Answers to 2014 H2 Economics Prelim Exam (Paper 2)

<u>Question 1</u>

The Spanish government, which is struggling to cut one of the Eurozone's largest public deficits during a recession, has raised taxes on tobacco.

Source: <u>http://www.eurocare.org</u>, 26 June 2013, accessed on 25 August 2014

a) **Explain why an increase in indirect tax on a good like tobacco tends to cause consumers to suffer more than producers. [10]**

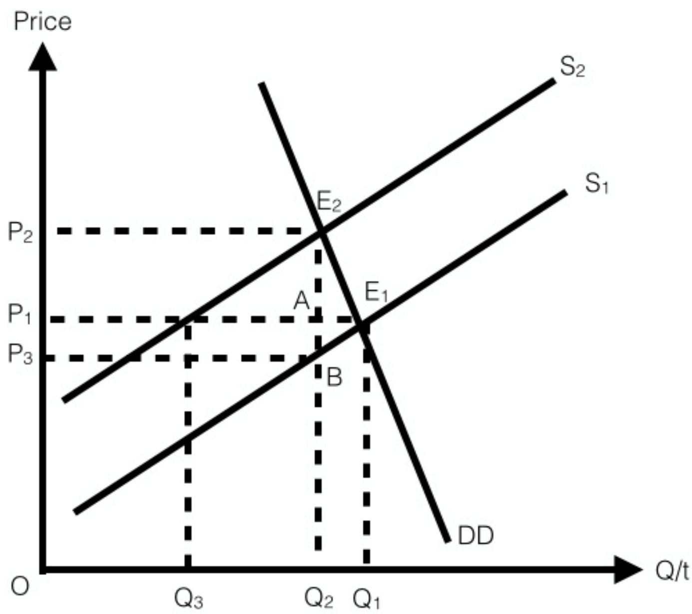
b) **Discuss how the combination of a recession and increases in indirect taxation might affect the markets for different goods. [15]**

a)

<u>Intro:</u>

- Definition of indirect tax
  - A compulsory levy on goods and services and producers have the legal responsibility to pay the tax to the government
- To examine the impact on consumers and producers, we will have to make use of the concepts of price elasticity of demand and supply.

<u>Body:</u>



- Equilibrium price and quantity is determined by the intersection of the demand and supply curves.
- Initial equilibrium was at point E_1, where the demand curve D_1 intersects with supply curve S_1, and equilibrium price and quantity is P_1 and Q_1 respectively.
- When a tax is levied on goods and services, it has the effect of increasing the marginal cost of production, represented by an upward shift of the supply curve from S_1 to S_2.
- At the initial equilibrium price of P_1, the quantity supplied is Q3 and quantity demanded is Q_1, resulting in a shortage of Q_3Q_1 unit of goods. In light of the shortage, frustrated consumers will be willing to pay higher prices and this signal to the producer will result in producers increasing the quantity supplied. Quantity demanded will fall and quantity supplied will increase until quantity demand equals quantity supplied at point E_2, where quantity demanded and supplied will be Q_2, and equilibrium price is P_2.
- Consumers will suffer as their expenditure on the good has now increased from $OP_1E_1Q_1$ to $OP_2E_2Q_2$.
- Producers also suffer as their total revenue has fallen from $OP_1E_1Q_1$ to OP_3BQ_2

- The relative impact on consumers and producers will depend on the relative price elasticity of demand and supply.
    - Price elasticity of demand measures the degree of responsiveness of a change in quantity demanded to a change in price, ceteris paribus and price elasticity of supply measures the degree of responsiveness of a change in quantity supplied to a change in price.
    - Consumers will suffer more because the demand for cigarettes is relatively more price inelastic due to the fact that it is habit forming and there are no close substitutes for cigarettes. Thus, firms are able to pass on the tax burden to the consumers.
    - This can be seen from the diagram where the tax burden for consumers, represented by the area $P_2E_2AP_1$ is larger than the tax burden for producers, P_1AP_3B.

<u>Conclusion</u>
Consumers will bear a greater burden when the demand for the good is relatively more price inelastic than supply.

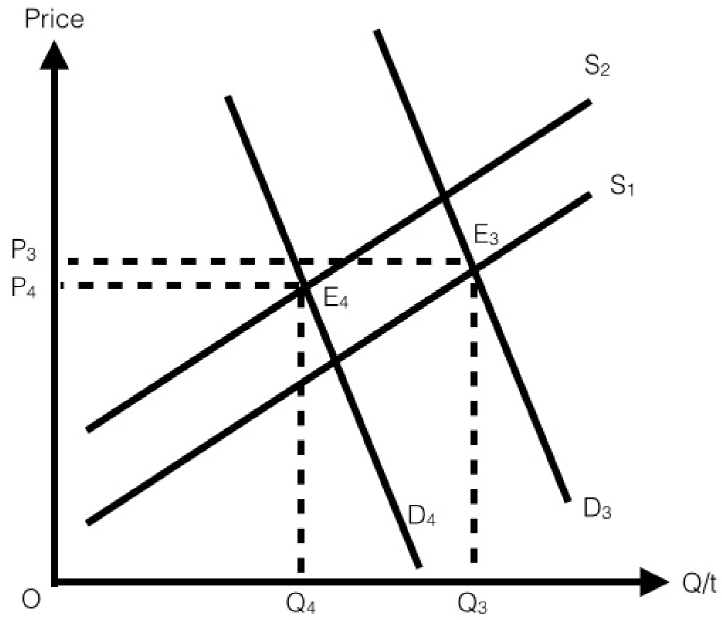
Level	Descriptor	Marks
3	Detailed, complete and accurate explanation of how consumers will bear a greater tax burden.	7-10
2	Underdeveloped explanation of how consumers will bear a greater tax burden.	5-6
1	Mere listing of relevant ideas with limited explanation	1-4

b)
<u>Intro:</u>
- When there is both a recession and an increase in indirect tax, it will affect the markets for goods differently based on the nature of the goods. The nature of the goods will determine how demand changes in times of a recession and therefore, affect how the price and quantity of the good sold will change.

<u>Body:</u>
- Effect of an indirect taxation on supply curve
    - Decreases supply, represented by an upward shift of the supply curve
- Recession
    - Fall in income affects demand as there is a fall in the ability of consumers to pay for goods
    - Lowers demand for normal goods
        - Q definitely falls, effect on P depends on whether demand or supply saw a greater change
    - Increases demand for inferior goods
        - P definitely rises, effect on Q depends on whether demand or supply saw a greater change

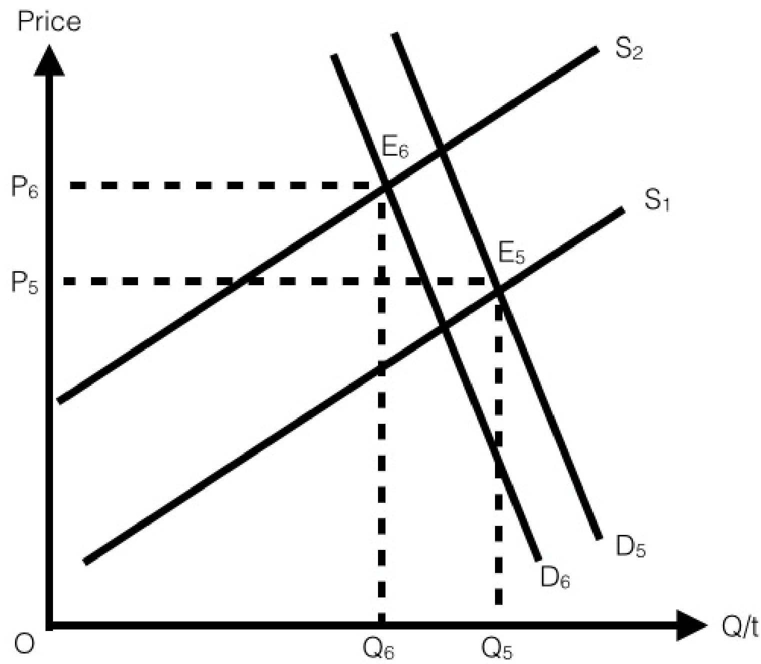
Normal Good
- Nature of good is determined by how demand changes when income changes
- Income elasticity of demand (E_Y) measures the degree of responsiveness of a change in demand to a change in income, ceteris paribus.

