

Paper 2 Section A – Essay Questions

- 1 A construction firm in Singapore is facing an increase in demand for residential properties which has led to an increased demand for labour. However, the construction industry has an increase in the attrition rate of their foreign workers, with around one in three returning home after the borders reopened post COVID-19. This creates a problem for the construction industry where demand for labour is also inelastic.
- (a) With the aid of a diagram, explain how a firm's total expenditure on its workforce will have changed as a result. [10]
- (b) Discuss whether changes in foreign worker levy is likely to be a better way than productivity improvements to address the labour shortage experienced by a construction firm. [15]

Part (a) suggested answer**Introduction**

- The equilibrium wage rate and the equilibrium quantity of labour in the market for labour is determined by the interaction of the demand for labour and the supply of labour.
 - The demand for labour is a derived demand, dependent on the demand for the firm's final goods and services.
- The change in the firm's total expenditure on its workforce will depend on the extent of the change in demand, supply of labour and the price elasticity of demand for labour.
- The total expenditure on the firm's workforce is equal to the equilibrium wage rate multiplied by the quantity of labour demanded.

Body:

Assuming that the firm is a price taker who follows the equilibrium wage rate determined by the interaction of the demand for labour and the supply of labour in the labour market.

Demand factor

- There is increasing demand for residential properties in Singapore. The rise in demand for residential properties could be due to the expectations of future prices. As most households anticipate that property prices might rise, this had led to a higher speculative demand for residential properties. In addition, with more inflow of foreign talents, this had added to the demand for residential properties.
- Given an increasing demand for residential properties in Singapore, the construction firm is experiencing a rise in the demand for its goods.
- Since labour is a factor input, more labour will be required to produce more houses and there will be an increase in the demand for labour
- This is illustrated by the rightward shift of the demand curve for labour from DD_0 to DD_1 in Figure 1.
- A shortage is created ($Q_s < Q_d$).

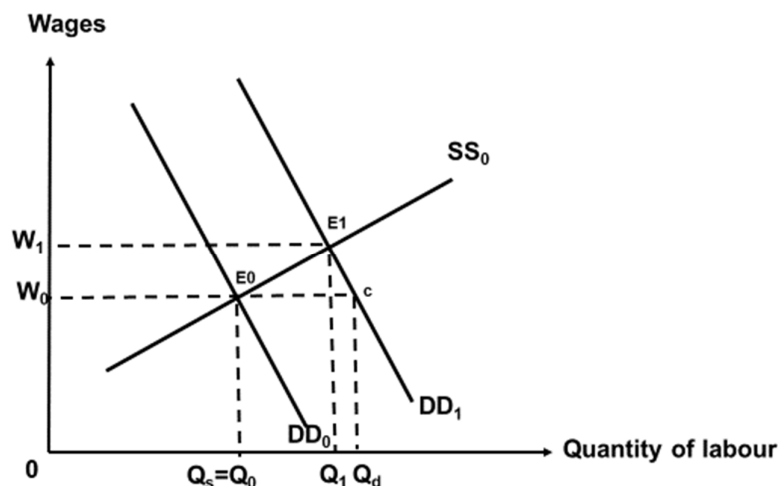


Figure 1: Increase in demand for labour

- With the increase in demand for labour, the firm will now employ $0Q_1$ workers at the new equilibrium wage rate, W_1 .
- Total expenditure on labour is now $0W_1E_1Q_1$.
- With the increase in demand for labour, the firm's total expenditure on labour increased.

Supply factor

- The industry has an increase in the attrition rate of their workers, with around one in three returning home after the borders reopened, reducing the number of workers available to the firm.
- This will cause a decrease in supply of labour represented by a leftward shift of the market supply curve, from SS_0 to SS_1 .
- A shortage is created (Q_dQ_s).

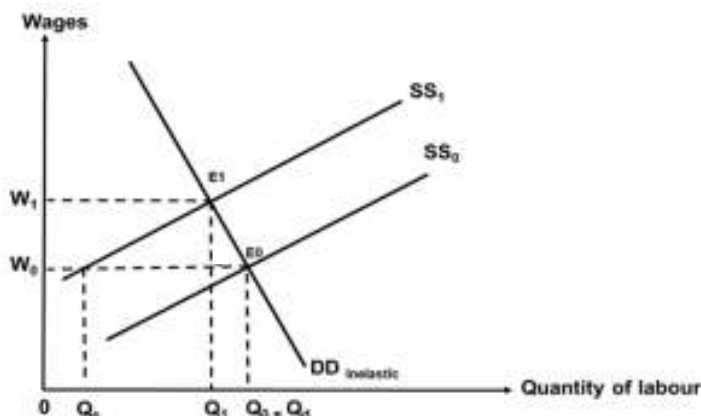


Figure 2: Decrease in supply for labour

- In the construction industry, labour is still required in the building of houses. Hence, the high degree of necessity for labour in the industry has led to the demand for labour being wage inelastic. Given that the demand for labour is (wage) inelastic, the increase in wage rate will bring about a less than proportionate decrease in quantity of labour demanded. Hence, total expenditure on labour has increased from area $0W_0E_0Q_0$ to area $0W_1E_1Q_1$.

Conclusion

- Unambiguously, given an increase in demand for labour and decrease in supply for labour – the firm's total expenditure on labour increased.

Part (b) suggested answer

Introduction

- A foreign worker levy is a monthly fee imposed by the Ministry of Manpower on the hiring of each foreign worker employed by firms and who are issued with a work permit.
- The government could make changes to the foreign worker levy as well as the use of other strategies, such as providing training to current workers to increase labour productivity and to employ labour-saving methods of production, for e.g. technology and automation to address the problem of labour shortages faced by firms.

Body

Thesis: Reduction of foreign workers levy is effective in addressing the labour shortages

The foreign worker levy is a pricing mechanism to regulate the number of foreign workers in Singapore, acting like an "import duty" (a tax to discourage overdependence of foreign workers by firms in Singapore).

The foreign worker levy is a flat sum per worker imposed on firms hiring these work permit holders. Hence, the foreign worker levy increases the marginal cost incurred with each additional worker employed.

Lowering the foreign worker levy will lower the marginal cost of hiring an additional foreign worker. With lower labour costs due to reduced levies, construction companies might be more inclined and have lower barrier to hire foreign workers, thus increasing the available workforce in the industry.

As companies are more inclined and lower barrier to hire foreign workers and are bringing in more foreign workers, the influx of foreign labour adds to the current total labour force in the construction industry, thus increasing supply of labour to construction industry. With the increase in supply of labour to construction industry, the firm will now be able to employ a higher number of foreign workers, from Q_1 to Q_2 as seen in Figure 3, to relief the labour shortages faced and can be an effective strategy to address the labour shortages experienced by such firms.

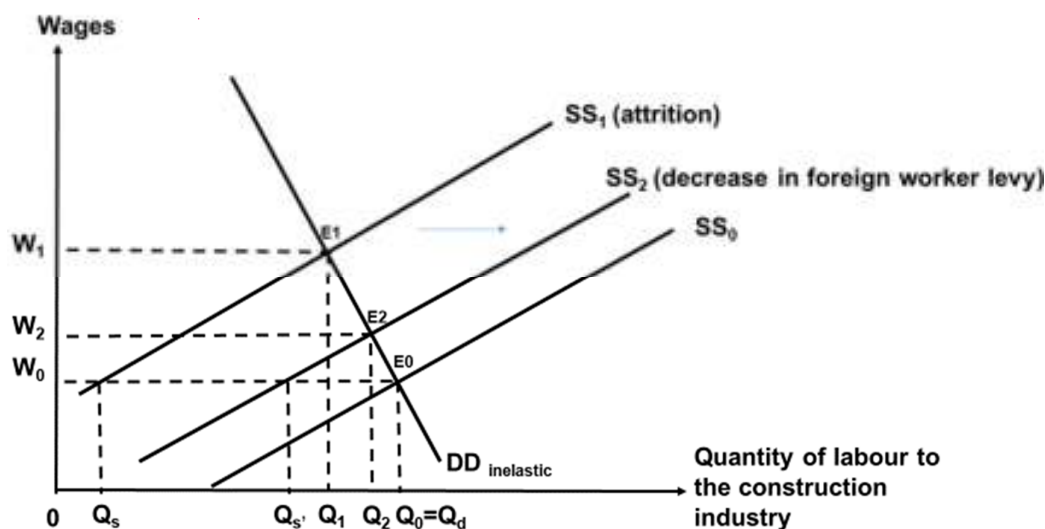


Figure 3: Labour Market in Construction Industry

Limitations of policy

- The demand for foreign worker is relatively price inelastic for the construction industry. There is a high degree of necessity to use labour in the construction industry (i.e. painting of exterior walls) and there are few substitutes available for low-skilled foreign workers as most of the local labour workforce among Singaporeans are mid to high skilled.
 - A decrease in foreign worker levy to increase the supply of labour.
 - Given that the demand for foreign worker is relatively price inelastic, when the cost of hiring the foreign worker has decreased, the quantity demanded for labour will only increase by less than proportionately.
 - Hence, the shortage of labour in the construction industry will still persist.

Anti-thesis: Productivity improvements are also effective in addressing the labour shortages

Alternative policy 1: Productivity improvements via usage of technology

- To allow for less manpower-intensive construction, HDB has been innovating and coming out with labour-saving production processes.
- The government can encourage firms to invest in technology such as more productive machineries to improve their production process.
 - For example, Singapore government adopts the Productivity Solutions Grant. This grant helps companies adopt technology solutions to improve productivity and enhance business processes. This will reduce the reliance on labour as a factor of production as more productive capital substitute workers in various stages of production, thus addressing the labour shortages.
- Hence, using productivity improvements, this reduces the need for labour and demand for labour reduces, addressing the shortage of labour.

Alternative policy 2: Productivity improvements via training of labour

- To overcome the problem of labour shortages, firms can attempt to increase labour productivity instead.
- Government can also provide grants to firms to send their workers for skills upgrading e.g. Skillsfuture. This will lead to an improvement in their productivity and increase output per worker. Assuming production level remains unchanged, firms can hire lesser labour in total, addressing the labour shortage.

Limitations of policy

- Training can take up significant amount of time and possibility of incurring opportunity cost in terms of lost output and revenue when the workers are attending the training courses or workshop. Hence, employers might not be willing to release their workers for training when productive work could be done.
- Furthermore, if these courses are conducted by other government agencies, the skills and knowledge taught could be generic and may not contribute directly to match the specific requirement of the firms.
- Hence, contribution to increased productivity of workers of the firms may be less significant.

Evaluative Conclusion

- To tackle this problem, government can lower the foreign worker levy to increase the supply of foreign labour to firms, allowing a larger number of foreign workers to be employed by firms. In addition, firms are encouraged to focus on increasing workers' productivity through training as well as to automation to reduce reliance on labour for its production.
- In the short term, to meet the deadlines of the construction projects and the rising demand – lowering the foreign worker levy is more appropriate as it helps to increase supply of labour immediately (whereas skills training or automation takes time to reduce the dependence for labour). This could be beneficial for construction firms facing urgent deadlines or projects with tight timelines. However, relying heavily on foreign labour might hinder the development of local skilled labour, which could have long-term negative effects on the industry's sustainability.
- In the long term, the construction industry has to reduce its reliance on labour to address the shortage of labour. Hence, training of the workforce to close manpower needs of firms and digitalisation gaps is of significant importance to help such firms solve the longer-term labour needs.
- While raising productivity might solve the issue of shortage of labour, a problem might arise with mismatch of skills between the new jobs created by digitalisation and automation.

- 2 GrabFood (56%), Foodpanda (35%) and Deliveroo (8%) dominate Singapore's online food delivery industry. Commentators observed e-commerce companies Amazon and Shopee potentially have an advantage in entering the online food delivery industry given their access to large customer databases, sophisticated analytics capabilities and e-commerce frameworks in place.
- (a) Explain why Singapore's online food delivery industry might be considered to be an oligopoly and how economic theory suggests this market structure can affect the firms' pricing and output decisions. [10]
- (b) Discuss the potential benefits and problems that are likely to be experienced by new competitors considering to enter the online food delivery market where GrabFood has the largest market share. [15]

Part (a) suggested answer

Introduction:

- The 3-firm market concentration ratio of GrabFood, Foodpanda and Deliveroo at 99% of total industry sales indicates a low level of competition and that the online food delivery industry is likely operating under an oligopoly market structure.
- Oligopolistic firms recognise that the outcome of their decisions are mutually interdependent. Prices are often observed to be rigid and output remains unchanged at the profit maximising level where marginal revenue equals marginal cost i.e. $MR=MC$.

