

ECONOMICS

Higher 2

Syllabus 9732

Examiner's Report
Year 6 Preliminary Examination 2016



ECONOMICS

Y6 H2 Preliminary Examination 2016

Paper 9732/02
Paper 1

Question 1

- (a) Compare the trends in both price and production of onions in Mumbai between 2008 and 2015. [2]

Suggested answer:

- Both increased, however,
- Prices of onions remained relatively constant from 2008 to 2012 before rising while production of onions was generally rising in the same period. OR
- Extent of increase was greater in onion prices relative to production of onions in the same period.

- (b) Using a diagram, analyse the impact on society arising from the slashing of tariffs on onions in India. [6]

Suggested answer:

Introduction

Define tariffs: custom duties or taxes imposed on imports of goods or services by the government.

Slashing of tariff duties will reduce the price of imports closer or to the world price, P_w with free trade. Impact on the Indian society will vary across the different stakeholders in society. They include the consumers, domestic producers (farmers) and the government.

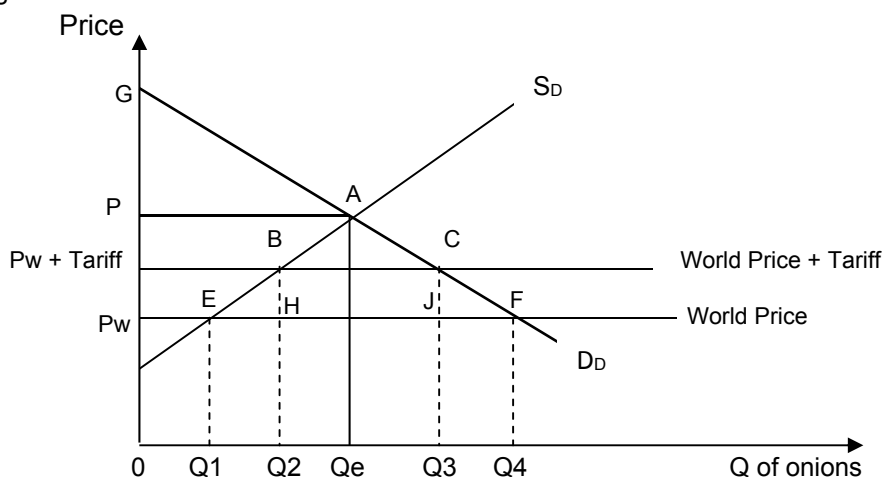


Figure 1: The effects of a slash / cut in tariff on the market for onions

Assuming foreign onion producers are willing to supply all the onion that are demanded by the country at world price P_w . The supply curve of imported onions is perfectly price elastic, assuming India is a price taker.

Initially, the market price of onions is at $P_w + \text{tariff}$. After the slashing of the tariff, the market price falls by the full amount of the tariff to P_w . Consumption / quantity demanded for onions increases to OQ_4 of which OQ_1 is from domestic production source and remaining quantity supplied of Q_2Q_3 is from imports. There is also a fall in government revenue of $BCJH$.

Beneficial effects arising from a slash in tariffs:

Impact on consumers

Consumer enjoys from lower prices of imported onions and import consumption is increased to Q_1Q_4 and consumer surplus rise from $GCP_w + \text{tariff}$ to GFP . In addition, they can also enjoy a greater variety of onions available for consumption, increase CS . (Extract 1: importing of cheaper onions from Pakistan, Iran, Afghanistan and China)

Impact on society: Increase in allocative efficiency

Initial deadweight loss of $BEH + CFJ$ arising from domestic over production and domestic under consumption is eliminated due to freer trade policy, resulting in a more efficient allocation of resources according to the theory of Comparative Advantage which states that countries which has a lower opportunity cost in the production of goods and services should specialize and export the goods.

However, there are **disadvantages arising from the slash in tariffs:**

Impact on producers

Slash in tariffs resulted in the less efficient domestic import-substituting producers to cut back production from OQ_2 to OQ_1 and face a fall in revenue due to the fall in production and lower price. Producer surplus fall by area $(P_w + \text{tariff}, B, E \text{ and } P_w)$. Ceteris paribus, domestic producers may be forced to shut down ($TR < TC$) if they cannot effectively compete with foreign producers.

Impact on government

Indian government face a fall in tax revenue of $BCJH$ as the extra amount that was initially paid by consumers $(P_w + \text{tariff} - P_w)$ for the imported quantity $(Q_3 - Q_2)$ is reduced from the slash of tariffs.

Conclusion / Comments

Overall the effects on society, arising from the slashing of tariffs, are largely beneficial as there is a reduction in allocative inefficiency. The gain in consumer welfare outweighs the loss of producer welfare and government.

In the longer run, producer surplus may also increase as the slashing of tariffs incentivise domestic producers to be more productive efficient and develop more cost efficient methods of production (embrace cost-reducing innovations and improvements in what they produce (extract 1: farmers to invest in technology for proper storage facilities...increase production), which can also lead to an improvement in dynamic efficiency for society) and in turn translate cost savings to lower prices and increase domestic consumption. Government revenue may also increase if domestic producers become more profitable and pay more corporate taxes.

Mark Scheme

Knowledge, Application, Understanding, Analysis		
L1	<ul style="list-style-type: none"> A one-sided answer → only consider the positive or negative effects of the removal of tariffs Poor interpretation of tariff diagram Several glaring conceptual errors and/or lack of economic framework 	1 – 2
L2	<ul style="list-style-type: none"> A <i>balanced</i> answer with use of appropriate economic concepts in analysis. A good scope and depth of analysis which shows good application to the tariff diagram Well explained impact on different groups in society highlighting both positive and negative impacts 	3 – 5

- (c) With reference to Extract 2, account for the likely fall in the overall revenue of the Australian vegetable industry. [4]

Suggested answer:

- Supply fell due to higher cop arising from higher factor i/p prices → fall in the Qs at each price level (“rising production costs from inputs such as fertilizers and energy, together with hired labour”)
- Demand fell as consumers and retailers switch to relatively cheaper imports due to stronger Australian currency (“pressure from increasing imports from countries such as China and New Zealand and the strong Australian dollar”)
- Simultaneous fall in demand and supply → quantity falls but equilibrium price is indeterminate. Given that overall prices have fallen (extract 2: plummeting vegetable prices ...), suggest that fall in demand > fall in supply. Given the fall in demand is greater than the fall in supply, both the new equilibrium price and quantity fall to P_1 and Q_1 respectively. Hence, overall TR falls.

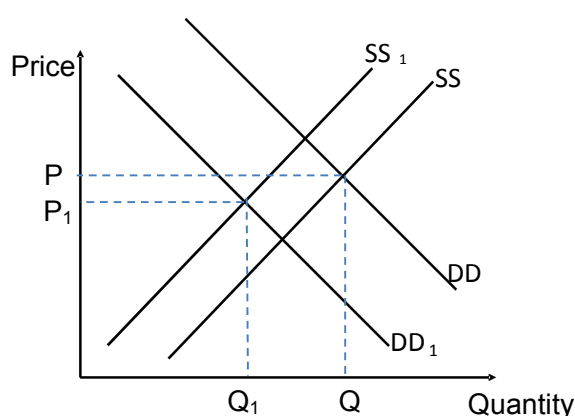


Figure 2: Market for Australian vegetables

- (d) Discuss whether the disadvantages to society outweigh any advantages that might arise from the likely market structure existing in the onion distribution industry in India. [8]

Suggested answer:

Introduction

Identify the market structure: *Collusive Oligopoly*: a few dominant firms relative to market demand where there is a formal agreement among the firms on what prices to charge or output to be sold to increase the profits of the group as a whole (Extract 1: few powerful trader-intermediaries who operate as *cartels*)

Effects on society will be analysed in terms of welfare of consumer in the form of prices and output, producers in the form of prices, output, and profits and efficiency

Disadvantages arising from a cartel

1) Exploitation of consumer welfare

When they agree to fix prices by hoarding and enjoys greater market power as whole, it eliminates any possibility of price competition, which would lead to exorbitant high prices (Ext. 1 traders hold back stocks to keep prices artificially high).

As in the case of a monopoly, the cartel faces a downward sloping demand curve (that is $PED < 1$ due to lack of substitutes) and it will produce at the profit maximising output, Q_m where $MC = MR$ and charge a price, P_m (away from the perfectly competitive market or socially desirable outcome of P_c and Q_c). By restricting output to below Q_c and charging a higher price \rightarrow increase in TR and profits.

(Use monopoly diagram here to show price increasing from perfectly competitive price)

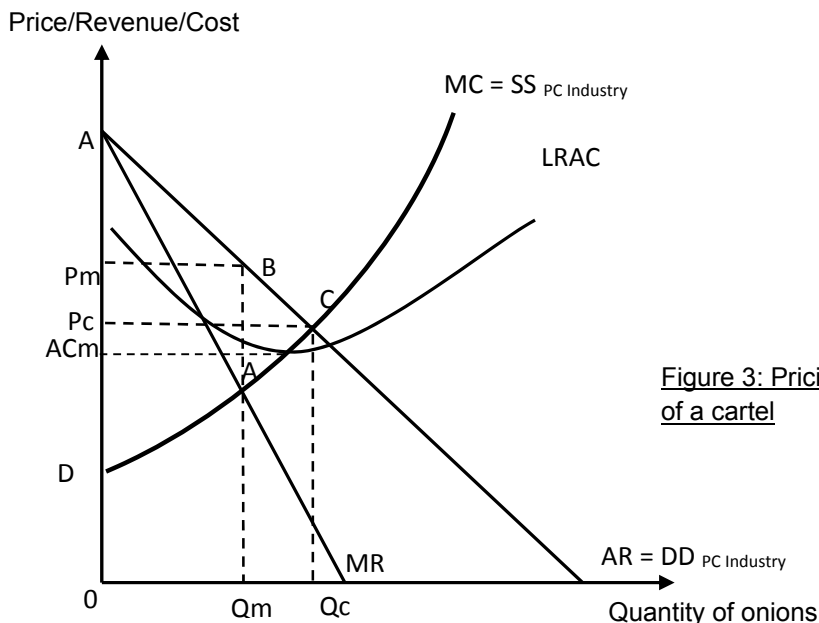


Figure 3: Pricing and output decision of a cartel

It is disadvantageous to consumers because it reduces consumer welfare. Consumers are charged a higher price and face a fall in quantity demanded. Furthermore, this

situation is inequitable as the cartel can also exacerbate inequity in the country as supernormal profits are concentrated in the hands of a select few firms (in this case, it would be onion traders) which have the ability to block potential new entrants.

2) Inefficient allocation of resources (AE is worsened)

Market is allocative inefficient under the cartel as the cartel will profit maximize by producing the output where $MC=MR$ and charge the price from the AR curve (relative to a PC market). Thus, the cartel produces a lower quantity at a higher price and there is a welfare or deadweight loss (Area ABC) in the form of loss of both consumer and producer surplus and results in allocative inefficiency as $P>MC$ and this means that the society value of an extra unit of output exceeds that of the opportunity cost of producing that unit.

3) Productive inefficiency (X- inefficient)

The onion cartel may be productively inefficient from society's point of view as it does not produce on the minimum point of the LRAC. Due to the significant barriers to entry faced in the onion distribution market (Ext 1: trading expertise and government administered licenses to traders) resulting in reduced competition, the firms in the cartel may be complacent and have less incentive to adopt the least cost method of production and become X-inefficient (not producing at the lowest possible cost at all output levels) and pass on the higher cost to consumer in the form of higher prices (Ext 1: inefficiencies in the supply chain.... price to shoot up).

(Potential) advantages arising from a cartel

1) Stable prices and continuity in supply

Cartels can provide price stability, due to the fixed price. As agricultural markets are prone to price volatility, the demand for such goods tends to be price inelastic in demand and supply. Hence, any small change in demand or supply is likely to bring about large fluctuations in price. Therefore, this can help sustain crop supplies in the long run as it can adjust production accordingly to minimise the possibility of over production when demand is low or underproduction when demand is high.

2) Higher profits for onion distribution producer → possible dynamic efficiency gains for society

Due to collusion, firms in the cartel will reap greater supernormal profits (Extract 1: onion distributors made huge **profits** by encourage hoarding) and have a greater ability to invest in R&D to adopt better techniques of production (eg. improvement in the supply chain process, or better storage facility as inferred from Ext 1), lower cost and allowing consumers benefitting from lower prices of onions in future

(However, this advantage may be unlikely if firms in the cartel are not incentivised to be dynamic efficient, due to high BTE in the market, allowing them to enjoy high profits and ignoring the need to cost minimise.)

Conclusion:

While a cartel can benefit consumers through possibly lower prices arising from scale economies enjoyed, the lack of competitive pressure may not incentivise them to engage in R&D but may instead exploit consumer through higher prices. Hence, without government intervention (as inferred from Extract 1: in response to high onion

prices, government has stepped in with measures), the disadvantages of a cartel would likely outweigh the advantages.

Mark Scheme

Knowledge, Application, Understanding, Analysis		
L1	<ul style="list-style-type: none"> ▪ Several glaring conceptual errors and/or lack of economic framework. ▪ No reference to case material. ▪ One-sided response. 	1 – 3
L2	<ul style="list-style-type: none"> ▪ Answer is not adequately developed ▪ Attempt to incorporate economic framework with some minor errors. ▪ Not enough scope ▪ Weak reference to case material. 	4 - 5
L3	<ul style="list-style-type: none"> ▪ Good use of economic framework. ▪ Clear and balanced discussion with good reference to case material. ▪ Clear comparison of case before and after in explaining effects on society. 	6-7
E	<ul style="list-style-type: none"> • A well substantiated answer / judgement on the impacts on society 	1

- (e) Discuss the factors that are likely to influence whether the minimum price support scheme adopted in India should be carried out by governments for agriculture products. [10]

Suggested answer:

Introduction

- Identify it is a buffer stock programme: government set a minimum price for agriculture products and buy up the surplus stockpile, hence subsidising the cost of production for farmers and increase their income and producer surplus. For the scheme to be effective, the minimum price must be set below above the market clearing price.
- The effect of the minimum price support scheme when set above the equilibrium price of a good → create a surplus (excess supply) equal to $Q_s - Q_d$, since the quantity demanded by consumers is given by Q_d , while the quantity supplied by farmers is given by Q_s . In addition, government will incur an expenditure of area (C+F+E+G+H+I) from the purchase of the surplus agriculture stockpile.

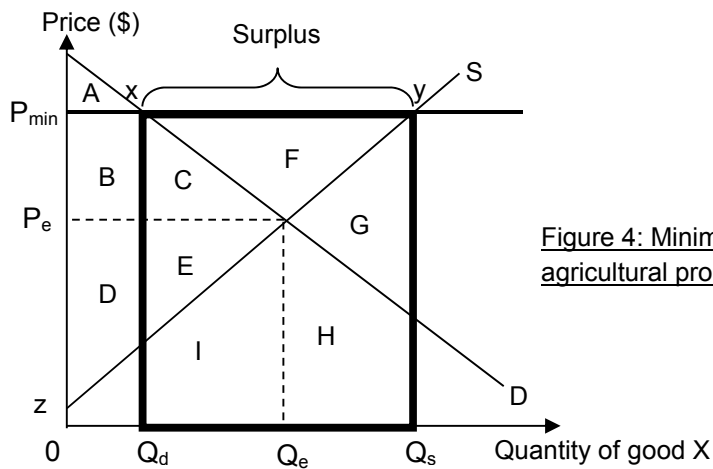


Figure 4: Minimum price support scheme for agricultural products with government's purchases

Factors to consider in deciding whether the minimum price support should be implemented include:

- **(Issue of) Price stabilisation and equity.**

In agricultural products where supply is subject to fluctuations (due to uncertain weather) and where the market demand is price-inelastic, this results in significant fluctuations in the farmers' income and market prices respectively. The scheme hence helps to protect income of producers and minimise volatility in prices of agriculture products, with the government guaranteeing the price paid to the producers, and buying up the surplus stocks \rightarrow increase in PS (area zyP_{min}) and TR ($0P_{min} YQ_s$) of farmers

- **Trade and GDP**

Big swings in prices affect revenues for exporter, which would in turn affect their ability to finance imports of other food and technology.

Stable and high export prices and with $PED < 1$ (staples / agriculture products) (Extract 1: troubling for staples such as onions, an ingredient that is present in just about every Indian meal) \rightarrow increase in X revenue \rightarrow rise in AD, c.p \rightarrow multiplier effect \rightarrow rise in real national income and improvement in balance of trade position (BOP surplus)

- **Increased ability (Viability) to undertake R&D for improved farming techniques**

Subsidies from the government enable the farmers to invest in new technology to improve on farming techniques and increase productivity in production process, thus reducing cost of production for farmers, c.p, increasing profits of farmers. (Ext 3: govt. subsidies meant to encourage productivity and better farming techniques.)

- **Distortion to markets**

Resource allocation results in a surplus of farm produce as the quantity supplied is greater than quantity demanded (Extract 3: Farm subsidies hurt an economy simply because they are a distortion). Too many resources will be allocated to the production of the good. This results in larger than social optimum quantity produced. The social optimum quantity is $0Q_e$ but $0Q_s$ is actually produced as a

result of the minimum price scheme, resulting in allocative inefficiency given by DWL area (C+E+I+H+G) caused by over-allocation of scarce resources to the production of the good. In addition, due to the guaranteed higher price, new producers may also be attracted, creating even greater surpluses.

- **Retaliation from trade partners**

To deal with the surpluses, the government will have to buy up the surplus and store it or destroy it or sell it abroad in other markets. Exporting the surplus often requires government granting a subsidy to lower the price of the good and make it competitive in world markets. By dumping the excess goods produced abroad, the benefits of increased export revenue and output enjoyed by the country are achieved at the expense of its trading partners and in turn worsen trade relations between countries. Trade partners who experience a decline in export sales and consequently a lower output and employment level will trigger off retaliatory measures. This could in turn reduce the export revenues and output of the country (Extract 3: India has already been looking for ways to release more of its wheat and sugar surplus on the global markets in what some complain is a beggar-thy-neighbour move).

