale of production (size of firm). Internal EOS enables the firm to spread its cost over a larger output, hence lowering its long run average cost. With the takeover, Grab could better enjoy technical economies as she is now able to spread the high cost of the latest technology and sophisticated systems over a larger output and reduce the LRAC. For example, Trans-cab could tap on Grab's matured digital app and produce better services to the consumers. On the other side, Grab could also offer both private hire and public hire car services to consumers who utilise her services. Hence, Grab will be able to gain greater profits due to a rise in revenue and fall in average cost. Grab will also be able to obtain a near monopoly-like status in the market.

However, other producers would find it hard to compete and match Grab in terms of pricing as they produce at a lower output and hence, does not reap as much EOS. They may be forced out of the market or would have to coped with lower profit margin and this will affect their ability to innovate and compete in the long run. This is made worse as Grab would be able to do more innovation as explained earlier. Hence, they will find it difficult to increase or even maintain their revenue. In the long run, there is a high chance that they will earn subnormal profits and leave the market.

Thus, Grab will great benefit from the acquisition while other producers will suffer.

Consumers might benefit but other producers will lose out.

Consumers may be worse off as the level of competition in the ride-railing market decreases due to Grab's takeover of Trans-cab. With higher market power, Grab is able to charge a higher price and produce at a lower profit- maximising output, resulting in lower consumer welfare. This affects lower income households the most since they are now less able to afford and have access to ride-hailing service, who are now worse off.

Furthermore, with lower level of competition, complacency and slack may set in for Grab, in terms of monitoring of service quality offered by its drivers. This can result in longer waiting time for commuters, more last minute cancellations from drivers, higher frequency of unpleasant journeys etc. Hence, consumers may be worse off in terms of the worsening of service quality. In addition, the choices that consumers have available for ride-hailing service are reduced. For example, if consumers are unsuccessful in finding a nearby private car on Grab app, they now have fewer alternatives available as a mode of transportation to their destinations, reducing consumer welfare. Thus, consumers are worse off.

However, consumers may also benefit from the acquisition. With Grab's takeover of Trans-cab, consumers might be better off as prices may fall. Due to more extensive EOS that results in lower average cost for Grab as explained earlier, Grab might then pass on the cost savings to consumers in terms of lower prices, allowing consumers to enjoy higher consumer welfare and be better off. With the takeover and greater resources, Grab would have greater ability to

engage in research and development (R&D) that includes digital innovation. For example, R&D allows the routing of drivers to areas that may have high demand, especially during peak hours of the day. As a result, consumers are better off as they enjoy higher quality ride-hailing service, increasing consumer welfare.

Thus, it is unclear if consumers will benefit or lose out if such an acquisition take place.

In conclusion, the takeover if successful will likely to benefit Grab but would not be the case for consumers and other producers (competitors) firms in the long run. Other producers would find it hard to survive and leave the market and consumers would then suffer in terms of higher price and fewer choices.

Thus, government would have to consider carefully if such acquisition should be allowed. This is especially so in this case where Grab is already holding a dominant position in the market. On the contrary, they should allow smaller firms to merge so that the market can remain competitive. This will spur all firms to innovate and prevent abuse of market power to charge high prices.

However, the Singapore market is very small and as such, would not be able to support too many firms. If there are too many firms in the market, each firm would be producing at a smaller output and hence would be unable to reap substantial EOS or engage in high quality product innovation. It is likely that the market might slowly pivot towards fewer and fewer large firms. Hence, such acquisition might be inevitable if firms want to survive.

Question 4:
The Japanese yen saw a significant depreciation in 2022. Commenters argue that this is due to global economic uncertainties and rising global commodities prices.

(a) With the aid of a diagram, explain one demand and one supply factor that would cause a depreciation of currency. [10]
(b) Discuss whether a depreciation of currency would be overall beneficial to an economy.[15]

Suggested Answer (a)
Under the flexible exchange rate system, the determination of the external value of a country's currency depends on the market forces of demand and supply of a currency in the foreign exchange market.

