

Nanyang Junior College
2014 JC2 Prelim Examinations
H2 Economics Paper 2

Suggested answers:

Question 1:

2014 is the most profitable year ever for chicken producers. Fast food restaurants such as KFC, McDonalds, Wendy's and Burger King are betting on the birds due to rising costs of other meats. However, the outlook is bearish outside the US as feed costs rise and an outbreak of avian influenza erode demand in China, the second-largest consumer.

Bloomberg report, 2014

(a) Using economic analysis, explain how the above changes will affect the chicken market in US and in China.

[10]

(b) Discuss how different restaurants in China might respond to the challenges mentioned in the report.

[15]

(a)

INTRO

- Establish how chicken markets could be impacted
 - Changes in demand and supply factors
 - Effects on price and quantity on US and China's chicken markets

BODY

Explain the effects on **US Chicken Market**

- *"Fast food restaurants such as KFC, McDonalds, Wendy's and Burger King are betting on the birds due to rising costs of other meats."* → price of beef/pork rises → restaurants change their preferences towards substitutes of beef/pork → demand for chicken rises → demand curve shifts to the right from D_0 to D_1 , shortage at price P_0 results in upward pressure in price (explain using Fig. 1) → price and quantity rises

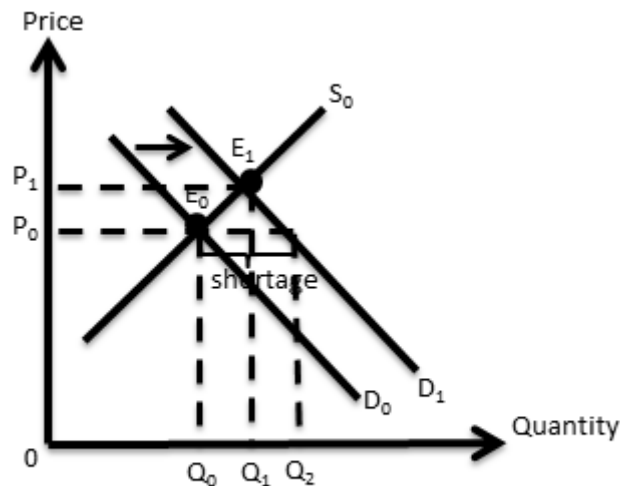


Figure 1: US Chicken Market

Explain the effects on China Chicken Market

- “However, the outlook is bearish outside the U.S. as feed costs rise” → feed costs rise → cost of production rise since cost of rearing chickens rise → supply of chicken falls as farmers are profit motivated (rise in cost of production which affects profitability makes farmers less motivated to increase production) → supply curve shifts to the left S_0 to S_1 → price rises while quantity falls
- “However, the ... outbreak of avian influenza erodes demand in China” → consumers’ fear of contracting the virus from consuming chicken → demand for chicken falls → demand curve shifts to the left from D_0 to D_1 → price and quantity falls
- Combined effect: demand falls more than supply since the outbreak of avian influenza results in greater fear of consumers and China is the second-largest consumer → price and quantity falls (explain using Fig. 2)

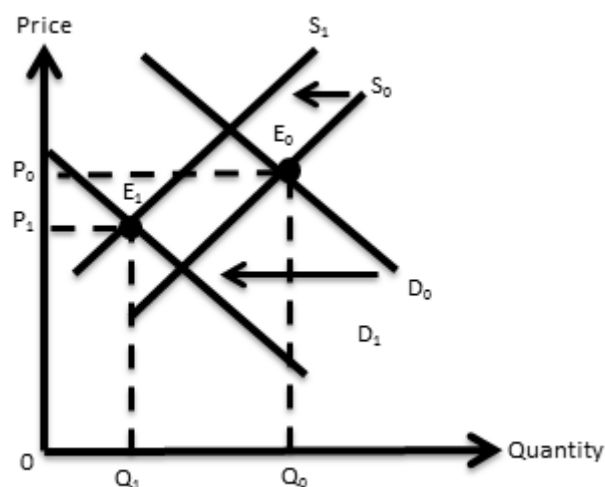


Figure 2: China Chicken Market

CONCLUSION

- Impact on chicken markets in China and US will differ as price and quantity of chicken rises in US while price and quantity falls in China.
- The impact of such changes in China's chicken market will affect the different types of restaurants that make use of chicken meat.

L3	Clear detailed explanation of how the chicken markets in China and US are affected in terms of effects on price and quantity using both demand and supply factors. (US Chicken Market – 1 demand factor) (China Chicken Market – 1 demand and 1 supply factor)	7-10
L2	Undeveloped explanation of how the chicken markets in US and China are affected.	5-6
L1	Mere listing of factors with little reference to demand and supply concepts.	1-4

(b)

INTRO

- Establish that chicken is used as a raw material for meals in restaurants
- Identify the different kinds of restaurants that will be affected differently due to the challenges faced in the context of China
- Acknowledge that some restaurateurs will respond to the challenges using elasticity concepts where relevant

BODY

- Restaurants that **make use of chicken for most of the food items** sold (KFC, Dicos, Popeyes, chicken rice restaurants, etc)
 - P_{chicken} rises due to rise in feed costs → COP (cost of preparing chicken meals) rises → supply for chicken meals falls
 - “*outbreak of avian influenza*” → demand for chicken meals falls

- **Impact on restaurants:** Demand for chicken meals falls more than supply → price and quantity for chicken meals fall → total revenue for restaurants falls (explain using Fig. 3) →
- **How will restaurants respond:**
 - If restaurants are unable to cover their costs due to the falling revenue → shut down their restaurants since they are persistently making losses
 - Some restaurants may choose to change their menu to gain sales in other food areas such as complements of chicken.
 - KFC restaurants in China on the other hand have taken measures to ensure food safety and to win back the trust from customers as a hope to regain back their sales.