Scenario 1: Fall in demand, shifts more than supply



- Extent of shift of demand will be larger when the good is a luxury good – $E_Y > 1$
- When there is a decrease in income, there will be a more than proportionate decrease in demand for luxury goods such as branded bags and cars.
- Initial equilibrium was at E_3, where equilibrium price and quantity is P_3 and Q_3
- Demand will decrease from D_3 to D_4, new market equilibrium is at E_4, where equilibrium price decreases from P_3 to P_4 (because there is a surplus at the original equilibrium price) and quantity decreases from Q_3 to Q_4

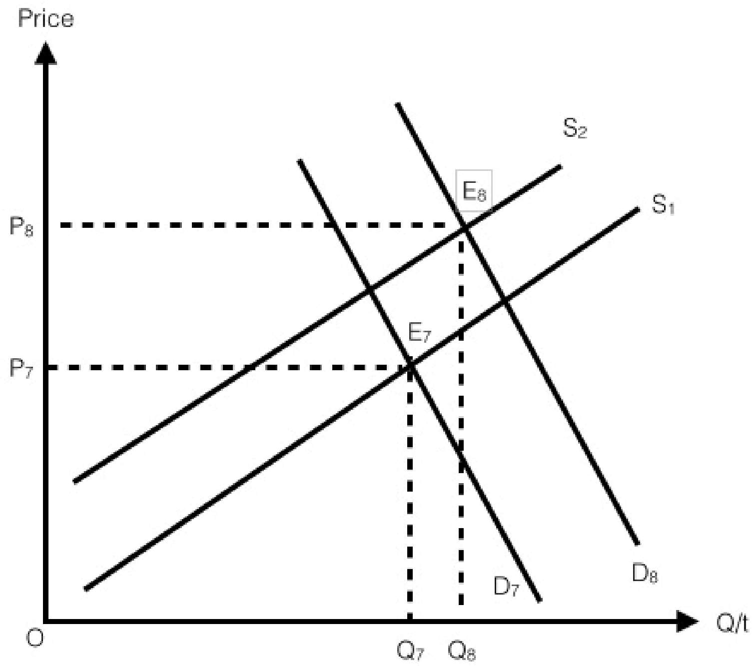
Scenario 2: Fall in demand, shifts less than supply



- Extent of shift of demand will be smaller when the good is a necessity - $E_Y < 1$ (illustrate with example, effect on P & Q)
- When there is a decrease in income, there will be a less than proportionate decrease in demand for necessities such as food.
- Initial equilibrium was at E_5, where equilibrium price and quantity is P_5 and Q_5
- Demand will decrease from D_5 to D_6, new market equilibrium is at E_6, where equilibrium price increases from P_5 to P_6 (because there is a shortage at the original equilibrium price) and quantity decreases from Q_5 to Q_6

Inferior good

<u>Scenario 3: Demand increases, shift more than supply</u>
- During a recession, the demand for inferior goods such as canned food would increase.
- Impact on P and Q would depend on the relative magnitude of shift of demand and supply.
- Initial equilibrium was at E_7, where equilibrium price and quantity is P_7 and Q_7
- Demand will increase from D_7 to D_8, new market equilibrium is at E_8, where equilibrium price increases from P_7 to P_8 (because there is a shortage at the original equilibrium price) and quantity increases from Q_7 to Q_8



<u>Scenario 4: Demand increases, shift less than supply</u>
- Analysis similar to Scenario 3 except that equilibrium quantity would decrease instead of increasing

Sharpness of change in price

In the above scenarios, how sharply price changes depend on the extent of the change in demand / supply and the price elasticity of demand and supply.

The more price inelastic are demand and supply, the sharper is the change in price required to clear the market. As demand and supply tend to be price inelastic in the short-run compared to the long run (it takes time for consumers to find substitutes and firms are constrained by fixed factors in the short-run), the change in prices tend to be sharper in the short-run compared to long run.

Conclusion

Effect on the different markets depends on the nature of the goods, which then affects how much the demand curve would shift by. It also depends on the extent of the rise in indirect taxation. The combined effect on P & Q depends on the relatively magnitude of shift for demand and supply. The analysis is also dependent on the type of countries we are looking at as different countries and different societies would view the same good differently. A cheap car may be seen as in inferior good in an affluent country whereas the same car may be seen as a luxury good in a developing country. Even within one country, different consumers may view the same products as different types of goods. The overall impact on demand would depend on the relative size of the proportion of the market that views the same products differently.

Level	Descriptor	Marks
3	Well-developed analysis of the combined effect of an increase in indirect taxation and a recession on the price and quantity of different types of goods and services	9-11
2	Underdeveloped analysis of the combined effect of an increase in indirect taxation and a recession on the price and quantity of different types of goods and services	6-8
1	Mere listing of points and definitions	1-5
E2	Evaluative argument that is supported by economic reasoning	3-4
E1	Unsubstantiated judgment	1-2

Question 2

a) Explain the sources of market power. [10]

b) Discuss the extent to which market power determines a firm's pricing decision. [15]

a)

Intro

- Market power is a firm's ability to influence the market price without losing all of its sales volume.
- It depends on the degree of closeness of substitutes of competitors' products and the number of competing firms in the market.
- This in turn depends on the extent of differentiation of the product and the level of entry barriers.

Body

- **Product differentiation**
  - o The degree of closeness of available substitutes determines a firm's market power. If there are many firms due to low entry barriers, but each firm is able to differentiate its product such that its consumers perceive the products of its competitors to be imperfect substitutes, the firm will possess some market power. E.g. monopolistic competitive firm like a restaurant business.
  - o The greater the degree of product differentiation, the higher is the firm's market power.
  - o Product differences can be real (achieved via innovation) or imaginary (achieved via persuasive advertising)
  - o When large sums of money are involved in creating these differences (e.g. branding via advertisements) or when patents are obtained to sustain the product differentiation, market power is preserved because these methods of product differentiation create entry barriers. This idea is developed below.

- **Entry barriers**
  - A barrier to entry refers to any obstacle placed by incumbent firms or disadvantage faced by potential competitors which restricts or prevent them from competing with established firms in the market.
  - The fewer the number of firms in the market, the fewer the number of substitutes that consumers can turn to when a firm raises its price. Thus, the higher is the firm's market power.
  - Types of entry barriers

    Artificial

    Artificial barriers are created by existing firms or the government, to limit the entry of new firms.

    - o Intellectual property rights

      E.g. Patents

      To promote inventions (e.g. improved pharmaceutical drugs) governments may issue patents. A patent grants an inventor the exclusive rights to produce/sell the product or use the production process that is patented for a limited period of time. The aim of patents is to help the inventor to at least recoup its costs of R&D. However, the effect is that competition is limited since new firms who do not have the right to use the knowledge needed for producing the good will be unable to enter the market.

    - o Trade barriers

      Governments may impose tariffs / quotas on certain imports to reduce foreign competition and so increase the market power of domestic firms in those industries. (e.g. rice in Japan)

    Natural

    - **Natural** barriers are 'natural' in the sense that they are inevitable in a particular market or industry.

    - o High startup cost

- Applicable to industries that need an extensive distribution network which is costly -- pipes, cables (e.g. utilities, cable TV, rail travel), or has high initial capital outlay (e.g. airlines, airport service, mobile telecommunication service). New firms are deterred from entering such industries due to lack of ability or willingness to incur the huge costs.