- **Availability of government reserves**

The purchase of the surplus agriculture goods produced will run down government budget and incur high opportunity cost as less funds available for other important programs such as education and health care infrastructure and power network (Extract 3: hefty bill for the Indian government...). As government spending is financed out of taxes with alternative uses, opportunity costs are incurred and government spending to maintain price floor thus involve losses for society such as a fall in the standard of living. In addition, the maintenance of a price floor may have to be financed out of higher taxes which reduces disposable income and worsens equity.

- **Income inequality**

By raising the price of farm produce such as rice or onions, this will make these necessities / staples more costly to consumers and reduces their purchasing power as overall cost of living increases. This results in a fall in the material standard of living and worsens income inequality as staples such as potatoes, onions takes up a larger proportion of consumer income for the poor (*implied from Extract 1: "he has stopped eating onions altogether because they are so expensive"*)

Conclusion / Evaluation

In deciding whether the minimum price support scheme is to be implemented, governments should either:

- seek to adopt a detailed cost-benefit analysis on the factors above and implement if the scheme results in a overall net benefit to society

or

- consider the urgency of the factors / the most important factor and substantiate

or

- consider the time frame in the implementation of the policy

Mark scheme:

Knowledge, Application, Understanding, Analysis		
L1	<ul style="list-style-type: none"> ▪ Largely irrelevant/Smattering of few valid points ▪ No reference to case material. ▪ Only considered case without economic analysis ▪ weak or no clear economic framework 	1 – 3
L2	<p>With respect to the framework of a price support scheme and discussion of factors supporting / against the scheme:</p> <ul style="list-style-type: none"> ▪ insufficient scope and depth ▪ conceptual inconsistencies ▪ answer tends to be skewed ▪ reference to case material can be better 	4 - 6
L3	Balanced approach with sound use of theoretical framework and good use of case	7 - 8
Evaluation		
E1	Mainly unexplained judgement	1
E2	Judgement based on analysis; good effort at substantiation	2

Question 2

- (ai) With reference to Figure 2, compare the trend of the price of Rubles per US Dollar and that of Brent Crude (oil) between Jan 2014 and Dec 2014. [2]

Suggested Answer:

The Ruble depreciated while the price of Brent Crude (oil) was generally decreasing. However, there was an increase in the price of oil from Apr – Jun 2014, while the price of Rubles per USD remained stable.

- (aia) With reference to the data, to what extent does the price of Brent Crude oil account for trend in the value of the Russian Ruble? [4]

Suggested Answer:

Oil prices were generally falling, while the Ruble depreciated. Oil is a major export of Russia, and given that its PED < 1 (the “widespread use of oil in many industrial activities” suggests a lack of substitutes for oil), a decrease in oil prices leads to a less than proportionate increase in quantity demanded for oil, resulting in a fall in Russian export revenue for oil. This will lead to a fall in demand for the ruble, since less Rubles are needed to pay for oil purchases denominated in Rubles by foreign importers, leading to a subsequent depreciation, ceteris paribus.

However, the increase in Brent oil prices during between Apr – Jun did not lead to an appreciation of the Ruble. This could be because increased outflows, “capital flight” away from Russia which led to an increase in supply for the Ruble.

- (b) **State and explain one difficulty Russia would face when deciding to appreciate the Ruble.** [2]

Suggested Answer:

In order to appreciate the Ruble, the central bank would need to increase the demand for the Ruble in the forex market. However, this would require a drawdown on foreign reserves which are already depleting.

OR

Assuming the Marshall-Lerner condition holds, the appreciation of the Ruble will lead to a decrease in net exports. This will cause a trade-off in terms of worsening of the BOT and the current account of BOP/lower growth/higher unemployment

- (c) **How far does the Theory of Comparative Advantage explain the pattern of trade between Russia and her trading partners, shown in Figures 3 and 4?** [4]

Suggested Answer:

The Theory of Comparative Advantage states that countries with a comparative advantage in a good should specialize in producing goods that they have a comparative advantage in i.e. that they are able to produce with a relative lower opportunity cost and import goods which they have a comparative disadvantage in, i.e. that they incur a relatively higher opportunity cost in production. Russia has significant oil deposits which means it has a lower opportunity cost in producing crude oil. Figure 1 shows that mineral fuel (which includes crude oil) account for 76.3% of all Russian exports into the EU.

However, the theory of CA does not explain why the EU is such a significant trading partner of Russia compared to others. Figure 4 shows that EU is the largest trading partner of Russia by a significant margin (€320 billion compared to 2nd placed China at €75 billion). This could be because the geographical distance, which leads to lower transport costs ("cheaper for pipeline infrastructure to be built between them"), given that the EU is closer to Russia than other trading partners.

- (d) **Assess the macroeconomics effects of trade sanctions and falling oil prices on EU member states.** [8]

Suggested Answer:

Introduction:

- Clarify the meaning of macroeconomic effects
 - Economic growth, inflation, unemployment and balance of payments

Effects of lower oil prices

- Member states will experience a lower cost of production due to a decrease in the price of imported factor inputs, in this case oil. This will lower import push inflation and cost push inflation.
- The shift of the SRAS curve downwards from AS_0 to AS_1 also increases real national income. Moreover, given the increase in decrease in general price level was brought about by an increase in AS, rather than a decrease in AD, there is no significant trade-off with unemployment.
- This is evident from the Extract 4 which mentioned that "the oil-induced fall in inflation is [not] associated with an upward blip in unemployment". The effects are also likely to be significant, given that it imports oil more significantly, making them "a lot better off".

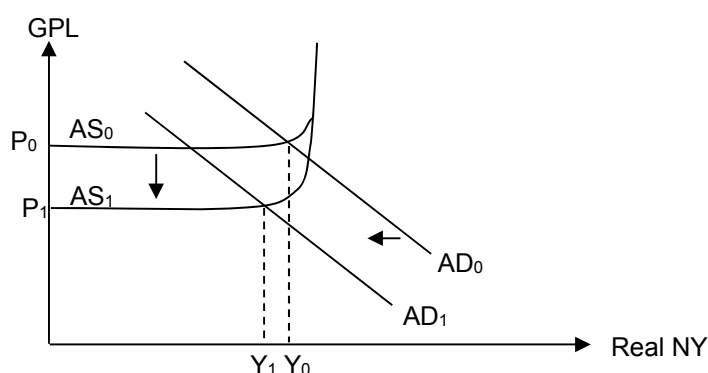
- There is also evidence of “capital flight” away from Russia. Hot money outflows from Russia may enter EU member states. This can improve the financial account of EU member states, and possibly their BOP position

Effects of trade sanctions

- Extract 7 mentions that “exports to Russia have fallen substantially, on average by around one third”. Economic sanctions thus decrease the EU members’ exports to Russia, which will decrease the X-M component of AD.
- Economic sanctions on Russia and the decrease in Russia’s GDP and purchasing power have also led to a decrease in trading partners’ exports to Russia.
- Given that X-M is a component of AD, AD will decrease, leading to a more than proportionate fall in real national income of trading partners due to the multiplier effect. This leads to fall in actual growth. Unemployment may result, as labour is a derived demand and firms require less factors of production to produce less goods and services. Nations which have been most affected include the three Baltic States.
- However, it has also been mentioned that most countries were able to offset the decrease in exports to Russia, “thanks to increases in exports to other markets (both within and beyond the EU)”. This means that the decrease in net exports revenue in this country remains insignificant, with minimal decreases in real national income, which mitigate the adverse effects on growth and employment.

Combined effect of AD and AS changes

For states that rely heavily on trade with Russia (e.g. the 3 Baltic states), a decrease in X-M and AD mitigates the increase in real national income due to the increase in SRAS. If AD decreases outweigh SRAS increases, real national income will decrease, causing a fall in actual growth.



- For other EU member states: increase/minimal changes in AD reinforce the SRAS effects on real national income. This will lead to increases in actual growth.

Conclusion

- Make a stand as to whether decreasing oil prices will likely benefit EU member states or not.
- Possible short run effect and long run effects of sanctions on EU member states

Mark Scheme:

<i>Knowledge, Application, Understanding, Analysis</i>		
L1	<ul style="list-style-type: none"> Answer does not address the question asked. Answer contains many gross conceptual errors. Answer makes no use of economic framework. 	1 – 3
L2	<ul style="list-style-type: none"> Explanation lacks sufficient rigour in analysis Answer has limited use or reference to case material Answer has insufficient scope: 	4 – 5

L3	<ul style="list-style-type: none"> ▪ Answer has good scope of discussion ▪ Uses relevant economic framework and/or diagram(s) ▪ Rigorous development of economic framework ▪ Good reference to case material 	6 – 7
Evaluation		
E1	<ul style="list-style-type: none"> ▪ Offers judgement or evaluative comment with explanation 	1

- (e) In light of falling oil prices and economic sanctions, consider the choice of macroeconomic policy options for EU and Russia. [10]

Suggested Answer:

Introduction:

In considering the choice of macroeconomic policy options, the governments of EU and Russia would first have to identify the main macroeconomic problems facing their respective economies.

In addition, the respective governments would also have to take into account the possible trade-offs between macroeconomic goals.

Body 1: Policies for EU

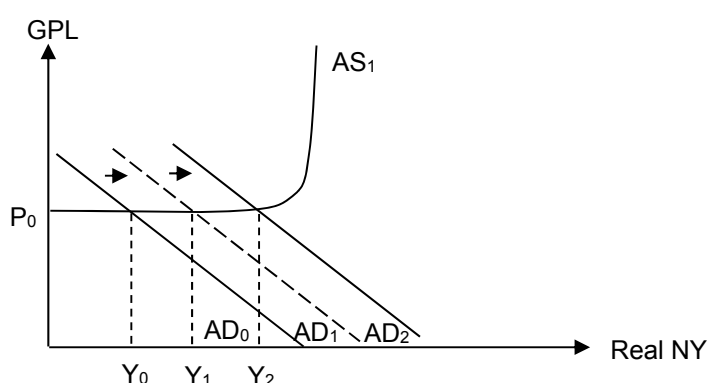
Explaining the macroeconomic problems facing EU

- An appropriate choice of macroeconomic policy option for EU would be expansionary demand-management policy, i.e expansionary monetary policy.
- With reference to Extract 4, the EU is “on the brink of a recession and outright deflation partly brought about by years of fiscal austerity”.
- In addition, the falling oil prices have also resulted in a relative strengthening of the Euro against the Ruble (Extract 4: cheap oil tends to weaken the currencies of oil exporters such as Russia. By the same token, this puts upward pressure on the Euro) which would also mean a rise in price of EU's exports in foreign currency terms and a fall in price of EU's imports in domestic currency terms. Assuming the ML condition is satisfied where $PED_x + PED_m > 1$, this leads to a worsening of BOT. This fall in X-M value would result in a fall in AD and the similar contractionary effect on economic growth and a fall in employment, as well as a dampening of demand pull inflation.
- This indicates that the EU is likely to be facing a lack of AD and the government should prioritise stimulating economic growth and raising employment over that of other macroeconomic goals.

Policy: Monetary policy (interest rates)

- To stimulate growth and reduce demand deficient unemployment, EU would have to embark on an expansionary demand management policy.
- However, the use of expansionary fiscal policy not appropriate at it is subjected to the constraint of fiscal austerity.
- Monetary policy (interest rates) for EU is likely to be preferred over exchange rate policy to promote export price competitiveness, as the issue of worsening BOT is not likely to be severe but mitigated by the ability of majority of EU states to register a net gain in exports. (Extract 7: “majority of EU Member States experienced a net gain in exports to the world in spite of the Russian downturn, thanks to increases in exports to other markets (both within and beyond the EU) that more than compensated for the falls in exports to Russia.”)

- Hence, in the case of EU, it would thus be appropriate to embark on interest rates cuts which would lower borrowing costs for households and firms. A fall in interest rates would stimulate spending on big-ticket consumer durables, while at the same time, raises investment. According to the MEI theory, lower borrowing costs would make more investment projects profitable where the expected rate of return is greater than the interest rate, thereby increasing investment incentives.
- The increase in C and I would increase autonomous AD, resulting in multiple shifts of the AD curve rightwards from AD_0 to AD_2 , leading to a more than proportionate increase in real national income from Y_0 to Y_2 due to the multiplier effect.
- With significant spare capacity in the EU due to the depressed economic conditions, the increase in real national output with increase in production by firms would result in greater utilisation of resources leading to actual growth and a reduction in demand deficient unemployment as labour is a derived demand.



- In light of *falling oil prices*, there will be a reduction in cost of production, this causes the AS to shift downward, possibly dampening inflationary pressures caused by the increase in AD.
- At the same time, EU's balance of trade is also likely to be worsening due to the likely fall in trade volume and a fall in net exports in view of the counter *trade-sanctions* from Russia in retaliation against EU imposed sanctions (Fig 3: the fall in M expenditure by Russia for EU goods post sanctions).
- Taken together, with the above two situations presented for EU, the choice of expansionary monetary policy would be most appropriate, since inflation is likely to be benign, giving room for EU to accommodate greater monetary stimulus.
- Furthermore, the fall in oil prices could be due to "indications of weakness in the global economy", which bolsters the need for EU to pursue monetary stimulus. Hence, the trade-off against having more inflation is not likely to be significant.

Limitations of expansionary monetary policy for the EU

- There are two main limitations of monetary policy for the EU:
 - the extent to which EU can cut interest rates further may be limited by the presence of the liquidity trap in the near future [*side note: EU having already embarked on QE in March 2015*]
 - poor consumer confidence and the lack of animal spirits limiting business confidence would deter borrowing by household and firms → constraints ability to raise C and I . This is especially so given the recession in EU and the weakness in the global economy.
- Interest rate cuts would result in trade-offs against healthy BOP objective
 - Interest rates cuts by EU resulting in relatively lower interest rates in EU promotes hot money outflow away from EU → worsening of financial account → ceteris paribus, worsens the BOP.

Body 2: Policies for Russia

Explaining the macroeconomic problems facing Russia

- Internal instability – In the case of Russia, it is likely to be facing a case of Stagflation, rising inflation and falling economic growth rates. [Extract 5: “Inflation is currently at 10% but is expected to accelerate rapidly”, “Recent data confirm Russia’s entry into recession”].
- External instability – Russia is also facing a severe depreciation of the Ruble and the likely worsening of the financial and capital accounts of the BOP [Extract 5: “Russia is in the middle of a currency crisis”].
- The severe depreciation of the Ruble due to capital flight and hot money outflows leads to a worsening of the financial account. Capital flight is also likely to be due to a loss of investor’s confidence. This means there is likely FDI outflow and a worsening of capital account. In addition, due to the declining oil prices and economic sanctions, there is a significant loss of oil export revenues for Russia, which lead to a worsening of the current account, ceteris paribus. In view of the worsening current, capital and financial accounts of Russia, the BOP worsens overall.

Short-run policies for Russia: Exchange rate policy

- Given the multifaceted problems that Russia is facing, it is imperative for the government to assess the relative severity as well as the urgency of addressing those problems in formulating its macroeconomic policy options.
- In the short run, given the severe depreciation of the Ruble with the currency crisis, it would be better off focussing at restoring external stability by stabilising the external value of the Ruble. Russia could attempt to strengthen the Ruble via exchange rate policy by buying the Ruble in the Forex market. The strengthening of the Ruble would also help to mitigate/reverse “capital flight” from Russia, improving the BOP account via inflows to the financial account and capital account. In addition, a stronger Ruble also has the added benefit of a fall in price of M in domestic currency terms and help to reduce to reduce M inflation. Lower price of M inputs (Eg Fig 3: chemicals, machinery and transport) would lower COP and cause the AS curve to shift downwards, promoting actual growth.

Limitations of exchange rate policy for Russia:

- The ability of Russia’s central bank to purchase Ruble depends on it having sufficient foreign currency reserves. With the rapid decline in the external value of the Ruble, this would mean a severe depletion of foreign currency reserves. This policy is thus not a viable and sustainable measure in the long-run.
- A stronger Ruble in the SR would hurt export price competitiveness of Russian exports. A similar worsening of the BOT will likely happen for Russia, as in EU’s case. This will lead to a worsening of the current account of the BOP. *In light of the falling oil prices and the economic sanctions imposed on Russia*, this trade off against current account of the BOP is likely to be quite large with a further worsening of the BOT and current account of the BOP.
- In the short run, Russia will also need to consider addressing the high inflation rate problem. Russia can attempt to bring inflation rate down (Extract 5: from existing 10% but is expected to accelerate rapidly) to achieve price stability by raising interest rates.
- Higher interest rates increase cost of borrowing, which lowers C, I and autonomous AD, leading to a fall in AD, and hence, a fall in inflationary pressures.
- However, this would lead to a further contraction of the Russian economy. A decrease in autonomous C and I leads to a more than proportionate fall in real NY by the reverse multiplier effect, hence lowering actual growth and employment. This trade-off against growth and employment is likely to be severe in view of Russia entering a recession. (Extract 5:

“Recent data confirm Russia’s entry into recession, with GDP growth of -2.2% for the first quarter of 2015, as compared to the first quarter of 2014.”)

Long-run policies for Russia: Supply side policies and Free Trade Agreements

- To better sustain growth and achieve low stable inflation, Russia could in the long-run reduce its dependence on oil exports by employing both trade and supply-side policies to restructure and diversify its economy. This requires Russia to identify new growth areas of comparative advantage, explore FTAs with potential partner countries.
- For example, with development of new CA with SS-side policies and pursuit of FTAs (lower trade barriers, easing of investment rules) for Russia.
- FTAs reduce/eliminate import tariffs on Russian exports and achieve export price competitiveness. This raises export volume and X-M, which increases AD.
- FTAs also facilitate FDI into Russia by lowering regulations which are barriers to entry for foreign firms. This leads to greater FDI inflows, which raise investment and AD. In the long run, FDI also leads to capital stock accumulation and increases in productive capacity, which will help Russia achieve sustained growth and price stability.