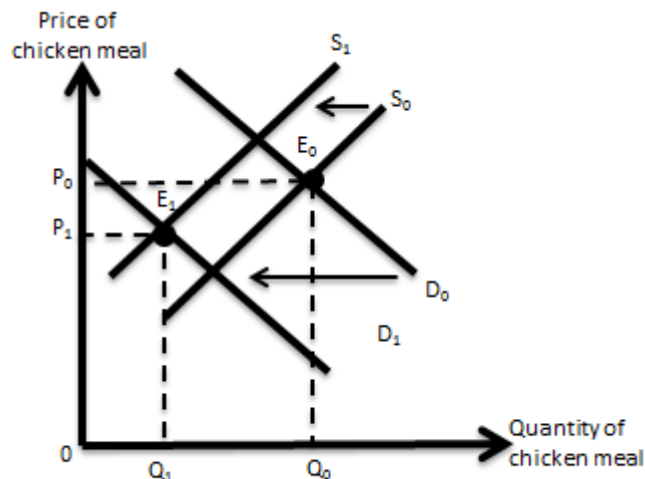


Figure 3

- Restaurants that do not make use of chicken for the food items sold (fish/seafood/vegetarian restaurants, etc)
 - **Impact on restaurants:** Since these restaurants do not make use of chicken in their meals, they are not impacted by the rise in P_{chicken} (due to rise in feed costs) which may translate to higher priced chicken meals
 - **How will restaurants respond:**
 - While restaurants which use chicken in their meals experienced a fall in total revenue from the chicken meals sold, those restaurants that do not make use of chicken will be able to boost their sales as quantity of other non-chicken-related meals sold rises → total revenue rises (explain using Fig. 4)
 - These restaurants that do not make use of chicken for their meals will take this situation as an advantage to advertise their restaurants to gain greater sales.

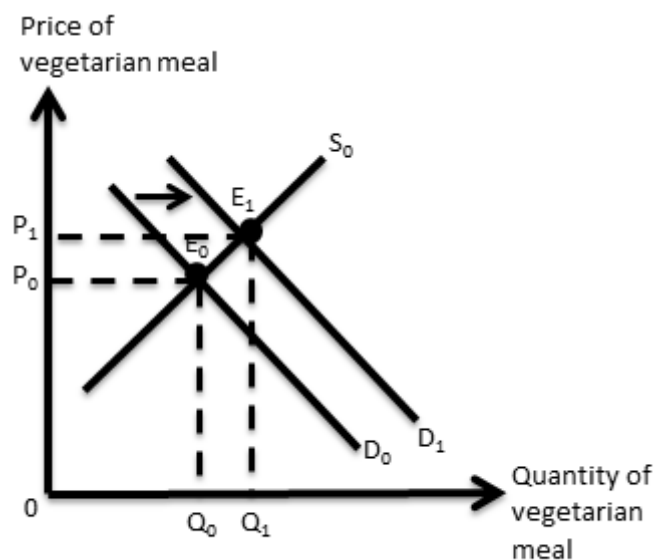


Figure 4

- Restaurants that make use of chicken for some of the food items sold (McDonalds, Burger King, etc)
 - **Impact on restaurants:** P_{chicken} rises due to rise in feed costs \rightarrow COP (cost of preparing chicken burgers) rises \rightarrow SS of chicken burger falls \rightarrow price rises and quantity falls more than proportionately ($PED > 1$ since there are other substitutes to chicken-flavoured burgers) \rightarrow total revenue falls (explain using Fig. 5)

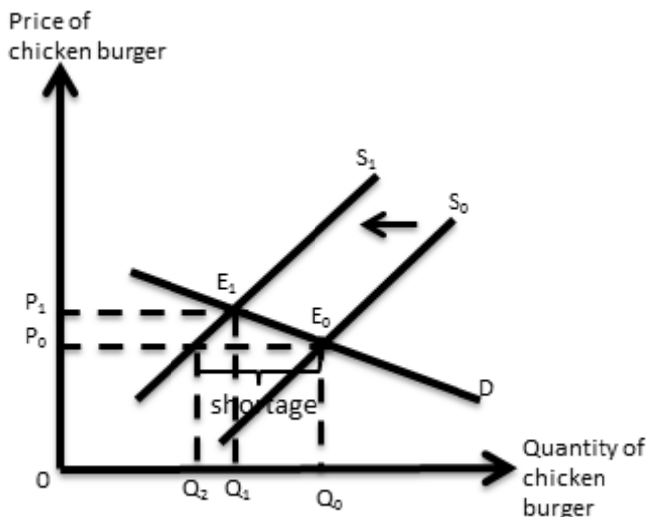


Figure 5

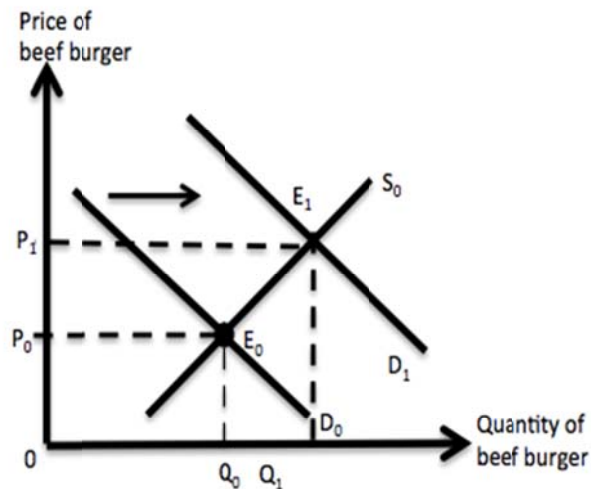


Figure 6

- **How will restaurants respond:**
 - Restaurants respond and make use of the concept of XED. Since $P_{\text{chicken burger}}$ rises \rightarrow restaurants will switch to increase the production of its substitute beef/fish burgers \rightarrow (+ve XED) demand for beef/fish burger rises more than proportionately \rightarrow total revenue rises (explain using Fig. 6)
 - How much the restaurants will respond is dependent on the magnitude of the loss from selling chicken burgers

CONCLUSION

- How the restaurants respond to the challenges is dependent on how much chicken meat they use in their meals
 - Restaurants that make use of chicken meat predominantly in their cooking will be affected to a large extent compared to those who do not use at all
- Actions (to be) taken by the authorities
 - Presently, the avian flu incident has led to poultry market cull and this could exacerbate the supply and demand for chickens further, worsening the impact on different restaurants, especially those who are heavily dependent on chicken meat.
 - To help the restaurants, the government should look into the main source of the problem first where actions should be taken to help chicken farmers stay in business due to the outbreak of the avian flu. This can be in the form of short-term loans, to get them through the hard times.