- Economies of scale (EOS)
  - This refers to decreases in unit costs with increases in output level.
  - When the production process provides a lot of scope for technical EOS (e.g. car manufacturing), the incumbent firms tend to grow to a large size to enjoy the cost savings (if the market demand allows it) and acquire cost advantage over potential new entrants.

  - EOS enables incumbent firms to practice limit pricing to deter the entrance of new firms. I.e. exploit EOS and charge a low price that is not profit maximising (but sufficient for it to earn at least normal profits) such that new firms find hard to match.
  - When the MES is high relative to market demand, which tends to be so for industries with extremely high startup costs => only 1 or a few firms can produce profitably. When only 1 firm can produce profitably, the industry is a natural monopoly.

- Geographical distance

  Vast geographical distances keep markets in different locations separated from each other. This limits the extent of competition in each market. Reason: The high cost incurred in transporting goods between markets makes it unprofitable for firms to expand beyond their existing markets. The high costs incurred in travelling between markets discourages consumers from sourcing for cheaper alternatives in other markets despite the high prices they are charged.

Conclusion
The above entry barriers explain why some markets are either monopoly or oligopoly.

Marking scheme

L1	1-4	Mainly listing of factors
L2	5-6	Explanation of factors but with gaps Limited in scope
L3	7-10	Has depth of explanation - Considers at least 3 relevant entry barriers. - Links barriers to entry with availability of substitutes. Uses relevant and appropriate examples Points are organised in a meaningful way

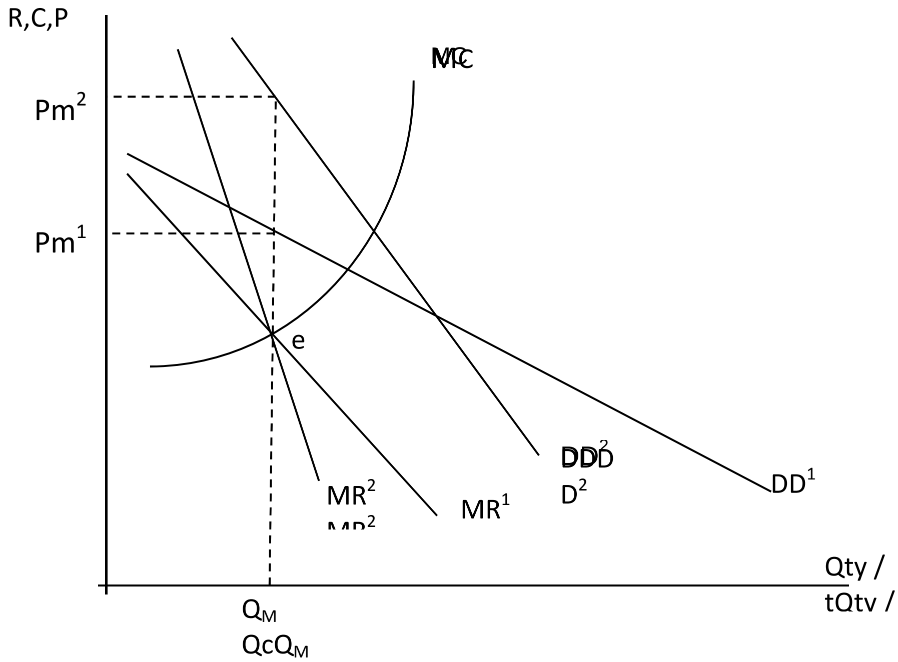
b)

Intro
- In traditional firm theory, firms aim to maximise total profits
- Firm's pricing decision is about deciding the price level of its output.
- In determining the extent to which market power determines a firm's pricing decision, the market structure, the contestability of the market and the firm's objectives should be considered.

Body
Thesis (Market power determines pricing decision)
- The greater is the market power, the higher is the price that a firm could charge

  When there are few close substitutes available, the profit-maximising firm is able to charge a higher price.

- o A profit maximising firm adopts the marginalist principle of producing where marginal revenue (MR) equals marginal cost (MC).When MR>MC, total profits can be increased by increasing output since producing 1 more unit adds more to TR then to TC. When MR<MC, total profits can be increased by reducing output since producing 1 less unit reduces TR by less than TC. The highest level of total profits is hence attained when MR=MC.
- o It will charge the highest price, as determined by the level of demand, for this profit-maximising output level.
- o For the same MC curve, the more inelastic is demand (DD^2), the higher is the price charged (Pm^2 instead of Pm^1).



- o When there is no market power, as in perfect competition, the firm is forced to be a mere price taker.
- o A firm with limited market power, as in monopolistic competition, would be pricing its output rather closely to min AC.

o Market power enables a firm to engage in PD

- *A firm with market power* (and hence price setting ability) can engage in price discrimination – i.e. charge different prices to different customers or different prices to the same customer depending on the quantity purchased.
- This enables it to capture consumer surplus and earn higher revenue for the same output level. For example, instead of charging all buyers the same price for a magazine, the publisher charges a higher price in the market with inelastic demand (e.g. corporations) and lower price in market with elastic demand (students).

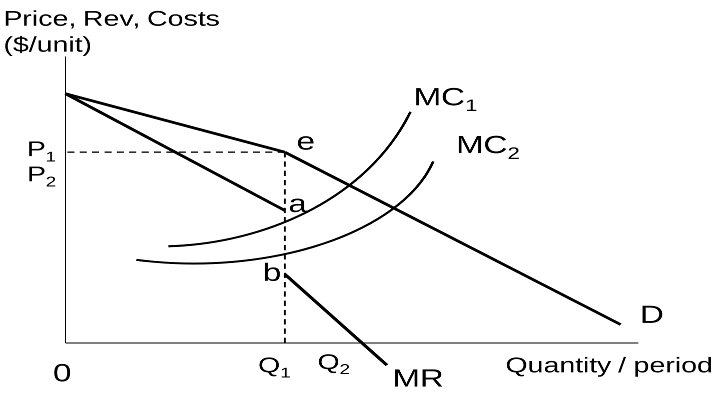
- **Anti-thesis** (Market power alone does not determine pricing decisions)
  - o **Rival consciousness**

    A firm with market power does not necessarily exploit its market power by charging the profit-maximising price. Pricing decision could be determined by anticipated reaction of other firms. This would be the case in an oligopoly where each seller takes the actions and reactions of their rivals' marketing strategy into account when making business decisions.

    E.g.:

    1) Deciding whether to increase price in the face of a rise in MC

In the kinked DD model, it is assumed that rival firms will match a price cut but not a price increase. This gives rise to a discontinuous MR curve, such that it is possible for MC to change (within a certain range: a to b), but yet the firm does not change its price because if it were to raise its price but the other firms don't follow, it would lose a significant amount of market share to the other few dominant firms.



2) Deciding not to base price on own profit-maximising level of output but to follow the leader for fear of starting a price war by pricing the good independently of others

However, if rival consciousness drives firms to collude (explicit or implicit), then market power is still important in the pricing decision of firms.

- *A cartel acts like a monopoly and charges the monopoly price to maximise collective profits, thus exploiting its market power*
- *A price leader will seek to maximise his profits and charge a price that enables it to earn the highest possible profits*

o **Contestability of the market**

A firm in an industry with a few firms or no other firms may not exploit market power if the market is contestable.

A **contestable market** is a market in which the costs of entering and leaving are low such that the firms that are already in the market are constantly *threatened* by the entry of new firms who are willing to engage in *hit and run tactics.*

In such a market, the existing firm(s) will not exploit its market power and charge the monopoly price since doing so results in high profits that induces firms to enter. Instead, the existing firm set P = AC or close to AC and is prepared to earn less profits.

However, if the incumbent firm could use strategic entry deterrence, i.e., let it be known that any firm that dares to enter will face all-out war, then the potential entrant will be deterred. In the meantime, the incumbent firm may exploit it market power in pricing.