Body:

1. Features of market structure - Oligopoly

1.1 A few dominant firms in the online food delivery industry

- The large market share of each firm in the online food delivery industry means that each firm possesses a high degree of market power and has a considerable influence over price. This gives each firm the ability to set prices and that each firm faces a downward sloping demand curve.

1.2 High Barriers to Entry

- Barriers to entry in the online food delivery industry are high. This deters the entry of potential rivals, enabling incumbent firms to retain supernormal profits earned in the long run.
- High start-up costs in the online food delivery industry makes it difficult for potential rivals to enter the industry.
- There are large, fixed capital investment incurred even before the first unit of output can be produced. For example developing the digital technology infrastructure to build the web-based digital platform and create the delivery app.

1.3 Nature of product: Differentiated

- Nature of product in online food delivery service industry is differentiated.
- Firms differentiate their services, reducing the degree of substitutability with that of their rivals such that consumers feel that there are no close substitutes and will not easily shift back or towards consuming rivals' products, strengthening their market power.
- For example GrabFood's appealing and user friendly mobile app allows consumers to order a wide variety of cuisines, international and local, from a large number of food outlets – restaurants, hawker stalls. Real time updates on the estimated time of delivery are also provided to consumers. The ease of navigation user friendly features reduces GrabFood's substitutability to that of their closest rivals Foodpanda and Deliveroo. Consumers are unlikely to choose or continue using GrabFood product.

1.4 Imperfect knowledge of market conditions

- Rival firms do not have perfect knowledge of the technology and/or skills used by incumbent firm to develop the digital technology infrastructure, acquire industry-specific knowledge about consumers taste and preferences. This gives the firm a competitive edge over their rivals. Rival firms could be paying more for such resources.
- Consumers do not have perfect knowledge of the quality of the services offered or the delivery fees charged by different firms and could be paying significantly higher delivery fees.

2. Mutual interdependence

- Oligopolistic firms in the online food delivery industry are non-collusive and recognise that the outcome of their decisions depend on their rivals' response where each firm takes account of the actions and reactions of their rivals. Likewise its decisions will affect its rivals.

2.1 Kinked demand curve theory

- The non-collusive oligopolistic firm's demand curve is kinked at the current price due to the assumption that if the firm lowers its price below the kinked price, all other firms are likely to match this price fall rather than risk losing a

share of the market. The demand curve facing the firm below the kinked price is relatively price inelastic; a price fall leads to a less than proportionate increase in quantity demanded.

- On the other hand, if the firm raises its price above the kinked price, all other firms will not follow. The demand curve facing the firm above the kinked price is relatively price elastic i.e. a rise in price leads to a more than proportionate fall in quantity demanded. Other rival firms will not follow because by keeping their prices constant they can capture a larger market share from the firm that raised its price.

2.2 Decision on price and output

- The non-collusive oligopolistic firm's demand curve kinked at the current price suggests that price tend to be rigid. This is because with demand significantly more price elastic above the kinked price than below, this means that the firm will face different effects as rival firms will behave differently to a price cut and a price increase.
- As such the non-collusive oligopolistic firm has no incentive to raise price or to cut price leading to the observation that prices tend to be rigid.
- Consequently the marginal revenue (MR) curve of the non-collusive oligopolistic firm has a discontinuous (vertical) section where price and output are not sensitive to changes in production costs.
- Even if the non-collusive oligopolistic firm's MC curve shifts upwards or downwards within the range of the (vertical) discontinuous section of the MR curve, this would not lead the firm to change its output decision. Output remains unchanged at the profit maximising output level where profits are maximised when $MR=MC$.

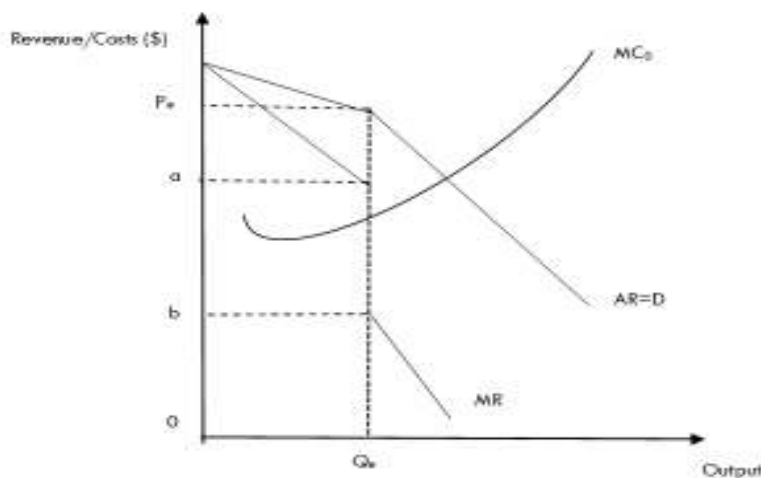


Figure 1

Note to students: Illustration of the Kinked demand curve diagram is not required.

Conclusion:

- Given the few dominant firms, high barriers to entry and differentiated nature of product, firm in Singapore's online food delivery industry operate under an oligopoly market structure.
- The existence of mutual interdependence between these non-collusive oligopolistic firms suggests that price tend to be rigid and that output remains unchanged at the profit maximising level.

Part (b) suggested answer

Introduction:

- New competitors are attracted by the supernormal profits earned in online food delivery market and will consider entry.
- However, entry is not without problems for new competitors given that incumbent firm that GrabFood possesses the largest market share and is well-established in the online food delivery market.

Body:

Potential benefits likely experienced by new competitors considering to enter the online food delivery market where GrabFood has the largest market share.

Body 1: Competitive advantage of new competitors: e-commerce companies like Amazon and Shopee

↑ Revenue

- New competitors such as e-commerce companies Amazon and Shopee accessibility to large customer databases and availability to sophisticated analytics and e-commerce frameworks suggests the ease with which they can overcome the high barriers to entry in the online food delivery market.

Accessibility to large consumer databases

- Amazon and Shopee accessibility to large customer databases reflects a large and ready pool of potential consumers who are already familiar with the functions and features of Amazon and Shopee web-based digital platform in their other market i.e. last mile package delivery market.
- Should Amazon and Shopee enter the online food delivery market and if these firms incorporate their online food delivery app onto their existing web-based app, the creation of a one-stop app could attract their large and ready pool of potential consumers to switch to using Amazon and Shopee, increasing demand for Amazon and Shopee product in the online food delivery market.

Established brands in their other market

- Moreover, Amazon and Shopee are established brands reputed for reliable delivery and after sales support in their other market i.e. the last mile package delivery market and if consumers translate their confidence in the Amazon and Shopee brand onto the online food delivery market, this could reduce Amazon and Shopee product substitutability to that of GrabFood.
- Overall rise in revenue for new competitors such as e-commerce companies Amazon and Shopee.

SR alternative objectives to profit maximisation

- In the short run, new competitors such as e-commerce companies like Amazon and Shopee's may focus on gaining market share in the online food delivery market, pursuing growth maximisation as their firm objective, deviating from profit maximisation objective.
- Pursuit of growth maximisation objective occurs when $AR=AC$. At this output and price the firm earns normal profit. This means price is lower and that output will be at the highest level consistent with the minimum requirement where $AR=AC$.
- In the short run, these new competitors would earn lower profits earned as compared to that of profit maximisation.

↓ Cost

(any one well explained type of IEOS in the context of online food delivery market will be accepted)

Indivisibilities

Accessibility to sophisticated analytics and e-commerce frameworks

- New competitors such as e-commerce companies Amazon and Shopee accessibility to sophisticated analytics capabilities and e-commerce frameworks in their other market i.e. the last mile delivery market suggests that Amazon and Shopee can benefit from economies of scale by making full use of capacity of this capital resource in the online food delivery market.
- Production on a larger scale means that these large capacity machines are better utilised. Fixed cost is spread the cost over larger output levels leading to lower average costs of production.

Organisational economies of scale

- New competitors such as e-commerce companies Amazon and Shopee could enjoy organisation economies of scale should Amazon and Shopee enter the online food delivery market, and enjoy cost advantages comparable to the economies of scale reaped by GrabFood with the largest market share.
- Individual departments in Amazon and Shopee could specialise in a particular function. For example, the human resource department could specialise and oversee employee related matters including recruitment, training and administer employee benefit programmes in both Amazon and Shopee last mile package delivery market and online

food delivery market. Similarly, the accounting department could specialise and oversee all cost related activities including employee wages and suppliers billing.

- When rationalisation takes place, this leads to lower average cost of production as such costs do not increase in proportion to size of output.

Potential problems likely experienced by new competitors entering the online food delivery market where GrabFood has the largest market share.

Body 2: External Diseconomies of scale (higher factor input price)

↑ Cost

- External diseconomies of scale could be experienced by new competitors leading to higher average cost of production.
- With the entry of new competitors, demand for specific resources such as software developers could increase more than current supply, which in turn can drive up their wage rates as the online food delivery market expands.
- To retain their own pool of software developers, GrabFood could increase the wages of their software developers, further driving wage rates higher.
- This leads to higher average cost of production for new competitors, with no change in their output.

Body 3: Price and Non-price competition

↓ Revenue

Limit Pricing

- Incumbent firm GrabFood may engage in limit pricing to deter potential entrants by charging a price low enough to make it unprofitable for new competitors to enter the industry, to protect its market share.
- GrabFood would have certain cost advantages a smaller new competitor might not have. For example GrabFood would enjoy lower average cost of production as its large advertising costs would be spread over a larger output.
- Smaller new competitors without access to a large consumer base would not be able to reap marketing economies of the same scale enjoyed by GrabFood. This leads to higher cost structure for smaller new competitors and in consequence deterring smaller new competitors from entry.

Non-Price Competition

↑ Cost

- New competitors are likely to incur higher cost as they engage in non-price strategies in an attempt to gain market share from GrabFood.

Product promotion

- New competitors such as e-commerce companies Amazon and Shopee would advertise their product through various mediums to increase their presence and at the same time build up brand loyalty in the online food delivery market.
- Expenditure on employing social media influencers to bring awareness to their product, engage food connoisseurs to review food options on their web-based digital platform, advertising on billboards with high foot traffic to increase demand and reduce their product's substitutability to that of GrabFood would be high.

OR

Product development

- High expenditure incurred from developing industry-specific features on their app to improve the consumer experience. For example, consumers clearly understand what to do with the app, which buttons to click and fast loading screens, adaptability to different device screen size for optimal viewing to rival that of GrabFood.

Evaluative conclusion:

- In the short run, potential problems of entry are likely to outweigh potential benefits for new competitors considering entry.

Size and Competitive advantage of new competitors

↑ Cost

- The strong presence of established incumbent firm GrabFood means new companies would incur higher advertising costs to establish their presence and gain market share although expenditure incurred could be lower for large e-commerce firms like Amazon and Shopee as they could leverage on their established brand name as compared to smaller new companies without an established brand name.

↓ Revenue

- Contractual agreements on the partnership between GrabFood and food businesses could lead to lower revenue for new companies considering entry if the contractual agreement does not permit the food business to sign up to another different online food delivery company or that some food businesses may choose not to partner new companies as that would mean additional sign up cost with an unestablished new company.

- The reduced availability and accessibility of food options on new competitors online food delivery platform could mean fewer number of consumers leading to lower demand and thus lower revenue.
- In the long run, potential benefits likely outweigh the potential problems.

Evolving market conditions

Better communication and coordination → ↓ Cost

- Smaller new competitors are often unencumbered by the multiple layers of administration typically found in the bureaucratic structure of large firms such as GrabFood.
- In smaller sized firms, communication with all employees take place in a generally more personal way such as weekly face to face team meeting rather than the use of written instructions or notes. This allows employees to clarify given instructions and for delivery workers to share consumers' feedback such as consumers preference for healthier food options given growing health consciousness and concerns about food diet.
- Better communication and coordination enables smaller new competitors to work with existing food business partners to increase the availability of healthier options on online food delivery platform, saves time, increases efficiency and lowers average costs of production.