L1	Generic explanation of how different restaurants in China might respond without much economic analysis.	1 – 5
L2	Generally clear explanation of the effects of the challenges on restaurants and how they might respond.	6 – 8
L3	Clear discussion of how different types of restaurants have differing effects from the challenges and therefore respond differently, making use of elasticity concepts.	9 – 11
E1	Unexplained judgment.	1 – 2
E2	Judgment based on analysis.	3 – 4

Question 2:

Despite the existence of supermarket chains like Fairprice and Giant, the newest local online grocery retailer Redmart, is confident that online grocery shopping will catch on in a big way here as time-starved consumers will increasingly value one-stop convenience shopping.

The Straits Times, 20 July 2014

In light of the market structure supermarket chains operate in, discuss whether the entry of Redmart is desirable.

[25]

Introduction:

The supermarket chains are part of an oligopoly market, selling groceries to consumers in Singapore. There is presence of a few large supermarket chains like Fairprice, Giant, Sheng Siong and Prime that dominate this business, alongside numerous smaller sellers. The groceries can be purchased either at the non-online retail outlets or via online portals.

Such oligopolistic firms face a kinked demand curve and prices set may be rigid. The firms are likely to match price cuts but not price rises to avoid losing a share of the market. Hence, the demand curve is kinked at the current market price, with demand significantly more price elastic above the current price than below. This price rigidity reflects that the oligopolistic firms have little incentive to increase or decrease prices.

Such firms will normally compete with their rivals through non-price competition so as to gain a larger share of the market and the industry profits for themselves.

Redmart's entry into the local online grocery retail business is due to the belief that this industry is expected to grow in the future, with total revenue and profits expected to increase.

Redmart's entry will pose competition to established supermarket chains like Fairprice and Giant. Whether this entry is desirable or not depends on the impact on the different groups, i.e. the producers, consumers and society.

Body:

Positive impacts:

Redmart

- Increase total revenue and profits

Redmart's entry into the online grocery industry is based on the assumption that online grocery shopping is set to grow, especially in today's digital world, where consumers increasingly value convenience in purchasing their daily essentials. Redmart's entry will also capture some of the consumers from existing online grocers like Fairprice and Giant as they offer more choices to consumers. This will enable Redmart to earn revenue and profits.

Consumers

- Increase consumer choice and welfare

Redmart's entry into the online grocery retail industry will increase the level of competition in the industry, and hence provide a greater variety of choices for the consumers to choose from i.e. a more competitive online shopping platform where consumers are able to gain access to more products and brands online.

- Lower price, higher output and increase consumer surplus

With the increased competition, demand for online grocery shopping will become more price elastic due to the availability of more close substitutes. As such, firms in the supermarket industry will have less market power to set price above marginal cost and restrict output sold, resulting in a higher consumer surplus.

- Increased convenience & saving of costs

Time-starved consumers, especially those who work long hours, will increasingly find shopping online more convenient as there is saving of time and no hassle of lugging home bulky grocery items. Groceries can be delivered to the doorsteps, and transport costs can also be saved as consumers will make fewer trips to the supermarkets/wet markets.

Other firms like Fairprice & Giant

- Less likely to suffer from X-inefficiency

Redmart's entry in the online grocery shopping will increase the level of competition in the grocery retail industry. Dominant firms like Fairprice and Giant will face stronger competition and a reduction of their supernormal profits earned in the long run. They will have less incentive to be lax about cost controls and less likely to suffer from X-inefficiency.

- Dynamic efficiency

With the increase in the level of competition, dominant firms like Fairprice and Giant, as well as Redmart, have more incentive to make use of their supernormal profits earned in the long run to engage in R&D and develop a more efficient method to retail their goods and services. As such, they are able to attain dynamic efficiency as more goods can now be produced from any given amount of resources. Average costs are reduced and lower prices are charged to consumers.

Society

- Allocative Efficiency

With more competition, there is a reduction in the market share of each firm and market power because of more substitutes available in the industry. Thus firms have lesser ability to set price. Also, with the competition done via online shopping, there is greater transparency of prices as consumers are able to compare prices instantly. Hence firm's ability to charge high prices is reduced. There will thus be lesser allocative inefficiency, with gap between P and MC narrowed, and deadweight loss reduced.

Negative impacts:

Redmart

- X-inefficiency

If Redmart is able to earn supernormal profits in the long run, it could become complacent and suffer from X-inefficiency. For instance, they could pay large amount of rents to locate their temperature-controlled warehouses in prestigious locations to reach more consumers or not use the most updated and efficient production methods. Such higher costs may be passed on to the consumers in terms of higher prices.

Other firms

- Unable to reap internal EOS

Other firms in the online/non-online retail outlet grocery industry especially the smaller ones will be left with less market share when Redmart enters the industry. They will not be able to reap substantial internal EOS to compete with Redmart and offer lower prices to consumers; hence they will need to rely on non-price strategies to compete, e.g. offering personalised services to consumers like free delivery services, which could add on to cost.

- Decrease in total revenue

With the increase in competition from Redmart, smaller firms in the grocery retail industry are likely to experience a fall in demand of their goods and services as consumers turn to Redmart's online portal which may provide more attractive offers, like wider range of fresh items, dairy products, different brands, etc.

Likewise, firms like Fairprice and Giant will also face a fall in the demand of their business.

With an increase in total cost and a reduction in total revenue, profits of other firms will fall.

- Forced to leave the industry

The increase in competition when Redmart enters the online grocery industry will result in smaller share of profits earned by the smaller firms. As such, they have no ability to devote their profits to innovative ordering or delivery methods, which is essential in the online grocery industry to provide consumers with better quality and wider range of goods & services.