The implication is that the source of market power matters in determining whether market power determines a firm's pricing decision.

o **Separation of ownership and control in companies**

Decision making with regards to pricing in some firms is not by owners (who aim for highest possible profits) but by salaried managers (other aims like career progression and bonus pay). As such, the sales manager doesn't necessarily exploit market power and charge the price and produce the output that yields maximum profits.
The latter may pursue profit-satisficing instead where it seeks to maximise TR subject to a positive economic profits constraint. This means a price between Pm and Po is charged (refer to diagram 2).

The separation of ownership and control tend to be found in big corporation

- **Other conditions need to be present to engage in 3rd degree PD**.
  Besides market power, there must be i) Difference in PED, ii) markets must be kept separate.

- **Government regulation**
  A firm with market power, e.g. rail service, may be subject to pricing regulation by the government . E.g. a government owned company may be will be subjected to MC pricing (to achieve allocative efficiency) or AC pricing (to reduce allocative inefficiency). [Explain with reference to the natural monopoly diagram]. The firm is thus prevented from exploiting its market power for profit maximisation.

- **Synthesis**
  - It depends on the type of market structure (monopoly or oligopoly, type of oligopoly), degree of contestability of market (how costly is entry and exit) and the objectives of the firm.

<u>Conclusion</u>

- Market power determines pricing decision to a large extent if the firm is profit-maximising, has no rival consciousness and the market has low contestability due to high costs of entry and exit. This would be so for an un-regulated natural monopoly or a collusive oligopoly with very high entry barriers that aims to maximise total profits.
- Many industries in the real world are either monopolistic competitive or non-collusive oligopoly.
  - In monopolistic competition where there is no rival consciousness, the firm would exploit the limited market power and given its profit motive (given that many small enterprises are owner managed), would charge a price that enables it to maximise total profits.
  - In non-collusive oligopoly, market power may be over-taken by other factors in pricing decisions, namely, the aim of profit-satisficing such that market power is not fully exploited in pricing. This is applicable in non-collusive oligopolies that consist of a few big firms where ownership and management are separated.
- Lastly, regardless of the extent of market power, if firms are subject to government regulation in pricing, then market power does not determine a firm's pricing decision.

Marking scheme

L1	1-5	Largely listing of arguments for or/and against. Limited explanation
L2	6-8	Explanation of arguments but with gaps Rather 1 sided
L3	9-11	Explanation of arguments for and against is supported by rigorous economic analysis (rich application of relevant models/ theories/ concepts) Sufficient scope Uses relevant examples
E1	1-2	Able to distil what the discussion depends on
E2	3-4	Above + considers different contexts (industries) for substantiation or evaluates the anti-thesis arguments to arrive at a reasoned stand

Question 3

The Singapore government uses the Certificate of Entitlement (COE) system, the electronic road pricing (ERP) system and the improvement of the public transport system to address the problem of traffic congestion.

Explain and evaluate the Singapore government's policies for reducing traffic congestion [25]

Intro

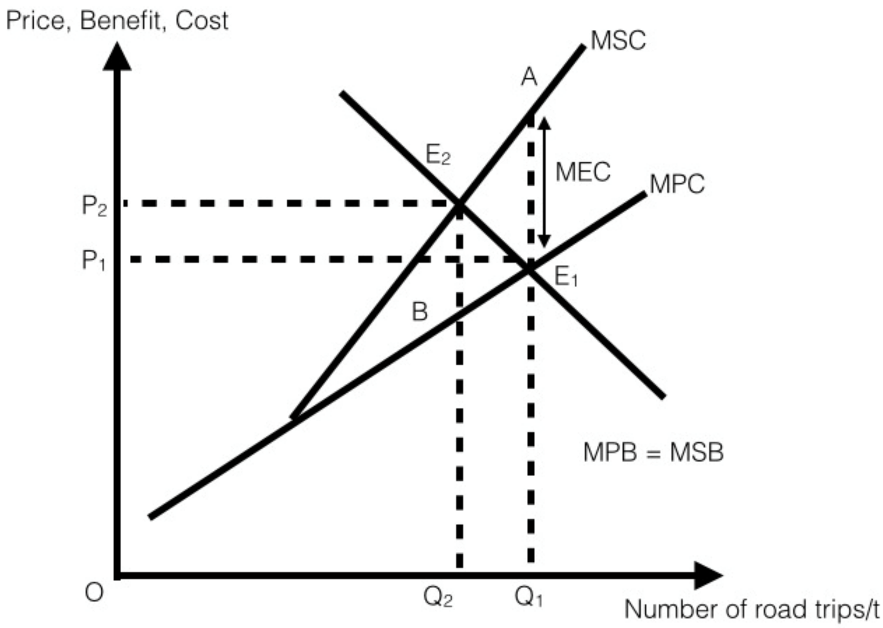
- Governments will intervene when they are trying to achieve the microeconomic goals of equity of distribution and efficiency in resource allocation. In the case of intervention to reduce traffic congestion, the government is trying to reduce inefficiency in this case by addressing the market failure brought about by traffic congestion.
- Market failure is the situation in which ~~there isn't~~ the price mechanism does not bring about efficient allocation of resources and the welfare of society is not maximized.

Body

Explain that the existence of traffic congestion indicates market failure

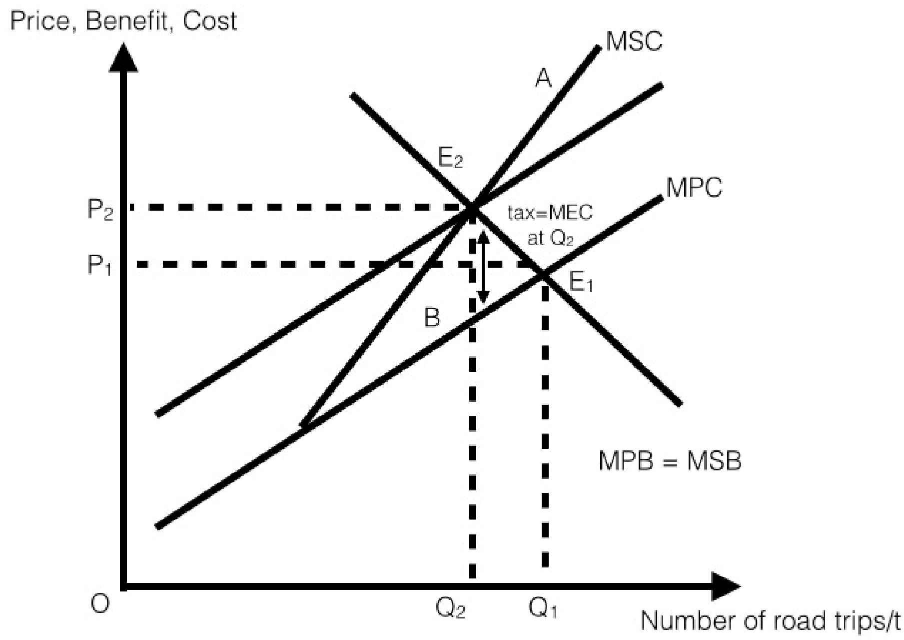
Market failure in the form of traffic congestion occurs

- because the negative externalities brought about by traffic congestion are disregarded in car users' decision making.
- When considering whether to use the car, owners only consider the marginal private benefit (MPB) and marginal private cost (MPC) of using the car.
- MPB of using the car includes convenience and the satisfaction derived from driving the car
- MPC of using the car includes petrol cost, cost of servicing the car
- The free market equilibrium will occur when MPC intersects MPB to give equilibrium quantity of Q_1
- However, car usage generates traffic congestion which generates negative externalities, which are costs borne by third parties who are not involved in the use of cars. Examples of MEC would include loss in man hours and hence output for the employers of the drivers caught in the traffic jam.
- The presence of MEC will cause a divergence between MPC and MSC, as seen in the diagram. The socially optimal level of output is where MSC intersects MSC at E2, to give output Q_2.
- From society's point of view, there is an overconsumption of cars, which is the usage of cars, of Q_1Q_2 units and the welfare of society is not maximized.
- Additional cost of consuming Q_1Q_2 units is $AE_2Q_2Q_1$ and the additional benefit is $E_2E_1Q_1Q_2$
- Since additional cost is greater than additional benefit, there is a welfare loss represented by the triangular area of AE_2E_1