For example, the exchange rate of Japanese Yen (¥) is determined by demand for and supply of ¥ in the foreign exchange market. A depreciation of the Japanese Yen is caused by an increase in supply and a fall in demand of Yen.
Global uncertainties is one demand factor that can cause a depreciation of the currency. This is because it will lead to a fall in demand for a country's currency by affecting the income levels of its major trading partners. When uncertainty rises, it often leads to slower economic growth or even recessions in major trading partners economies. Imports are generally a function of income. Hence as the income of these major trading partners falls, their ability to purchase goods and services from abroad (imports) decreases as purchasing power falls which results in a reduced demand for imports.
Thus the domestic country's exports will decline as foreigners reduce demand for imports. In addition, to buy these exports, foreigners usually need to acquire the domestic currency. With reduced demand for exports, there is less need for foreigners to purchase the domestic currency, leading to a fall in demand for the the domestic currency in global markets. One supply factor that could lead to exchange rate depreciating would be rising global commodities prices.
Rising commodity prices can lead to an increase in the supply of a country's currency in the FOREX market, resulting in depreciation. Many essential imports, such as oil, food, and raw materials, are commodities, and these tend to be price inelastic. Due to a lack of close substitutes, demand for imports tend to be price inelastic. As such, given a rise in price of imports, the quantity demanded for these imports falls less than proportionately, overall import expenditure rises. As citizens and firms need to pay more for these higher-priced imports, they will have to sell more of their domestic currency in exchange for foreign currencies to facilitate these purchases. This increase in the supply of domestic currency in foreign exchange markets drives down its value, leading to currency depreciation.

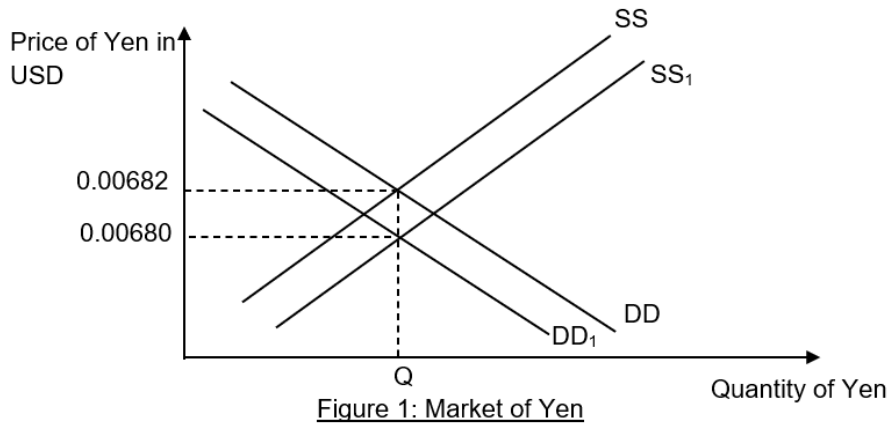


Figure 1: Market of Yen

Take for example, in the market of Japanese Yen (¥). With a fall in demand of Yen from DD to DD1 and a rise in supply for Yen from SS to SS1, Yen has depreciated as seen in Figure 1.

As such, both global uncertainties and a rise in global commodities prices will affect the demand and supply of the currency respectively.

Suggested Answer (b)

Depreciation of a currency refers to a decrease in the value of a country's currency relative to other currencies, often measured by the exchange rate. An economy, in macroeconomic terms, consists of several key aims: achieving sustainable economic growth, maintaining low and stable inflation, ensuring high employment levels, and maintaining a surplus in balance of trade. Whether currency depreciation will be beneficial on these macroeconomic objectives can vary significantly depending on the nature of the economy—whether it is small and open or large and closed and whether the government has intervene to reduce the costs.

Depreciation of currency would be overall beneficial to an economy. With a depreciation of currency, price of exports will become relatively cheaper in terms of foreign currency. Assuming that demand for exports is price elastic, a fall in price of exports will lead to a more than proportionate increase in quantity demanded which results in an increase in export earnings. On the other hand, price of imports will become relatively more expensive in terms of domestic currency. Assuming that Marshall-Learner condition holds true, demand for imports is price elastic, a rise in price of imports will lead to a more than proportionate decrease in quantity demanded which results in a fall in import expenditure. With an overall increase in (X-M), it will help to improve the balance of trade position. Since AD = C+I+G+(X-M), it will also lead to an increase in AD which leads to an increase in GDP via a multiplier effect assuming that economy is not operating at full employment. As seen in Figure 1, an increase in AD from AD1 to AD2 will lead to an increase in real GDP from Q1 to Q2. This is beneficial to the economy as it achieves a higher actual economic growth. In addition, with an increase in AD, firms increase production, hire more workers which leads to a fall in cyclical unemployment.