In the long run, these smaller firms will find themselves losing their consumers to Redmart (or even Fairprice and Giant who may have stepped up their competition against Redmart) and may not be able to remain in the industry. The smaller producers do not have the relevant resources to engage in much non-price strategy, product differentiation and innovation to compete with the bigger players like Redmart, Fairprice and Giant, and might be forced to leave the industry.

Consumers

- Higher price

If Redmart and the bigger supermarket chains like Fairprice and Giant are lax in cost control and suffer from X-inefficiency (after driving out the smaller players), these higher costs may be passed on to the consumers in terms of higher prices, such as higher delivery fees or online sales charges. They may also produce at a lower scale due to the fiercer competition faced, and may no longer be able to reap substantial internal EOS and enjoy the cost savings. Hence they have no choice but to charge the consumers at higher prices.

- Decrease consumer choice and consumer surplus

If the smaller firms in the online/non-online grocery industry are unable to compete with the bigger chains and Redmart, and are forced to leave the industry in the long run, consumers will be left with limited choice and access to products and brands. Thus dynamic inefficiency occurs. On the extreme end, if Redmart manages to capture a significant market share in the online grocery industry, it might over exploit the consumers by charging them at high prices and restricting the output, decreases the consumer surplus.

Society

- Societal welfare may not improve if some smaller firms are forced by the strong competition to leave the industry. The remaining bigger firms will then have more market power to dominate price and exploit consumers by under-allocating resources to the production of the good. This leads to allocative inefficiency.

Evaluative Conclusion:

The increase in level of competition will benefit the consumers in terms of greater consumer's surplus and welfare as they face lowered prices, greater availability of choices and quality goods in the markets.

However, the impact on producers will vary for Redmart and its competitors like Fairprice, Giant, and smaller supermarket chains like Prime and Sheng Siong, in the online grocery industry, depending on the actions taken by each. In the non-online supermarket industry where a large number of smaller firms are present, the entry of a dominant firm like Redmart in the online grocery industry will also have an adverse effect on these smaller firms in terms of their market share, revenue and profits earned. These smaller firms will not be able to survive in the industry in the long run, which might lead Redmart and other supermarket chains to over exploit the consumers, if it is left with significant market power in the online and non-online grocery industry to do so.

Redmart's entry into the online grocery industry will serve as threats to the dominant firms like Fairprice and Giant. It will provide them with more incentive to be cost efficient and engage in product innovation to keep their market share, which will ultimately benefit consumers in terms of lowered prices and higher quality products.

Mark Scheme

Level	Descriptors
Level 3 (18-21)	<ul style="list-style-type: none"> Excellent explanation & elaboration on the positive <u>AND</u> negative impacts on consumers, Redmart, other firms and society. Excellent use of diagrams to support elaboration. Good contextual examples given.
(15-17)	<ul style="list-style-type: none"> Excellent explanation & elaboration on the positive <u>AND</u> negative impacts on consumers, Redmart, other firms and society. Excellent use of diagrams to support elaboration. Some contextual examples given.
Level 2 (12-14)	<ul style="list-style-type: none"> Good explanation & elaboration on the positive <u>AND</u> negative impacts on consumers, Redmart <u>AND/OR</u> other firms. Good use of diagrams used to support elaboration but diagram analysis is weak. Some attempt to provide contextual examples.
(10-11)	<ul style="list-style-type: none"> Good explanation & elaboration on the positive <u>AND/OR</u> negative impacts on consumers, Redmart <u>AND/OR</u> other firms. Some attempt to use diagrams to support elaboration but diagram analysis is weak. No attempt to provide contextual examples.
Level 1 (6-9)	<ul style="list-style-type: none"> Some explanation & elaboration on the positive <u>AND/OR</u> negative impacts on consumers, Redmart <u>AND/OR</u> other firms. No diagrams used to support elaboration. No contextual examples given.
(1-5)	<ul style="list-style-type: none"> Answer is mostly irrelevant Answer shows some knowledge on the impacts of Redmart's entry on the market.
E2 (3-4)	Judgement made with economic justification
E1 (1-2)	Judgment without economic justification.

Question3:

- a. Explain why income inequality and market dominance may lead to market failure. [10]
- b. Evaluate the policies currently used by the Singapore government to correct these causes of market failure. [15]

Part a)

Income inequality:

May result in inefficiency in the product market

Under the free market, the price mechanism performs two roles – allocate resources according to consumer sovereignty as well as allocate goods according to the ability and willingness to pay for them. Consumers are able to command the resources via their dollar vote. By signalling to the producers what they want or do not want through their effective demand, the resources will be diverted away from or towards the production of the goods.

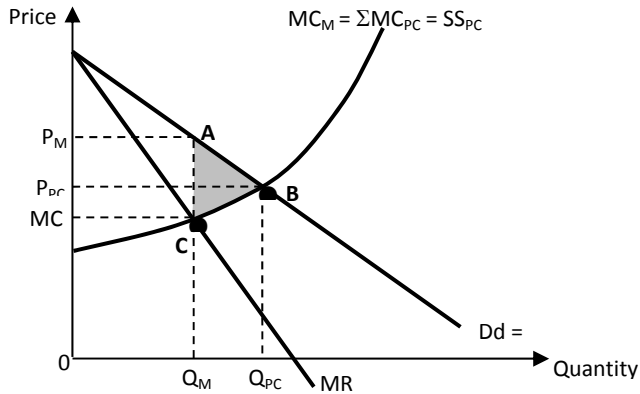
However the price mechanism does not differentiate between needs and wants as it finds no incentive to cater to the needs of those who are not able to pay for the good. For example, the lower income group earners are unable to afford basic necessities such as healthcare or clothing. If healthcare is only provided by the private sector, the poor may not be able to afford medical care or treatment. Thus, the free market allocates insufficient amount of resources and produce low amounts of necessities and might possibly channel an excessive amounts of resources and produce a large amount of luxuries. This unfair distribution of resources will therefore result in social welfare that is not optimized.