- Explain how the COE system works (COE) and its limitations
  - COE represents a right to vehicle ownership and use of the limited road space (for 10 years)
  - It is a quota system as it limits the number of cars that can be on the road. In order to get a COE, one has to bid for the COE.
  - Bidding is an efficient way of allocating resources as the bidders would consider their satisfaction they would get when using the car and would then bid the maximum value they are willing to pay for the COE
  - This policy is easy to implement and monitor as it is illegal to buy a car without a COE
  - The quota system provides certainty of outcome by controlling the car population
  - However, this measure does not address the market failure caused by *usage* of cars. Rather, it targets the problem indirectly by controlling car ownership. While this could address the market failure brought about by car usage, the problem is that it can lead to over-correction, i.e. too blunt, where people who may not use the car often or do not use the car during peak hours, are also required to pay for the COE, discouraging them from buying a car.
  - On the other hand, the measure might be counter-productive. After having paid a large sum of premium for COE, Singaporeans might use their cars even more. i.e. to spread it the fixed cost.
  - Also, it might result in inequity of distribution issues, as those who need the car more may not be able to afford the COE premium.

- Explain how ERP works and its limitations
  - ERP is an electronic toll collection scheme to manage the traffic by way of road pricing. It is a usage-based system
  - Cars have to pay tolls when they pass by ERP gantries, located at roads leading into the Central Business District and expressways
  - This increases the marginal private cost of using cars.



- o The amount of tax they pay would be equal to the amount of MEC at quantity Q_2. This causes the drivers to internalize the external cost associated with excessive car usage.
- o This measure is easy to implement as all vehicles are fitted with the necessary equipment to allow for payment of the fee when they pass by the gantries.
- o However, the exact amount of tax to be imposed is not easily determined and the government may over-correct the market failure by imposing a tax that is too high an amount.
- o The amount of tax being imposed currently is also negligible compared to the premium that was paid for COE, thus reducing the effectiveness of this policy.

- Explain how the improvement of public transport would help in reducing the market failure brought about by congestion and its limitations
  - o In recent years, Singapore's public transport system has seen several improvements
  - o The opening of the Circle Line in 2009 and Downtown Line in 2013 aimed to improve the connectivity of the rail network in Singapore.
  - o If the vehicle owners switch to public transport, it will greatly reduce the negative externalities brought about by traffic congestion.
  - o However, it is not easy to get the rich and wealthy to switch to taking public transport as they may view public transport as an inferior good. Furthermore, if the drivers have already paid for a car, they would want to utilize their cars as much as they can, driving a car also brings more convenience as compared to taking public transport.
  - o Also, the proposed improvements to public transport, which sees small towns being connected by the rail network, are only expected to finish in the year 2030. This is a long-term solution and its effects would only be seen in the long run.

Synthesis:

- o In order to address the market failure brought about by traffic congestion, a multi-pronged approach is required where policies implemented would address the limitations of the other policies. For Singapore, policies are aimed at discouraging the use of cars by making it more expensive to do so and by making alternatives like public transport more attractive.

Conclusion

- The policies that are currently implemented do not solve the problem of market failure completely. However, this may be the best set of solutions that the Singapore government has to deal with the problem, as there has been fine-tuning to both COE and ERP since their implementation.
- Although the COE system does not seem to have fulfilled its purpose of discouraging car usage, it does not mean that it should be discontinued. The bidding process ensures efficiency. It also allows adjustment for increases in income over time. As consumers' income increases, they would be paying more for COE, unlike the ERP measure. As mentioned earlier on, the COE bidding system results in greater inequity. Whether this is worth it depends on whether the society values efficiency over equity.
- In time to come, as Singapore sees a further increase in income, the current ERP rates might no longer be effective in deterring car usage. Perhaps the government can consider raising ERP rates by a substantial amount to cause drivers to feel a greater pinch when using their cars in the city center.

Level	Descriptor	Marks
3	Well-developed explanation and evaluation of all 3 policies to address the problem of traffic congestion	15-21
2	Underdeveloped explanation and evaluation of all 3 policies to address the problem of traffic congestion	9-14
1	Mere listing of points/definitions	1-8
E2	For an evaluation assessment based on economic analysis (taking into consideration Singapore's existing infrastructure and situation)	3-4
E1	For an unexplained assessment or one that is not supported by economic analysis	1-2

<u>Question 4</u>

a) Explain the causes of disequilibrium in the balance of payments. [10]

b) Do you agree that the Singapore government focus should always be to correct a balance of payments deficit? [15]

a)

Intro:

The balance of payments (BOP) of a country is a statement of all the international transactions of a country with the rest of the world over a period of time, usually a year. The two main accounts in the balance of payments account is the current and capital account. A balance of payment disequilibrium means that it can either be in a deficit or a surplus. Causes of a BOP deficit can be broken down according to causes that affect the current and capital accounts. In the arguments below, the assumption is that the current account was initially in a state of equilibrium.

Body:

CURRENT ACCOUNT

The current account records payments and receipts from trade in goods and services, payments and receipts of income in the form of rent, interest, profits and dividends and unilateral transfers. The main source of a current account deficit is usually from changes in the trade component of the current account.

One possible cause of a deficit could be a **fall in national income of the country's major trading partners** for example the case of global recession in 2008. A fall in income of her trading partners will mean lower purchasing power and thus the ability and willingness to buy imports of goods and services from the country will fall causing a deficit in the current account.

Another cause could be the **higher domestic inflation rate in the country relative to her trading partners**. Local consumers will find that price of domestic goods are higher while price of foreign goods are now relatively cheaper. Local consumers will switch to imports. Given that the domestic price of exports are relatively higher and demand for export to be price elastic, quantity demanded for her exports will fall more than proportionate to the rise in price resulting in a fall in export earnings and a current account deficit.

Another reason for the deficit in current account could be **the loss of comparative advantage of her exports**. With the emergence of other lower cost producers example, China, with abundance of cheap labour, many developed countries will find that their costs are relatively higher in labour intensive industries. As such their labour intensive exports will now be relatively less price competitive. There will be fall in demand for their goods leading to a deficit in the current account~~.~~

There can also be a loss of non-price competitiveness due to slower rate of innovation leading to slower development of product design, features and variety. This will lead to a fall in export. The loss of price and non-price competitiveness will lead to a current account deficit causing the balance of payments to be a deficit if the capital account balance is unchanged.

A **capital account** (records international transactions of real assets and financial assets) deficit can cause the balance of payments to be in disequilibrium.

The deficit in the capital account might be due to capital outflow from locals purchasing foreign bonds or deposits due to **higher overseas interest rates, expected capital gains or expected appreciation of the foreign currency**. All these will mean a higher rate of returns on funds. This will lead to outflow of short term capital also termed hot money or speculative money.

Deficit in the capital account could also be due to long term capital outflow. Domestic investors increase their direct investments overseas due to favourable corporate tax and lower cost of doing business abroad. Domestic firms may also purchase a large volume of shares of foreign firms as part of portfolio investment. These funds may stay in the foreign countries over a long period of time to ensure that the business earn sufficient profits ensuring a higher rate of return. When the overall outflow from direct investment and portfolio investment is more than the inflow of both foreign direct investment and portfolio investment into the local economy, the capital account will be in a deficit and if the current account is unchanged, the balance of payments will be in a deficit and is at disequilibrium.

Conclusion:
The possible causes of balance of payment deficit as seen above can have macro impact on the economy. Because of these possible impacts, government may need to take measures such as expenditure switching, expenditure reducing and exchange rate policies to correct the disequilibrium.