↑ Revenue

- Consumers living in the digital age have become accustomed to the convenience of online transactions and will come to expect more from online food delivery.
- Large e-commerce companies like Amazon and Shopee could leverage on their sophisticated analytics capabilities to identify and acquire industry-specific emerging consumer trends quickly. For example offer more late night and breakfast food delivery options as the popularity of subscription based streaming services like Netflix and Disney+ rises.

- 3 The market for healthcare may not achieve an efficient allocation of resources when there are information failures, especially asymmetric information in the healthcare insurance market. To help cope with rising healthcare costs, Singapore government has instituted Medishield Life, a basic health insurance plan that protects all Singapore Citizens and Permanent Residents against large hospital bills for life, regardless of age or health conditions.
- (a) Explain how **two** different types of information failure could prevent an efficient allocation of resources in the markets for healthcare and healthcare insurance. [10]
- (b) Given the ageing population in Singapore, discuss the difficulties faced by the Singapore government in addressing information failure in the markets for healthcare and healthcare insurance. [15]

Part (a) suggested answer

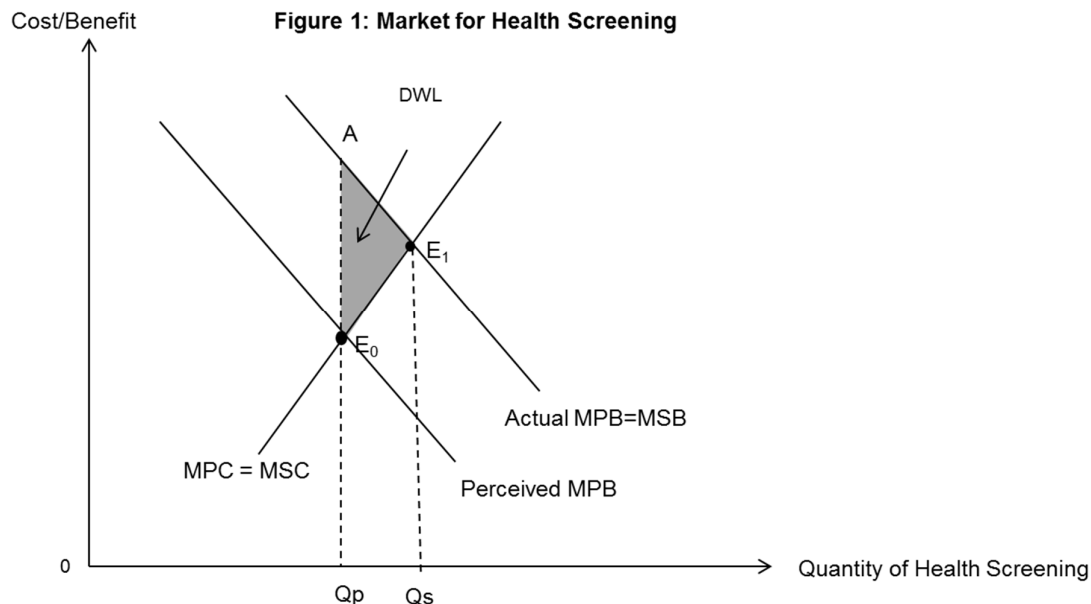
Introduction

- Define information failure to be when some, or all, of the participants in an economic exchange do not have perfect knowledge, that is there is imperfect information.
- Information failure may also exist when one participant in an economic exchange knows more than the other, a situation referred to as the problem of asymmetric information.
- Imperfect information may prevent economic agents from consuming or producing at the levels that would maximise their welfare and they would otherwise choose. There is likely to be a misallocation of scarce resources, with consumers paying or consuming too much or too little, and firms producing too much or too little.
- Healthcare services are broad. This might include preventive healthcare (such as flu shot, mammogram, health screening, etc.), treatment for illnesses (such as diabetic treatment, dialysis, etc.), as well as healthcare insurance (such as Medishield Life). These healthcare services are subjected to imperfect information as well as asymmetric information which prevent an efficient allocation of resources in healthcare services.

Body

1. Explain the under-consumption of healthcare services due to presence of imperfect information

- In the market of healthcare, there could be imperfect information about the benefits of “consuming” healthcare. This means that there is a difference between the value of the perceived benefit and the actual benefit.
- An example would be health screening where the perceived benefit to the consumers include early detection of illnesses even before the symptoms become noticeable. However, the actual benefit may even include the reduction in the treatment costs as treating illness at an early stage can be more effective and requires less medical intervention (e.g. regularly prescribed medication as compared to healthy diet and regular exercise) and is thus the actual Marginal Private Benefit (MPB) is higher than the perceived MPB as individuals did not realise the benefit of reduction of future medical costs with early detection. The consumer may not have the information regarding the details of the cost reduction.
- As shown in the figure 1 below, the perceived MPB of the consumers will be lower than the actual MPB.
- When the consumers go for health screening, they only consider perceived MPB and Marginal Private Cost (MPC) which is the explicit cost of health screening. Hence, they will consume at Q_p unit of health screening where perceived $MPB = MPC$ at E_0 . However, the actual MPB is higher than the perceived MPB. This means the socially optimum level of output is at Q_s unit of health screening where actual MPB is equal to MPC at E_1 . As Q_p is less than Q_s , there is an under-consumption of health screening.
- With an under-consumption of $Q_p Q_s$, the benefit forgone is $AE_1 Q_s Q_p$ while the cost forgone is $E_0 E_1 Q_s Q_p$. As the benefit forgone is more than the cost forgone, there is additional benefit/welfare gained lost due to the under-consumption of health screening. Therefore, there is the welfare loss/deadweight loss to the society which is the area $AE_1 E_0$. There is a need to increase output to Q_s unit of healthcare to increase social welfare and to achieve allocative efficiency.



2. Explain asymmetric information as the source of market failure in the market of healthcare insurance

- Asymmetric information is a case where one party in the market (either buyers or sellers) has more information about the product than the other resulting in a distortion of incentives and inefficient market outcomes.
- In the healthcare insurance market, adverse selection may occur.

Adverse selection

- In the market of healthcare insurance, adverse selection is more likely to exist in the context of healthcare insurance. People who buy healthcare insurance usually know much more about their general health than any insurance company can hope to know.
- As the insurance company is unable to differentiate between potential buyers who are healthy and unhealthy, it will charge a uniform price in the form of a standard insurance premium.
- However, the healthy individual will find this standard insurance premium to be too costly as they are less likely to make a medical claim.
- Thus, healthy individuals who do not find this insurance premium a good deal will leave the market, thus increasing the proportion of unhealthy individuals in the pool of insured people. This will result in significant increase in incidence of claims. As a result, insurance companies will raise their premiums to cover their losses which force the price of insurance to increase. As a result, more healthy people who are aware of their low risks choose not to be insured because the rising premiums could exceed the marginal benefit (MB) of purchasing insurance. This will further increase the proportion of unhealthy people among the insured, which forces the price of insurance to increase further.
- In the absence of intervention, this process will continue until only unhealthy consumers are left in the market. This would cause the healthcare insurance market to fail completely because insurance companies will not want to sell healthcare insurance to unhealthy people as it is unprofitable to do so.
- In reality, the complete collapse of the market is not observed because of various measures implemented.

Conclusion

- The presence of imperfect information as well as asymmetric information may cause under-consumption of healthcare services. Thus, there needs to be measures to address the information failure to achieve an efficient allocation of resources in healthcare services market.

Part (b) suggested answer

Introduction

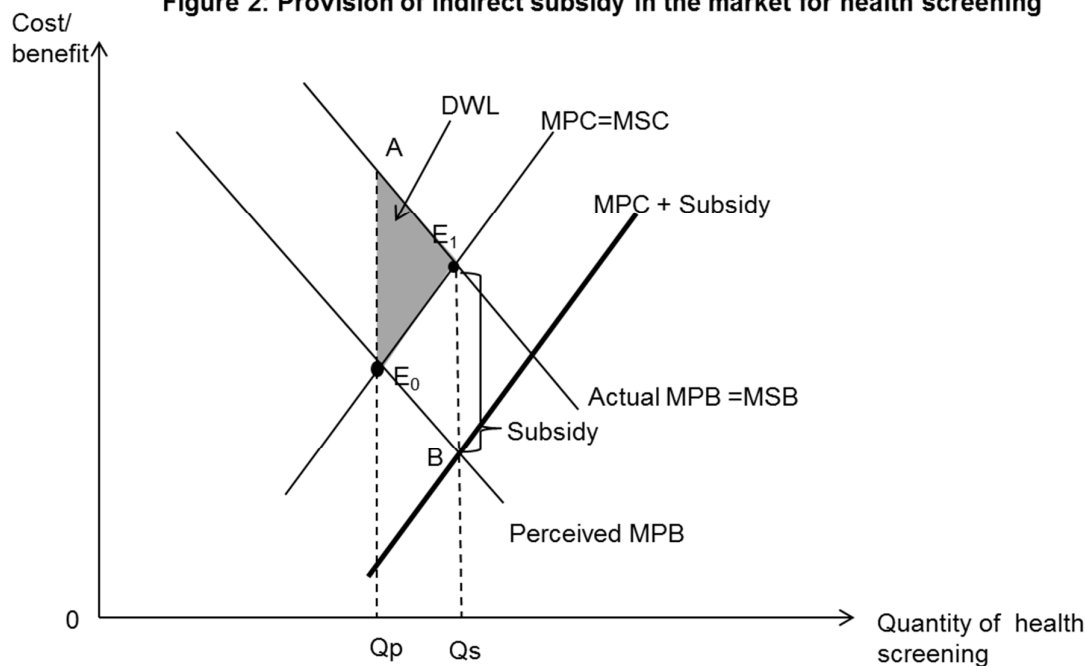
- An ageing population may be assumed to be more vulnerable to information failure in terms of imperfect information.
- In addressing imperfect information and asymmetric information in the healthcare services market to achieve an efficient allocation, the Singapore government may implement market-based measures such as subsidies as well as non market-based measures such as education and campaigns but there are difficulties in implementing these measures.

Body

1. Explain the difficulties in implementing market-based measure such as subsidies to address information failure in the healthcare services market for an ageing population

- As explained in part (a), the divergence between the actual and perceived MPB would lead to an under-consumption of healthcare services such as health screening services.
- An ageing population is more likely to be vulnerable to such information failure, thus resulting in a significant divergence between actual and perceived MPB and resulting in a significant under-consumption of healthcare services such as health screening services.
- To achieve an efficient allocation of health screening services, the Singapore government may intervene via market-based measures such as the provision of an indirect subsidy.
- For example, government provides subsidies for health screening in polyclinics and public hospitals to encourage residents to go for health check-up so as to be able to detect any illnesses even before the symptoms become noticeable.

Figure 2: Provision of indirect subsidy in the market for health screening



- With reference to figure 2, the amount of indirect subsidy should be equal to E1B which is the gap between actual and perceived MPB. This will shift MPC downwards to MPC + subsidy. Consumers will now be able to consume at socially optimal level of output as perceived MPB cuts MPC + subsidy at Qs unit of health screening.
- With an increased consumption towards socially optimal consumption level at Qs, there will be a removal of deadweight loss (DWL) to society.

Difficulties in provision of subsidies to achieve an efficient allocation in healthcare services

- Given the likely significant under-consumption due to the significant divergence between actual and perceived MPB by the ageing population in Singapore, the amount of government funding for the indirect subsidy is expected to be significant.
- This may cause difficulties for the government as this may result in opportunity cost where budget reserves needs to be diverted away from the provision of other merit goods such as education and national defence.
- Moreover, the indirect subsidy implemented does not address the root cause of the information failure as elderly consumers might still have incorrect understanding of the MPB which means that there is still a gap between perceived and actual MPB. Therefore, this needs to be complemented with other policies such as education or campaign to correct the misunderstanding.

- Government may also estimate incorrectly the amount of required subsidy and result in welfare loss to society. For example, due to imperfect information, the government may over-subsidy the healthcare services market and thus result in an over-consumption of healthcare services instead. This may lead to a greater deadweight loss due to the over-consumption than the initial deadweight loss, thus resulting in government failure.
- 2. Explain the difficulties in implementing non market-based measures such as education and campaign to address information failure in the healthcare services market for an ageing population**
- To address the information failure in the healthcare services market, the Singapore government may also implement education and campaigns to encourage residents to go for various types of healthcare services such as health screening by informing the public of the benefit of consuming such healthcare services. This is to encourage the consumers to increase the consumption of the healthcare.