Limitations of supply side policies

- Development of new areas of CA assumes that CA has to be correctly identified and that CA will be eventually achieved. However, in reality, due to imperfect information and the dynamic nature of CA, what Russia proposes to develop as its new CA may not necessarily materialise in the future. In terms of policy duration, CA development take a very long time to materialise.
- The restructuring of Russia’s economy to diversify its industries and shift its CA will also result in structural unemployment due to the displacement of workers especially in the oil production related industries. The long time needed to retrain these workers to equip them with the necessary skill sets to be reemployed in the new growth industries also leads to the skills mismatch problem and possible structural unemployment.

Limitations of FTAs

- Trade diversion: The downside to FTAs is that trade is diverted away from the non-member country with a comparative advantage to a member country with a relatively higher opportunity costs. Aside from the allocative inefficiency, this can also cause strained trade relations between Russia and the affected non-member country, possibly resulting in trade retaliations hurting Russia’s exports. However, the net effect on trade may not necessarily be adverse provided the extent of trade creation as a result of FTA outweighs the trade diversion effect.
- Rise in protectionist sentiments: In a global downturn, countries might be pressured use protectionist measures to protect domestic producers and safeguard jobs against competition from foreign imports. This poses a challenge for the ability of Russia to successfully negotiate FTAs particularly multi-lateral FTAs. Russia might better off pursuing more bi-lateral FTAs.
- Complexity of lowering trade barriers: Russia may face difficulty in its negotiations of FTAs with potential partners given that FTAs negotiations in practice cover the spectrum of contentious issues concerning trade, FDI and labour flows. Although one objective of FTA is to lower trade barriers between Russia and the member country, the actual reduction of trade barriers may prove difficult. For example, potential member country may be seeking preferential access to Russia’s manufacturing sector with a tariff reduction. However, Russia may be seeking greater intellectual property rights protection for its potential FDI in emerging economies outside EU like China where the laws governing intellectual rights protection are less stringent and adhered to. Further, Russian producers particularly in the oil and gas sector may also lobby the government against pursuing multi-lateral FTAs in favour of

unilateral or bi-lateral FTAs (industry to industry, country to country FTAs).

Conclusion:

- The choice of macroeconomic policy options depends on the government's assessment of the degree of severity and urgency of economic problems facing the country.
- In Russia's case, the primary problem is the steep fall in oil prices hurting its export revenue and growth. Also exacerbated by the economic sanctions imposed on Russia. In the short run, Russia can at best take steps to mitigate the adverse effects and ride out the downturn.
- For the EU, the problem it is facing is mainly due to the fiscal austerity measures and the weak global economy. In this case, a looser monetary policy would be more appropriate.

Mark Scheme:

<i>Knowledge, Application, Understanding, Analysis</i>		
<i>L1</i>	<ul style="list-style-type: none"> ▪ Answer does not address the question asked or demonstrate appropriate grasp of the question requirement. ▪ Answer contains many gross concept errors ▪ Answer makes no use of economic framework 	<i>1 – 3</i>
<i>L2</i>	<ul style="list-style-type: none"> ▪ Answer has limited use or relevance to case material ▪ Answer has insufficient scope ▪ Uses relevant economic framework but analysis lacks sufficient development. 	<i>4 – 6</i>
<i>L3</i>	<ul style="list-style-type: none"> ▪ Balanced analysis that explains the choice of macroeconomic policy options for EU and Russia ▪ Analysis is well anchored to problems in Russia and EU. ▪ Relevant macroeconomic policy options for both EU and Russia ▪ Competent use of relevant economic framework and/or diagram(s) ▪ Rigorous development of economic framework ▪ Good reference to case material 	<i>7 – 8</i>
<i>Evaluation</i>		
<i>E1</i>	<ul style="list-style-type: none"> ▪ Offers judgement or evaluative comment with limited substantiation or explanation 	<i>1</i>
<i>E2</i>	<ul style="list-style-type: none"> ▪ Presents a reasoned judgement, evaluative comment substantiated by economic analysis and/or insights pertinent to the case material. 	<i>2</i>

ECONOMICS

Y6 H2 Preliminary Examination 2016

Paper 9732/02
Paper 2

1. In times of uncertain economic outlook, HDB flat owners tend to hold out for a good time to put their flats up for sale in the HDB resale market. In addition, HDB has also scaled down its supply of new HDB flats in the market.

Adapted from TodayOnline, 2nd January 2015

(a) Explain the role of price signals in the efficient allocation of scarce resources in a market economy. [10]

(b) Discuss the impact of the above on the market for HDB resale flats and a related market. [15]

Part (a)

Suggested Answer

Introduction:

Clarify what is meant by the “role of price signals”

- Refers to the price mechanism ie. the invisible hand.
- The price mechanism refers to the way in which prices are determined by free forces of demand and supply, acting as automatic signals which coordinate the actions of individual decision-making units (all households and firms) who seek only to maximise their self-interest. Consumers seek to maximise consumer surplus while producers seek to maximise producer surplus

Clarify what is meant by “efficient allocation of scarce resources”

- Refers to the attainment of allocative efficiency ie. the right mix of goods and services for the society which maximises society's welfare.

Body:

Very briefly explain that the price mechanism can allocate scarce resources efficiently provided these assumptions are met:

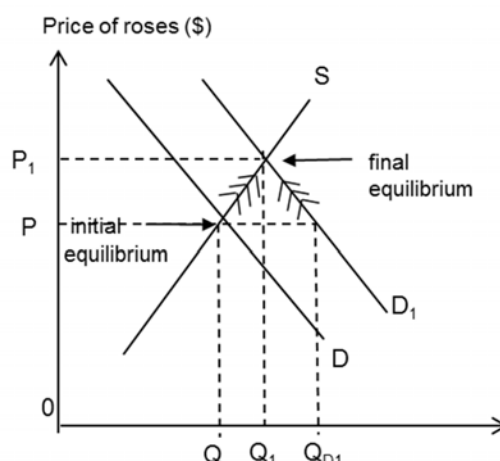
- Markets are perfectly competitive. No single producer or consumer has significant market power to influence market demand and supply.
- Both consumers and producers are rational and driven by **self-interest**.
- Freedom of choice and enterprise ie. Consumers are free to decide what to buy with their incomes ie. known as **consumer sovereignty** and producers are free to choose what to sell and what production methods to use.
- Private ownership of property ie. Individuals have the right to own, control and dispose of land, capital and natural resources.
- Absence of all sources of market failure ie. No externalities, Perfect information, No public goods, Not merit nor demerit goods and no immobility of FOP.

Using the demand-supply framework, show how consumers and producers respond to price signals, in their pursuit of self-interest, and eventually achieve an equilibrium that achieves an efficient allocation of scarce resources, which in turn maximises society's welfare.

- Define Demand – reflects the amount that consumers are willing and able to purchase a good/service at each given price level over a given period of time.
 - In the pursuit of self-interest, consumers will seek to maximise consumer surplus. Hence they are willing to increase their quantity demanded when the price of a good falls, *ceteris paribus*. This is because of diminishing utility/satisfaction with incremental units of the good/service consumed. The demand curve is thus downward sloping.
- Define Supply – reflects the amount of goods and services that producers are willing and able to offer for sale at each given price level over a period of time.
 - In the pursuit of self-interest, producers will seek to maximise producer surplus. They will reduce the quantity supplied when price of a good falls, *ceteris paribus*. This is because of increasing marginal costs of producing every incremental unit of the good/service, arising from the law of diminishing returns in production.
 - Hence the profit-maximising producer is only willing to increase quantity supplied if price increases. Previously unprofitable units become profitable with the increase in price. Therefore, the supply curve is upward sloping
- Hence in the absence of market failure, since demand reflects the maximum price consumers are willing and able to pay for the good while supply reflects the minimum price producers must receive in order to be willing and able to sell the good, allocative efficiency is achieved when
 - Demand equals to supply or when consumers' valuation of the satisfaction from the consumption of an extra unit of good A is equal to the cost of producing that extra unit of the good ie when $P = MC$.
 - Consumer surplus and producer surplus are maximised.

Prices lead to an efficient allocation of resources by performing a: signalling function, incentive function and rationing function to help economies answer the basic economic problems.

- Prices perform **signalling and incentive functions**
 - prices provide information to both producers and consumers about changes in market conditions
 - Use demand and supply framework to explain how and why an **increase in demand** lead to a rise in prices (MAP) and how and why this incentivises producers to allocate more resources to the production of the good, leading to increase in the quantity supplied of the good and hence allocative efficiency.
 - When DD increases, at the current equilibrium price, a shortage is created as the equilibrium quantity is insufficient to meet the heightened DD → **price begins to increase** in response to the shortage → consumers and producers remake decisions.
 - Rise in price is a **signal** to consumers to reduce Q_d along the DD curve (Law of DD). At the same time, higher price **incentivises** producers to increase Q_s along the SS curve (Law of SS) to meet the higher demand. **More resources are reallocated** to the market as a result of such price signals
 - As price is adjusted upwards, the shortage is finally eliminated and the market reaches a new equilibrium where Q_d is equal to Q_s again. At the new equilibrium position, $P = MB = MC$ again and consumer surplus and producer surplus are maximised.
 - The price mechanism **achieves allocative efficiency** in the allocation of scarce resources and direct resources to answer “**what and how much to produce**”.



Alternatively, the candidate can explain how and why an increase in supply leading to a fall in prices incentivises consumers to increase their quantity demanded for the good and how and why this leads to allocative efficiency being achieved, *ceteris paribus*

- Prices perform the **rationing** function - when there is a shortage of a product, price will rise and deter some consumers from buying the product. Prices decide "**for whom to produce**"
 - Prices **serve to ration** scarce resources when demand in a market outstrips supply.
 - When there is a shortage, the price is bid up – leaving only those with the willingness and ability to pay to purchase the product. Only those who are willing ($MB = P$ of good) and able (own factors that fetch high factor prices determined in factor markets) will get to consume the goods produced. E.g. Beyonce's concert ticket price acts a rationing device to equate demand with supply among her fans.
- As for the question of "**how to produce**", producers will look at the prices of factors to decide which factors are to be used to produce the goods chosen by consumers.
 - If labour is relatively more expensive, firms will use more capital since the higher price of labour is a disincentive to firms who stand to make a higher profit if they use relatively cheaper factors.
 - In addition, a good with a higher price will need more factors to be channeled to produce it. As demand for resources is a derived demand, more resources will be allocated to this good. Producers may need to pay higher wages to workers for example to attract more workers to move from other areas of production to this higher demand area. Hence, the price of factors acts as the signal for factor movement.

Conclusion

The incentive function of prices and self-interest means all 'economic agents' (i.e. consumers and producers) must respond to appropriate price signals in the market. Decision-making is decentralised i.e. there is no single body responsible for deciding what is to be produced and in what quantities and how it is produced. This is a remarkable feature of the free market mechanism.

Mark Scheme:

Knowledge, Application, Understanding, Analysis		
L1	<ul style="list-style-type: none"> - Serious conceptual errors and/or lack of economic framework - Superficial attempt at using the framework to explain how producers and consumers respond to price signals - No link drawn to efficient allocation of resources in the free market. 	1 – 4
L2	<ul style="list-style-type: none"> - For an answer that exhibits sound use of economic framework in explaining how producers and consumers in the free market economy 	5 – 7

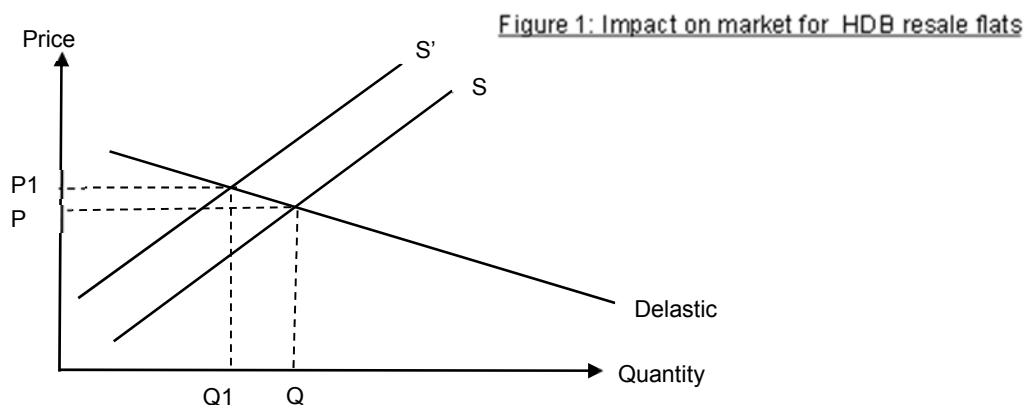
	<p><i>respond to price signals.</i></p> <ul style="list-style-type: none"> - <i>Answer is not adequately developed in terms of how allocative efficiency is achieved.</i> 	
L3	<ul style="list-style-type: none"> - <i>Competent use of economic framework with a detailed explanation of how the role of an efficient allocation of scarce resources in the free market economy, that maximises both consumer and producer surpluses, hence achieving AE.</i> - <i>Diagram drawn is well-explained</i> 	8 - 10

Part (b)**Suggested answer:****Introduction:**

- This essay will first explain how the uncertain economic outlook and the scaling down of supply of new HDB flats affect the market for HDB resale flats and market for new HDB flats.
- The essay then seeks to employ the concepts of price and income elasticities of demand to analyse how the above factors affect the equilibrium price and quantity and hence revenue in the housing markets in Singapore.

Body:**1. Impact of economic uncertainty on equilibrium P&Q and hence revenue in the different housing markets****Analysis on the market for HDB resale flats**

- Due to the uncertain economic outlook, HDB flat owners tend to hold out for a good time to put their flats up for sale in the HDB resale market. They may wait for the economy to recover and hence the housing market to pick up before putting up their flats for sale in order to fetch a good price. Hence, for now, supply for HDB resale flats will fall, shifting the supply curve leftwards. Holding demand unchanged, equilibrium price rises while output falls.
- The effect on revenue in the market for HDB resale flats depends on the price elasticity of demand.
- Price elasticity of demand measures the responsiveness of quantity demanded of a good to a change in its price, ceteris paribus. It is calculated by taking the percentage change in quantity demanded over the percentage change in price, c.p.
- When demand is price elastic, an increase in price leads to a more than proportionate decrease in quantity demanded, so the gain in revenue from charging higher prices is lesser than the loss in revenue from selling less output, hence total revenue falls.
- When demand is price inelastic, the opposite applies, and an increase in price causes total revenue to rise instead.
- Assuming that demand for HDB resale flats is price elastic given the availability of close substitutes such as private housing, new HDB flats, etc., the fall in supply will lead to a more than proportionate fall in quantity demanded given an increase in equilibrium price. Hence revenue earned will fall in the market for HDB resale flats according to fig 1.



Analysis on the market for new HDB flats

- For potential new flat buyers, given the weak economic prospects in the economy, they tend to hold back on their purchases, hence demand for new HDB flats will fall, shifting demand curve to the left, assuming that new HDB flats are normal goods where income elasticity of demand positive.
- Income elasticity of demand measures the responsiveness of demand for a good to a change in income levels and is calculated by taking the percentage change in demand over the percentage change in income, c.p.
- For normal goods, with positive income elasticity, the demand will fall as income fall. Hence both price and output will fall, hence revenue decreases according to fig 2.

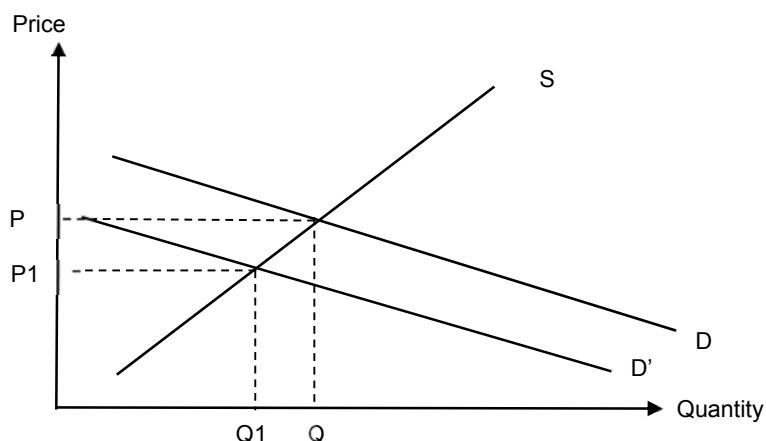


Figure 2: Impact on market for new HDB flats

2. Impact of the scaling down of supply of new HDB flats on equilibrium P&Q and hence revenue in the market for new HDB flats

- The scaling down of supply of new HDB flats, holding demand unchanged, will cause equilibrium price to rise and equilibrium quantity to fall.
- The effect on revenue in the market for new HDB flats depends on the price elasticity of demand.
- Assuming that demand for new HDB flats is price elastic given the availability of close substitutes such as private housing, resale HDB flats, etc., the fall in supply will lead to a more than proportionate fall in quantity demanded given an increase in equilibrium price. Hence revenue earned will fall in the market for new HDB flats using Figure 3.