Level	Descriptor	Marks
1	Provide listing of various factors affecting both current and capital account as causes for the disequilibrium.	1-4
2	Underdeveloped explanation of how various factors account for the disequilibrium in the balance of payment. It might be limited to only 1 of the accounts. (low L2-5ms)	5-6
3	Detailed and accurate explanation for various factors to account for the B of P disequilibrium (current and capital account deficit)	7-10

b)
Approach:
This part requires a discussion of the various consequences of the balance of payments deficit on the Singapore economy. The context of the Singapore government being ‘small and open’ will also be a factor that the government must weigh on to determine whether the focus should always be to correct the balance of payments deficit over other economic goals.

Intro:
Most governments aim to achieve the various macroeconomic objectives of low inflation, low unemployment, healthy balance of payments and sustained growth. As it is difficult to achieve all these objectives simultaneously, government may need to prioritise the objectives. In the case of the Singapore government, there is a need to focus on achieving a healthy balance of payments to ensure achievement of the other objectives given the relative importance of the external sector.

Body

Thesis: The Singapore government focus should be to correct a balance of payments deficit if

1. It is a source of internal imbalance

Assuming there was initially external balance (i.e. BOP equilibrium) and taking the deficit to be from the current account, a BOP deficit will result in a fall in aggregate demand. **National income will fall** and fall by a multiplied amount through the downward multiplier process. For Singapore, which is a small and open economy, the impact is quite significant though the multiplier value is small because of the large contribution of the net export to aggregate demand and thus to the overall gross domestic product.

The government should focus on correcting the deficit especially if the deficit was due to loss of export price competitiveness with the entry of low cost producers from emerging economies such as China and India. The loss of comparative advantage will be *permanent* *and the deficit will be persistent* if no action is taken. This loss of price competitiveness will result in long term costs as this will prevent the country from attaining the other macro-economic objectives such as employment and sustained growth.

Given that export is the main engine of growth, a persistent current account deficit will a persistent fall in actual growth. The government would need to find new niche areas to create new areas of comparative advantage to replace the loss of comparative advantage of existing industries in order to sustain growth.

Structural unemployment may result if the workers displaced from the declining industries are not flexible and receptive to the retraining to equip themselves with the new skills set to move to other industries. If not addressed, extended period of unemployment will lead to erosion of skills and reduce employability of the laid-off workers. The loss of human capital limits the growth of the economy over time.

A deficit that occurs in the capital account could result from negative net capital inflows due to fall in inward foreign direct investment. A fall in foreign direct investment into a small and open economy like Singapore with a small domestic market and reliance on foreign capital, technology and skills, will have significant negative consequences. Foreign direct investment by firms is an important source for creating employment for small and open economies like Singapore. Overtime, this will negatively impact potential growth and thus **limit the goal of achieving sustained actual growth.**

The balance of payments deficit could also lead to a weakening of the exchange rate given that the economy is operating on a managed float system. The deficit will result in an increase in supply of domestic currency or/and decrease in the demand for the domestic currency in the foreign exchange market. This will lead to a depreciation of the currency if the fall is within the band. Singapore is highly dependent on import of resources like fuel, raw materials and intermediate goods given that she lacks resources for production. A weakened currency will mean an increase in the domestic price of imported final goods and semi-finished components for production. Costs of production will increase leading to **cost-push inflation.**
This means there will be increase in domestic price of her exports. This will in turn reduce her export competitiveness and significantly reduce export revenue given that demand for her exports tends to be price elastic. The deficit in the balance of payments will worsen, increasing the supply of the local currency in the foreign exchange market. Central Bank will need to use its foreign exchange reserves to buy up the currency to maintain the currency within the band. This runs down the reserves.

The buying up of local currency to keep the S$ from falling below the band will lead to decreases in the domestic money supply. This has a dampening effect on AD and real GDP.

2. It is a source of income inequality

The rise in unemployment may lead to an increase in income inequality. Firms retrench workers to cut cost due to the lower aggregate demand and the rise in unplanned inventories. Factor owners may see an increase in profits from this cost saving exercise while those retrenched and underemployed will have lower income and widen the existing income gap.

Anti-thesis: The Singapore government focus should NOT be to correct a balance of payments deficit.

There is no need for correction of the balance of payment deficit if the value of the **deficit** as a percentage of GDP **is small and of a short term nature**. A short term deficit may occur due to a temporary increase in import expenditure. This can be seen in sharp increase in global oil price increase or increase in global prices of food and commodities. Demands for such goods are price inelastic. An increase in prices of such goods will lead to an increase in import expenditure since quantity demanded fall less than proportionate to the increase in price. With export revenue unchanged, there will be a deficit in the current account.

A deficit in the current account might ease inflationary pressure if a substantial proportion of the aggregate demand is from net exports and the economy was already experiencing demand pull inflation. With total trade contributing close to 300 percent of gross domestic product, a current account deficit will reduce the aggregate demand and ease domestic inflation.

With the shift of the economy to the service sector, it now accounts for about 40% of GDP, the weakening of the exchange rate from the balance of payments deficit may be a good thing as it will increase export competiveness of her service sector. The service sector does not use imported inputs and thus will gain much from the weaker local currency.

If the deficit in balance of payments is due to increase outward bound foreign direct investment of local firms, this should not be of concern. Domestic firms are increasing their investment in emerging economies like Vietnam. Such large outflow of investments abroad would result eventually in inflow in the long run as the dividends and profits earned by such investment will flow back as property income from abroad. This will improve the current account of the balance of payment.

Synthesis:

Whether the Singapore government focus should be to correct a balance of payments deficit will depend on a variety of factors such as the cause of the deficit, the prevailing level of resource utilisation and the extent of impact on the economy due to the nature of the economy. A short term deficit due to factors such as global commodities inflation is less of a concern compared to loss of export competitiveness of goods and services and may require action by the government.

Conclusion:

When there is a large and persistent deficit leading to negative impact on the achievement of the other macroeconomic objectives, government should focus on correcting the balance of payment deficit. For a small and open economy like Singapore, this is particularly significant. When a persistent BOP deficit is not rectified and MAS has to revise downwards the lower limit for intervention, i.e., the exchange rate has to be allowed to drop, inflation will rise and this is ultimately bad for economic growth because investments will be discouraged. In order to correct the deficit, it is important to implement policies to correct the cause of the deficit. With the loss of comparative advantage being a major factor leading to a deficit, there is a need for the government to constantly restructure the economy to suit the changing demand and supply conditions in the international market.

Level	Descriptors	Marks
1	Mere listing of the effects of BOP deficit (i.e. limited explanation). Weak analysis of the effects of balance of payments deficit.	1-5
2	Considers the merits for correcting a balance of payments deficit, though points are still underdeveloped and lack of consideration of the Singapore context in some areas. Possibly one sided without examining why the government might not focus on correcting the balance of payments deficit.	6-8
3	Theoretically rigorous, accurate and complete explanation of the effects of BOP deficit. Balanced analysis.	9-11
E1	Unexplained judgment	1-2
E2	Judgment supported by analysis of the criteria (e.g. consideration of the context. Have a clear reasoned stand.	3-4

Question 5

Although the US economy started to recover in June 2009, by the end of 2012, its unemployment rate had dropped by 1.7 percentage points only, to 7.8 percent.
Source: U.S. BUREAU OF LABOR STATISTICS

a) With reference to the circular flow of national income, explain how monetary policy could reduce unemployment. [10]
b) Discuss whether monetary policy is the most effective way to reduce unemployment in USA. [15]

a) Intro

- Circular flow of income is the flow of income from firms to HHs (when firms pay for factor services) and then back to firms when the income is spent on the output of the firms. Keynes' model of income determination will be used to explain how monetary policy could reduce unemployment.
- Monetary policy is the process by which the monetary authority of a country, usually the central bank, changes the money supply and/or interest rate for the purpose of influencing the level of economic activity in the country.