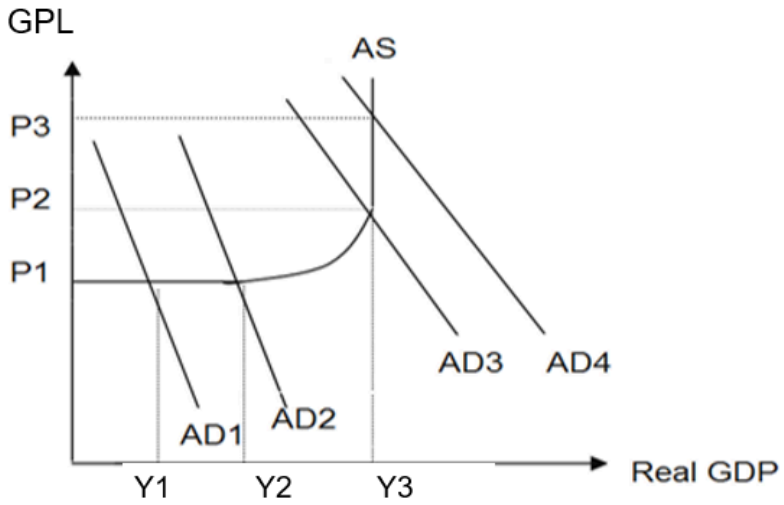


Figure 2: An increase in (X-M) which leads to an increase in AD

As such, a depreciation of the currency will be overall beneficial to an economy in terms of achieving higher economic growth, lower cyclical unemployment and improve balance of trade position.

Depreciation of currency would be not overall beneficial to an economy as it brings about higher inflation. Depreciation of currency will lead to both demand-pull and cost-push inflation. With depreciation of currency, it will lead to a rise in import prices in terms of domestic currency. For explain, in the case of Singapore, given the nature of being import-dependent, this would mean that imported raw materials are now more expensive in SGD. This would lead to an increase in imported cost of production causing a fall in the short run aggregate supply from AS1 to AS2 as firms find it less profitable to produce. Assuming firms pass on the increase in cost to consumers by increasing prices, this will increase the GPL from P1 to P2, leading to large and continuing inflation due to rising prices of imports.

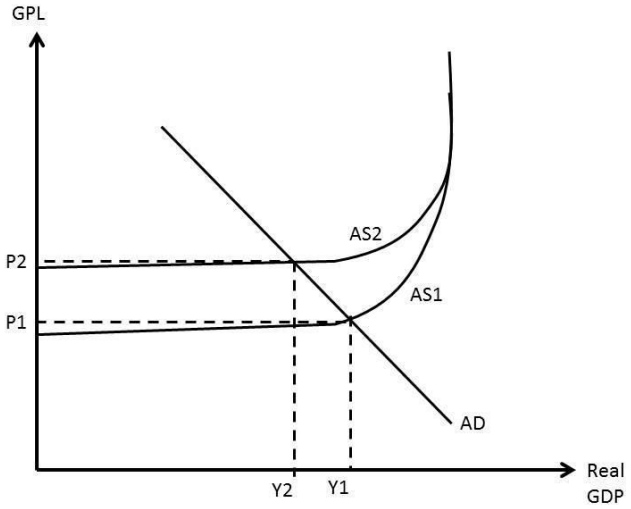


Figure 3: An increase in cost of production which leads to AS falling.

As explained above, an increase in (X-M) which leads to a rise in AD will lead to demand-pull inflation as GPL increase from P0 to P1 assuming that economy is near or at full employment. This can be seen from Figure 1, when AD increases from AD3 to AD4 at full employment level, it has lead to a rise in GPL from GPL3 to GPL4. This happens as the economy is approaching full employment and 'bottlenecks' in production surfaces when there is stiff competition for certain increasingly scarce resources. Producers pay more to obtain the desired factors of production and will increase the price of their output to maintain profits leading to demand-pull inflation.