Difficulties in implementation of non market-based measures such as education and campaign to achieve an efficient allocation in healthcare services

- The effectiveness of such policies depends on the receptiveness and the willingness of the consumers to digest the information provided and to go for the health screening.
 - It might also take a long time for the consumers to change their lifestyle and habit.
- 3. Explain the difficulties in implementing non-market based measures to address asymmetric information in the healthcare insurance market for an ageing population**
- As explained in part (a), the presence of asymmetric information in the healthcare insurance market will lead to adverse selection and moral hazard which will result in welfare losses to society and thus allocative inefficiency.
 - An ageing population is likely to be vulnerable to both adverse selection and moral hazard in the healthcare insurance market.
 - To address asymmetric information in the healthcare insurance market, the government with non-market based measures including legislation and regulation as well as direct government intervention.
 - To address adverse selection in the healthcare insurance market, the government can use legislation to make healthcare insurance compulsory for all, thus eliminating the market failure that arises due to adverse selection as all citizens (both healthy and less healthy) are covered under the compulsory healthcare insurance.
 - In Singapore, Medishield Life is instituted to provide a basic health insurance plan that protects all Singapore Citizens and Permanent Residents against large hospital bills for life, regardless of age or health conditions.

Difficulties in provision of subsidies to achieve an efficient allocation in healthcare services

- Provision of Medishield Life may result in under-consumption still by those who have poorer health and thus require higher healthcare insurance payouts. In addition, those who with better health is likely to be paying more than they wish for healthcare insurance. Hence, there is allocative inefficiency present.
- Moreover, with government legislation, this may provide a barrier to entry for the healthcare insurance companies that are under the Medishield Life programme and thus result in a lack of profit motive and thus productive inefficiencies.

Evaluative Conclusion

- The extent of difficulties faced by the Singapore government in achieving an efficient allocation in the healthcare services market depends on:
 - The sustainability of budget reserves
 - The robustness of healthcare insurance market to offset medical expenses
 - The level of education and receptiveness of the population
- Overall, in Singapore, the difficulties to address information failure in markets of healthcare and healthcare insurance is not likely to be significant despite the ageing population. Singapore has a healthy budget reserve and has also tapped on the healthcare insurance market to ensure sustainable ways to address the healthcare needs of the ageing population. Moreover, the highly educated population helps to enhance the effectiveness of non-market based measures such as campaign efforts as seen in the success of recent campaign efforts such as Healthier SG, a publicity drive to increase the consumption of healthcare screening in Singapore.

Paper 2 Section B – Essay Questions

- 4 Singapore's economy grew 3.6% in 2022, driven by the lifting of COVID-19 border restrictions and the return of international visitors. However, the economic growth rate in 2022 was slower than 2021's 8.9% growth rate.

Source: Nikkei Asia, 3 January 2023

- (a) Explain the internal and external factors that are likely to have contributed to this slowdown in the economic growth rate. [10]
- (b) Discuss whether trade-off between macroeconomic goals is the main factor the Singapore government should consider when implementing policies aimed to increase the economic growth rate. [15]

Suggested Answer

Part (a)

Introduction

- Actual economic growth is an increase in real national income or output of an economy, often measured by the percentage change in real GDP.
- The level of real national income is determined by the intersection of AD and AS, and hence economic growth is caused by shifts in AD and AS.
 - A slowdown in economic growth could thus be caused by slower growth in AD, or
 - falling AD with increasing AS or
 - a falling AS while AD is still increasing.

External factor causing the change in AD

1. Increase in tourist revenue
 - As there is lifting of COVID-19 border restrictions and the return of international visitors, it will lead to an increase in tourists' inflow into Singapore. The increase in tourist revenue will lead to an increase in their demand for our exports (from Singapore), causing AD to increase, as represented by a rightward shift in AD curve from AD₀ to AD₁ (Figure 1).
2. Fall in trading partner's income
 - Western nations have imposed sanctions on Russia. This has led to soaring oil prices and the higher cost of energy led to cost push inflation and falling real national income in European nations. Europe is one of Singapore's key trading partners. Hence, when EU is facing falling real national income and falling purchasing power, EU will reduce their imports, thus leading to a fall in demand for Singapore's exports. This results in a fall in export revenue for Singapore and hence a fall in AD from AD₁ to AD₂.

Internal factor causing the change in AD

3. Negative expectations
 - Due to the geopolitical instability, it has led to negative consumer sentiments causing consumers to hold back their purchases.
 - If households expect their income to fall or fear losing their jobs, they are likely to save more for contingencies and cut down their spending, thus leading to a fall in consumption expenditure and hence a decrease in AD from AD₁ to AD₂.
 - The poor economic outlook may also cause firms to be more cautious about investments. As firms expect incomes to fall and demand for their products to decrease, they are less likely to invest in capital to expand their business. Hence, investment is likely to decrease, resulting in a fall in AD from AD₁ to AD₂.

Assuming that, on balance, AD continues to increase from AD₀ to AD₁ due to the inflow of tourists revenue (export revenue), the other factors resulting from the geopolitical instability had caused AD to fall from AD₁ to AD₂. Hence, the falling AD would partially offset the increase in AD, causing AD to rise by a smaller extent from AD₀ to AD₂, and hence a slowdown in economic growth from Y₀ to Y₁.

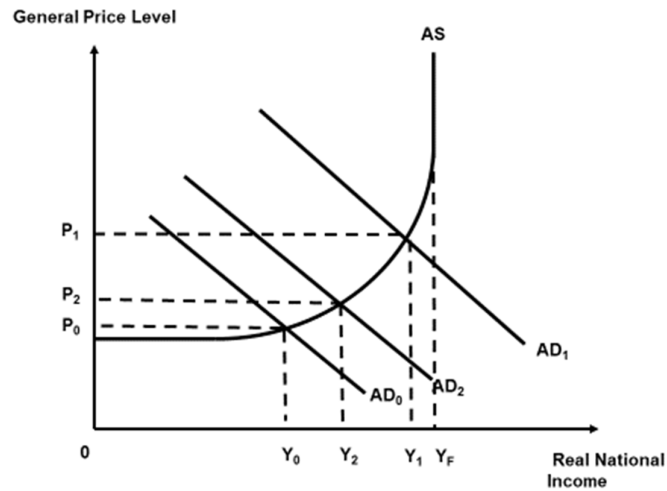


Fig 1: Slowdown in economic growth due to fall in AD

As shown in Fig 1, the fall in AD from AD_1 to AD_2 causes AD to increase by a smaller extent than what it could have been. The smaller increase in AD from AD_0 to AD_2 represents a slowdown in economic growth from Y_0 to Y_1 .

External factor causing fall in AS

1. Rise in import prices

- In 2022, there is a rapid rise in energy and food prices. Due to its lack of natural resources, Singapore relies on imports of raw materials such as energy and food.
- An increase in prices of imports would mean a rise in cost of imported inputs. This is especially important for Singapore which is highly open, with imports accounting for over 150% of GDP. Hence, the rise in cost of imported raw materials would lead to an increase in cost of production. This causes firms to raise the prices of their products and reduce their output, thus resulting in a fall in SRAS. The fall in AS from $SRAS_0$ to $SRAS_1$ results in a smaller increase in real national income from Y_0 to Y_2 instead of Y_0 to Y_1 hence causing a slowdown in economic growth.

Internal factor causing fall in AS

2. Rise in labour costs

- In 2022, there is a tight labour market. The shortage of labour has brought about an upward pressure on wages.
- With the rising labour wages, this would mean a rise in cost of production. This causes firms to raise the prices of their products and reduce their output, thus resulting in a fall in SRAS. The fall in AS from $SRAS_0$ to $SRAS_1$ results in a smaller increase in real national income from Y_0 to Y_2 instead of Y_0 to Y_1 hence causing a slowdown in economic growth.

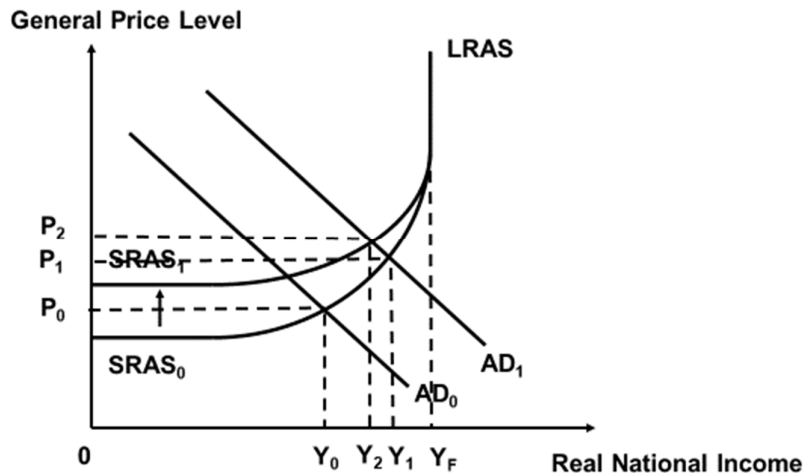


Fig 2: Slowdown in economic growth due to fall in AS

Conclusion

Overall, the slowdown in economic growth could thus be caused by slower growth in AD and a falling AS while AD is still increasing.

Suggested Answer

Part (b)

Introduction

To increase economic growth may include expansionary fiscal policy, exchange rate policy and supply-side policy. Being a small and open economy, Singapore faces certain constraints and challenges in the use of macroeconomic policies. One of the factors that government considers is the trade off in macroeconomic goals in the implementation of policies to boost economic growth. In addition, there are also other significant factors that government considers in their choice of policies.

Body

Policy 1: Expansionary fiscal policy

- In a period of economic slowdown or recession, the government may implement expansionary fiscal policy to stimulate economic growth.
- Increase in government spending eg. on infrastructure such as building more roads and public amenities or on merit goods such as education and healthcare.
- Reduction in taxes (eg. personal income tax and/or corporate tax) → increase in disposable income of households and/or post-tax profits of firms → increase in C and I.
- The increase in G, C and/or I leads to increase in AD
- Overall, the increase in AD as illustrated in Figure 1 from AD_0 to AD_2 . The increase in AD would increase national income via the multiplier effect where the increase in expenditure would generate an increase in income, vice versa, to eventually result in a more than proportionate increase national income. The cycle repeats and at each successive round, the increase in income gets smaller and smaller because of leakages in the form of savings, taxes and imports. Eventually, the multiplier process ends when the addition of withdrawals equals to the initial injection and the economy returns to equilibrium at a higher national income, thus helping the economy to increase its economic growth rate.

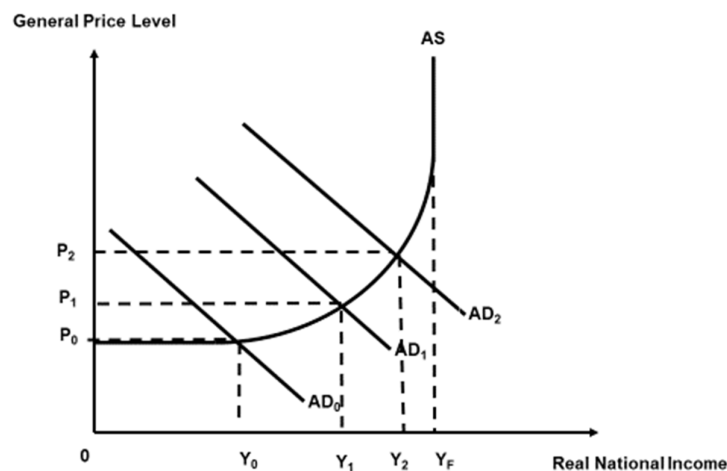


Figure 1: Expansionary Fiscal Policy

Thesis: Trade-off between macroeconomic goals is the main factor the government should consider when implementing policies aimed to increase the economic growth rate

- **Trade-off between Economic Growth and Price Stability (Demand-pull inflation)**

- If the fiscal policy is over-expansionary, it could cause the AD to increase beyond the full employment level, causing the economy to become over-heated and resulting in demand-pull inflation. This means an increase in general price level as firms are unable to increase output sufficiently due to the lack of spare capacity as resources in the economy are fully utilised.
- The trade-off is significant as government is also facing cost-push inflation due to soaring imported prices of energy and food. Hence, the increase in economic growth rate would come at a huge expense of price stability.