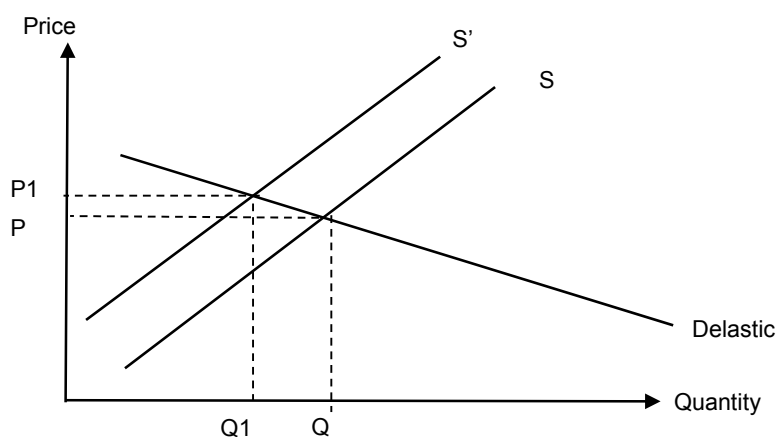


Figure 3: Impact on market for new HDB flats

Note: Candidates may go into CED analysis.

For example:

Given that the price of new HDB flats rises, demand for HDB resale flats will increase given that $CED > 0$. Combined analysis – Impact of a fall in supply and an increase in demand for HDB resale flats. Equilibrium price will rise but equilibrium quantity will depend on the extent of the shift. Assuming that HDB resale flats and new HDB flats are not very close substitutes ($0 < CED < 1$) and in times of uncertain economic outlook, increase in demand $<$ fall in supply in the market for HDB resale flats, resulting in a fall in equilibrium quantity, hence revenue increases. [based on Figure 4]

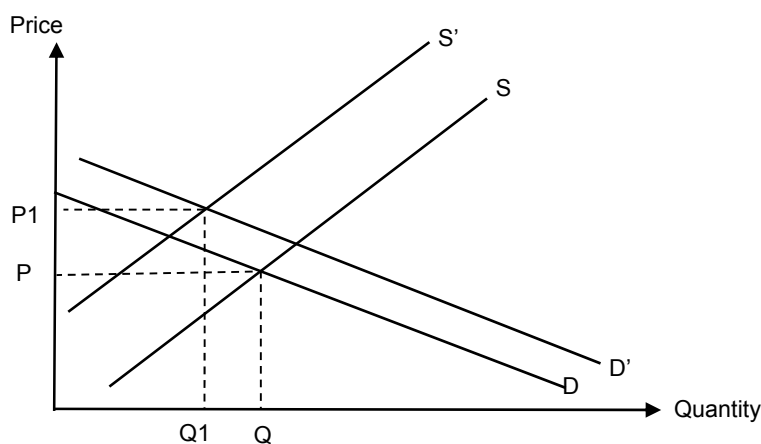


Figure 4: Combined impact on market for HDB resale flats

Combined analysis - Impact of economic uncertainty and scaling down of supply on the market for new HDB flats.

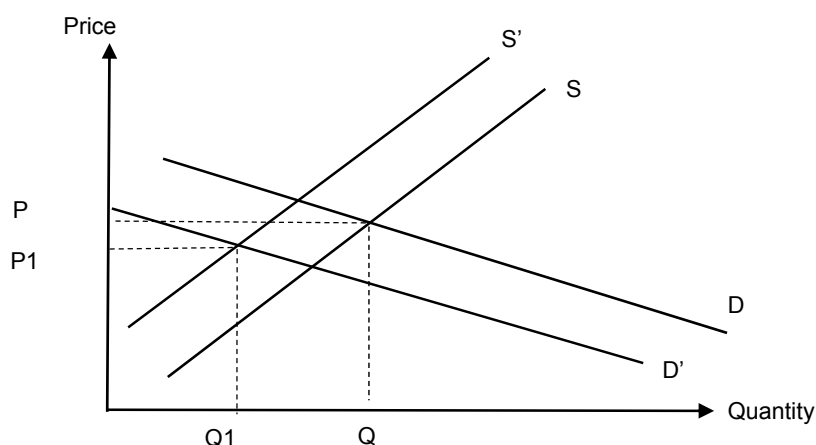


Figure 5: Combined impact on market for new HDB flats

- Given a fall in both the demand for and supply of new HDB flats, where the extent of the fall in demand is greater than the fall in supply [perhaps buyers are very pessimistic about the economy outlook, will postpone buying of such big ticket item], total revenue falls using Figure 5.
- Alternatively, when the extent of the fall in supply is greater than the fall in demand [as the extent of fall in demand is negated by an increase in demand given the increase in price of HDB resale flats, a substitute good], total revenue may rise.

Conclusion:

- In summary, it seems like that HDB resale market is negatively affected by the abovementioned events while the effects in the new HDB flats market can be quite uncertain.
- Many different factors may be considered. For instance, the demographics of the consumers who require resale flats, the newlyweds, and their demand will be less price elastic. Whereas the HDB flat owners who would like to upgrade, their demand will be more price elastic. Looking at different groups of people will come to different outcome.
- In times of poor sentiments in the property market or when the market is overheated, Singapore government has in place micro-prudential measures to deal with the situation, preventing the markets from bursting which may cause undesirable effects on the economy like what has happened in Hong Kong.

Mark Scheme:

	<i>Knowledge, Application, Understanding, Analysis</i>	
L1	<i>Glaring conceptual errors Didn't understand nor answer the question Listing the impact on equilibrium P and Q in the market for market for HDB resale flats or market for new HDB flats due to mentioned events in the preamble.</i>	1-5
L2	<i>Explain how the mentioned events will affect the overall market demand and supply of the market for HDB resale flats and market for new HDB flats/ private housing. Relationship between the HDB resale flat and the flat in related market is clearly explained.</i>	6-8
L3	<i>Analyse with diagrams how demand elasticities affects the resulting impact on P, Q and TR. Combined shifts (dd and ss) in resale market and in a related market. Factors affecting the elasticities are clearly explained.</i>	9-11

	Evaluation	
E1	<i>Offers judgement or evaluative comment with limited substantiation or explanation.</i>	1-2
E2	<i>Presents a reasoned judgement, evaluative comment substantiated by economic analysis and/or insights pertinent to the preamble.</i>	3-4

2. 'Important segments of the electric power, natural gas distribution, water and telecommunication industries are generally thought to possess natural monopoly characteristics and are subjected to some form of price and entry regulation, while artificial monopolies such as Sistic in Singapore had been fined for abusing their market dominance.'

Adapted from www.ccs.gov.sg, 27th Nov 2014 and Regulation of natural monopolies, MTI, 29th Aug 2006

To what extent should price regulation be the only form of government intervention in markets where monopolies exist? [25]

Introduction:

Explain what a monopoly is:

- In a monopoly, there is a single seller of product and the demand curve for the firm's product is the market demand curve. As there is only a single seller, the firm's product is highly price inelastic due to the lack of substitutes in the market.

*Explain what a **natural** monopoly is:*

- In a natural monopoly, substantial economies of scale can arise due to the huge capital outlay or huge total fixed cost (TFC) incurred. An example is the market for power and utilities, as stated in the preamble. With the huge investment in infrastructure such as power plants and distribution network and cables, the total fixed cost (TFC) is very high. As output increases, the average fixed cost (AFC) will keep falling. As a result, the average total cost (ATC) falls continually over a very large output, resulting in a very large minimum efficient scale relative to market demand for the existing firm.
- In such industries, a natural monopoly – defined as one where the market demand is large enough to support only one large firm operating efficiently – may arise. The market demand cannot support more than 1 firm. Potential new entrants tend to begin operation on a smaller scale, and incur a higher unit cost of production initially, and are thus unable to compete effectively with the incumbent. This natural barrier discourages potential new firms from entering.
- This is unlike artificial monopolies like Sistic where it has exclusive agreements which acted as barriers to entry, preventing new entry to the market and major partners such as the Esplanade and the Singapore Sports Council from switching providers.

Explain why there is a need for price regulation and identify the two types of price regulation:

- With monopoly power allowing monopolies to charge price above marginal cost, there is a deadweight loss to the society and income inequality issue.
- Governments can regulate monopoly pricing and output by requiring them to set prices at marginal cost or at average cost.

Price regulation **should not** be the only form of government intervention in markets where monopolies exist as there are

- Limitations of AC and MC pricing
- And other forms of regulation – E.g. Entry Regulation, taxes and subsidies

Body:

- Explain how monopoly power can result in inefficient outcomes to the society (Figure 1):

- Allocative inefficiency

A monopoly restricts output so that it can set a high price. At its profit-maximising equilibrium where $MR=MC$, it will produce at output $0Q_m$ and price $0P_m$. When compared to the allocatively efficient PC market which produces at output $0Q_c$ and price $0P_c$, the monopoly has produced at a lower output and a higher price.

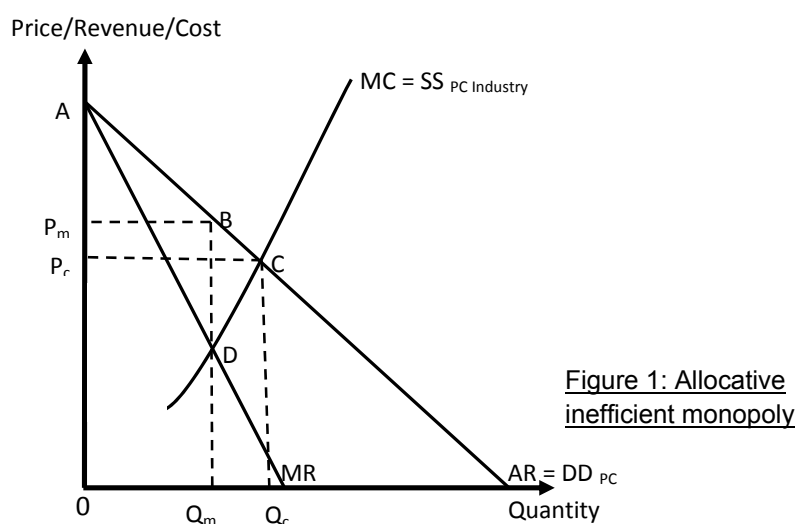


Figure 1: Allocative inefficient monopoly

From society's point of view, the monopoly has under-produced by Q_mQ_c . For each unit under-produced, the benefit to society from consuming an additional unit of the good is greater than the opportunity cost of producing it. Society will be better off if additional units of the good were produced. The amount of the welfare loss to society arising from the under-production is represented by area BCD. This is also known as deadweight welfare loss.

In short, the monopoly is allocatively inefficient – as insufficient resources have been allocated to produce the good.

- Income inequality issue

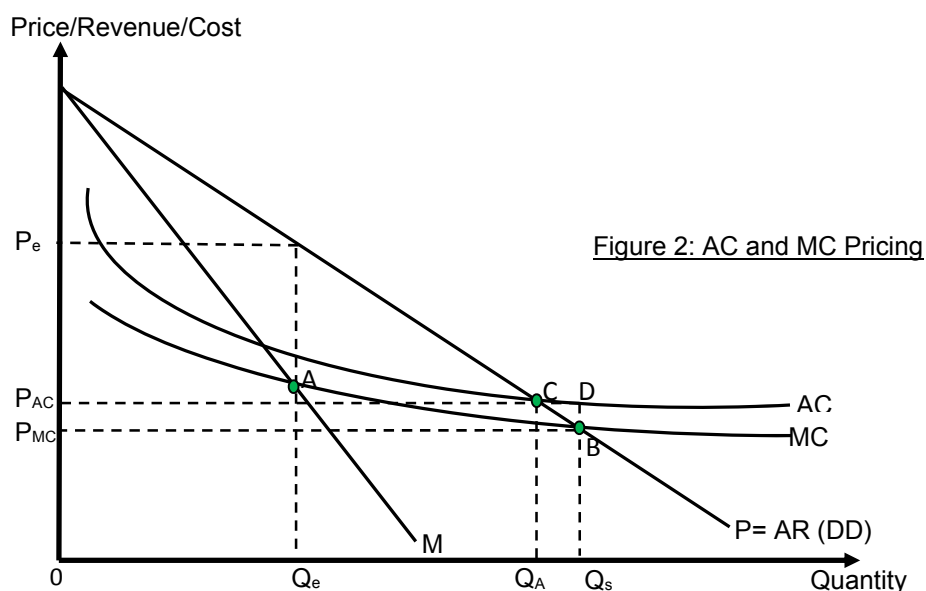
Monopolies tend to exacerbate inequity in the economy as supernormal profits are concentrated in the hands of a select few monopolies which have the ability to block potential new entrants. This also comes at the expense of consumers who pay high prices for a limited quantity of goods. With reference to Figure 1, consumer surplus in a perfectly competitive industry is P_cAC whilst that in a monopoly is P_mAB . Thus there is a loss of surplus of area $P_cP_mB C$. Monopoly gains part of the loss in consumer surpluses, i.e. the firm gains at the expense of the consumer. Thus consumer loses more than the gains of a monopoly. Ceteris paribus, a monopoly as the sole producer and therefore a price-setter in the industry can earn a higher income than the rest of the society.

- **Thesis: Explain how AC pricing works to regulate monopoly pricing.**
- **Thesis: Explain how MC pricing works to regulate monopoly output.**

Referring to Figure 2, a monopolist maximises profit where $MC=MR$, producing at Q_e and charging price at P_e . With marginal cost pricing, social optimum is achieved at Q_s because consumers' marginal benefit from the last unit sold is equal to the marginal cost of producing that last unit, but the natural monopolist may have to face losses (area $P_{AC}DBP_{MC}$) unless government subsidies are given to the producer or 2-tier pricing is practised.

By setting prices at average cost, however, the monopolist will be able to break even (lowest effective price), but the output level at Q_e will be less than social optimum at Q_s . Compared to unregulated profit

maximising price, both average cost and marginal cost pricing reduce price and increase output, increasing consumers' surplus and social welfare.



Government intervenes in markets where natural monopolies exist through price regulation to reduce societal deadweight losses as it is impossible to introduce competition into the market given its characteristics. However, price regulation may not be the only form of government intervention in markets where monopolies exist given its limitations.

▪ **Antithesis: Limitations of AC and MC pricing**

There is a dilemma facing the regulator when price setting is used. In terms of AC pricing, it can force the monopolist to earn normal profits, hence reduce income inequality between the consumers and the monopolist. However, the socially optimum level of output cannot be attained; hence there is still deadweight loss to society. In the case of MC pricing, socially optimum level of output can be attained but the monopolist - natural monopolist - will be making a loss, hence required some form of government subsidies to cover the loss if not, the monopolist has to adopt 2-tier pricing where the monopolist can charge the consumers a lump-sum price equivalent to the amount lost. This is so as the natural monopolist is not allowed to fail and shut down. The inherent difficulty encountered under such schemes (of providing government subsidy to cover losses) is often used to pressure governments to take over such industries, that is, nationalization. [Candidates may go on to elaborate on nationalization as an alternative way to regulate a natural monopoly. This serves as another antithesis point.]

Another limitation is that demand and cost curves can only be estimated and the regulated firm may withhold or distort information. For example, a utility firm may overstate its costs so it can charge more. Hence, price regulation may not effectively reduce the extent of inefficiency and inequity.

▪ **Antithesis: Entry Regulation – E.g. Legislation**

Competition laws are in place to curb the growing concentration of economic power. These laws set limits on firms' behaviour by prohibiting certain kinds of anti-competitive or restrictive practices that destroys competition and either the current firm is driven out of business or a potential new firm is dissuaded from entering the market which thus maintains or strengthens the monopolists' position. Hence, courts are empowered not only to stop such practices but also to break up monopolies into smaller independent units.

For the case on Sistic (application to examples given in the preamble), Competition Commission of Singapore (CCS) in its preliminary enquiry found that Sistic has contravened section 47 via a series of exclusive agreements which contains explicit restrictions requiring that all events held at the Esplanade venues, the Singapore Indoor Stadium, and other event promoters concerned to use Sistic as the sole ticketing service provider for all their events.

Competition Act 2004 of Singapore Section 47 prohibits any conduct of the part of one or more undertakings which amounts to the abuse of a dominant position in any market in Singapore.

CCS found that Sistic with market share of 85-95 % and the increase booking fee for tickets, has dominated the ticket service provider in Singapore and that proved the restrictions under the Exclusive Agreements are harmful to competition by restricting the choices of venue operators, event promoters and ticket buyers. Hence, CCS in its order has imposed a financial penalty of S\$989,000 for infringing section 47 of the Act and also directed Sistic to modify the Exclusive Agreements with immediate effect, to remove any clause(s) that require Sistic's contractual partners to use Sistic exclusively.

In this case, barriers to entry are reduced and the introduction of competition into the market will reduce the inefficiencies in the market. Assuming total market demand for the ticketing service remains unchanged, the entry of new firms will cause the demand for Sistic's services to fall. At the same time, demand also becomes more price-elastic as substitutes are available.

As shown in Figure 3, the demand curve shifts from a steeper AR_1 to a gentler AR_2 . At the profit-maximising level where MR_2 equates MC , the equilibrium price has fallen to OP_2 and the equilibrium quantity to OQ_2 . The extent of allocative inefficiency is hence reduced. The firm also makes only normal profits since AR_2 equals AC at output OQ_2 , reducing the extent of income inequity.

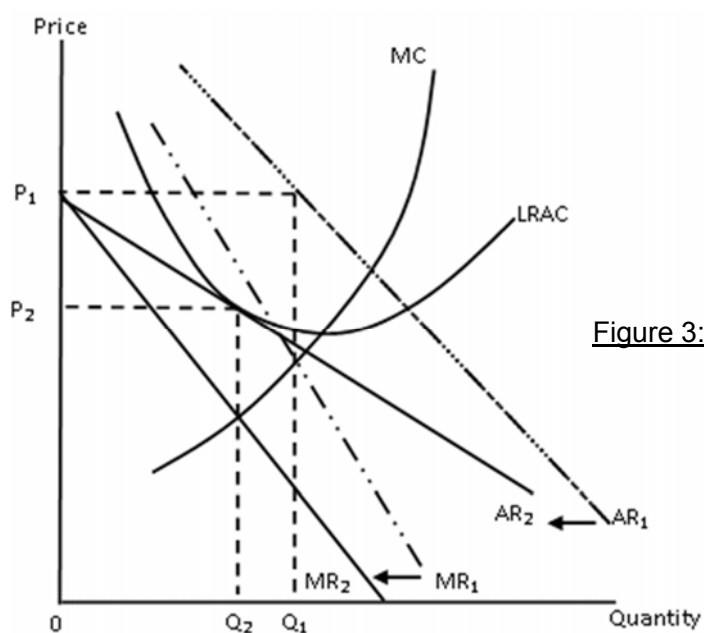


Figure 3: Effects of increased competition

However, these competition laws cannot be employed under a natural monopoly as the market demand cannot support more than 1 firm. It is not possible for 2 firms to exist, each charging the same price and supplying half of the industry's output as there is no price that would allow them to cover cost. The IEOS also cannot be fully exploited. The duplication of resources can result in wastage and greater inefficiency.