The Gini coefficient is often used to measure income inequality. It is a number between 0 and 1 where 0 corresponds to perfect equality (e.g. everyone has the same income) and 1 corresponds to perfect inequality. The coefficient for Singapore has been on a rising trend for over a decade. It has reduced somewhat recently due to greater transfers by the government.

Market dominance

In an unregulated market where firms have market power or dominance, firms in the imperfect market have the ability to set a price or output that will maximise profits. Assuming that the monopolist have a similar cost structure as the perfectly competitive market, the monopolist will produce at its profit-maximising output level that may be lower than the perfectly competitive market (ie. output Q_M instead of Q_{PC}). Though producing at its equilibrium output, the monopolist's decision to restrict output allows it to set a price higher than the perfectly competitive market price.

Note that at equilibrium output Q_M , the market price set by the monopolist is greater than its marginal cost (ie. $P > MC$). In other words, the value consumers placed on additional unit of the good (P or MB) is greater than the opportunity cost incurred by society to produce that additional unit (MC). Therefore, output Q_M is not socially optimal or efficient. Area (ABC) represents the societal benefits forgone resulting from this reduced output and is a deadweight loss. Hence, an unregulated monopoly market may result in socially inefficient outcomes.



Market power may also breed complacency due to a lack of competition and provide little incentive to undertake adequate research and development (R & D) efforts that may improve efficiency in production, achieve a lower (average and marginal) cost and increase the output produced. Hence, market power may breed inefficiencies and jeopardise the likelihood of achieving a socially optimal output level.

The firm can earn supernormal profits even in the long run due to the substantial barriers to entry. Thus, income is transferred from the consumers to the firms. This will increase income inequality in the economy and is thus harmful to society.

Knowledge, Application, Understanding and Analysis		
L3	A clear and developed explanation of how the market fails for both cases with examples.	7 – 10
L2	Clear explanation of one market failure or incomplete explanation of both.	5 – 6
L1	Generally descriptive in nature, limited reference to economic framework.	1 – 4

Part b)

Possible Measures (income Inequality)

a) Tax System

The more progressive the tax system, the more re-distributive it would be. As one moves to a higher income tax bracket, the marginal tax rate increases. However, if the rate is too high, it will discourage additional work and lead to emigration of top earners. In addition, the lowest income earners are exempted from paying income tax. However, in reality, the income tax system, by itself, does not reduce income inequality as it is not progressive enough and as other taxes exist which are regressive. E.g. GST can be regressive for the lower income group.

b) Transfers

The government has different forms of assistance given to those whose incomes fall below some prescribed level. The Workforce Income Supplement (WIS) scheme introduced to help the lower income earners. The government has transferred incomes to the citizens in several ways: CPF top-ups, Medisave top-ups, Workfare bonus, New Singapore Shares, Growth Dividends, etc.

Many measures tend to be one-off and have limited impact. E.g. WIS does not address the fundamental cause of low wages. Transfers tend to lead to dependency mentality and a long term strain on government finances and tax payers.

c) Subsidies

By subsidising selected goods and services like education and health services, the government helps to 'level up' the poor as they can compete on fairer grounds such as the Financial Assistance Scheme which allow students to enjoy free schooling, grants, bursary and Edusave account which will help pay for certain school programmes. By tagging the amount of subsidy to the size of public housing, the government is also reducing the wealth gap between various groups. Subsidies can be a drain on government finances (e.g. the \$8bn Pioneer Generation Package) leading to higher taxes over the long term.

d) Price Ceiling and Floors

Governments sometimes intervene in the market to set the market price. In some markets, the government may impose price floors to raise the incomes of certain groups. For example, the government imposed a mandatory licencing scheme for cleaning firms that specifies training and wage level requirements. However, price controls distort market signals and lead to allocative inefficiency. The root cause may not be actually addressed e.g. the low wages could be due to entry of foreign workers.

e) Skills Upgrading to enable low income to earn a higher wages

Employers contribute to the Skills Development Fund (SDF) which is used to subsidise training for workers. The Workforce Development Agency aims to upgrade the skills of the labour force to raise productivity and to raise income of low wage workers. Up to 95% subsidy is given in addition to funding the employees' salary during the training. Workers and employers attitudes still need to be addressed including the cost burden to government

Measures for Market Dominance:

(a) Legislation (Competition Act)

The three activities prohibited under the Competition Act are:

- Agreements, decisions and practices which prevent, restrict or distort
- Abuse of a dominant position
- Mergers that substantially lessen competition

Evaluation: However, sometimes companies merge not to reduce competition but to lower costs through economies of scale. This will benefit the consumers. The government has to discern which mergers are desirable and which are against public interest. However, detailed knowledge of firms' work practices and costs are needed to uncover unacceptable practices. Usually, there is a high reliance on 'whistle blowers' to expose misdeeds.

(b) Regulation

In terms of

- Efficiency or Performance targets (LTA, Telecoms)
- Price controls (PTC)

Evaluation: There is a high reliance on the expert knowledge of regulators to set targets. Some data is provided by the firms themselves and therefore liable to be manipulated. Certain targets have cost implications and may result in higher prices for consumers. It is also difficult to set prices due to the need to address different groups e.g consumer welfare vs business profitability. Financial assistance may be needed to ensure regulated firms remain viable.

(c) Liberalisation of market

Issuing of more licenses to encourage more entrants as more suppliers of the similar product will increase competition e.g. telecom. To survive under more competition, firms will be forced to be more efficient. More choices are available to the consumers if products are differentiated. Deadweight loss may be reduced as prices are lowered due to more competition. However, high set up cost might deter new entrants. If weak competition exists, then it will not improve efficiency. All these measures must be assessed in terms of effectiveness and sustainability.