Anti-Thesis: There are other factors the government should consider when implementing policies aimed to increase the economic growth rate

- **Consideration of the feasibility of policy (budget constraints)**

- Transfer payments require government budget. Without the budget, governments may have to borrow to finance the transfer payments, leading to accumulation of public debt, which means that any economic growth benefits are likely reduced as part of it must go towards repaying the debt.
- Expansionary fiscal policy imposes a severe strain on the government budget. This is especially difficult for the Singapore government as the country was already in 3 years of budget deficits in 2020-2022.
- Hence, other expansionary tool such as exchange rates may be more appropriate to reduce the burden on government's fiscal budget.

- **Consideration of the effectiveness and appropriateness of policy (dependent on multiplier size):**

- Government might want to consider the effectiveness of using expansionary fiscal policy to increase economic growth. The effectiveness of the policy to increase growth depends on the size of multiplier and the size of government spending (magnitude of fiscal policy).
 - The larger the size of the multiplier, the larger the increase in national income given an increase in AD. Hence, government does not need to spend as much to raise RNY and increase its economic growth rate sufficiently.
 - If the multiplier is small due to high level of leakages, less income will be pump back into the circular flow to further generate expenditure and income. If so, the eventual increase in national income might not be significant, thus the use of demand management policies might be of limited in helping the economy recovers. Countries with small multiplier size will need to spend more on transfer payments in order to raise the RNY to the same extent. Hence, other expansionary tools such as exchange rates or interest rates may be more appropriate.
- For instance, Singapore has a small multiplier size due to the Asian culture of thrift, marginal propensity to save is high. In addition, given that Singapore has limited resources, there is high marginal propensity to import as it is dependent on imports for raw materials. Therefore, with the implementation of expansionary fiscal policy which aims to achieve economic growth, the increase in AD will not cause a significant increase in national income. As such, Singapore with a small multiplier size, the effectiveness of FP may be limited. Singapore will need to spend more on transfer payments in order to raise the RNY to the same extent as that of a country with larger multiplier size. Hence, other expansionary tool such as exchange rates may be more appropriate to reduce the burden on government's fiscal budget.

Policy 2: Exchange Rate – Depreciation

- An alternative policy tools such the use of exchange rates may be more appropriate for some economies. Depreciating the currency could raise RNY. In the case of Singapore, to boost export competitiveness, the Monetary Authority of Singapore (MAS) could depreciate the Singapore dollar. This makes Singapore's exports cheaper in foreign currency, leading to an increase in demand for Singapore's exports and hence increase in export revenue.
- Simultaneously, price of imported goods is more expensive in Singapore dollar, leading to a less than proportionate decrease in quantity demanded for imports, hence increase in import expenditure. This is because Singapore's demand for imports is price inelastic due to its high degree of necessity to import raw materials and intermediate goods as it lacks the natural resources.
- Demand for Singapore's exports is likely to be price elastic due to close foreign substitutes available for its key exports such as electrical machinery, chemical goods and refined oil. According to the Marshall-Lerner condition ($|PED_x + PED_m| > 1$), a depreciation leads to an improvement in net exports, increasing AD and national output.

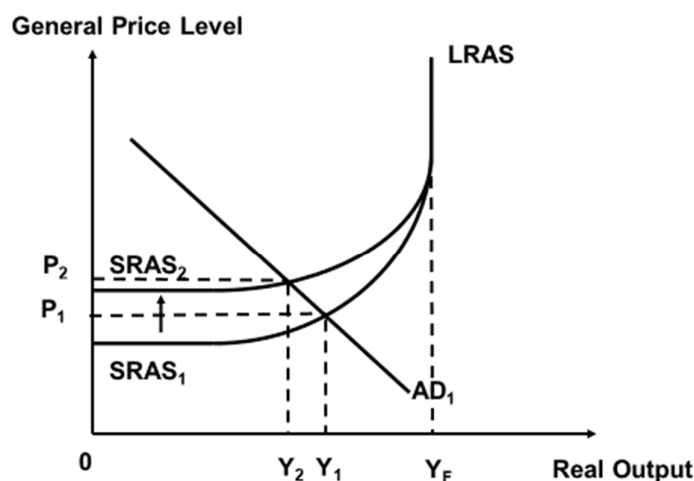
The increase in AD would increase national income via the multiplier effect where the increase in expenditure would generate an increase in income, vice versa, to eventually result in a more than proportionate increase national income, thus helping the economy to increase its economic growth rate.

- More open economies who tend to be more trade reliant such as Singapore relies on external markets to grow economy, the % of (X-M) as GDP is relatively higher than C and I (as a percentage of GDP). This means that depreciation is a more effective policy to increase economic growth rate as the increase in (X-M) is able to increase AD more significantly and hence RNY more and faster, thus helping the economy to increase its economic growth rate.

Thesis: Trade-off between macroeconomic goals is the main factor the government should consider when implementing policies aimed to increase the economic growth rate

- However, for an import reliance economy like Singapore which has no natural resources thus dependent on importing of even the most basic needs, the weakening of the currency would likely result in higher price of imported goods (in terms of local currency). Hence, Singapore faces higher imported cost of production where SRAS decreases and results in a cost push inflation where importers pass on the higher cost in terms of higher prices to buyers i.e. general price level increases as seen in Figure 2 where P_1 rises to P_2 .

Figure 2: Import price push inflation



Anti-Thesis: There are other factors the government should consider when implementing policies aimed to increase the economic growth rate

- **Consideration of the effectiveness of policy/ Consideration of time period:**
 - For depreciation to increase the economic growth rate, government might consider the effectiveness of the policy in the short term.
 - According to the J-curve effect, the price elasticities of demand for exports and imports may be low in the very short run due to the fact that time is needed to make adjustments in demand, source for alternative suppliers or modify existing contracts. International trade is typically contractual based and hence the quantity of exports and imports may not be responsive to prices in the short run. As a result Marshall-Lerner condition ($|PEDX + PEDM| > 1$) may not be initially satisfied. This means that allowing the domestic currency to depreciate could initially/in the short run lead to a worsening of trade balance and decreases AD and NY in the short run.
- **Consideration of the effectiveness of policy**
 - For depreciation to increase the economic growth rate, government might consider the effectiveness of the policy.
 - For a small and open economy such as Singapore, she is highly reliant on trade with total merchandise trade accounting for more than 3 times of GDP, with exports of goods amounting to over 180% of GDP and imports over 160% of GDP. Trade is a key engine of growth for the Singapore economy. Hence, it is more effective to manipulating the exchange rates to increase net exports and achieve the increase in RNY more significantly as trade is a significant component of Singapore's AD. As Singapore depends less on internal demand, fiscal policy is less effective and can play a smaller role, as consumption and investment take up a smaller percentage of the country's GDP.

Policy 3: AS policy

- Supply-side policies could be used to address the increasing costs of production due to the rising global oil price. Singapore uses interventionist supply-side policies such as provision of grant to fund research and development projects or provision of subsidies to cover the cost of training of workers to improve productivity level of the labour. In addition, government could also adopt SRAS policy such as subsidies to help firms reduce the burden of increased costs of production.

SRAS policy: Subsidies to producers

- SRAS policy aims to increase SRAS by lowering the costs of production. This include the reduction of structural rigidities or provision of subsidies.
- Given that higher oil prices lead to higher fuel cost for producers, Singapore government could provide subsidies to reduce the burden of increasing costs of production. For example, government could provide subsidies on utilities or rebates on rental.
- To address the increasing costs of labour, government could also provide some forms of subsidy such as Wage Credit Scheme or to reduce employers CPF contributions or to reduce foreign workers levy.
- A subsidy would reduce their cost of production, leading to an increase in SRAS from $SRAS_0$ to $SRAS_1$, helping to increase economic growth rate from Y_0 to Y_1 as shown in figure 3.

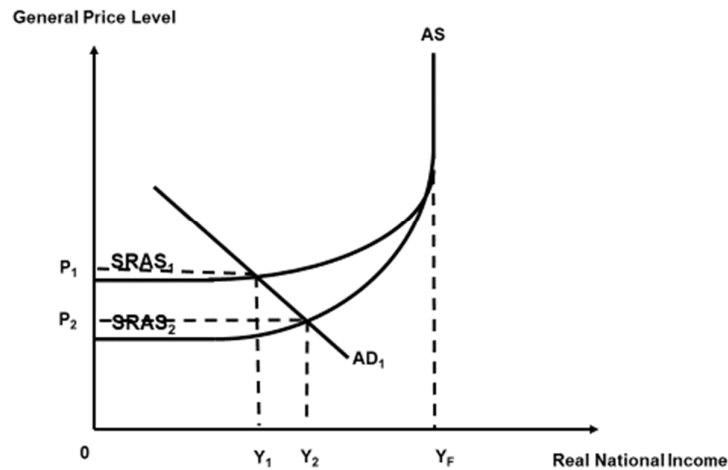


Figure 3: Subsidy to producers

Anti-Thesis: There are other factors the government should consider when implementing policies aimed to increase the economic growth rate

- **Consideration of the appropriateness of policy**

- If the slowdown in economic growth is largely caused by falling AS (imported price push inflation), government can consider using subsidies to producers to increase SRAS.
- In 2022, due to the geopolitical instability that resulted in supply chain disruptions and higher global oil prices, the slowdown is partly caused by falling SRAS. Hence, it is appropriate to use a SRAS policy such as subsidies on utilities/oil to reduce the cost of production for firms and increase SRAS to increase economic growth.

- **Consideration of the feasibility of policy (budget constraints)**

- While giving subsidies can help to reduce cost of production, this imposes a strain on the government budget. The increased subsidies incur an opportunity cost to the economy as it could have been spent on another area such as education.

Evaluative Conclusion

- It is inevitable that each of these policies may also give rise to difficulties for Singapore's economy due to possible conflicts in the government's objectives and other unintended consequences. For example, an expansionary fiscal policy may conflict with the Singapore government's fiscal prudence stance and may result in demand-pull inflation, while exchange rate depreciation used to increase economic growth rate during a recession.
- The most important factor that government should consider would be the trade-off between macroeconomic goals when implementing policies aimed to increase the economic growth rate.
 - Given the trade-off occur in the implementation of policies to increase economic growth, government who recognises the trade-off has to then prioritise the macroeconomic goal which they want to focus on.
 - For 2022, government has to consider the priority of the macroeconomic goal - whether to increase economic growth rate or achieve price stability in 2022. Inflation was nearing 6-8% in most economies, hence the priority would be to achieve price stability by using appreciation which would reduce (X-M) and AD and causes the conflict with economic growth.
- The second most important factor would be to consider the root cause whether the policy is appropriate to increase the economic growth rate.
 - If the slowdown in economic growth is largely due to a dampening of AD (decrease in X-M: due to falling income of trading partner and pessimistic outlook due to geopolitical instability), government should aim to use a AD policy which could increase (X-M) such as depreciation.
 - If the slowdown in economic growth is largely caused by falling AS (imported price push inflation), government can consider using subsidies to producers to increase SRAS.
- The least important factor that government should consider would be the budget constraint as government was able to use the past reserves. Other factors such as time lag and effectiveness of policies are also considered by the government to increase its economic growth rate in a short period of time but are less significant factors for consideration in year 2022 as the priority of the government was to maintain price stability rather than to increase economic growth rate quickly and significantly.

- 5 In 2010, about 1 in 10 Singaporeans were aged 65 and above. A decade later, in 2020, it has risen to about 1 in 6. By 2030, it would be almost 1 in 4 Singaporeans over 65. Rapid digital transformation during Covid-19 has accelerated job automation and made securing employment harder for older workers.
- (a) Explain the likely impact of an ageing population on fiscal budget balance and unemployment of an economy. [10]
- (b) Discuss the effectiveness of increased government's spending to tackle unemployment caused by an ageing population in Singapore. [15]

Part (a) suggested answer.

Introduction:

- Budget balance refers to the balance between a government's total revenue and its total expenditure over a specific period, typically a fiscal year. It represents the difference between the money the government receives (revenue) and the money it spends (expenditure) during the fiscal year.
- Unemployment refers to the number of people of the legal working age who are willing and able to work but are unable to find suitable employment.
- The phenomenon of an ageing population, characterized by a higher proportion of elderly individuals compared to younger ones, has become a significant demographic trend in Singapore.
- There are potential effects of an ageing population on a country's budget balance and unemployment rate.