Content

- In a modern 4-sector economy made up of households, producers, government and foreigners, not all income earned by HHs is spent on domestic consumer goods/services. Some of it will be saved, some of it be taxed by the government and HHs will also use part of their income to purchase imports in an open economy. When this happens, there are withdrawals from the circular flow. A withdrawal (W) from the circular flow is an income receipt that is not passed on through spending. In a 4 sector model, W include saving (S), taxes (T) and import expenditure (M).
- The presence of W means that not all income earned by HHs is passed back to firms via HHs' spending. However, withdrawals get injected back into the circular flow in the form of investment expenditure (I), government expenditure (G) and export expenditure (X). An injection into the circular flow is an *income receipt not caused by HH spending*.
- Thus, in a 4-sector model, firms in the country receive payments i) from HHs for consumer goods/services, ii) from firms for capital goods, iii) from the government and iv) from foreigners for exports.
- National income is in a state of equilibrium when total W = total J because then AE which is C+I+G+(X-M) equals national income (NY) and firms will neither be increasing nor decreasing their output.

To reduce the unemployment in an economy, an expansionary monetary policy should be adopted. This means a deliberate raising of the money supply or lowering of interest rates to boost AD. With lower interest rate, the cost of borrowing will fall. Consumers will receive lower returns to their savings from banks, so C will be encouraged. For firms, there will be higher returns to investment, so I will increase.

In addition if the country is having a flexible exchange rate system, the decrease in interest rates might lead to an outflow of hot money and a depreciation of the domestic currency. This could result in higher export expenditure as foreigners will now find the domestic goods and services relatively cheaper.

- o Assuming Constant MPC_d = 0.6, i.e. consumption of domestically produced goods & services increases by \$0.6 when NY increases by \$1. Constant MPW = MPS + MPT + MPM = 0.4, i.e. total withdrawals increasesby \$0.40 when NY increases by \$1

- As earlier explained, the expansionary monetary policy will result in the investment or consumption or export expenditure rising by \$100m with everything else held constant.
- This causes firms to experience an unplanned decrease in inventories as more goods and services are bought. The firms will then increase its production to restore inventories to the planned levels by increasing its demand for factor services which include labour. This will cause an increase in factor income paid out by \$100m.
- Following the increase in employment of workers and subsequent increase in households' income of \$100m, the purchasing power of households rise, causing a rise in induced consumption. This consumption however does not rise by the full extent of the rise in income. Given MPC_d of 0.6, induced consumption rises by only \$60m with the rest of the increase (\$40m) going to higher savings, taxes and imports
- The increase in induced consumption of \$60m leads to further increases in revenue of firms producing the consumer goods & services. These firms will then increase their employment of factor services to increase output by \$60m. Thus, more income will be earned by households employed in this sector.
- The rising income of \$60m leads to yet more expansion in consumption (\$36m), savings, taxes and imports (\$24m) Each subsequent round of expansion in C_D gets smaller due to the leakages at each round (increases in S, T and M) The process continues until the total rise in W = initial rise in J (if the initial rise was from rise in I or X) = \$100m and new equilibrium achieved at a higher level of Y which translates into increased employment of workers
- With a multiplier (K) of 2.5 where $K = 1 / (1\text{-}MPC_D)$, the increase in C/I of \$100m, working through the multiplier process, will cause NY and thus employment to rise by \$250m.

<u>Conclusion</u>
Expansionary MP can reduce unemployment but the final impact depends on nature of the economy, especially the size of the multiplier.

Level	Descriptor	Mark
3	Detailed explanation of how an expansionary monetary policy can reduce unemployment through the circular flow of income	7-10
2	Incomplete explanation of the effects of monetary policy on unemployment	5-6
1	Some knowledge of how a monetary policy works and what is the circular flow of income.	1-4

b)
<u>Intro</u>
USA is a large and open economy with a sizeable domestic consumer market with a floating exchange rate system.

<u>Body</u>
<u>Thesis</u>
<u>Due</u> to the large domestic market and the consumer spending culture of the population, the MPC in USA tends to be significant. This would result in a large multiplier thus leading to a large decrease in unemployment as national output expands significantly due to the changes in C/I.
In addition, given the flexible exchange rate system, the lower interest would result in a depreciation of the US dollar thus stimulating exports and creating more jobs in the export related industries.

<u>Anti-thesis</u>
Limitations of monetary policy

- The policy might not be effective if the economy is facing a liquidity trap. This occurs when the market interest rate in the country has already reached its lowest possible level and cannot fall any further. Thus, there will not be any significant increases in C and I, if any at all. Given that the US central bank has already been reducing interest rates significantly over a period of time, it might not be possible to reduce it much lower and this would explain why there is not significant decrease in unemployment.
- During a recession, investment and consumption may not change in response to a fall in interest rates. Firms are unlikely to borrow to invest if they are already facing excess capacity and when business outlook is poor. Households facing the prospect of retrenchments and falling incomes are also unlikely to be enticed by lower interest to borrow for consumption. Thus, an expansionary policy might not be able to reduce the unemployment in the country.
- Nonetheless, given the fact the US economy is starting to recover as stated in the extract, this might mean that the outlook would be improving and monetary policy would be somewhat effective in improving the unemployment situation.

Despite the improving economy and increased production output in the United States, there does not seem to be a corresponding decrease in the unemployment rates. This would imply that the unemployment is unlikely to be due to a lack of demand and thus mean that an expansionary policy will not be effective at all.

<u>Structural Unemployment</u>
One major kind of unemployment that might be present would be structural unemployment. Structural unemployment is caused by structural changes in the economy that result in some workers becoming unemployed for very long periods of time because they cannot find jobs that require their particular skills even though there are job vacancies available. After the financial crisis in the US, there were many jobs there were no longer relevant in the economy and this meant that the workers who were laid off, were unable to find jobs that match the skills that they possessed. This would cause an increase in structural unemployment.
A more appropriate policy to reduce structural unemployment in the US would therefore be the implementation of supply side policies that aim to provide the workers with the necessary skills to take up the existing jobs in the country. The government could provide training facilities or subsides to encourage workers to go for further training and upgrade themselves. This will ensure that they are equipped with the skills that employers would require and enable that to seek employment in the expanding sectors thus reducing the unemployment in the country. Given the high education level of most workers in the US, training them to pick up new relevant skills should not be too difficult.
However, the cost of providing or subsidizing such training can impose a burden on the government budget especially if the newly acquired skills are not what is required by the markets. This might be a cause for concern given the large budget deficit that the US government is already facing. This might mean that the government might not be able to provide sufficient funds to reduce the unemployment significantly.

<u>Frictional unemployment</u>
Other than structural unemployment, it is likely that frictional unemployment will also exist in the country. This is associated with the normal turnover of labour. Frictional unemployment arises because it takes time for people who have left their jobs or have just entered the labour force to find jobs due to imperfect information. Furthermore, unemployed people may choose not to take the first job they are offered in the hope that they will receive a better job offer.
Instead of adopting an expansionary policy to tackle this form of unemployment, it would be more effective if the government were to improve the flow of information in the labour market. This can be achieved by setting up specialised employment agencies or having career fairs whereby the different employers and job seekers could come together. This will reduce the time require for the unemployed to find suitable jobs and for employers to find suitable employees.

<u>Conclusion</u>
Whether or not MP policy is effective to resolve unemployment in the economy will depend on the state of the economy and more importantly the cause of the unemployment. Given that the economy is already recovering in the US, it is likely that the unemployment that exists is not due to a deficiency in demand. This means that the monetary policy will not be effective

and other supply side policies that target structural and frictional unemployment would be required instead.

Level	Descriptor	Mark
3	Clear analysis of what affects the effectiveness of monetary policy and how other policies might better address the types of unemployment that exist in the given context.	9-11
2	Incomplete analysis of the effectiveness of monetary policy and other policies that might be more appropriate with limited reference to the US economy.	6-8
1	Brief economic explanation of effectiveness of the policy and some knowledge of the different types of unemployment.	1-5
E2	For an evaluative assessment based on economic analysis and context of USA.	3-4
E1	Unsubstantiated assessment of the effectiveness of Monetary policy in reducing unemployment	1-2

<u>Question 6</u>
Nations benefit from markets becoming more integrated because of globalization.