Knowledge, Application, Understanding and Analysis		
L3	Able to provide clear explanation of a range of measures that are currently adopted in Singapore and assessed in terms of effectiveness and sustainability.	9 - 11
L2	Able to provide explanations of some measures (one for each mkt failure) that are currently adopted in Singapore with limited assessment of the measures.	6 – 8
L1	Provide measures that are largely text book in nature without reference to the context of Singapore.	1 - 5
Allow up to 4 additional marks for Evaluation		
E2	Evaluative statement that is based on economic analysis i.e student is able to justify and arrive at a conclusion.	3 - 4
E1	Evaluation that is not supported or substantiated	1 – 2

Question 4:

Discuss the extent to which trade affects the standard of living.

[25]

1. Introduction

- Define standard of living (material/non-material)
- Define Trade (movement of goods and services and generally exclude capital and labour movements)
- Give an overview of the essay (Thesis – Trade affects the standard of living to a large extent, Anti thesis – Trade only affects the standard of living to a small extent).

2. The theoretical framework for trade

- Theory of comparative advantage (Using either table, PPC or DD/SS with assumptions stated).

3. Thesis – Trade affects the standard of living to a large extent (Positive or Negative)

Positive

- Increased trade brings about higher income and employment
- Market access (larger output) lowers price through EOS
- Larger variety of goods and services (more supply sources) improves SOL
- Transfer of technology from trade / rise in efficiency of firms due to trade improves potential of economy

Negative

- Depends on factor endowment
This can affect the comparative advantage of nations. E.g. Nations endowed with huge oil fields will naturally have a lower opportunity cost in the production of crude oil, thus is able export such commodities. However, if a country has the CA in a lower-order/value production, the extent of gains from trade will be significant smaller due to a less favourable terms of trade compared to the oil producing countries. This in turn affects the prosperity it may receive.
- Rise in income inequality / disparity dilutes positive impact of trade
- Economic growth fluctuations depends on exposure to external demand
- Nations that depend on import of raw materials and for consumption are more susceptible to imported cost-push inflation, inflationary effects depends on state of economy
- Size of leakage affects impact of rise in exports

*All points must link back to how material and/or non-material SOL is affected

3. Anti-thesis – There are other factors besides trade that affects SOL

- Other components of AD
- Role of FDI / domestic investment (potential growth)
- Government policies
- Movement of labour

4. Conclusion

- Trade improves SOL for economies that are more 'open' and possess spare resources to meet rising global demands (i.e. Reliance on external demand)

- Whether SOL improves depends on the country's ability to meet the changing demands and dynamism of world trade in terms of dealing with structural rigidities
- The nature of the economy, state of the economy, and size of k , as these affect the extent of benefits a country reaps from trade
- Government policies and other factors that may also drive prosperity of nations; and may offset the effects from trade (i.e. Mitigating policies and trade-offs)

Levels	Description	Marks
L1	<ul style="list-style-type: none"> • Answer largely irrelevant AND/OR incomplete • Answer show some knowledge of the benefits of trade using the theory of CA • Answer shows some knowledge of trade's impact on material AND/OR non-material standard of living 	1-9
L2	<ul style="list-style-type: none"> • Good explanation of benefits of trade using the theory of CA • Good explanation of the positive AND/OR negative impacts of trade on the material and non-material standard of living • Two-sided answer that discuss the extent which trade affects material and non-material standard of living; other factors that affect SOL 	10-12 13-14
L3	<ul style="list-style-type: none"> • Detailed explanation of the benefits of trade using theory of CA • Detailed explanation of the positive and the negative impacts of trade on both material and non-material standard of living. • Good two-sided answer that discuss the extent which trade affects material and non-material standard of living; other factors that affect SOL • Use of real-world examples. 	15-18 19-21
E2	Judgment based on economic analysis.	3-4
E1	Mainly unexplained judgment.	1-2

Question 5:

The Japanese economy shrank at its fastest rate since the 2011 earthquake and tsunami in the second quarter of this year, contracting at an annual rate of 6.8%. In addition to falling exports and high government debt, spending was hit by a sales tax rise in April.

The Guardian, 13 August 2014

(a) Explain the likely causes of recession in Japan. [10]

(b) Discuss whether demand management policies are most appropriate in pursuing economic growth for Japan. [15]

Suggested answer for (a)

Introduction

- Define key concept ("recession") – contraction of the (Japanese) economy ("6.8%" annual contraction rate) or 2 consecutive quarters of negative growth
- Briefly describe the nature of the Japanese economy (context)
 - world's 3rd largest by nominal GDP & 3rd largest automobile manufacturing country
 - world's largest electronics goods industry
 - ranked among the world's most innovative countries leading several measures of global patent filings
 - currently facing increasing competition from China and South Korea
- Provide an overview of the essay
 - Categorically, caused by a persistent fall in AD &/or a fall in AS as well as deflationary macroeconomic policies.
 - Extent of economic contraction can be made worse if the recession occurred in a context of a certain unique features of the economy & its market components.

Body

- a. Major negative demand-side causes for recession (Illustrated using AD-AS framework)
 - i. Slump in exports demand – in consumer electronics & automobile sales (contributed 16% of Japanese economy's revival in 2002-2008)
 - ii. Reduced/Limited govt spending due to high govt debt (240% of GDP in 2014)
 - iii. Fall in Cn spending due to a contractionary/deflationary macroec policies [See (c)(i)]
→ AD shifts leftwards
- b. Major inflationary supply-side causes for recession (Illustrated using AD-AS framework)
 - i. Fall in productive capacity due to natural disasters (2011 earthquake) or a shrinking labour pool (aging population & minimal immigration)
 - ii. Rising global commodity prices (food & oil products) during the period – SRAS shifts upwards (no change in Y_f).
→ LRAS &/or SRAS shifts leftwards & upwards
- c. Deflationary macroeconomic policies (Illustrated using AD-AS framework)
 - i. Such measures are like an increased int rates or increased direct & indirect T
 - ii. Sales taxes increase (since April 2014) to counter a budget deficit – squeezing real Y_d & Cn dd or perhaps damaging business invesmt - fall in C & I

- d. *Magnitude of recession depends on (**Optional)*
- i. *Negative multiplier effects arising from less consumption on goods and services*
 - ii. *Accelerator effect – less consumption → less incentive to invest in new capital*
 - iii. *Extent of drop in consumer and business confidence / worsening expectations can lead to more saving and cost-cutting by firms → rising unemployment*

Conclusion

- The major factor causing the recession would be the main influencing factor in determining the policies & measures that would be appropriate to pursue Japan's macroeconomic goals.