Body:

(1) Impact on Fiscal Budget Balance:

- **Increased Healthcare and Pension Expenditure**

As a population ages, the demand for healthcare services typically rises due to a higher prevalence of age-related ailments such as Arthritis, Osteoporosis, Hypertension, Type 2 Diabetes, cardiovascular diseases and Alzheimer's Disease and Dementia.

The Singapore government places a significant emphasis on providing comprehensive healthcare services and support for the elderly population. The government's healthcare spending on the elderly in Singapore includes various initiatives and programs aimed at ensuring their well-being and addressing their specific healthcare needs. Some key programmes include the Pioneer Generation Package (PGP) and the Silver Support Scheme. Introduced in 2014, the PGP offers various benefits to Singaporeans born on or before December 31, 1949. These benefits include subsidized healthcare services, outpatient treatment, and MediShield Life premium subsidies. The Silver Support Scheme introduced in 2016, provides quarterly cash payouts to eligible elderly Singaporeans who have low-income and limited retirement savings.

Additionally, an ageing population requires more extensive pension and social security systems. Governments must allocate greater resources to cover these rising costs, potentially leading to an increase in public spending. This surge in government expenditure can put pressure on the budget balance.

- **Declining Tax Revenue**

As a population ages, there is a potential decline in the size of the labour force. Older individuals may retire or reduce their working hours, leading to a decrease in the number of taxpayers contributing to income tax revenues. This can result in lower tax revenue unless offset by increased contributions from other sources.

Older individuals typically have different consumption patterns than younger ones. They might spend less on goods and services which are subjected to consumption taxes like the goods and services tax (GST). This could potentially lead to reduced tax revenue collected from GST.

Hence, an increase in government spending and reduced tax revenue as discussed above will certainly place a strain on or cause a worsening of government budget balance.

(2) Impact on Unemployment:

According to the preamble, in 2010, about 1 in 10 Singaporeans were aged 65 and above. A decade later, in 2020, it has risen to about 1 in 6. By 2030, it would be almost 1 in 4 Singaporeans over 65.

The impact of an ageing population could lead to structural and cyclical unemployment given its impact on aggregate supply and aggregate demand.

- **Impact on cyclical unemployment.**

The aggregate demand (AD) in an economy such as Singapore might fall due to the fall in any one of the following components of AD such as net exports, consumption and foreign direct investment.

An ageing population will lead to a fall in labour supply as the younger workers entering the workforce is not enough to compensate for the retirement of older workers leading to a shrinking labour force.

This fall in labour supply will thereby lead to a rise in equilibrium wage, which would, in turn, lead to a fall in short-run aggregate supply when cost of production rises across industries. Firms will generally respond to the higher cost of production by raising prices and decreasing output. Hence, general price level (GPL) increases and real national output decreases.

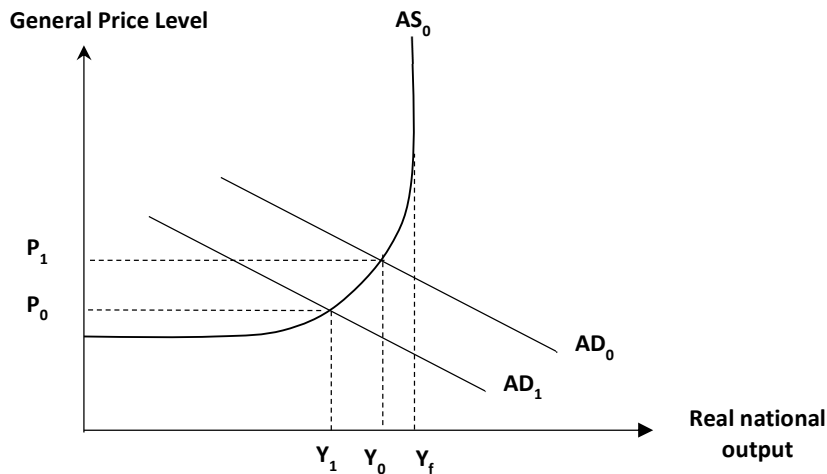
The rise in GPL will have a negative impact for an export-reliant economy like Singapore, as the higher rate of inflation in relation to other trade rivals will cause a fall in Singapore's export price competitiveness. The rise in price of exports of goods and services will lead to a more than proportionate fall in the quantity demanded of exports given that the price elasticity of demand of Singapore's exports is price elastic. As a result, export revenue falls, assuming ceteris paribus, the net export component of AD will fall.

Separately, with an ageing population, the elderly may have a greater marginal propensity to save and lower marginal propensity to consume. Specifically, retired individuals are more cautious about unpredictable expenses, and engage in precautionary saving, in case of ill-health and its accompanying substantial medical expenses. Moreover, the elderly may save more so that they can leave bequests to their children. With these considerations, the overall consumption level of an ageing population will fall, leading to a fall in AD.

Moreover, the higher cost of production due to the higher wage rates as a result of labour market changes may affect the decision of foreign investors (FDI) who are considering investing in the country. The higher cost of hiring labour may also lead to an outflow of FDIs from the economy if this higher cost has negatively impacted the profitability of the investments in the economy. This decreases the level of investments which decreases AD.

Since $AD = C + I + G + (X - M)$, the decrease in $(X - M)$, C and/or I , will lead to fall in AD, shifting AD leftwards as AD_0 to AD_1 in Fig 1 below. which will lead to further decrease in real national income and actual growth. Real national income falls to Y_1 , causing a fall in derived demand for labour, increasing cyclical unemployment in the country as firms reduced their output and the derived demand for labour falls.

Fig 1: Fall in AD leading to cyclical unemployment.



- **Impact of ageing population on structural unemployment.**

To cope with the fall in supply of labour and rising wage rates, firms might resort to using labour-replacing technologies and capital equipment, which hopefully, will help with productivity and lower cost of production.

With the change in production methods, older workers who may still be in employment may not be able to keep pace with technological changes. They may possess skills that are no longer aligned with the changing demands of the workplace, even though vacancies for work may be present. This leads to structural unemployment.

Structural unemployment refers to equilibrium unemployment that arises from changes in the pattern of demand or supply in the economy.

Older workers may possess skills that are no longer aligned with the changing demands of the economy. The difficulty that ageing workers have in reintegrating into the labor market after losing their jobs is more severe than that of the younger unemployed. As workers get older, the duration of their unemployment lengthens and the chances of finding a job decline.

As industries evolve and technology advances, there is a risk that older workers might face skill mismatches, making it harder for them to find suitable employment. This can lead to structural unemployment.

Conclusion:

- In conclusion, an ageing population can have profound implications for a country's budget balance and unemployment.
- The increased demand for healthcare and pensions, coupled with declining tax revenues and potential economic growth slowdowns, can create challenges for maintaining a balanced budget.
- Simultaneously, a shrinking labour force and rising wage rates, leading to falling exports and skill mismatches could lead to cyclical and structural unemployment.

Part (b) suggested answer.

Introduction:

- The rapid demographic shift towards an ageing population in Singapore, has raised concerns about cyclical unemployment in the economy and structural unemployment among older workers as seen in the discussion in part (a). Structural unemployment is made worse by the accelerated digital transformation due to the Covid-19 pandemic. Older workers who lost their jobs and attempt to seek employment might face more difficulties if they are not equipped with the relevant skills.
- To combat these challenges, the Singaporean government has the option of increasing government spending. This could represent an expansionary fiscal policy measure and or an interventionist supply-side policy. Their effectiveness will depend on what government spends on and the type of unemployment is aimed to tackle.

Thesis: The policy of increased government's spending to tackle unemployment caused by an ageing population in Singapore is effective.

Policy 1: Expansionary Fiscal Policy i.e., increase G spending on goods and services to stimulate aggregate demand to tackle cyclical unemployment.

- The Singapore government can increase spending on goods and services such as spending on infrastructure projects. This is an expansionary fiscal policy to stimulate an increase in AD in order to increase derived demand for labour (including the demand for older workers).
- Spending on infrastructure projects will increase government expenditure (G), which is a component of AD. The increase in demand for domestically produced goods and services e.g., construction services will increase AD from AD_1 to AD_0 in Figure 1 above. This leads to $AD >$ national output at the original price level, and results in an unplanned fall in inventories. Firms will hire more factors of production to increase production to capitalize on the increase in demand for goods and services to increase profits.
- This will in turn increase the income that households receive which results in a rise in purchasing power and induced consumption. The rise in income results in a rise in spending on taxes, imports, and savings too. AD continues to rise as consumption rises. This causes a further fall in unplanned inventories and firms continue to increase production. This leads to a further rise in national income. This process repeats itself until the initial rise in government expenditure (injections) equals the total rise in withdrawals from increased savings, taxes and spending on imports. AD rises causing a more than proportionate increase in real national income.
- Hence the expansionary fiscal policy is effective in helping to mitigate the negative effects of an aging population on economic growth leading to a fall in cyclical unemployment.

Policy 2: Supply-side Policy i.e., increase G spending on training and upgrading of skills for the more senior workers.

- Increased government spending can be directed towards training and skill development programs tailored to the needs of older workers to meet the changing demand of the workplace. Offering opportunities to acquire new skills, particularly in digital and technology-related areas, can enhance the employability of older workers, reducing structural unemployment.
- The government could also increase spending to subsidize the employment of older workers, encouraging businesses to hire and retain experienced individuals. Subsidies could be in the form of wage support to incentivize employers employ older employees. This approach can facilitate a smoother transition for older workers into the changing job landscape, while providing time for them to be trained with the relevant skillsets.
- With increased government expenditure on training and upgrading of older workers to increase the quality of labour (even in their 'golden years'), increasing their productivity, thus the productive capacity of the economy could increase. Therefore, LRAS rises with increase productivity due the increased quality of labour.
- The training and upgrading of skills for the older workers increases labour productivity, it would also decrease the unit cost of production, leading to a decrease in SRAS, seen by the shift of $SRAS_0$ to $SRAS_1$ in Figure 2. With aggregate demand unchanged, real output will increase, leading to increase in derived demand for labour. Hence decreasing unemployment.
- As a fiscal policy, there will be demand-side effects in an autonomous increase in government expenditure (G) , which leads to a more than proportionate rise in real NY via the multiplier effect, i.e., there is actual growth, too. This may be illustrated diagrammatically as follows:

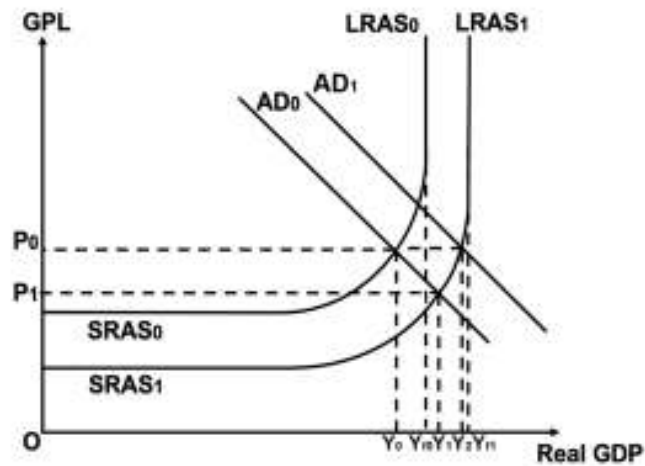


Figure 2: Rise in AD and AS

- The increase in government spending has led to a rise in AD, 1. Real GDP rises from Y_1 to Y_2 . As firms increase production, they will need to employ more resources, including labour. Cyclical unemployment falls as a result.
- The increase in government spending on training and retraining of workers is effective in solving structural unemployment. Together with the positive impact on SRAS and LRAS, reducing cost of production and increasing output, unemployment of workers will further decrease.

Anti-Thesis: The policy of increased government's spending to tackle unemployment caused by an ageing population in Singapore is not effective.