In conclusion, the overall benefit of currency depreciation depends on the specific characteristics of the economy and whether the government has intervene to minimize the cost.

For an open economy with a strong reliance on exports, depreciation is likely to be beneficial as it enhances export competitiveness and stimulates economic growth. However, for a small economy without any natural resources like Singapore, the risks of inflation may outweigh the economic benefits, making depreciation less beneficial.

To mitigate the inflationary pressures that often accompany currency depreciation, governments can implement supply-side policies aimed at increasing the long-run aggregate supply (LRAS). These policies could include investing in infrastructure, education, and technology to boost productivity, which would lower the average cost of production and help keep both demand-pull and cost-push inflation in check in the long-run. By fostering a more efficient and productive economy, these measures can help balance the benefits of currency depreciation while maintaining price stability which helps to minimise the cost.

Question 5:
Fiscal and monetary policies are used by governments and central banks to influence a country's economic performance and increase real Gross Domestic Product (GDP).

(a) Explain how fiscal and monetary policies impact the level of real GDP and unemployment in a country. [10]
(b) Discuss the view that achieving a high rate of growth should be the economic priority of a government. [15]

Suggested Answer (a)
Both fiscal and monetary policies are tools used by governments to achieve macroeconomic goals such as economic growth and low unemployment. Fiscal policies involve adjustments in government spending and taxation to influence the economy. In contrast, monetary policies focus on managing the money supply and interest rates, or exchange rates, to steer economic activity.

Real GDP is defined as the value of final output produced in an economy regardless of factor ownership and before adjustment for depreciation. When facing low growth and high unemployment, government can adopt an expansionary fiscal or monetary policy to increase AD and hence increase real GDP and employment.

By adopting an expansionary fiscal policy through an increase in G will increase AD directly as G is a component of AD. By lowering personal income tax rate, it will increase households disposable income, increasing consumption. At the same time a cut in corporate tax rate will increase after tax profits, increasing I.

By adopting an expansionary MP centered on lowering interest rates will lower cost of borrowing which will increase consumption of big ticket items as well as lowering the opportunity cost of current consumption. For firms, at the same expected returns, more investment projects are now more profitable, leading to an increase in I. to

Through the increase in G, C and I, real GDP increased by more than proportionate through the multiplier effect . As firms increase production, they will demand for more labour which reduces cyclical unemployment.

Hence, expansionary fiscal and monetary policy positively impact an economy in terms of an increase in real GDP and reduce cyclical unemployment.

An increase in G, C and I will increase real GDP more than proportionately due to the knock-on effect on induced consumption. For example, an increase in G of $100m on infrastructure will cause an increase in income of $100m to the first group of recipients such as the construction firms/workers engaged in the infrastructure project. Assuming the MPC =0.8, this group of recipients will spend $80m on domestic produce goods and withdraw $20m in the form of savings, taxes and imports. The second group of recipients which are the consumer goods retailers will receive an increase in income of $80m, spending $64m on domestic produce goods and withdraw $16m. This process of spending and respending continues until the total injection of $100m by the government is withdrawn from the circular flow. By then, national income and jobs creation would have increased multiple times, causing cyclical unemployment to fall.

An expansionary FP and MP hence positively impact AD and hence real GDP and employment.

In conclusion, both expansionary fiscal policy and monetary policies have positive impact on real GDP and employment.

Suggested Answer (b)

Countries should try to achieve as high a rate of growth as possible to enjoy the benefits of higher economic growth such as higher living standards and employment.

Economic growth is the increase in the level of real GDP over a period of time. With a high rate of growth, it implies that more goods and services are being produced and as such more goods and services are available for consumption. Hence, it contributes to a higher standard of living (SOL) the material aspect. This is seen in many countries where growth has lifted hundreds of millions out of poverty.