Mark Scheme:

L1	<ul style="list-style-type: none"> Able to identify the (categorical) causes of recession Listing/Weak explanation of the causes of recession No economic framework used in analysis. 	1-4 Max 4 m
L2	<ul style="list-style-type: none"> One-sided explanation of the dd or ss causes of recession Undeveloped explanation of the dd & ss causes of recession 	Max 5 m 5-6
L3	<ul style="list-style-type: none"> Good balanced (theoretical) explanation of the dd & ss causes of recession Good balanced (applied) explanation of the dd & ss causes of recession 	7-8 9-10

(b)

Introduction:

- Define “economic growth” & state its composition (consisting of actual EG & potential EG)
- Define “demand-management policies” & state the effect of the dd-mgt policies implied with respect to the given goal

Body:

A. Thesis: (Expansionary) Demand-management policies are appropriate in pursuing EG for Japan

- a. The policy tools:
 - i. Expansionary ERP by depreciating the external value of the Yen – describe mechanism & its impact on net Xs
 - ii. Expansionary MP by increasing domestic money ss or lowering domestic int rates – describe mechanism & its impact on C & I
 - iii. Expansionary FP by increasing G more than the contractionary impact of the sales tax (ie. fall in C & I) – describe mechanism & its net impact on AD
- b. The impact: Rise in AD would promote the level of economic activity that leads to greater employment of resources (esp labour – derived dd) leading to a rise in NY (Include diagram)

B. Anti-thesis: (Expansionary) Demand-management policies are not appropriate in pursuing EG for Japan

- a. Expansionary dd-mgt policies though appropriate in the pursuit of actual EG may not solve the root causes of the Japanese recession – limits to the pursuit of actual & potential EG

- i. The “EG-inflation” conflict. Expansionary dd-mgt policies may promote a rise in AD but the fall in productive capacity (due to the earthquake) in Japan may result in the onset of inflation earlier than it would have been prior to the earthquake eroding any real growth significantly.
 - ii. Inherent systemic limitations of policy mechanism to achieve actual EG → need complementary policies to mitigate any significant unforeseen negative side-effects/potential limitations
 - a. Limitation of expansionary FP via increasing G – high govt debt limits ability to finance & raise G. This together with the sales tax rise may collectively erode market confidence (dampening C & I as well) – the “EG – govt debt” conflict.
 - b. Limitation of MP –
 - Bank of Japan (central bank) may not have the ability to control the Yen ss (money ss) due to the openness of the Japanese economy
 - Lowering interest rates was not able to spur domestic expenditure/demand due to the liquidity trap faced by Japan – resulting in investors borrowing in Japan & investing the borrowed capital in other more profitable investment destinations (“Yen-carry-trade”)
 - c. Limitation of ERP due to –
 - Price competition: Japanese exports may not have a price elastic dd that could benefit from depreciation of the Yen (Marshall-Lerner condition not fulfilled)
 - Non-price competition: Though relatively cheaper, substitutes to Japanese exports may have $PED < 1$ or smaller/zero XED – hence any change in price of Japanese exports has minimal impact on substitutes to Japanese exports
 - iii. Barring any policy limitations, expansionary dd-mgt policies may be appropriate to solve dd-side causes of recession but inappropriate in solving the ss-side causes of the Japanese recession & in pursuing actual EG as well as potential EG concurrently.
- b. Only ss-side policies are appropriate of managing the ss-side origins of the Japanese recession & the pursuit of actual EG as well as potential EG.
 - i. SR ss-side policies (give eggs) may lower COP (& shift AS downwards with an unchanged Yf). With a given AD, the lower COP would lead to a movement along AD – pursuit of actual EG.
 - ii. LR ss-side policies (give eggs) may lead to a rightward shift of AS (rise in productive capacity – potential EG) which facilitates a greater non-inflationary rise in NY & more sustainable pursuit of EG (actual & potential).

C. Synthesis/Conclusion:

The choice of which macroeconomic policy is appropriate to pursue EG depends on:

- The main causes of the recession
- The current state of the economy
- The market reaction & the likelihood of achieving the goal for any policy being implemented

Depending on the causes of recession:

- Due to Japan's trade dependence, the most appropriate dd-mgt policy for Japan is expansionary ERP but the impact of this must be able to overcome the contractionary impact of the eroding market confidence - offsetting the fall in C & I.
- Though, expansionary MP may seem to work but in reality the Japanese economy is facing a liquidity trap - interest rate is so low that it is currently in the negative region (The Guardian, Sept 2014). The resulting "Yen-carry-trade" has actually worked in Japan's favour of causing the Yen to depreciate.
- Dd-mgt policy may be inappropriate if the main cause of the Japanese recession originate from the ss-side. Hence, lowering COP & increasing productive capacity may be essential SR & LR measures to address the ss-side causes.
- However, for an anaemic economy like Japan which is facing an aging population and a chronic govt debt, as well as falling external dd, the odds are against Japan in being able to get the funds to incentivize retraining to enhance the labour productivity level or to generate adequate domestic demand to pursue EG of both types.

Hence in Japan's case the most appropriate policy measure is not simply a choice between dd-side or ss-side, but whether any macroeconomic policy measure undertaken by the Japanese government would actually achieve any degree of EG that would create a positive ripple-effect (multiplier-accelerator effect) that would gain momentum to cure all the chronic components of the ailing economy albeit one at a time.