(1) Limitations of Expansionary Fiscal Policy

- The effectiveness of expansionary fiscal policy to increase AD is limited given that government expenditure (G) makes up a small proportion of Singapore's GDP.
- In addition, it is likely that an ageing population will result in a decrease in marginal propensity to consume and increase in marginal propensity to save. This will result in a smaller size of the multiplier which will further decrease the impact of increase in AD on the increase in real national output.
- However, if the increase in G is spent on infrastructure development, it will have supply side effects which lower the unit cost of production in Singapore. With better infrastructure, firms have easier access to quality capital and enjoy an increase in productivity. The fall in unit cost of production from better infrastructure improves the price competitiveness of Singapore's exports. This leads to an increase in the quantity demanded for exports and assuming that the demand for Singapore's exports is price elastic, this leads to an increase in export revenue and AD (movement along AD) and increase in real national output. This will effectively tackle the higher GPL brought about by a fall in supply of labour and increase in cost of production discussed in part (a).
- But to some extent, there might be a delay to see the effect on increase productivity due to investment in infrastructure as it will take time for to build such infrastructure, hence, may not be able to rely on this expansionary fiscal policy to solve the rising cyclical unemployment in the short term.
- Increase in such government expenditure may not solve the structural unemployment caused by ageing population. In fact, it could be made worse if firms begin to use capital investment to solve the problem of shrinking labour force, which will made it harder for the older workers to stay relevant with the evolving methods of production.

(2) Limitations of Supply-side policy

- The effectiveness of increased government spending on training and upgrading programme (i.e., interventionist supply-side policy) will depend on the alignment of training programs with evolving industry requirements and the receptiveness of older workers to retraining.
- It should be noted that education and training policies take time to come into effect since learning new skills is not an overnight process and it depends on the attitude and aptitude of the workers. This is especially true for the older employees as they have a higher tendency to be resistant to learning new skills. Moreover, they are likely to struggle with the learning and application of new skills such as IT related tasks.
- The quality of the education and training programmes also plays an important role in helping people to upgrade and acquire new skills. If the coaches or trainers in the SkillsFuture courses lack in-depth knowledge of what is required in the relevant industries, they are unable to effectively teach the necessary skills to the course participants, resulting in less-than-ideal training outcomes.

- Moreover, subsidizing firms' wage costs is likely to incur a big strain on country's budget, hence sustaining this policy in the long run will be a challenge.
 - Moreover, there are also opportunity costs incurred due to the funding of such training and upgrading for the older workers in the economy. Ensuring that resources are allocated efficiently and that funding sources remain stable is crucial to avoid budgetary strain.

Evaluative conclusion

- The effectiveness of increasing government spending to tackle unemployment caused by an ageing population in Singapore will depend on:

(i) the type of government spending to tackle the different types of unemployment

- the type of spending matters, for example, if government spends on goods and services to stimulate aggregate demand such as infrastructure projects. This might be effective in tackling cyclical unemployment but has no impact on tackling structural unemployment especially among the older workers.
- on the other hand, spending on the training and upgrading of the older workers may solve the problem of structural unemployment among older workers but may not solve the shrinking labour force problem, which might still pose a problem of rising cost of production if the rise in labour productivity (due to training and upgrading of the older workers) is not sufficient to outpace the increase in wage rates.

(ii) the fiscal sustainability of such increase in government spending

- $\uparrow G$ could worsen a government's fiscal position if $\uparrow G > \uparrow \text{Tax revenue}$ receipts leading to a budget deficit. This is especially so since with an ageing population, the tax base for income tax will be reduced, leading to a fall in tax revenue. Collection of tax revenue from expenditure taxes will also fall since the consumption level falls due to an ageing population.
- The ability of a government to sustain its current spending, tax and other policies in the long run without defaulting on other promised expenditures (such as expenditures on health care, education etc) may be undermined.

In conclusion, to evaluate the effectiveness of increased government spending to tackle unemployment caused by ageing population requires considering numerous factors such as the types of unemployment it is targeting and the corresponding types of government spending incurred must be appropriate, the fiscal sustainability, workers' receptiveness, size of multiplier etc.

In face of the various kinds of unemployment problem, there is no one policy that can work alone to address the various kinds of unemployment. It is thus necessary to use both demand and supply management policies to combat the different types of unemployment faced, the government could consider complementing an expansionary fiscal policy that targets the demand-deficient unemployment with the supply-side policy focusing specifically on training and upgrading to equip workers with the relevant skillset for the current demands in the workplace to tackle structural unemployment.

Government could also consider other policy to overcome the limitations of the expansionary fiscal policy and supply side policies. Given Singapore's small domestic market and open economy, and that Singapore's net exports comprises about 25-30% of GDP, an alternative exchange rate policy will be more effective to increase net exports and hence AD, since net exports might be a larger and more significant component of AD compared to G.

MAS could allow for a depreciation of the Sing Dollar that will make the exports cheaper in terms of foreign currency. This makes Singapore's exports more competitive, hence increasing the demand for exports. Since Singapore fulfils the Marshall Lerner condition where sum of price elasticities of exports and imports is greater than 1 (i.e: $IPED_x + PED_m > 1$), depreciation of the S\$ will lead to an increase in our net exports causing an increase in AD. Real national income increases more than proportionately via the multiplier effect. This allows Singapore to experience actual economic growth and fall in cyclical unemployment. The benefit of this exchange rate policy over the expansionary fiscal policy is that it yields better effect on AD without incurring the equivalent expenditures by the government, hence, removing the strain on the budget balance.

- 6 During a worldwide economic recession, protectionism becomes increasingly common and appears in modern alternative forms, other than the traditional tariffs. These may come in the form of domestic manufacturing campaign such as the “Buy American” slogan or in the form of strict regulation under the claim of climate and environmental obligations.
- (a) Describe tariff **and** one alternative type of protectionist policy measure and explain how each type would affect trade. [10]
- (b) Discuss the extent to which protectionism would be justified for developing and developed economies during worldwide economic recession. [15]

Suggested answer

Part (a)

Introduction

- Trade, defined as the transaction of goods and services between countries, has always been subjected to different types of protectionist policy measures.
- Protectionist policy measures are barriers to trade imposed by a government and can be categorised as tariffs or non-tariffs barriers.

Body

Body 1: Explanation of Tariffs and its impact on trade

- Tariffs are a tax on imported goods, designed to protect domestic industries from foreign competition by directly raising the price of imported goods.
- Tariffs can be specific which is a fixed amount of tax charged per unit of the good or ad valorem where the good or service is taxed a certain percentage of the value/market price of the good.

Before tariff imposition

- Consider the economy shown in figure 1 where D_D and S_D are the domestic demand and supply curves respectively and P_D is the domestic market-clearing equilibrium price.
- P_W represents the world price, i.e the price at which imports are sold.
- S_W is the world supply curve and is perfectly price elastic based on the assumption that the rest of the world can supply as much as demanded at P_W .
- As consumers need only pay price P_W for the imported good, domestic producers will also have to charge the same price in the domestic market.
- At P_W , quantity demanded Q_4 but domestic producers are willing and able to produce up to Q_1
- The difference Q_1Q_4 represents the quantity of the good imported.

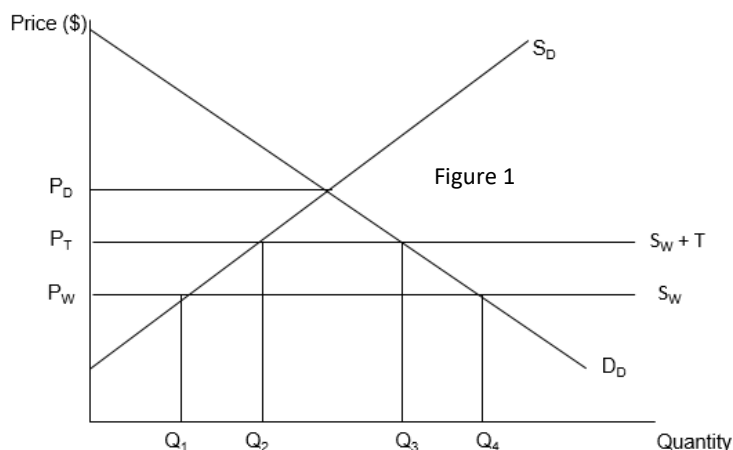


Figure 1: Tariff Diagram

After tariff imposition

- Imposition of tariffs raise the domestic price of the imported good above its world price by the amount of the tariff, increasing the price of imported good from P_W to P_T .
- At higher price P_T , domestic demand falls to Q_3 and domestic supply increases to Q_2 .

- Quantity of imports demanded fall to Q_2 to Q_3 as a result.
- The impact on import expenditure is dependent on the price elasticity of demand of imports (PED_m). Assuming that PED_m is greater than 1, then an increase in price of imported goods would lead to a more than proportionate fall in quantity demanded of imports, as seen from fall from Q_1Q_4 to Q_2Q_3 , leading to a fall in import expenditure. Trade between countries thus likely falls with the fall in import expenditure.

Body 2: Explanation of Non-Tariff Protectionist measure and its impact on trade

a) Import Quota

- An import quota is an example of a non-tariff barrier where the importing country restricts the number of imported goods by specifying the maximum amounts of goods and services that can be imported at any given period of time. For example, a country may limit the amount of a specific model and make of imported cars per year.
- As seen in figure 2, if a country restricts the quantity imported from Q_1Q_4 to Q_1Q_2 , domestic price will be driven up to P_2 , decreasing domestic quantity demanded to Q_3 and increasing domestic quantity supplied by Q_2Q_3 .
- Trade is restricted as quantity imported falls from Q_1Q_4 to Q_1Q_2 .

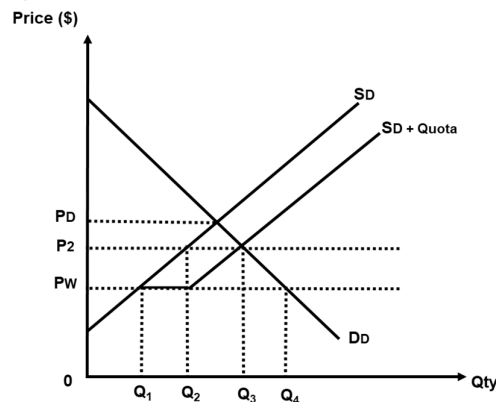


Figure 2: Quota Diagram

b) Buy domestic goods campaign

- Domestic manufacturing campaigns such as “Buy American” slogan were common during economic recession.
- If successful, these campaigns would change domestic consumers’ taste and preferences towards purchasing domestically manufactured goods and away from purchasing imported substitute goods and services.
- If domestically manufactured goods and imported goods are close substitutes in consumption, where the cross elasticity of demand between them are positive and high in magnitude, then any fall in price of domestically manufactured goods would lead to a more than proportionate fall in demand of imported goods.
- For example, if domestic firms are a recipient of government subsidies, such as wage subsidies during economic recession, these firms are able to pass on the cost savings to consumers in terms of lower prices.
- Hence, the fall in demand for imported goods would lead to a fall in import expenditure and thus restricted trade.

c) Strict bureaucratic regulations under the claim of climate and environmental obligations

- Strict regulations such as the bureaucratic red tape requiring importing firms to file for approval under claims of climate and environmental obligations may be a form of modern protectionist measure.
- In order to adhere to such strict regulations, foreign firms may incur higher costs which will then be passed on in term of higher import prices for domestic consumers.
- If imported goods are relatively price-elastic in demand, for example due to close substitutes available such as in the form of domestically manufactured goods, then there may be a more than proportionate fall in quantity demanded of such imports.
- This would lead to a fall in import expenditure and thus restricted trade.

Conclusion

- Protectionist policy measures restricts trade with foreign producers placed at a competitive disadvantage, leading them to sell less while domestic industries benefit as domestic production increases.
- In spite of substantial evidence showing a positive relationship between economic growth and trade, government continue to pursue protectionist policy measures advocating that its benefits outweigh the costs.

Part (b)

Introduction

Introduction

- State that a worldwide recession would mean a fall in worldwide incomes.
- Demand for exports would fall as consumers from foreign countries cut back on spending. Export revenue (X) falls.
- As (X-M) falls, AD falls as well given that $AD = C + I + G + (X-M)$. National Income and employment thus is expected to fall.
- The more dependent a country is on (X-M) for its growth, the more badly it would be affected.
- Thus countries may adopt protectionist policies to prevent (X-M) from falling too much, thereby mitigating the fall in national income and protecting jobs.