To produce a greater amount of goods and services, there would be an increase in demand for labour which will lead to an increase employment and wages. If the increase in wages exceeds that of general price level, there would be an increase in real income and purchasing power and hence an increase in ability to purchase more goods and services. Lower unemployment problem will also mean that the country is efficiently using its scarce resources and producing on its PPC. There will also be less social instability, thus helping to improve the non-material SOL. The impact of growth on unemployment can be seen in many countries where lower growth has resulted in a fall in total employment rate and the fear of unrest that may be triggered by rising unemployment has also prompted government to carry out expansionary fiscal policy.

With firms producing more goods and services, there would be an increase in firms' revenue and profits. This would enable the government to collect more tax revenue even if the tax rate remains unchanged. With higher tax revenue, the government is able to provide more public and merit goods such as education and healthcare services and hence raising the standard of living. And at the same time, the government is able to finance the construction of infrastructure which would facilitate the movement of goods and services, enabling the increase in productivity and achieve an even higher real output and economic growth.

Thus, economic growth would help to raise the standard of living.

While achieving a high rate of economic growth is often seen as a key goal for governments, it should not necessarily be the top priority. Depending on the current economic problems faced in an economy, a government may not prioritise high rate of growth.

In times of severe economic crisis, such as a period of high inflation, a government will prioritize price stability over high rate of growth. The focus of governments was to helps create a more predictable and stable economic environment, which supports sustained economic growth, investment, and overall well-being.

Rapid economic growth often leads to increased demand for energy and resources, which in turn can result in greater environmental pollution. For instance, in countries like China, this rapid growth has caused significant environmental degradation, including elevated levels of air and water pollution. As a consequence, the health of the population has suffered, negatively impacting the non-material aspects of living standards.

A high rate of growth would also not guarantee an improvement in the living standard of the general population. This is especially so if high economic growth resulted in an inequitable

distribution of wealth where the benefits of economic growth are enjoyed only by a minority of the population with a majority of the population still living below the poverty line.

Moreover, rapid economic growth can lead to higher inflation if the increase in aggregate demand (AD) outpaces the growth in aggregate supply (AS) as the economy nears full employment. As firms face higher production costs, they may pass these costs onto consumers through increased prices. This situation can particularly impact low-income earners, whose wages may not keep pace with the rising cost of living, resulting in a decline in their real wages and material standard of living.

Thus, a high rate of growth may not necessary benefit the general population as a whole.

In conclusion, while pursuing a high rate of economic growth is important for providing the resources needed to improve a country's living standards, it need not be the economic priority of a government as it depends on the economic problems the economy is facing at the moment.

Rather than aiming for a high growth, which may bring about too much unintended consequences which may be difficult to resolved, governments should focus on achieving ‘healthy growth’. This mean a growth rate that does not bring along too much negative unintended consequences, but yet enabling income to rise sufficiently for living standards to improve for all segments of the population.

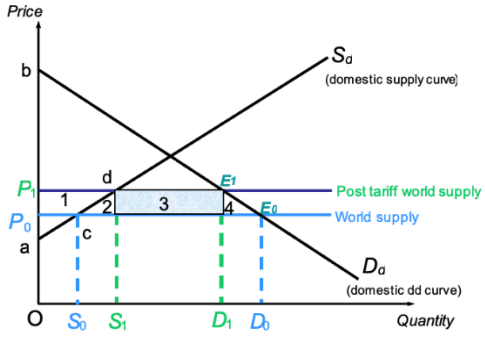
Question 6:
Fiscal and monetary policies are used by governments and central banks to influence a country's economic performance and increase real Gross Domestic Product (GDP).

(a) Explain how fiscal and monetary policies impact the level of real GDP and unemployment in a country. [10]
(b) Discuss the view that achieving a high rate of growth should be the economic priority of a government. [15]

Suggested Answer (a)
Protectionist policy measures are tools used to shelter the domestic industries from foreign competition through the imposition of trade barriers/ protectionist measures on foreign goods and services.

Common protectionist policy measures are tariffs, weakening exchange rates, quotas and export restrictions etc. These policy measures will have an impact on a country's trade balance (net exports).

A country can impose a tariff on imported goods of their trading partners. A tariff is a tax imposed on imported goods which will make the imports relatively more expensive. This will cause the quantity for imports to fall, improving the country's trade balance.