Mark Scheme:

L1	<ul style="list-style-type: none"> • Vaguely identified the demand-management policies. • Lists the demand-management policies. • No economic framework used in analysis. 	1-5
L2	<ul style="list-style-type: none"> • Good one-sided discussion of <u>either</u> demand-management or supply-side policies to pursue economic growth. • Undeveloped 2-sided discussion of the demand-management & supply-side policies to pursue economic growth 	6-8
L3	<ul style="list-style-type: none"> • Good 2-sided discussion of the demand-management & supply-side policies to pursue economic growth for Japan (& how it might conflict with other macro objectives) <ul style="list-style-type: none"> ○ Appropriateness of MP (theoretical) & ss-side policies ○ Appropriateness of ERP (preferred) & ss-side policies 	Max 9 10-11
E1	<ul style="list-style-type: none"> • Stand on whether demand-management policies are most appropriate in pursuing economic growth for Japan • Without or vague substantiation 	1-2
E2	<ul style="list-style-type: none"> • Adequate substantiation of stand on whether demand-management policies are most appropriate in pursuing economic growth for Japan 	3-4

Question 6:

(a) Explain how a change in exchange rate would affect a country's Balance of Payments (BOP).[10]

(b) Discuss whether maintaining a healthy balance of payments take priority over other macroeconomic objectives. [15]

(a)

Introduction:

- Define BOP
- Define framework (DD/SS of foreign exchange market)

Body:

- **Briefly explain ER determination** using DD/SS framework --- Free floating ER system
- **Explain how ER affect current account (BOT)**
 - Depreciation of currency --- fall in export prices in foreign currency, increase in import prices in domestic currency --- assuming Marshall-Lerner condition is satisfied (sum of PED of X and M > 1)--- improves BOT --- assuming no change in other items in current account, such as income balances and unilateral transfers --- current account improves
- **Explain how ER affect capital account (both short term and long term capital)**
 - Effect on short term capital flow is dependent on expectations of future ER movements --- if currency is expected to appreciate in value --- short term capital inflow due to higher returns (in foreign currency) in the future --- assuming no change in LT capital inflow --- capital account improves
 - Currency depreciation --- lower cost of investment for foreign investors (less foreign currency needed to invest the same amount in domestic currency) --- increase investments returns --- increase in FDI --
 - increase long term capital inflow --- assuming no change in ST capital flow --- capital account improves
 - Currency depreciation --- lower returns for profits denominated in foreign currency --- lower returns on investment --- fall in FDI --- assuming no change in ST capital inflow --- capital account deteriorates

Conclusion:

- Other factors affecting BOP (such as interest rates, market sentiments)
- Whether BOP surplus or deficit due to ER changes is favourable depends on the current state of the economy and government objectives.

L1	<ul style="list-style-type: none">• Able to identify items under BOP• Weak explanation of how ER can affect some items in current or capital account Or <ul style="list-style-type: none">• Good explanation of how ER affect current account only	1-4 Max 4 m
L2	<ul style="list-style-type: none">• Good explanation of how ER affect capital account (ST and LT) only• Adequate explanation of how ER affect both current and capital account	Max 5 m 5-6
L3	<ul style="list-style-type: none">• Good explanation of how ER affect both current and capital account with assumptions provided Or <ul style="list-style-type: none">• Good explanation of how ER both current and capital account with contextual discussion	7-8 9-10

(b)

Introduction:

- Identify macro objectives
- Explain healthy BOP --- BOP surplus

Body

Thesis: Healthy BOP should take priority

- **Benefits of BOP surplus** (accumulate foreign reserves, actual growth, increase liquidity, potential growth)
 - BOP surplus can be due to **current account** or **capital account surplus**
 - **Current account surplus** – implies increase in net exports --- increase AD --- **achieve actual growth and employment**
 - **Capital account surplus** can be due to **increase in net short term capital inflow** (hot money) which will increase banks' liquidity --- increase money supply --- increase C and I (direct transmission mechanism) --- increase AD --- **achieve actual growth and increase employment; increase in long term capital inflow** (FDI) --- increase AD in short run --- **achieve actual growth and employment**, increase LRAS --- increase productive capacity --- **achieve potential growth**
 - **BOP surplus** --- **accumulation of foreign reserves** (net receipt from the rest of the world) --- allows economy to **influence exchange rate** more effectively if necessary.

Anti-Thesis: Healthy BOP should not take priority

- **Problems of BOP surplus** (demand-pull inflation, currency appreciation, adverse impact on trading partners' BOP position)
 - **Current account surplus** – implies increase in net exports --- increase AD --- **demand-pull inflation** if economy is near classical range of AS
 - **Capital account surplus** can be due to **increase in net short term capital inflow** (hot money) and **increase in long term capital inflow** (FDI) --- increase AD in short run --- **demand-pull inflation**
 - **BOP surplus** --- increase in demand for domestic currency --- **currency appreciation** --- **erode export competitiveness and imported inflation; trading partners experience BOP deficit** (beggar thy neighbour) --- might **retaliate** --- fall in export revenue – fall in AD --- **adversely affect economic growth and employment**
- **Other macro objectives might be more important** depending on the current state of the economy
 - If economy is suffering from **high demand-pull inflation** --- maintaining BOP surplus will worsen inflation issue (China)
 - Countries with **large domestic market** might focus on internal objectives, such as increasing domestic consumption and investment to stimulate growth. Hence, external balance might not be the main objective of such government.

Conclusion / Judgment:

- **Dependent on the most significant issue** an economy is facing
- **Dependent on the characteristics of the economy**
- Use various economies to justify

L1	<ul style="list-style-type: none"> • Vaguely identified the pros and cons of achieving BOP surplus without adequate explanations • Adequate one sided discussion on either pros or cons of BOP surplus 	1-5
L2	<ul style="list-style-type: none"> • Good one-sided discussion on the pros or cons of BOP surplus • Adequate 2-sided discussion on the pros of BOP surplus(how it might complement other macro objectives) and cons of BOP surplus (how it might conflict with other macro objectives) 	6-8
L3	<ul style="list-style-type: none"> • Good 2-sided discussion on the pros of BOP surplus(how it might complement other macro objectives) and cons of BOP surplus (how it might conflict with other macro objectives) with contextual discussion 	9 10-11
E1	<ul style="list-style-type: none"> • Stand on whether healthy BOP should take priority over other macro objectives • Vague substantiation 	1-2
E2	<ul style="list-style-type: none"> • Adequate substantiation of stand comparing different contexts in the real world 	3-4