Comment. [25]

Approach:

This question requires candidates to recognize the <u>effects of globalization</u>; in particular how the increased integration of the various markets can benefit different types of countries. These are the goods and services markets, labour markets and capital markets. Essentially, the impact on these markets is likely to be different for Developed (DC) versus Developing countries (LDC).

This question has two main parts. The first part requires candidates to examine how the increased integration of markets affects economies and thus, benefit from it. This part requires candidates to examine impact on economic growth via Trade, Foreign Direct Investments, Labour movements and transfer of technology.

The second part requires candidates to examine how different countries benefit differently from each of these markets with some examples to illustrate. The extent to which economies benefit depends on the nature of these economies, the size of the economy, the current state in which they are in and the policy options at the disposal of governments.

Candidates should demonstrate that the degree of benefits is unequal across different economies because factor endowments are different.

Intro:

1. Explain that economic globalization which is the increased integration of product, capital and labour markets has occurred as a result of:
    - lower transport costs;
    - improving technology; and
    - enhanced communications

2. Briefly highlight how globalization can affect the macroeconomic goals and standard of living
    - Via the aggregate goods and services market on macroeconomic goals (EG, UnN, inflation and BOP) and SOL when trade restrictions are reduced / removed;
    - Via capital markets / flows (funding and investments) on macroeconomic goals (EG, UnN, inflation and BOP) and SOL; and
    - Via labour mobility (as immigration increases) that affects SR cost of production and long run productive capacity of economies

Body:

3. Explain the link between globalization and markets
    - Via goods and services markets (export and import markets)
    - Via capital markets (‘hot’ money, FDI and investments)
    - Via labour markets (immigration of unskilled and skilled labour)

4. Explain how trade based on Comparative Advantage (CA) Theory brings about overall net benefits to nations
    - CA theory focuses on difference in opportunity cost of producing same good, given a set of assumptions
    - Free trade based on CA benefits both nations that trade
    - Extension of this theory implies that free trade using CA theory brings about rise in overall production levels and thus, economic growth from higher output levels.
    - Similarly higher consumption levels lead to rise in welfare to society

5. Explain how goods and services market changes affect the macroeconomic goals
   - Better access to larger markets for exports as well as more diversified sources of import
   - This largely depends on the endowment and comparative advantage present in the economies

   (a) Positive impact
      - Higher export revenue to boost actual growth of economies (apply Keynes analysis)
      - Job creation as economy expands
      - Improvements to current account balance of BOP
      - Import of capital goods to boost productivity and productive capacity (lowers cost of production), i.e. potential growth

   (b) Negative impact
      - Higher import expenditure due to excessive consumption or capital goods
      - Worsen current account balance of BOP
      - Structural unemployment – increased exports and imports result in structural unemployment because those workers who are retrenched in declining import-competing industries do not have relevant skills to take up job vacancies in expanding export industries. I.e. assumption of perfect factor mobility in theory of CA does not hold.

Note: Candidates can include any points that may be relevant

6. Explain how capital market changes affect the macroeconomic goals
   - Better access to capital markets allow MNCs to borrow funds for investments cheaply
   - This is dependent on the quality of the financial and regulatory institutions present in the economies

   (a) Positive impact
      - Inflow of hot money affects loanable funds. This helps to keep interest rate low which encourages investment which is needed for actual and potential growth.
      - Inflow of FDI promotes economic growth (AD and AS) and job creation
      - Improves capital account balance of BOP

   (b) Negative impact
      - Inflow of FDI may result in income disparity as demand for higher skilled labour leads to faster rise in wages versus the low skilled workers
      - Outflow of FDI (investing nation) may result in unemployment
      - Outflow (investing nation) worsens capital account balance of BOP

Note: Candidates can include any points that may be relevant

7. Explain how labour market changes affect the macroeconomic goals
   - Availability of ‘cheaper’ low-skilled workers helps reduce cost of production particularly for labour-intensive industries
   - Availability of skilled workers helps to improve productive capacity of economies
   - Improvement in labour mobility improves income equality between countries

   (a) Positive impact
      - Lowers short run production costs and improves long run productive capacity
      - Improves income inequality as labour moves to nation where wages are higher, thus levelling the wage levels over time; or skilled workers can move across national boundaries to seek out higher wages in nations where skilled workers are scarce

   (b) Negative impact

- Unemployment due to competition from influx of cheaper labour E.g. Cheaper foreign labour replaces local unskilled worker in Singapore because they are willing to accept lower wages compared to domestic worker
- Possible externalities from social integration issues

Note: Candidates can include any points that may be relevant

8. Analyse how different economies are affected differently

(a) Between Developed (DC) versus Less developed economies (LDC)

- Eg. DCs gain from cheaper import of raw materials while LDCs gain from import of capital goods
- Eg. DCs gain from cheaper alternative goods while LDCs gain from exports to DCs
- Eg. LDCs gain from inflow of FDI while DCs gain from outsourcing
- Eg. LDCs gain from improvement in capital account as a result of FDI inflow while DCs gain from current account inflow as profits are repatriated
- Eg. Unskilled workers in DCs lose jobs as cheaper labour in LDCs replace them in their jobs
- Eg. LDCs infant industries may lose out to global competition

(b) Between Large versus Small economies

- Small economies gain from access to larger markets that help boosts their exports
- Large economies gain from having more alternative sources of import (diversification that helps reduce dependence and hence, possible imported cost-push pressures)

(c) Difference in Terms of Trade

- Nations that export higher value goods and services versus nations that are agriculture based and thus, tend to have disadvantage terms of trade

(d) Degree of openness to trade and capital flows

- Nations that are dependent on trade sector to drive economic growth versus those that are dependent on domestic sectors
- Nations that are dependent on FDI for economic development versus those that able to rely on domestic investments

(e) Availability of spare resources within respective economies

- This prevents inflationary pressure as AD rises

Evaluation:

9. Explain how benefits generally outweigh costs for most economies
    - Gains from trade outweigh the costs since economic growth allows the economic pie to grow (income levels rise and more jobs are created)
    - Improved efficiency leads to lower price and increased variety ➔ society's welfare gain
    - Such gains can then be re-distributed by government to improve equity in the long run
    - With higher income levels, funds would be available to deal with externalities such as environmental pollution

10. **Conclusion:**

Benefits generally outweigh the costs of globalization that bring about higher volumes and values in trade for goods and services, capital flows and labour mobility
Short run effects versus long run effects on the development of economies is a key consideration (while there may be short term negative impact, there could be long run benefits that aid the overall development of an economy as a result of globalization)
Benefits for economies are uneven:

- Gains from globalization tend to be different between different types of economies

- Even for similar economies, the results are also likely to be different as a result of difference in state of economy, difference in endowments, difference in government policies; and difference in labour and capital composition

Mark Scheme

Level / Marks	**Descriptors / Proficiency**
L1 1 – 6	Demonstrated some understanding of the impact of globalization.
L2 7 – 10	Able to explain benefits and costs as a result of globalization and trade with some gaps in explanation Eg. only goods and services market (ie. international trade arguments)
11 – 13	Able to explain benefits and costs as a result of globalization and trade Eg. Goods and services market plus capital market (ie. FDI and hot money)
L3 14 – 17	Able to link the characteristics of nations to the extent of impact of globalization in terms of goods and services market, capital market and labour market with some gaps / lack of clarity in explanation
18 – 21	Able to demonstrate clear links between the characteristics of nations to the benefits and costs of globalization in terms of goods and services market, capital market and labour market AND understanding of ***‘uneven’*** effects on nations
E1 1 – 2	Unsubstantiated judgements / conclusions
E2 3 – 4	Well-substantiated judgements / conclusions. Insightful comments that are substantiated.