With reference to Figure 1, Dd and Sd are the domestic demand and supply in a country. The world is able to supply the good at a lower price, P0. At the price, P0, the domestic demand is 0D0 but the domestic supply is 0S0. Thus, since the quantity demanded is more than the quantity supplied, the shortage of S0D0 is being satisfied by imports.

Tariffs aims to increase the price of imports so as to reduce the quantity of imported goods. By putting a tariff of P0P1 on imported goods, the price of the imported goods increases to P1. At this higher price, P1, the domestic supply now increases to 0S1, and the domestic demand falls to 0D1. Hence, the quantity of imports falls to S1D1 from S0D0. Assuming no change in the amount of exports, hence, imposing a tariff on imported foreign goods lowers the amount of imports and resulting in an improvement in the trade balance.

A country can also deliberately devalue their currencies against their trading partners. Weakening of the country's currency helps to increase export competitiveness and at the same time makes imports more expensive. The intent is to reduce imports and raise exports. With a weaker currency, the price of export in foreign markets falls and the price of imports in domestic economy rises. Assuming the demand for exports and imports are price elastic in the long run.

Hence, the quantity demanded for exports will fall more than proportionately and quantity demanded for imports will rise more than proportionately. This will lead to a rise in export revenues and a fall in import expenditure, hence net exports rise, trade balance will improve.

Due to the negative effects that globalisation would bring about, some countries use protectionist policy measures to protect the domestic economy from the harmful effects. Thus, government will need to consider both the benefits and costs of protectionism should be considered from the perspectives of economic agents before implementing any protectionist policy measures.

Suggested Answer (b)

When a government considers adopting protectionist measures to achieve its macroeconomic aims such as economic growth, full employment, low inflation, and a favorable balance of trade, it must weigh both the benefits and costs to ensure these measures align with its macroeconomic objectives and do not lead to unintended consequences which may harm the overall economy.

Some countries, especially developed economies decide to impose protectionist measures against developing countries to protect domestic jobs and reduce unemployment. Without trade barriers, domestic producers would have difficulty in competing with the foreign producers whose products are far more competitive than the ones produced locally.

Domestic firms may be edged out by foreign producers resulting in a fall in employment and hence standard of living. Thus, tariffs and quotas cut the volume of imports in the domestic economy, and this helps to maintain employment and protect jobs. Hence, in this instance, protectionism seems to be beneficial as there will be massive retrenchment if there are numerous jobs losses due to large influx of cheap imports. The government will have to give out huge amount of unemployment benefits and social costs are incurred if the problem of unemployment worsens over time.

Despite the possible benefit in reducing the level of unemployment in declining industries, there are possible cost that a country must consider when adopting protectionism to protect domestic jobs. While protectionism boost earnings and employment in import competing industries, the net effect is simply a redistribution of jobs and incomes between import competing and export industries. In the process, living standards will be reduced as consumers are forced to buy more expensive goods from the inefficient protected local industries and resources are reallocated from the efficient exporting industries to the inefficient import-competing industries.

A persistent and large BOT deficit can bring about adverse impact on the economy. Therefore, a country can reduce imports by imposing import duties. This raises the prices of imports and causes the imports to fall. This reduces the import expenditure and helps to correct the persistent and large BOT deficit.

However, this policy to correct balance of trade deficit can only be taken as a short-term measure as the import expenditure is curtailed at the expense of consumers' welfare. It may invite retaliation from other countries leading to a further rise in the size of the BOT deficit. In addition, retaliation by trading partners results in a reduction in trade would have negatively impacted the standard of living for all the countries involved.

In conclusion, the government should weigh the benefits and costs of protectionism and consider the net benefits it brings for the macroeconomic aims.

While protectionist measures such as tariffs, devaluation and subsidies can provide short-term benefits by protecting domestic industries, increasing employment, and potentially improving the trade balance, they come with significant trade-offs that may undermine a government's macroeconomic aims in the long run.

For instance, while protecting certain industries might safeguard jobs in the short term, it can lead to inefficiencies and reduced competitiveness, as domestic firms may lack the incentive