In some situations, competition may produce wasteful duplication. Lipsey gives the example of a Cup Final on TV. Suppose 80% of the population wanted to see the game whilst the remaining 20% preferred

to watch opera. If there were two competing stations, both stations would want to screen the football game. A two-channel monopoly, however, would screen the match on one channel and the opera on the other. Hence, a monopoly reduces wasteful competition in this case.

Exceptions will be made if the proposed merger results in better economic efficiencies or greater innovation or choice, higher quality or lower costs. Hence, competition laws may be working against these.

▪ **Antithesis: Regulating monopoly profits through taxes**

A government wishing to tackle the problem of excessive monopoly profits can impose a lump-sum tax on the monopolist. The use of lump sum tax is illustrated in Figure 4 below.

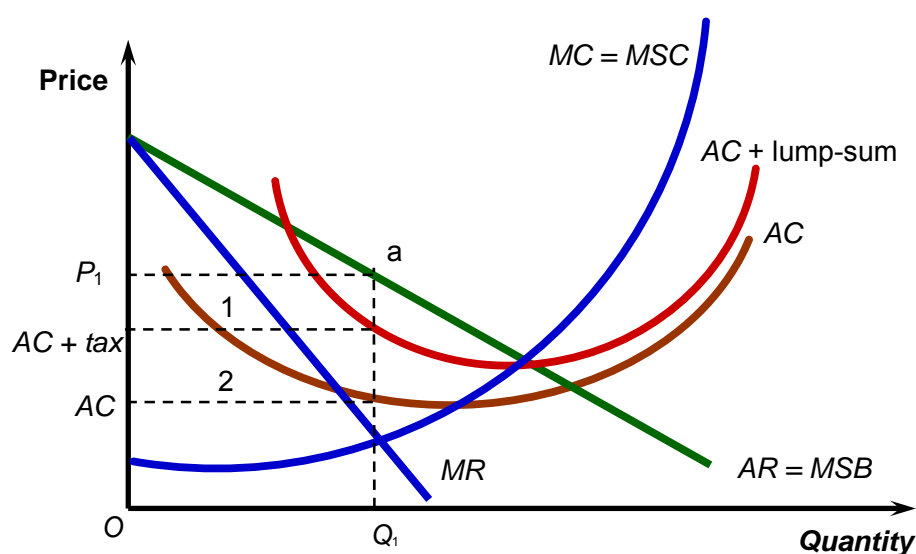


Figure 4: Reducing monopoly profits through taxation

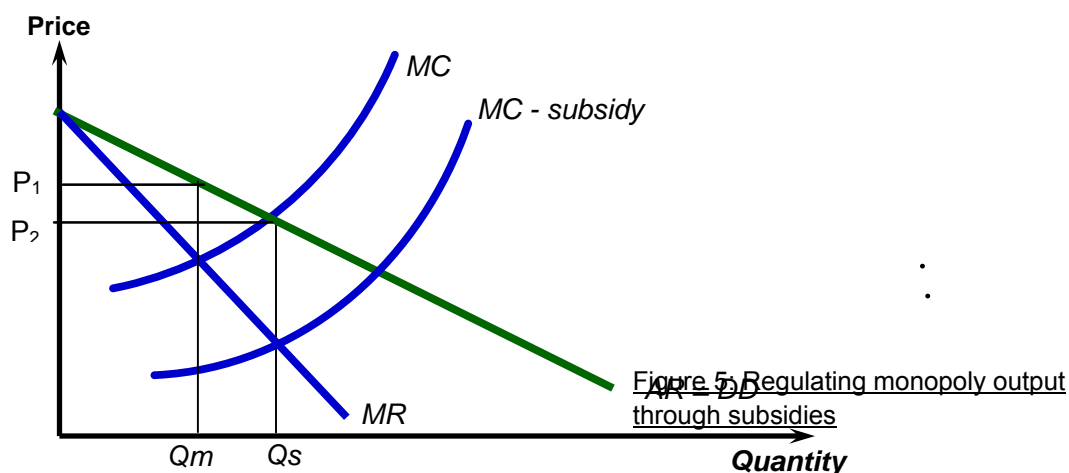
As the lump sum tax is a fixed amount, it is a fixed cost to the firm. It shifts the AC curve upwards. Profits continue to be maximised where $MC=MR$, at an output of Q_1 and price, P_1 . However, profits are reduced from areas 1 + 2 to area 1 alone. Area 2 now represents the amount of tax paid to the government. If the lump-sum tax were large enough to make the $AC + \text{lump-sum tax}$ curve cross the demand curve at point a, then all the supernormal profits would be taken as tax.

The objective is similar to AC pricing but in terms of taxation, government can collect tax revenue, unlike that of price regulation.

While supernormal profits may cause income inequality, it can be useful in providing the incentive and means for research and development. While a tax on monopoly profits reduces income inequality, it may conflict with other government economic objectives such as economic growth and efficiency.

▪ **Antithesis: Regulating monopoly output through subsidies**

Alternatively, the government can use subsidies to regulate monopoly output. Since output is restricted under a monopoly, per unit subsidies can increase the level of output to the allocative efficient level.



Referring to Figure 5 above, if the government wishes to increase the monopolist's output to the socially efficient level of Q_s , and wants it to charge a price of P_2 , it could do this with a per-unit subsidy (which shifts both AC and MC curves downwards). The required level of subsidy will be that which shifts the MC downwards to the point where it intersects MR at output Q_s .

This helps achieve allocative efficiency without threatening the monopolist to close down.

However such subsidies may further increase the supernormal profits of the monopolist and hence worsen income distribution. Furthermore, this adds to government expenditure which could be spent elsewhere like in healthcare or education.

▪ **Antithesis: There is no need for government intervention**

Despite its inefficiencies, a monopoly may be more desirable in industries where there are substantial economies of scale to be reaped. In industries where MES is high in the case of natural gas distribution (a natural monopoly), the monopolists are able to enjoy significant internal economies of scale. They can operate on a lower marginal cost compared to firms in competitive industries. The lower costs may lead to lower prices and higher output if the available internal economies of scale are substantial.

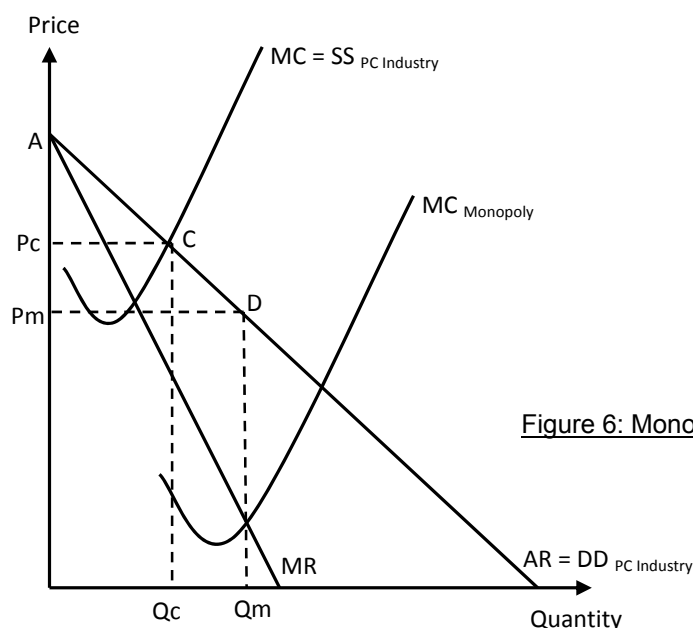


Figure 6: Monopolist with significant EOS

With reference to Figure 6, it can be seen that when the monopolist is able to operate on a lower MC due to significant economies of scale, the output levels are higher for the monopoly (Q_m) than for the perfectly competitive market (Q_c). This also translates to lower prices in the monopoly (P_m versus P_c) despite the monopolist selling its product at a price above its marginal cost. Consumer surplus thus will be higher for the consumers in the monopoly market than in a perfectly competitive market, hence resulting in a lowered inequity issue.

Conclusion:

Price regulation should not be the only form of government intervention in markets where monopolies exist. There could be other means to regulate monopolies. Government can regulate monopolies through laws to introduce more competition into the market. However, that's not possible for a natural monopoly as the market can accommodate only one firm.

Mark Scheme

Knowledge, Application, Understanding, Analysis		
L1	<i>Glaring conceptual errors made.</i> <i>Limited use of economics framework; scope of discussion</i> <i>Mere listing of points</i>	1 – 9
L2	<i>Appropriate use of economics framework.</i> <i>Lack of scope of discussion.</i> <ul style="list-style-type: none"> ▪ <i>Did not explain why there is a need for government intervention in markets where monopolies exist or</i> - <i>Focus only on AC or MC pricing or</i> - <i>Focus only on thesis or antithesis or</i> - <i>Focus only on natural or artificial m</i> <i>Lack of depth of elaboration</i>	10 - 16
L3	<i>Sound analysis with good use of economics framework</i> <i>Good scope of discussion</i> <i>Good depth of analysis</i>	17 – 21

Evaluation		
E1	<i>Made a judgment but not substantiated with analysis, or substantiated with too little analysis.</i>	1 - 2
E2	<i>Judgment based on sound analyses with good use of examples in the preamble.</i>	3 - 4

3. Income inequality remained broadly unchanged over the last three years, with the Gini coefficient at 0.463 in 2015, similar to 0.464 in 2014. This was in part due to government initiatives undertaken to narrow the gap.

Source: CNA, 26th February 2016

- (a) Explain why income inequality is a cause for government intervention. [10]
- (b) Assess the various policy measures that the Singapore government currently adopts to reduce the income gap and consider whether these policies need to be adjusted. [15]

Part (a)

Suggested Answer:

Introduction:

- Clarify what is meant by income inequality
 - Income inequality can be examined by looking at the distribution of income in an economy. It is defined as a measure that highlights the disparity in incomes of individuals in an economy.
 - Income, which is a flow concept, is the amount of money an individual receives per period of time eg. per week, per month or per year. Income can be categorized into wage income and non-wage income. Wage refers to the income an individual earns from his labour services while non-wage income include dividends, interest, capital gains, rent, and royalties.
- Excessive income inequality is a cause for concern for most economies and hence presents itself as a cause for government intervention since it leads to an inefficient allocation and distribution of scarce resources.

Body:

- Briefly identify and explain some of the key causes of income inequality
 - Differences in education levels, ability and skills as well as differences in levels of productivity.
 - Globalisation that encourages labour mobility and changes in comparative advantages which depresses wages of the lower-skilled individuals and raises wages for the high-skilled.
 - Political or institutional factors such as trade union power etc.
- Explain how income inequality leads to an inefficient allocation and distribution of resources in the free market.
 - In a free market economy, an individual's ability to consume goods & services and the allocation of resources depends on the **dollar votes**, which is dependent on individual's income or other resources such as savings. Goods and services are thus allocated according to income distribution. And what matters in a market based system is the **effective demand (willingness and ability to pay)** for goods and services.

- An excessive unequal distribution of income and wealth may result in a **misallocation of resources** as the free-market tends to allocate resources to produce goods and services for those with the **ability to pay**. Hence, the free market will not always respond to the needs and wants of people with insufficient dollar votes to have any impact on market demand because what matters in a market based system is **effective demand** for goods and services. The free market responds to the economic question of "For whom to produce?" through the use of price mechanism. Price mechanism helps to distribute the limited amount of goods produced to those who want them and it is reflected by their willingness to pay and backed by their purchasing power.
- Since incomes are unevenly distributed, people with high income levels will be able to determine what should be produced as they are able to cast higher dollar votes for the goods/services that they want. In this way, profit maximizing producers will channel/ divert more scarce resources into the production of luxury goods for the rich; while the needs of the poor (in terms of goods/services such as necessity items) will not be satisfied since they do not have the ability to pay and profit-maximizing producers will respond by diverting scarce resources away from the production of necessity items that the poor desire. This unfair distribution of resources results in an over-allocation of scarce resources into production of goods/services that the rich demand and an under-allocation of scarce resources to the production of goods/services that the poor may require, hence resulting in a misallocation of resources → society's welfare is not maximized → government intervention will be required.
- The problem of a misallocation of resources becomes more acute when it involves merit goods such as education/healthcare services, that the government deems socially desirable but are often under-consumed. Taking the example of education, a society would have a shared vision of the minimum level of education/ healthcare services its citizens should have. This minimum entitlement must be available to all, even those who are **unable to afford** these goods. In countries with excessive income inequality, there will be groups of people who do not have the ability to pay for basic or primary education and primary healthcare. If society is of the opinion that these individuals consume below the minimum level of these goods due to their inability to pay for them, then the government will have to intervene and help correct the inefficient free market outcome.

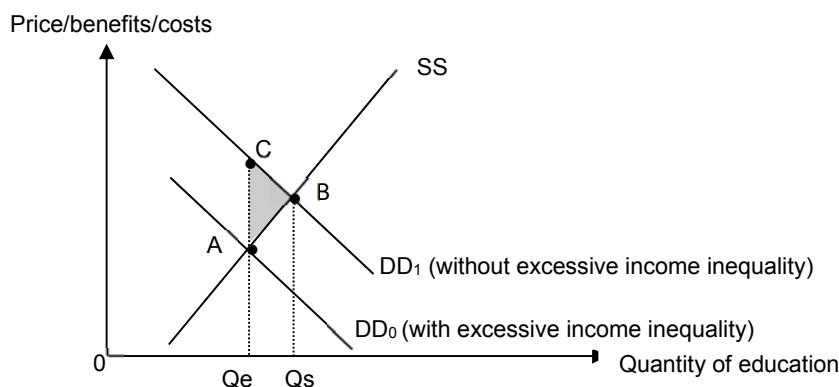


Figure 1: Market for Merit Good (excessive income inequality)

- With reference to Figure 1, the presence of excessive income inequality results in a lower effective demand for education services at DD_0 because the effective demand in the free market does not reflect the desire of the poor/low income groups to consume such services since they are unable to afford such services. Under such circumstances, the free market will allocate scarce resources based on the dollar votes, and the production/consumption of education services will be where $DD_0 = SS$ at $0Q_e$ units. This is in contrast to a situation where excessive income inequality is absent. In the absence of excessive income inequality,

the effective demand for education services would be higher at DD_1 since all consumers will be willing and able to consume education services. As such, the socially optimal level of education services produced and hence consumed should be at OQ_s where $DD_1 = SS$. It can be seen that the price mechanism has led to an under-production/under-consumption of education services at OQ_e (misallocation of resources \rightarrow Allocative inefficiency) and in turn a welfare loss of the area ABC since it adds more to society's benefits than costs if more resources were allocated to the production/consumption of education services. Hence, the misallocation of resources and subsequent welfare loss warrant government intervention in economies where excessive income inequality is present.

- Other than resulting in a misallocation of scarce resources, income inequality can potentially reduce the SOL of residents in a country. In the presence of excessive income inequality, the lower income groups will possess less disposable income hence lowered purchasing power and ability to consume goods/services. This directly reduces their material SOL, which is defined by the amount of goods/services an average person can consume within an economy, over a given period of time. And since governments are often concerned with the attainment of higher SOL of residents within a country, income inequality should warrant government intervention.
- Finally, income inequality can be a source of social tension and weakens the social cohesion of the society since the lower income groups tend not to have their basic needs satisfied and may end up disgruntled due to their lowered material and non-material SOL. This could potentially result in strikes or riots which can threaten social stability and deter foreign direct investments into the country. This can ultimately cause the country a loss in both productivity as well as productive capacity over time, hence adversely affecting both actual and potential growth.

Conclusion

In summary, since excessive income inequality leads to unsatisfactory allocation and distribution of resources as well as trade-offs from a macroeconomic standpoint, it is therefore a cause for government intervention.

Mark Scheme

Knowledge, Application, Understanding, Analysis		
L1	<ul style="list-style-type: none"> - Serious conceptual errors and/or lack of economic framework - Descriptive answers to explain how scarce resources may be allocated unsatisfactorily due to unequal income distribution. - No linkages drawn as to how distributive and allocative efficiency are unattained when income inequalities are present 	1 – 4
L2	<ul style="list-style-type: none"> - For an answer that is not adequately developed in terms of the sound use of economic framework - Linkages are drawn as to how distributive and allocative efficiency are unattained when income inequalities are present \rightarrow cause for government intervention. 	5 - 7
L3	<ul style="list-style-type: none"> - Competent use of economic framework with a detailed explanation of how scarce resources may be allocated unsatisfactorily due to unequal income distribution - Clear linkages are drawn as to how distributive and allocative efficiency are unattained when income inequalities are present \rightarrow cause for government intervention. - Answer includes SOL/QOL arguments that justify government intervention in the presence of income inequalities. 	8 - 10

Part (b)**Suggested Answer:****Introduction:**

- Income distribution can be measured using the Gini Coefficient which ranges between 0 and 1. A larger Gini coefficient represents more unequal income distribution.
- Severe income inequality can cause problems such as material hardship for lower income groups, increasing tension between the different income groups and social instability.
- As seen from the preamble, Singapore's Gini coefficient is considered large at 0.463, hence, policies to narrow the income gap should be pursued if it is perceived to be inequitable. In this aspect, the Singapore government has put in place various measures to narrow the income gap.