Body

Thesis: Protectionist policies are justified during worldwide recession for both developed and developing economies

1. Protectionist Policies are justified because they achieve internal macroeconomic goals of economic growth and lower domestic unemployment

- By imposing tariffs on imports, consumers switch to domestic goods as imports become more expensive.
- This helps to reduce import expenditure. If M falls, the fall in (X-M) due to a fall in X is mitigated. If M falls even more than X, AD might actually rise.
- If AD rises, nominal national income rises more than proportionally due to the multiplier effect, where income generates expenditure and expenditure creates income. The real national income may not increase by the full multiplier effect if there is also an increase in general price level from P_0 to P_1 in figure 1 below. As national output increases from Y_0 to Y_1 leading to actual economic growth, more factors of production including workers are hired and domestic jobs are protected, leading to reduction in cyclical unemployment.

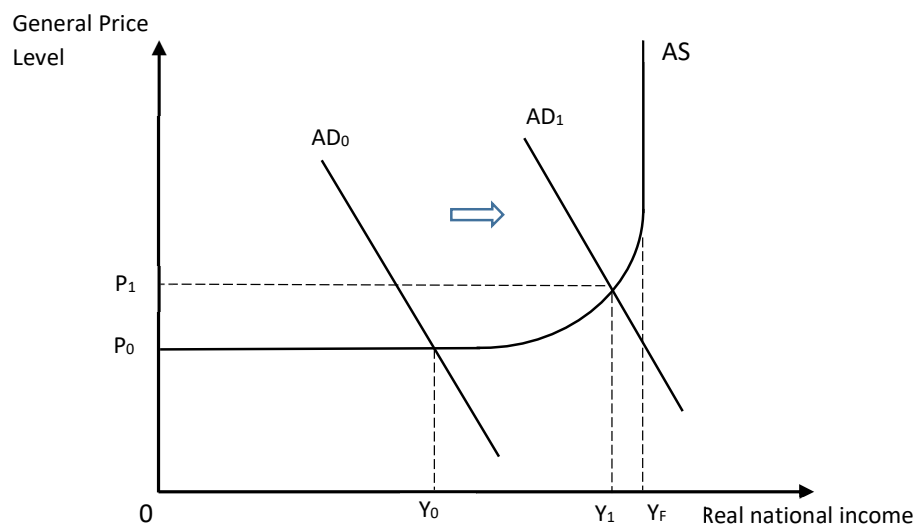


Figure 1: Increase in Y and Domestic Employment

- As long as an economy is open to trade flows, both developed and developing economies could be trade-reliant for growth and thus may adopt protectionist measures to protect domestic employment.
- Developing economies which are very trade-reliant, may need to rely on such protectionist measures to protect domestic employment.
- Developed economies on the other hand may have greater fiscal budget and have the ability to rely on other macroeconomic policies such as an increase in fiscal spending to drive economic growth to protect domestic employment instead. Developing economies often have significant fiscal debt and may be unable to implement similar expansionary fiscal policies.

2. Protectionist Policies are justified because they protect against dumping

- In a global downturn, there could be an increased incidence of dumping, as suppliers attempt to get rid of excess stocks arising from declining world demand. This could be applicable to both developed and developing economies.
- Dumping occurs when a foreign producer deliberately sells below cost in order to crush competition, with the intention of raising the price as soon as his rival disappears (an example of predatory dumping); or when a foreign producer is heavily subsidised by his government and can therefore undercut his rivals abroad.

- The country in which the goods are dumped may therefore impose a tariff on these imports to prevent such dumping which could be harmful to their domestic producers who cannot compete with the low prices and their consumers who have to pay higher prices in the long run. This is because the low prices due to dumping by foreign producer may cause domestic producers to incur significant subnormal profits and eventually shut-down in the long run. This then allows the foreign producer to gain a greater market share of the world demand and increased market dominance in the world market. Thus, the demand for imports may become more price-inelastic due to the lack of domestic substitute, allowing foreign producer to increase price to increase their revenue, and consumers have to pay higher prices for these imports in the long run.

Anti-Thesis: Protectionist policies are not justified even during a worldwide recession for both developed and developing economies

1. Protectionist policies are NOT justified because they lead to higher prices and welfare loss.

- Protectionist tariffs have the effect of raising prices resulting in lower consumer welfare.
- Import tariffs are usually imposed because the domestic market price is above that of imports, thereby making the domestic products less competitive compared to imported substitutes. To protect domestic producers from losing out to foreign competitors, a tariff is imposed to raise the price of imported substitutes, thereby reducing the quantity of imports, and increasing the market share of domestic producers. This can be illustrated by the figure 2 below.
- In Figure 2, S_D and D_D are the domestic supply and demand respectively. P_D is the domestic market-clearing equilibrium price, while P_W represents the world price, i.e. the price at which imports are sold. Since consumers need only pay P_W for the imported good, domestic producers will also have to charge the same price in the domestic market. At P_W , the quantity supplied by domestic producers is Q_1 while quantity demanded is Q_4 . The difference of Q_1Q_4 represents the amount of the good imported.
- Suppose the government imposes a tariff which increases the price of imports to P_T . At the price P_T , domestic producers will supply Q_2 , while quantity demanded is Q_3 . The amount of imports is now reduced to Q_2Q_3 .
- The increase in price from P_W to P_T results in a fall in consumer surplus represented by P_WP_Tdf . However, there is an increase in producer surplus of P_WP_Tac . The area 'abcd' represents the tariff revenue collected from the imports, which the government can use for the society's benefit. There is a net loss in consumer welfare shown by the areas 'abc' and 'def', which represent the deadweight loss to society.

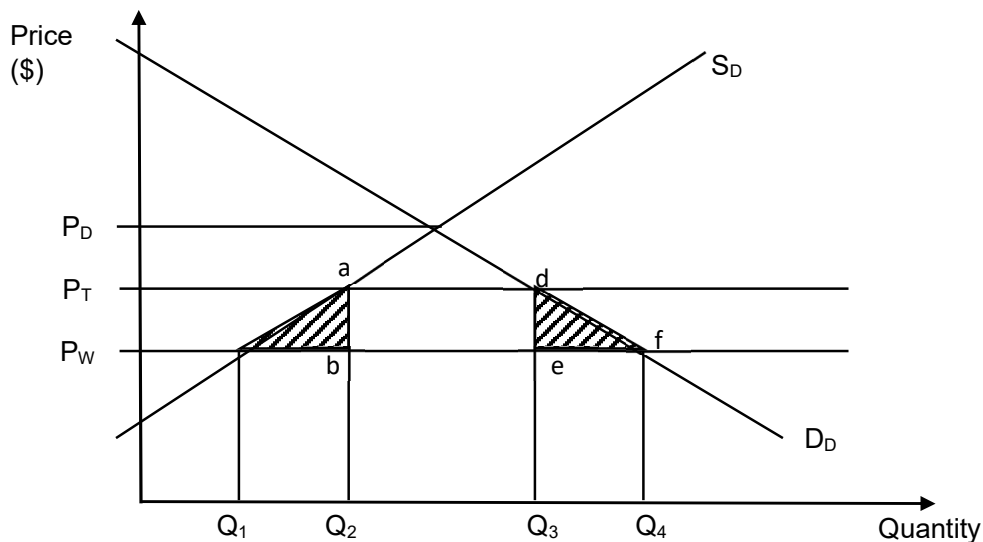


Figure 2: Effects of Tariff

2. Protectionist policies are NOT justified because they result in greater inefficiencies.

- Protection reduces the incentive or motivation for firms to improve efficiency. Domestic firms in the protected industries may become dependent on the import restrictions and remain uncompetitive internationally, even after the worldwide recession.
- The reduced competition from imports increases the market share and market power of domestic firms, and may cause them to become complacent.
- There will therefore be higher productive and allocative inefficiency.
- In developed economies especially, where markets may be dominated by incumbent monopolies, there is a need to ensure healthy levels of competition with free trade and open up domestic markets to foreign competition.
- In developing economies, while competition may reduce productive and allocative inefficiencies, there is also a need to ensure that infant industries are given sufficient time to develop their comparative advantage before subjected to foreign competition.

3. Protectionist Policies are NOT justified because they are not effective in saving jobs.

- **"Beggar my neighbour" argument:** The exports of one nation must be the imports of another. To the extent that one country is able to stimulate its economy through an excess of exports over imports, some other country's unemployment problem is worsened by the resulting excess of imports over exports.
- **Retaliation argument:** Nations adversely affected by tariffs and quotas are likely to retaliate, causing a competitive raising of trade barriers, which will choke off trade. In the end, all nations are worse off and jobs are not protected.
- **Long-run impact:** The long-run impact of tariffs is not to increase domestic employment, but at best to reallocate workers away from more efficient industries and toward protected less efficient industries. This shift implies a less efficient allocation of resources.

In the long run, it would be more beneficial to allow uncompetitive industries to decline and transfer the resources to the industries in which the country has comparative advantage. The unemployment generated by the declining industries in a recession may be a necessary evil that is temporary in nature as the economy restructures itself.

By allowing specialisation and trade according to comparative advantage, this allows the country to increase consumption beyond its production possibility frontier (PPF). For example, a developed country may have more highly skilled labour and also larger ratio of capital resource and thus is likely to have a comparative advantage in high-tech, capital-intensive production such as manufactures of consumer electronics. Thus, it is expected that low-tech, labour-intensive industries will face greater foreign competition and may call for protectionist measures to save domestic jobs. However, if the country was to specialise and trade according to their comparative advantage, the country would benefit in the long run by being able to consume beyond their PPF as seen in the figure below.

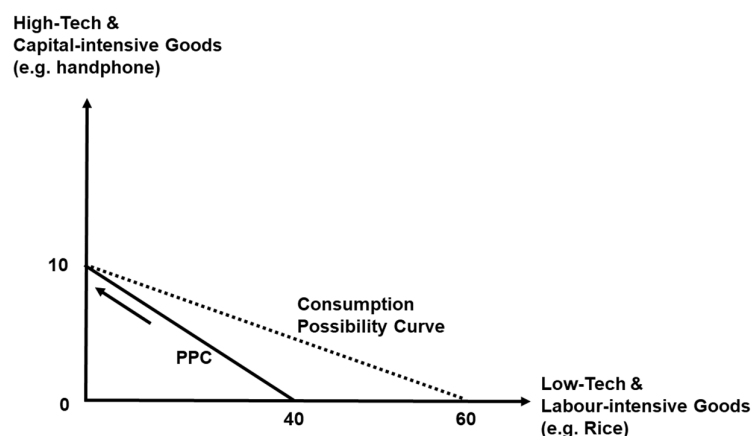


Figure 3: Long run benefits of Specialisation and trade according to CA

- For developing economies, where consumer markets are not fully developed, it may be reliant on consumer markets in developed economies in order to drive their economic growth. And thus, concerns of retaliatory tariffs should deter developing economies from protectionist measures.
- For developed economies where there are likely to have better negotiation power and hence better terms of trade, they are likely to benefit more from specialisation and trade (with advantageous terms of trade) and thus are less likely to carry out protectionist measures and allow for free trade instead.
- For developed economies, there should be a greater focus on moving up the global supply chain and encourage its domestic industries to innovate and manufacture high value, high quality exported goods. This will better help improve the country's terms of trade and allow the country to better gain from trade instead. Thus, this will deter developed countries from protectionist measures that prevent this necessary restructure of the economy.

Evaluative conclusion

Whether protectionist policies are justified during a worldwide recession for developed and developing economies depends on:

- If a government is able to implement other expansionary macroeconomic policies to help elevate the negative impact of worldwide recession, then protectionist measures are less justified in such economies. For example, developed economies with healthy fiscal budget may implement expansionary fiscal policy instead to address falling domestic employment instead.
- Whether protectionist policies are justified during a worldwide recession depends on how long the protectionist policies are in place and whether they can be easily removed. If protectionist measures are implemented for only a short period of time for reasons such as being subjected to unfair competition, such as dumping practices as explained above, then such protectionist measures are more justified.

- However, if protectionist measures are implemented for a longer period of time, in the long-run, protectionism reduces competitiveness, growth, employment and real incomes. Protection imposing countries gain very little, if anything, and only in the short-run. The exports to other countries would be reduced, lowering their incomes and therefore their imports. Retaliation would lead to higher prices of import-competing goods in both countries, thereby reducing domestic consumption and the level of employment in exporting industries in both countries.
- In the long term, free trade is mutually beneficial to both countries as it allows participating economies to organise their production according to their comparative advantage. Thus, rather than protectionist measures, a policy of greater free trade, together with other macroeconomic policies such as expansionary fiscal policy and monetary policy will be the best way of improving prosperity and reducing poverty, and is even more important in a worldwide recession.