Body:

- Briefly explain some of the potential causes of income inequalities as listed in (a).
 - Differences in education levels, ability and skills as well as differences in levels of productivity.
 - Globalisation that encourages labour mobility and changes in comparative advantages which depresses wages of the lower-skilled individuals and raises wages for the high-skilled.
 - Political or institutional factors such as trade union power etc.
- *Explain and Evaluate the measures adopted by Singapore government to **reduce the income gap**:*

1. Taxation – Progressive Income tax structure

- Singapore adopts the progressive income tax system in which the higher income group pays a higher marginal tax rate. The lower income group may not pay any taxes given the different exemptions. Generally only 1/3 of the population pays income tax.
- Progressive income tax works where an additional dollar on income is taxed at a higher rate than the last. At the current moment, the highest marginal tax rate of 20% is applied to individuals earning more than S\$320,000 annually. This tax system helps to narrow the income gap since the after-tax income (disposable income) of high income earners get reduced as they pay a higher proportion of their income in taxes. Income tax revenues raised are also used to finance transfers to the lower income earners, hence facilitating the reduction of the after-tax and transfers income gap between these 2 groups.
- Limitations:
 - *However, tax rates had been adjusted downwards and kept low up to the assessment year of 2016 in order to attract foreign talent. This has reduced its effectiveness in addressing the income gap since the post-tax incomes of the high income earners remain high. There may also be a tendency for self-declared incomes to be understated so as to avoid higher tax rates.*
 - *Besides, according to Okun's "leaky bucket" theory, the administrative costs of redistribution as well as the disincentive among the lower-income groups to work harder due to complacency caused by the receipt of transfer payments make such redistribution efforts inefficient and ineffective in addressing the income gap.*
- Hence, a possibility might be to **adjust the Y tax system** to one that is more progressive when economic growth rises over time. To increase the progressivity of Singapore's income tax system, the **proportion of taxes paid by higher income earners could be raised, given that other developed nations do the same and have higher income tax rates than Singapore.** This is seen in the proposed revision of the highest marginal income tax rate to 22% for individuals earning more than S\$320,000 annually for the year of assessment 2017. The advantage of a more progressive income tax system is its potential ability to reduce the after-tax income gap. Moreover, the increase in tax revenue collected can be used to finance transfers to

the lower income earners, hence facilitating the reduction of the after tax and transfers income gap.

Limitations:

- *However, this adjustment goes against the need for Singapore to maintain a competitive tax regime in order to attract top talents that can contribute to increases in productive capacity and potential growth.*
- *Higher tax rates could also dis-incentivize work effort as workers choose to consume more leisure since the opportunity cost of leisure has fallen and the monetary rewards of work have decreased. ie. Substitution effect outweighs the income effect.*
- *Hence, a possible solution to circumvent this problem would be to improve on the physical and social infrastructure to prevent the outflow of talent from Singapore.*

2. **Transfer payments to redistribute income**

- Transfer payments by the Singapore government provides assistance to lower income families via Public Assistance Scheme also known as the Comcare Long Term Assistance Scheme for those unable to work and with little means of subsistence. This scheme does not directly address the income gap but helps to alleviate the effects of income inequalities on the underprivileged by ensuring that they are able to afford basic necessities such as healthcare facilities. Other examples include the Medifund as well as the Community Health Assist Scheme (CHAS) which enables Singapore citizens from lower to middle-income households to receive subsidies for medical and dental care at participating General Practitioners (GP) and dental clinics near their homes.
- The Workfare Income Supplement (WIS) Scheme, introduced in 2007, provides incentive for older low wage workers to find work and stay in work and most importantly it supplements the incomes of the low wage workers through both cash and CPF top-ups from the government. As of 2016, low income earners are eligible for wage top-ups of at least \$1400 from the government as long as they remain employed for at least 2 of 3 months. While this scheme benefits those who are employed, instead of those who have lost their jobs, it has effectively increased the after-transfer income of low income earners and reduced the income gap.
- Under the Wage Credit Scheme, the government will co-fund 40% of up to \$200 wage increment given to workers who earn less than \$4,000 a month. This scheme ran for a duration period of 3 years from 2013 to 2015 and was recently extended to 2017 but at a reduced rate of 20% of co-funding. With this scheme, employers are more likely to increase the wages of the low income earners since it is co-funded by the government. This will increase the wages of low income earners and reduce the income gap.
- *However, limitations of policies that involve government transfers include:*
 - *Burden of financing transfers on the part of the government and the question of sustainability in the long run.*
 - *There is a possibility that low income workers and their employers may become reliant on these transfers and hence lack the incentive to upgrade their skills so as to raise their productivity and move on to higher paying jobs to raise their incomes and to lower the income gap.*
 - *With regards to WIS and Public Assistance Schemes, ignorance and lack of understanding of the application processes have resulted in some of the low income groups failing to benefit from these measures. This is especially so for the older and illiterate workers.*
- Possibilities of **adjusting** could involve **simplifying application processes for such schemes and to consider making the WIS and Wage Credit Schemes a permanent feature** in Singapore as well as to possibly **raise the amounts of top-ups**.

Limitations:

- *Top ups run into the same problem of sustainability and financing*
- *Many of the needy do not qualify for these assistance schemes as the criteria set based on income and housing type are too stringent.*

- *One possibility of adjustment would be to **review these criteria to take into consideration the increase in wages and cost of living over time so as to include more low-income earners.***
- Other forms of transfer payments include: distributing the gains from economic growth to the lower income group in order to reduce the gap in the form of New Singapore Shares in 2001 etc
Limitation: These one-off measures tend to be of limited impact in narrowing the income gap.
- 3. **Skills upgrading to allow the low income to earn a higher wage rate**
 - The income distribution in Singapore has worsened as the economy grows. This has largely been the result of economic restructuring. Thus various measures were put in place to help the unskilled and semi-skilled to gain new skills. The measures thus attempt to narrow the income gap by allowing the lower income group to gain employment in areas with higher wage.
 - The Skills Development Fund (SDF) was established in October 1979 with the institution of the Skills Development Levy (SDL) Act with the primary objective of encouraging employers to invest in skills upgrading of the workforce as the employers will enjoy grants as well as Absentee Payroll funding to encourage them to send their workers for training.
 - The Singapore Workforce Development Agency was set up in Sept 2003 by the government. It identifies skills and training needs of industries that are potential areas for development and developed programmes to help job-seekers acquire skills for these new jobs.
 - Under the Workfare Training Support Scheme, the Singapore government subsidises employers up to 95% of fees incurred in sending low income earners for approved upgrading courses. In addition, workers are provided cash incentives for completing upgrading courses.
 - The Continuing Education and Training (CET) Masterplan was also developed to enable workers to find their niches, seize opportunities in new growth areas and remain relevant and employable in Singapore's vibrant economy. In this, the government partners leading education and training providers, from both the public and private sectors, to set up quality CET centres that offer high quality and industry-relevant training courses, where Singaporeans and PRs get to enjoy 90% funding support for training programmes.
 - The SkillsFuture Credit Scheme was developed with the objective of encouraging individuals to take ownership of their skills development and lifelong learning, in which all Singaporeans aged 25 and above receive an opening credit of S\$500 from January 2016. These credits do not expire and the government provides periodic top-ups, so that credits can be accumulated to help Singaporeans finance their skills development programmes.
 - By upgrading the skills of workers through the above-mentioned, they become more productive and will be more attractive to firms, which will be more willing to pay higher wages to these better-skilled workers. This will then contribute to the reduction of the income gap.
 - *Limitations of the above skills upgrading policies:*
 - *Effectiveness of skills upgrading in narrowing the income gap largely depends on the mindset as well as receptivity of workers. This is especially for low-skilled and older workers, who may not actively sign up for such retraining and skills upgrading programmes due to their steep learning curve. Hence such schemes may not necessarily achieve their intended effects of increasing the skills levels of such workers and hence raising their incomes to reduce the income gap.*
 - *Besides, skills training and upgrading is long term in nature as it takes time to acquire new skills and to be adept at them, hence the policy may not be as effective in addressing the issue of the income gap in the short run as results will only materialize in the long term.*
 - *There may also be the problem of a loss in productivity of workers during training since they will not be at work and this could potentially reduce profits for the firms and hence reduce employers' incentives to send their workers for training, defeating the purpose of such programmes.*
 - *In addition to all the above limitations, it is perhaps also important to note that the burden of financing course subsidies falls on the part of the government.*

- In view of the limitations of skills training and upgrading programmes, the government could make **adjustments** to the current policies
 - by **incentivizing workers to sign up for training courses with the use of campaigns/ advertisements to raise awareness and to correct imperfect information** that may arise among workers.
 - to ensure that the **courses offered are constantly updated so that the labour force remains dynamic and employable in industries that are better aligned to Singapore's changing comparative advantage** and will be offered higher wages so as to reduce the income gap.
 - Retraining and upgrading course can also be **offered in different languages to improve receptivity and to enhance the effectiveness** of such programmes especially amongst the older workers.

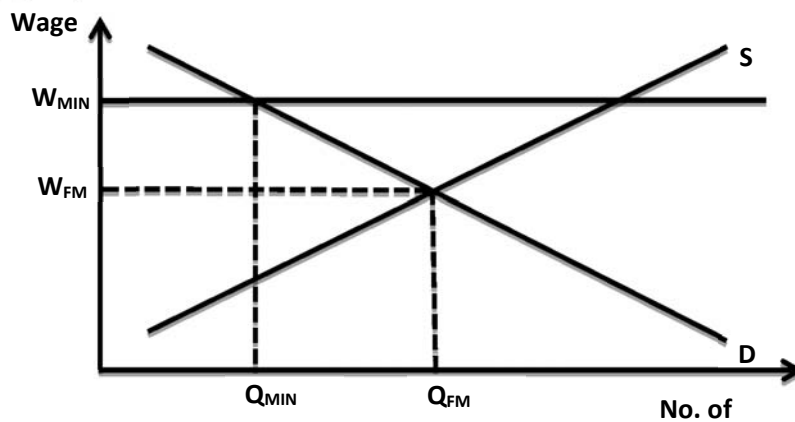
1. Tightening of Singapore's unskilled foreign worker policy

- For example: raising foreign workers' levy, restricting the issue of work permits to foreign workers
- Tightening of Singapore's unskilled foreign worker policy to reduce the income gap. For example, a reduction in the number of employment passes issued to unskilled foreign workers will reduce the supply of unskilled labour, increasing wages. As such, low income earners will earn higher wages resulting in a reduction in income gap.
- For example, government has increased the foreign worker levy to be paid by employers. Unskilled foreign workers become more expensive to hire. This will cause an increase in the demand for local unskilled workers, resulting in higher wages and consequently a reduction in income gap.
- However, limitations of such policies include:
 - Wage-push inflation and its effects on income gap (covered previously)
 - Some jobs will remain unfilled as locals tend to shun jobs in certain industries such as construction and ship-building. Key industries in Singapore could be negatively affected by this shortage of workers.
- Hence, a possibility is to **adjust this policy by reviewing the criteria for employment of low-skilled workers to augment local labour supply instead of restricting all types of low-skilled foreign workers.**

5. Progressive Wage Model in Singapore

- The Singapore Ministry of Manpower (MOM) has also adopted the progressive wage model in which low-skilled workers are set to earn a higher entry-level basic wage of between **S\$1,000** and S\$1,200. About half of all cleaners employed under government contracts, or over 3,500 cleaners, currently earn basic wages of at least **\$1,000** per month. This has effects similar to a minimum wage policy.
- For a minimum wage policy like this to be effective, it has to be set at W_{MIN} which is above W_{FM} , the free market equilibrium wage.
 - Workers who are able to find jobs which pay W_{min} become better-off with higher wages/incomes → narrowing the income gap as unskilled labour earns W_{MIN} which is more than W_{FM} .
 - Minimum wage policy can be effectively implemented as long as monitoring is carried out and enforcement actions are taken against errant employers.
- However, minimum wage policy have the following limitations:
 - Minimum wage policy can cause an increase in the level of unemployment among unskilled workers as seen in diagram. Employers may also cut back on number of workers employed as these workers are now more expensive to hire. Under the minimum wage policy, only Q_{MIN} number of workers is employed. This is less than Q_{FM} number of workers employed before the policy is implemented.
 - On one hand, Q_{MIN} workers who are able to secure jobs at wages of W_{MIN} are better-off with higher incomes. However, $Q_{MIN}Q_{FM}$ workers who are unable to find jobs are worse-off.

Consequently, it is unclear if the income gap will necessarily be lowered under the minimum wage policy.



- Minimum wage policy causes wage-push inflation in the economy which results in other macroeconomic objective trade-offs. This can result in a loss of competitiveness of the Singapore economy as its goods and services become more expensive relative to its trade competitors. Firms will also experience a reduction in profits as labour costs increase. Unprofitable firms will shut down further contributing to unemployment and this will worsen the income gap problem.
 - The rise in inflationary pressures will also contribute to rising cost of living and result in a reduction in real incomes and purchasing power, negatively affecting the lower income earners significantly, worsening the effects of income inequalities.
 - In view of the negative effects of such a policy, a possible adjustment would be to strike a balance between raising the incomes of the low-skilled and preventing too high unemployment levels by **reducing the minimum wage floor and to complement the progressive wage model with retraining policies especially for the unemployed.**
- Other than adopting measures to narrow the income gap, the government can also implement **measures to reduce the problems arising from an income gap**. For example:
1. **Subsidies on goods and services**
 - Subsidies by the government in critical areas such as public housing, healthcare, and education. This ensures that lower income families are not deprived of their basic necessities and helps to alleviate the negative effects of income inequality. More subsidies are enjoyed by those with lower incomes and greater needs.
 - For eg: Formal education is provided at highly subsidized rates to all citizens since the access to education helps to build up the required skills necessary to command a higher level of income. In addition, there is also other schemes given to low income families which may still not be able to afford the subsidised education such as Financial Assistance Scheme which allow students to enjoy free schooling, grants, bursary and Edusave accounts which will help pay for certain programmes conducted beyond the school curriculum. Such subsidies can lower the financial burden on the lower-income groups and free up their disposable incomes for other goods/services, hence alleviating the effects of income inequalities and facilitates the reduction in income gap. Subsidies in education are also highly successful in facilitating social mobility and reducing the income gap over time.
 - Limitations:
 - As with transfer payments discussed previously, subsidy programmes incur very high opportunity costs in terms of the financing of these programmes. This is made worse by the fact that higher income families are not excluded from enjoying highly subsidised education

and healthcare. So while the needs of the poor are addressed, this may not necessarily serve to address the issue of the widening income gap.

- Even with the current means-testing system, the rich can still compete for limited lower-class wards even though the subsidies are a little lower at each corresponding ward class.
- As such, **adjustments** need to be made to **review the eligibility criteria so as to develop a more stringent means-testing system** to sieve out the higher-income earners who should not be eligible for such subsidies.
 - In view of the rapidly changing economic environment and rising cost of living, the government needs to **practise flexibility in setting the eligibility criteria for such subsidies** so as to facilitate the ease of identifying new groups of people who may become eligible to be awarded such subsidies.

Conclusion/Evaluation:

The Singapore government's policies to address the issue of income inequality have been fairly effective as reflected by the lowering of the Gini Coefficient

It is important for these measures to be assessed in terms of their strengths and limitations in narrowing the income gap.

Ultimately, in the light of globalization and increases in the threat of competition, the Singapore government needs to develop a more comprehensive welfare transfer programme complemented with increasing emphasis on retraining so as to ensure that the competitiveness is not be compromised in the government's attempt to close the income gap.

Mark Scheme:

Knowledge, Application, Understanding, Analysis		
L1	<i>Irrelevant answer that does not address the question at all. Descriptive answers that are largely regurgitated from notes without reference to the context. One-sided answers.</i>	1 - 5
L2	<i>For an answer that provides explanations of measures that are currently adopted in Singapore with gaps in analysis of measures as well as in the assessment of the measures</i>	6 – 8
L3	<i>For an answer that provides clear explanation and assessment of a range of measures that are currently adopted in Singapore. Answer also includes suggestions of possible adjustments to current policies.</i>	9 - 11
Evaluation		
E1	<i>Evaluation that is not supported or substantiated.</i>	1 – 2
E2	<i>Evaluative statement that is based on economic analysis ie. the ability to justify and arrive at a conclusion with regards to the effectiveness of policy measures adopted by the Singapore government in reducing the income gap.</i>	3 – 4

4. In 2014 Singapore's GDP at 2010 prices grew by 2.9%, the total population grew by 1.3%, inflation was 1% and overall unemployment stood at 2%.

Source: <http://www.singstat.gov>, accessed July 2016

- (a) How would you assess whether the standard of living in Singapore has risen? [10]
- (b) Discuss whether the openness of the economy helps in achieving higher standard of living in Singapore. [15]

Part (a)

Suggested answer

Introduction:

There are 2 aspects to SOL: a quantitative (material) and qualitative (non-material) aspects to the welfare or well-being of life. Changes in material SOL can be assessed by real GDP per capita while changes in non-material SOL can be assessed by qualitative indicators such gini coefficient, number of leisure hours, pollution index, quality and accessibility to healthcare and education etc.

Body:

Indicator to assess the rise in material SOL: **Real GDP per capita**

Real Gross Domestic Product refers to the total value of final goods and services produced within a country with effects of inflation eliminated. This means that any change in GDP figure reflects changes in quantity of goods and services produced. Real GDP per capita is obtained by dividing real GDP by the population size.

Using the data given in the preamble, real GDP per capita can be calculated to assess if there is a *rise in SOL in Singapore*

- a. **real** GDP growth *is reflected by growth of GDP at 2010 prices which is 2.9%*. Together with a growth in population of 1.3%, real GDP per capita grew by 1.6%. As the increase in real GDP is higher than the increase in population size, there is an increase in the quantity of goods and services available for consumption for the average person and hence higher material SOL in Singapore.
- b. The higher level of income also indicates higher purchasing power which allows the average person to have better access to quality healthcare services and education hence an increase in non-material SOL.
- c. The low unemployment rate which stood at 2% indicates that Singapore is experiencing high employment continuously. This means that:
 - i. the government is able to continue its collection of high tax revenue. This can be used by the government to spend on developmental projects like building a more reliable and efficient rail network. This leads to a higher non-material SOL as individuals can travel with ease of mind, knowing they can get to their destinations on time.
 - ii. it is relatively easy to get jobs and hence less stress from being unemployed, leading to a rise in non-material well-being of the average person.

Other than real GDP per capita, there is a need to use other indicators like the Gini coefficient to measure income distribution. This is because if the higher output produced could be consumed only by a minority group with the means to afford the goods, then the average person in the country is not better off and there will be no rise in an average person's material SOL. Hence the Gini coefficient helps to assess if there is equity (in terms of fairness and ease of access to goods and services) in the distribution of the increased output. A fall in the Gini coefficient value reflects an improvement in the income distribution in Singapore and hence higher SOL for the average person.

The qualitative aspect of SOL cannot be captured by output or income figures as the average person's well-being is not determined solely by the quantity of goods and services he can consume. Thus there is a need to look at qualitative indicators like the number of leisure hours the average person enjoys, personal freedom, access to education and health care etc. The qualitative aspect of life will rise if the average individual enjoys better work-life balance, and is able to find time pursue his interests. Likewise, the increased accessibility to healthcare services like health check-ups, vaccinations will also lead to higher non-material SOL of the average person as he becomes healthier.

Conclusion:

Real GDP per capita is the main indicator used to assess if there is a rise in SOL especially that of material SOL. However, given its limitations, it is not sufficient and needs to be complemented with other qualitative indicators such as hours worked, crime rates, life expectancy, healthcare, to capture changes in non-material SOL.

Mark scheme:

<i>Knowledge, Application, Understanding, Analysis</i>		
L1	<ul style="list-style-type: none"> - An answer that lacks the use of relevant economic concepts - Largely irrelevant answer - Listing of points without explanation. - Glaring conceptual errors. 	1 - 4
L2	<ul style="list-style-type: none"> - An answer that uses relevant economic concepts <ul style="list-style-type: none"> • Real GDP per capita • Other indicators - Some explanation (but with gaps) of real GDP per capita and other indicators in assessing rise in SOL. 	5 - 7
L3	- Good elaboration of the indicators that can be used to assess material and non-material SOL with well explained key arguments and well established linkages.	8-10

Part (b) **Suggested answer**

Introduction:

Nature of the Singapore economy: Small domestic market, lacks natural resources and has a very open economy.

Clarify "openness of economy"

- exports and imports form large percentage of Singapore's GDP
- ease of movement of capital (direct investments)
- ease of movement of labour

SOL – material & non-material SOL

Body:

Thesis: Openness of economy helps in achieving higher SOL in Singapore

The openness of economy is important to Singapore as she has a small domestic market and lacks natural resources, hence her reliance on exports and FDI as her engine of growth. This is enhanced by the signing of Free Trade Agreements with other countries. FTAs reduce restrictions imposed on

Singapore exports by other countries, reduce red tape and regulations on FDI inflow and remove tariffs on imported goods into Singapore.

How openness results in greater export revenue & FDI & hence effect on material & non-material SOL

In line with the theory of comparative advantage, Singapore specializes in production of capital-intensive or knowledge-based products (eg. pharmaceutical and biomedical) in which she incurs a lower opportunity cost and import goods where she has a comparative disadvantage in (eg. agricultural products, minerals). The openness of economy ensures that Singapore has increased access to various overseas markets in which she can sell her exports to. This increases export demand and hence export revenue.

In addition, the openness of the economy encourages the inflow of FDI given the ease of entry into Singapore. Investors also face a removal or reduction in tariffs when they export through Singapore, enhancing their export competitiveness which increases their expected rate of return on investment and thus incentivize them to set up their operations in Singapore. Ceteris paribus, the increase in net export revenue and investments result in increases in AD which in turn generate a more than proportionate increase in real NY due to the multiplier effect. The rise in real national income implies greater quantity of goods and services available for consumption for the average person in Singapore (assuming population size stays constant) and hence higher **material** SOL as real GDP per capita increases. The higher level of income also indicates higher purchasing power which allows the average person to have better access to quality healthcare services and education hence increases **non-material** SOL.

Higher economic growth from being an open economy means higher profits earned by firms and higher incomes earned by households. Singapore government can collect more tax revenue to create a more inclusive economy. Tax revenue can be used as transfer payments to help the poor households in Singapore, to achieve a less inequitable income distribution. This increases the **material** SOL for the average person in Singapore. Higher tax revenue can also lead to improvement in infrastructure, defence, healthcare and education, improving **non-material** SOL.

With economic growth, cyclical unemployment will fall as firms will hire more workers in export-oriented industries to increase production since demand for labour is a derived demand. The fall in unemployment could possibly lead to fewer social problems like falling crime rates and hence rise in **non-material** SOL. Openness of economy towards trade and FDI thus helps in achieving higher SOL in Singapore.

Future SOL in Singapore will also be higher as FDI inflows result in capital accumulation and transfer of skills/ technology to the local economy in the long run. With more machinery and better production processes / higher productivity, the ability of Singapore to produce more goods and services rises. This rise in productive capacity of the economy implies potential growth as AS increases. This results in higher real national income and hence higher material SOL.

How openness benefits Singapore in terms of imported goods and hence effect on SOL

Given that Singapore is heavily reliant on imported raw materials and intermediate goods due to the lack of natural resources, the openness of her economy ensures that she can source for cheaper raw materials. Eg. rice from Thailand, sand from Indonesia. This is beneficial in keeping cost push inflation low, leading to lower cost of living in Singapore. Lower cost of living results in higher real income and purchasing power leading to greater ability to consume and hence increase in material SOL.

Singapore is also able to import final goods and services from foreign countries which have comparative advantage in the production of such goods. This allows a greater variety of goods and services made available to the average person, leading to an increase in material SOL.

How openness benefits Singapore in terms of labour inflow and hence effects on SOL

The openness of the economy also results in ease of entry of foreign labour which helps to augment the shrinking workforce in Singapore, given her falling birth rates and ageing population. At the same time, the increase in foreign talent pool helps to develop high value adding and strategic industries in Singapore. This leads to increase in AS and enhances the productive capacity of the economy, allowing for sustainable, non-inflationary long term growth and higher future SOL.

Anti-thesis: Openness of economy may lead to lower SOL in Singapore

Increased volatility to external shock due to openness

The Singapore economy is more volatile and vulnerable to external shocks given her openness. During a global recession, when her trading partners experience falling national incomes and hence purchasing power, demand for her exports from these countries is likely to fall more than proportionately given that demand is income elastic. This results in a fall in export revenue and AD which leads to a more than proportionate fall in real national income via the reverse k process. Material SOL declines as the fall in real GDP per capita reflects falling quantity of goods and services available for consumption. In addition, the rise in cyclical unemployment due to falling production in export –oriented industries may lead to higher stress level from being unemployed and higher crime rates, contributing to lower non-material SOL.

Being highly reliant on MNCs may lead to lower SOL when MNCs, which are by nature are internationally mobile, shift their productions to a lower-cost country, taking capital with them. Those working in these MNCs will be adversely affected as they become unemployed, lose their income and ability to buy goods and services, resulting in lower material SOL.

Loss of Comparative Advantage

Openness of the economy also means that Singapore could face more competition. Developing countries, like China and India, are catching up quickly and Singapore has already lost her comparative advantage in low-to medium-end manufacturing to these rapidly industrializing countries. Over the years, Singapore has had to move up to produce higher value-added goods and services like biomedical or financial services in order to remain competitive. This means higher structural unemployment in those affected industries as the structurally unemployed are not able to find jobs in the sunrise industries due to the lack of relevant skills. Thus they will experience a fall in their material SOL due to the loss of income and ability to purchase goods and services. Non-material SOL will also fall as they face higher stress level should they become unemployable in the long term.

Problems brought about by labour inflow

While the influx of foreign labour has resulted in increase in Singapore's productive capacity to generate higher economic production, it has also led to social tensions as populations become more diverse and face difficulties integrating into the society. Such social tensions could possibly result in higher crime rates e.g. rioting, vandalism and reduce non-material SOL. As Singapore is characterized by small land area and high urban density, the influx of foreign labour also put strains on infrastructure which is manifested in the form of traffic congestion and overly crowded trains. This leads to decrease in non-material SOL in Singapore.

The openness of the economy may further exacerbate the income inequality problem in Singapore as the high skilled workers tend to benefit more in terms of distribution of income as compared to the lower-skilled workers. As a result of rising demand for high skilled workers in the sunrise industries, their wages tend to rise faster than the lower-skilled workers whose wages are often pushed down due to competition from foreign workers willing to work longer hours and at lower wages. Hence for the lower-skilled workers, material SOL may be lower given the fall in ability to purchase goods and services.

Conclusion:

Openness of the economy is significant and important in helping Sg achieve a higher SOL given her lack of natural resources. This is especially so in times of global optimism where openness brings about huge benefits to SOL. However, government needs to implement appropriate policies to manage the possible negative effects on SOL arising from an open economy. In the case of increased vulnerability to external shocks, government may have to consider increasing domestic demand via expansionary fiscal policy (eg. massive S\$20.5 billion Resilience Package in 2009 aims to help Singaporeans keep jobs and viable companies stay afloat) to cushion the impact from falling exports. To manage rising inequity issues, supply-side policies like retraining and skills upgrading are necessary to increase the productivity and wages of the low-skilled workers.

Mark scheme:

Knowledge, Application, Understanding, Analysis		
L1	- An answer that lacks use of relevant economic concepts and framework - Listing of points; glaring conceptual errors.	1 – 5
L2	- An answer that uses relevant economic framework - Relevant answer explaining how openness of economy helps in achieving higher SOL (material and non-material) in Singapore - A balanced answer - Some explanation of key arguments but with gaps in analysis.	6 - 8
L3	- A balanced answer - Good elaboration of key arguments - Good application to Singapore context	9 - 11
Evaluation		
E1	- Unsupported or limited attempt at evaluation	1 - 2
E2	- Substantiated and insightful evaluation which includes an overall judgment.	3 - 4

- 5 The growth forecast for the world economy has been revised downward to 3.3% for 2014. Raising actual and potential growth must remain a priority. Large economies like the US and small, open economies such as Singapore will require continued support from macroeconomic policies in bringing about recovery and long term growth.

Adapted from World Economic Outlook, IMF, Oct 2014

- (a) Distinguish between actual and potential growth. [10]
- (b) Discuss the extent to which size and openness affect the choice of macroeconomic policies adopted by countries in “bringing about recovery and long term growth”. [15]

Part (a)

Suggested Answer

Introduction

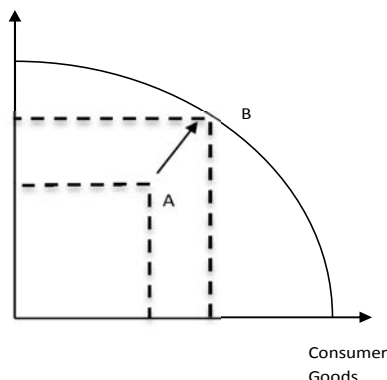
- Actual growth and potential growth makes up economic growth.
- Sustained economic growth is one of the four key macroeconomic objectives.

Body

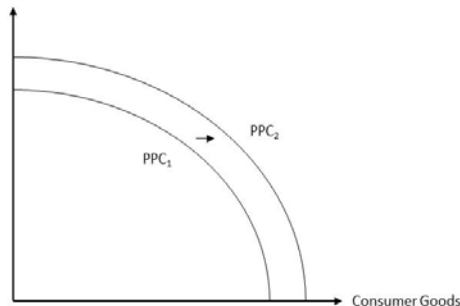
Difference in Definitions

- Actual growth is a change in real GDP of an economy over time, typically a period of 1 year. It is typically measured by annual % change in real GDP. However,
- Potential growth is a change in production capacity of an economy. There is no simple measure of production capacity of an economy.

Capital Goods



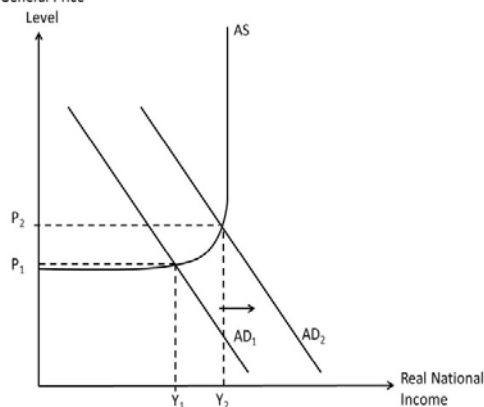
Capital Goods



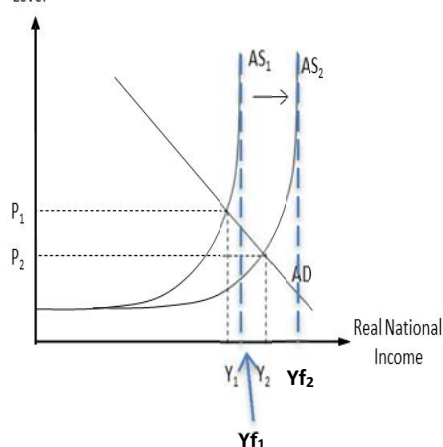
Difference using PPC analysis

- Actual growth arises from an increased utilisation of existing factors of production to produce more goods and services. This is represented by a movement from a point, Pt A within the PPC to a point nearer to, or on the PPC, Pt B. However,
- Potential growth arises from an increase in the quantity of factors of production, quality of factors of production and/or technology level of production processes in the economy. This is represented by a movement of the PPC outward, from PPC_1 to PPC_2 .

General Price Level



General Price Level



Difference using AD/AS Analysis

- Using the AD/AS framework, AG is brought about by an increase in AD which comprises consumption (C), investment (I), government expenditure (G) and net exports (X-M).
 - For example, an increase in net exports (X-M) due to an increase in income levels of trade partners will cause an autonomous increase in AD. At existing GPL, there is unplanned inventory disinvestment. As such, firms will increase its production of goods and services, increasing real national income from Y_1 to Y_2 . The increase in real national

income (assuming the availability of spare capacity) will be greater than the increase in autonomous net exports due to the multiplier effect.

However,

- Using the AD/AS framework, PG is brought about by an increase in AS, specifically represented by an outward/rightward shift of the vertical section of the AS curve from AS_1 to AS_2 . This results in an increase in the full employment level of national income from Y_{f1} to Y_{f2} . This is brought about by an increase in the quantity of factors of production, quality of factors of production and/or technology level of production processes in the economy.
 - For example, a more liberal migration policy will cause an increase in labour force in an economy, increasing its capacity to produce goods and services.

Difference in Effects of Inflation

- Actual growth tends to be inflationary. Actual growth caused by an increase in AD can cause demand-pull inflation. As more goods and services are demanded and produced in an economy, supply bottlenecks emerge. Production processes become less efficient causing an increase in cost of production. At the same time, prices of factors of production are bidden upwards due to increasing scarcity. This results in demand-pull inflation.

However,

- Potential growth helps to moderate demand-pull inflation. As the production capacity of an economy increases, it eases supply bottlenecks which may arise from increases in AD. As such, potential growth helps to moderate inflationary pressures.

Difference in Effects on SOL

- As actual growth is an increase in real GDP of an economy, it means there is a higher level of national income and greater availability of goods and services in the economy. This directly helps to increase the material standard of living in an economy in the current period.

However,

- Assuming AD increases in tandem with AS, potential growth allows an economy to produce more goods and services in the future. Potential growth helps to increase the maximum standard of living attainable in the future.

Conclusion

- Actual and potential growth are required for sustained and non-inflationary increase in real national income

Mark scheme

	Knowledge, Application, Understanding, Analysis	
L1	<ul style="list-style-type: none"> - Irrelevant answer. - Answer which does not distinguish actual and potential growth. - Smattering of relevant points. - No use of relevant economic concepts and framework. - Listing of points. - Glaring conceptual errors. 	1 - 4
L2	<ul style="list-style-type: none"> - Answer that distinguishes actual and potential growth - Some explanation of factors that contribute to actual and potential growth - Use of relevant economic concepts and framework - Some gaps in explanation of the factors that contribute to actual and potential growth. 	5-7
L3	<ul style="list-style-type: none"> - Answer that distinguishes actual and potential growth - Good explanation of the differences between actual and potential growth. - Use of good examples in explaining factors that contribute to actual and potential growth. 	8-10

Part (b)

Suggested answer

Introduction

- “bringing about economic recovery and long term growth” means
 - achieving actual growth in the face of slowdown of global economy
 - achieving economic growth in the long run
- Size can refer to
 - Economic size of domestic market (relative to the external sector)
 - Population which affects the economic size of the domestic economy
 - Geographical size which affects diversity of resource endowment
- Openness can refer to
 - Size of flows of goods & services (aka trade), capital and labour across international boundaries relative to the domestic economy
- Macroeconomic policies include
 - Monetary policy
 - Interest rate policy
 - Exchange rate policy
 - Fiscal policy
 - Supply-side policies

Body

- **Thesis: Size and openness affect choice of macroeconomic policies**
 - Size and openness affects the effectiveness of fiscal and interest rate monetary policies.
 - Small and open economies tend to have relatively smaller C, I and G relative to X and M. Small and open economies tend to have relatively large X as the need to export to access large global markets. They also tend to have relatively large M due to relatively less abundant and diversified natural resources.
 - Small and open economies tend to have smaller multiplier values due to higher MPM, which comprises MPS, MPT, MPM.
 - Due to the above 2 factors, expansionary fiscal and interest rate policies implemented during economic recessions tend to be more effective when pursued by larger economies, and less effectively when pursued by small and open economies.
 - Expansionary fiscal policy involves an increase in G and/or a reduction in taxes. An increase in G is a direct injection into the economy, causing AD to increase. A reduction in corporate tax increases post-tax profitability of firms, incentivising firms to increase investments. This causes I to increase. A reduction in income tax increases disposable income, increasing the ability of households to consume. This causes C to increase. Expansionary fiscal policy will cause AD and real NY to increase to a larger extent in large economies due to C, I and G constituting a relatively larger component of AD as well as the larger multiplier value of these economies. Conversely, it causes a smaller expansionary effect on small open economies due to the factors mentioned.
 - Expansionary interest rate policy involves a reduction of interest rates. A fall in interest rates increases the level of investments in an economy according to the Marginal Efficiency of Investments Theory. A reduction in interest rates increases the number of investment projects with expected rate of returns greater than the interest rate. This incentivises profit maximising firms to invest in these projects. Expansionary interest

rate policy will cause AD and real NY to increase to a larger extent in large economies due to I constituting a relatively larger component of AD as well as the larger multiplier value of these economies. Conversely, it causes a smaller expansionary effect on small open economies due to the factors mentioned.

- Size and openness affects the effectiveness of exchange rate policy.
 - Small and open economies are more reliant on X and M components of AD, hence exchange rate policy more effective in bringing about economic recovery.
 - During a severe economic recession, a small and open economy can implement a one-off depreciation of its currency to stimulate its economy. A depreciation of its currency will cause the price of its exports (in foreign currency) to fall and the price of its imports (in local currency) to increase. This will cause the amount of exports sold to increase and the amount of imports bought to fall. The extent of this increase in quantity exported and fall in quantity imported depends in PED_x and PED_m respectively. Assuming the Marshall-Lerner holds, that is the sum of PED_x and PED_m is more than 1, (X-M) of BOP and AD will increase. This increase in AD is effective due to the relatively large X and M components in the AD of small and open economies.
 - Small and open economies are more reliant on X and M components of AD, hence exchange rate policy more effective in bringing about long term economic growth.
 - Low and stable inflation is a requisite foundation for sustained economic growth as it promotes I and X.
 - A gradual and modest appreciation of currency can help to bring about low and stable inflation by moderating demand-pull inflation and cost push inflation. An appreciating currency moderates demand pull inflation as it helps to moderate increases in (X-M) in times of strong economic growth. An appreciating currency moderates cost-push inflation by reducing the price of imported goods and services.
 - Through maintaining low and stable inflation, these economies are able to influence firms and workers to expect of low and stable inflation in the future. This avoids wage-price spiral. Over the long term, small and open economies which run a modest and gradual appreciation of currency policy are able to incentivise firms to invest as there is greater predictability of its expected profitability. Exports also become more price competitive when these economies experience relatively lower rates of inflation compared to trade competitors. Increases in I and X over the long term allows small and open economies to experience long term economic growth.
- **Anti-thesis 1: Size and openness does not affect choice of macroeconomic policies.**
 - Supply-side policies are used by both small, open and large economies to improve bring about economic recovery and long term growth.
 - For example, government policy to subsidise skills upgrading will improve productivity of labour force. This helps to lower COP as well as increase the production capacity of the economy. Lowering COP helps economies to become more competitive, stimulating economic recovery. Increasing production capacity helps to bring about long term growth assuming AD is healthy.
 - [Accept analysis of any supply-side policy which brings about an increase in economic activity and/or long term growth.]
- **Anti-thesis 2: Other factors affect choice of macroeconomic policies.**
 - Sentiments of households and firms affect effectiveness of policies.

- For example, expansionary fiscal policy which involves direct injection into the economy more effective when there is pessimism in outlook of households and firms. Comparatively, expansionary monetary policy and expansionary fiscal policy such as cutting income/corporate taxes and providing direct subsidies can be less effective. These depend on the decisions of households and firms to consume and invest respectively, which is affected by their sentiments and expectations of future economic conditions.
- Ability to finance fiscal deficits influences ability to conduct expansionary fiscal policies.
 - For example, economies that have significant national debt may lack the financial ability to conduct expansionary fiscal policy during a recession. If such an economy finances its expansionary fiscal policy through borrowing, it may result in the crowding-out effect which reduces the effectiveness of the policy.
- Trade-offs in macroeconomic objectives influences policy choice.
 - For example, a one-off depreciation policy can cause significant imported inflation. As such, the extent of depreciation that can be pursued may be limited by this macroeconomic objective trade-off. If inflation is a significant macroeconomic problem, a depreciation policy may not even be feasible.
- [Accept analysis of any factors which affects the choice of macroeconomic policies in countries.]

Conclusion

- Size and openness significantly affects the choice of macroeconomic policies.
- Size and openness tend to influence the choice of dd-management policies more significantly. Supply-side policies such as labour force upgrading tend to be independent of size and openness as such policies are necessary and critical in all economies.
- In addition to size and openness, countries have to take into account other specific factors unique to its economic situation which would affect policy choices to achieve the four macroeconomic objectives.

Mark scheme:

Knowledge, Application, Understanding, Analysis		
L1	<ul style="list-style-type: none"> - Irrelevant answer. - Answer which does not relate size and openness to macroeconomic policies. - Smattering of relevant points. - Lacks the use of economic concepts and framework. - Listing of points. - Glaring conceptual errors. 	1-5
L2	<ul style="list-style-type: none"> - Answer which relates size and openness to macroeconomic policies - Answer which uses relevant economic framework - A balanced answer which comprises thesis and anti-thesis. - Some elaboration of key arguments with some gaps in analysis. 	6 - 8
L3	<ul style="list-style-type: none"> - Balanced answer with good breath of discussion - Good elaboration of key arguments which clearly analyses how size and openness affects choice of policies to bring about economic recovery and/or economic growth. 	9 - 11
Evaluation		
E1	<ul style="list-style-type: none"> - Take a position on extent to which size and openness or other factors affects choice of policy; relative importance of size and openness vs other 	1-2

	<i>factors.</i>	
E2	- Substantiation of position taken through the use of examples or qualifiers. - Any relevant insights on the issue of factors which affect choice of policy.	3-4

6. Anaemic economic recovery has provided an opening for governments to blame foreign trade and foreign workers for the prolonged malaise. This anti-globalization view takes different economic forms: trade barriers, reaction against foreign direct investment, policies favouring domestic workers and firms as well as anti-immigration measures.

Source: The Guardian (Adapted), 2 June 2014

Discuss whether governments should adopt anti-globalization policies in view of the adverse consequences of globalization. [25]

Suggested Answer

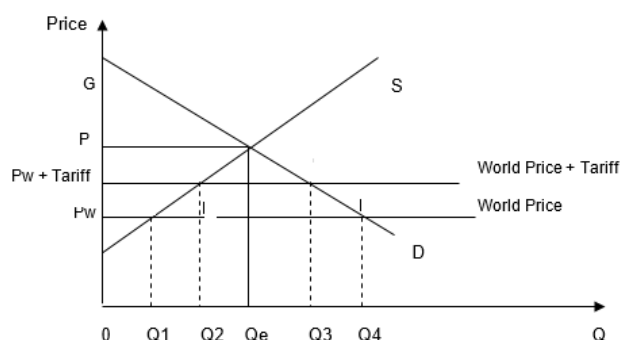
Introduction

- Define globalization
 - o Facilitated by improvement in technology and breaking down of artificial barriers, there is an
 - increase in international trade of goods and services
 - increase in international flow of foreign direct investment/technology
 - increase in international movement of labour
- Despite the obvious economic benefits that globalization bring about to countries around the world, the adverse consequences associated with globalization have been used by governments to justify the use of anti-globalization policies such as import tariffs, restriction on capital and labour flows.

Body

- Adverse consequences of globalization (trade) can lead to worsening of current account from trade imbalances. This is because
 - o Given the differences in factor endowment between countries, the opportunity cost of producing labour-intensive goods and services in developing countries (abundance of low-skilled workers hence low wages) is lower than developed countries. Based on the Theory of Comparative Advantage (TCA), developing countries should specialise in the production of labour-intensive goods and services and trade with developed countries. With freer trade as a result of globalization, the cheaper labour-intensive goods and services from developing countries will be imported into developed countries → increase in M expenditure in developed countries → ceteris paribus, fall in NX hence worsening of country's current account (CA) balance.
 - o OR unfair trade practices such as undervaluation of currency and government subsidies to boost export price competitiveness worsens global trade imbalances. The economic consequence is worsened in the midst of weak global recovery on the economic growth rates of countries on the receiving end of unfair trade practices.
 - o Or structural unemployment can increase.
The loss of comparative advantage to other countries may lead to structural unemployment in sunset industries when these industries decline and workers are subsequently laid-off. Due to skills mismatch, they may not be able to find alternative employment opportunities.
- Anti-globalization policies can address the adverse consequences of globalization mentioned above:
 - o Trade barriers (*import tariffs and quotas* etc.)

- E.g. Tariff restrictions are custom duties or taxes imposed on imports of goods or services by the government.



- The objective of the tariff is to raise the price of the imports as shown in the diagram above. Given that the price of imports is higher, the quantity demanded of imports falls from $(Q_4 - Q_1)$ to $(Q_3 - Q_2)$. This will cause a fall in M expenditure and hence improves the CA position.
- Or the objective of the tariff is to raise the price of the imports as shown in the diagram above which compensates for the unfair trade practices used by exporting countries to boost the price competitiveness of their exports since the price of exports into countries imposing tariffs will no longer be more competitive compared to domestically-produced goods and services.
- Or the import tariff also reduces structural unemployment in import-substituting industries since the quantity demanded of domestically-produced goods and services will increase from Q_1 to Q_2 because when the price increases from P_w to $P_w + \text{tariff}$, domestic producers will find previously unprofitable units now profitable at the higher price. Hence, when domestic production increases, more workers will be hired and structural unemployment will fall.
- Quotas can also be used to correct CA position by restricting physical quantities or values of goods imported into a country. The effects are similar to that of a tariff.
- Anti-globalization policies, however, are limited in effectiveness or may not be desirable in addressing the above adverse consequences of freer trade:
 - Use of trade barriers such as tariff brings about allocative inefficient use of resources due the deadweight loss incurred by society in the form of the underproduction of imports that society derives more benefit than the cost incurred. With reference to the tariff diagram, identify the areas of the deadweight loss and explain why the areas represent the deadweight loss.
 - Possible trade retaliations should countries decide to impose trade barriers
 - Brought about by 'beggar-thy-neighbour' effect on other countries hence this may trigger potential trade wars (mutual retaliations) among countries. This may bring about fall in global trade volume and hence will put countries in a 'lose-lose' situation since no one is better off as a result of retaliations in the long run → fall in global NX → fall in global AD hence slower (or negative) global economic growth which will hinder global economic recovery further
- Adverse consequences of globalization (FDI) include:
 - Adverse consequences arising from **inward** FDI and/or **outward** FDI:
 - Crowding-out effect arising from inward FDI → weak local entrepreneurship in host country & footloose nature of MNCs → host country vulnerable to shocks → economic growth may not be sustained

- **Anti-globalization policies can address the adverse consequences of globalization mentioned above:**
 - o Reaction against FDIs
 - The government can impose a quota and issue fewer licenses to MNCs to operate in the host country or provide subsidies to domestic firms to help the domestic firms lower their costs of production so that they can survive and compete with the MNCs.
 - **Capital controls** can be employed to prevent FDIs from withdrawing capital within a given time period so as to curb capital outflow that comes together with FDI relocating to other countries. For example, China implemented restrictions on the amount of capital repatriation outflow by FDIs so as to raise the barriers to exit during relocation of investments to other countries.
**Note: knowledge of this point is not assumed so candidates are not required to elaborate using specific government policies such as capital controls. However, candidates should demonstrate understanding that governments will impose regulations and legislations on FDIs so as to minimize the ease of relocation to other countries.*
- **Anti-globalization policies, however, are limited in effectiveness or may not be desirable in addressing the above adverse consequences of FDI:**
 - o Reactions against FDIs will also mean that this makes the country less attractive in the eyes of potential investors
 - This will reduce inflow of FDIs in the long run should the strict regulations on capital flow be placed on FDIs → worsen FA in the long run should inflow of FDIs < outflow of FDIs
 - Fall in inward FDIs may also lead to fewer new factories being set up or MNCs pouring in less funds into the host countries and hence, less funds available to buy machinery and equipment, which will lead to a fall in investments
 - Fall in I → fall in AD because I is a component of AD → via reverse multiplier process, this will have a more than proportionate fall on real NY, ceteris paribus → assuming that there was growth initially, this will lead to slower economic growth → there will be increase in cyclical unemployment as well since labour is a derived demand → fall in both current material and non-material standard of living in the economy
 - Fall in I may cause a fall in capital accumulation hence there may be a fall in productive capacity in the long run → fall in potential economic growth → fall in future material and non-material SOL
- **Adverse consequences of globalization (labour):**
 - o Increased income inequality
 - Industries with comparative advantage will experience increase in demand for their goods and services. This translates to an increase in demand for labour in these industries causing wages to increase. Non-comparative advantage sunset industries will lag behind or experience a fall in demand for their goods and services. This results in lower wage or slower wage growth in these industries. Structural unemployment may also arise when the workers who are retrenched lack the skills to gain employment in another sector. Hence, income inequality worsens. This creates inequitable outcomes which create social tension. For example, wages in financial, pharmaceutical sectors have been rising at faster rates relative to non-comparative advantage industries. This is in fact one of the main concerns of populace hence it is politically unpopular to encourage freer flow of labour as this will exert greater downward pressure on wages given the increase in labour supply from immigration.

- **Anti-globalization policies can address the adverse consequences of globalization mentioned above:**

- Policies favouring domestic firms and workers
 - Anti-immigration policies
 - Restrictions imposed to limit the inflow of labour (both skilled and unskilled) in the form of **labour quota** so as to protect domestic workers (especially low-skilled workers) from lower wage rates due to the increase of labour supply → reduces income inequality. This also eases the political and social pressure brought about by inflow of immigrants in recent years in many developed countries → reduces social unrest
 - **Foreign worker levy** can also be used to increase the cost of hiring foreign labour so as to reduce to wage differential between domestic labour and foreign labour. This will due likelihood of firms hiring foreign labour solely on the basis of cost of production differences from wages hence increase the hiring of domestic labour over foreign labour → lower unemployment rates
 - Government **subsidies for domestic firms**, especially infant industries, to lower their COP and hence boost price competitiveness of their goods and services. *(Note: Candidates should be specific about the type of subsidies given by the government as some form of subsidies for example, subsidies on R&D, are considered as supply-side policy rather than an anti-globalization policy)*
 - This reduces the extent of import-substitution effects since price of domestically-produced goods and services are lower (or as low as) than imported goods and services → prevents structural unemployment in import-substitution industries
 - Labour legislations favouring the hiring of domestic workers such as **tax rebates** for firms that hire domestic workers.

- **Anti-globalization policies, however, are limited in effectiveness or may not be desirable in addressing the above adverse consequences of labour flows:**

- Policies favouring domestic firms and workers may not bring about the desired results on the adverse consequences of globalization
 - Anti-immigration policies may be cause adverse consequences on job markets in the country hence hinder growth
 - Restriction on inflow of labour may mean that certain types of jobs will be left unfilled due to a lack of supply labour in the domestic labour market
 - This may be due to certain social stigma attached to certain occupations hence locals may not wish to take up such jobs → hinders the smooth functioning of economy in the long run
 - Lack of supply of low-skilled labour from domestic labour market may cause the upward pressure on wage rates hence this will cause increase in COP to firms which will act as a disincentive for FDIs to invest in the country (wage-push inflation) → fall in I (assuming investment on tangible assets) hence fall in AD → fall in real NY (slower economic growth) → trigger adverse effects on all sectors of the economy via reverse multiplier effect in the long run.
 - Government subsidies on production processes to boost export price competitiveness will mean that trade partners potentially view this as a form of dumping should the price of exports fall below the marginal cost of production → this may again cause possible trade retaliations
 - Also, government subsidies act as burden on government budget. Depending on budget positions, this may not be sustainable in the long run given the high opportunity cost incurred from the best alternative forgone (such as spending on public goods and education etc.).

- Government subsidies to infant industries do not guarantee these industries will eventually 'mature' and develop comparative advantage.
 - Possibility of perpetual infancy of these industries due to the lack of competition hence incentive to develop and 'mature'.

Conclusion

There seems to be a possibility that anti-globalisation policies will worsen the current state of the global economy → protectionism may bring about economic benefits in the short run but the long run consequences will eventually outweigh these benefits. Hence, anti-globalisation policies should only be a temporary measure. In the long run, supply-side policies should be implemented. Demand-management policies like expansionary fiscal policy and expansionary monetary policy should or can also be implemented given the weak global economy.

Mark Scheme

Knowledge, Application, Understanding, Analysis		
L1	<ul style="list-style-type: none"> - No / inappropriate framework. - Listing throughout - Glaring conceptual errors throughout. - Did not address the question at all. 	1 – 9
L2	<ul style="list-style-type: none"> - Appropriate theoretical framework - Lack depth or rigour in analysis - Limited scope of coverage. - Policies identified did not address the adverse consequences identified in essay 	10 - 16
L3	<ul style="list-style-type: none"> - Explanations and analysis are well developed - Clarity of thought and coherent arguments. - Policies are linked to addressing specific adverse consequence - Answer has sufficient breadth and depth 	17 - 21
Evaluation		
E1	An unexplained judgement → An unexplained evaluative conclusion/comment	1 – 2
E2	Evaluative comments are insightful and substantiated. Includes a well-reasoned conclusion.	3 - 4

---- END ----