2016 JC 2 PRELIMINARY EXAMINATION

H2 ECONOMICS – PAPER NO.9732/01

15 September 2016 | 8am - 10.15am

Thursday | 2 hours 15 min

Additional Materials: Answer Paper

READ THESE INSTRUCTIONS FIRST

Write your name and class on all the work you hand in.

Write in dark blue or black pen on both sides of the paper.

You may use a soft pencil for any diagram, graphs or rough working.

Do not use staples, paper clips, highlighters, glue or correction fluid.

Answer **all** questions.

At the end of the examination, fasten your work securely, by question, using the strings provided.

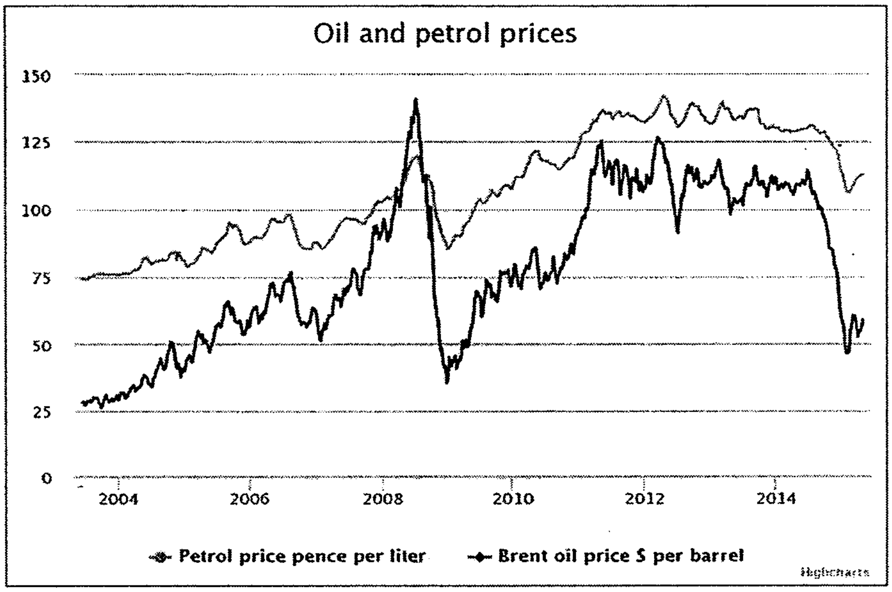
The number of marks is given in brackets [ ] at the end of each question or part question.

Answer **all** questions.

Question 1

Oil and Energy Prices

Figure 1: UK's Brent oil* and petrol prices



*Brent blend is a light crude oil (LCO), and is suitable for production of petrol.

Source: Business *reporter.co.uk*

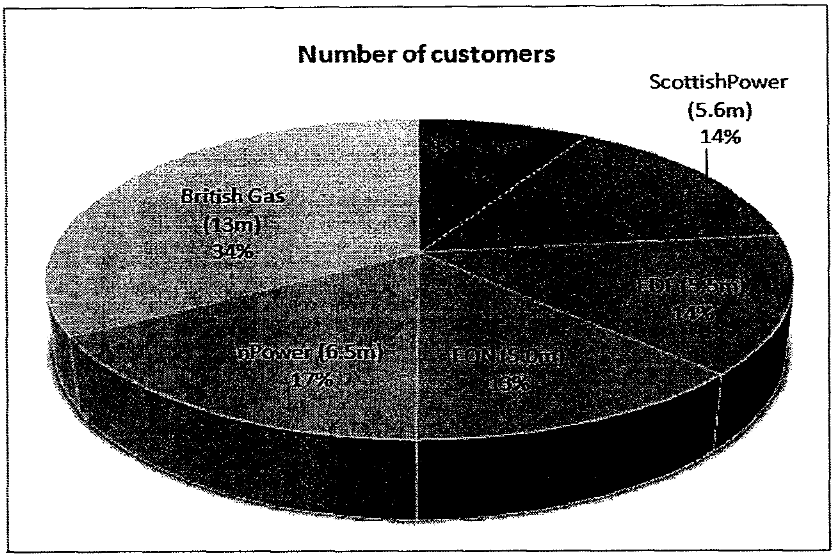
Extract 1: Oil price crash

The UK Chancellor, George Osborne, has said the government will be watching petrol distributors "very carefully" to ensure they pass on oil price reductions to customers. So why is it that the consumer fails to see the full benefits of cheap oil? It's simply a matter of the companies setting their price – they're not always willing to pass on their own savings to their customers. Electricity prices should have gone down dramatically as well, with the government urging the Big Six energy suppliers to pass the savings to households.

The trend in UK's energy market prices is part of a wider fall in global oil prices, which have plummeted by more than 50 percent this year. The drop is driven by an unprecedented global surplus in oil, caused by the shale revolution in America, and the country has ever since become the world's largest oil producer, combined with the decision by other major oil producers such as Saudi Arabia and the rest of OPEC to maintain their production levels. Weak economic activity has dampened oil consumption and a growing switch away from oil to other fuels has also affected the picture.

Source: Adapted from the *Economist*, Dec 2014

Figure 2: Market supply number for the Big Six Energy suppliers in UK (in millions)



Source: http://www.businesselectricityprices.org.uk/suppliers/

Extract 2: Energy firms accused of profiteering

The Big Six energy firms will double their profit margins in the next year increasing accusations that they are profiteering while millions of households are struggling to be able to afford to heat their homes. Ofgem, UK's energy regulator has told suppliers to explain to consumers why, when oil prices are falling, they are not seeing cuts in energy prices, which was one of the main reasons why Ofgem referred the energy market to the Competition and Markets Authority (CMA) for investigation earlier this year.

Ofgem said that its review had found that the behaviour of energy suppliers and the structure of the market were "acting against consumers' interests." Ofgem's review also found that tariffs [1] are far too complicated, making comparisons between companies extremely difficult. It has found 'possible tacit co-ordination' on prices, with the Big Six firms apparently moving tariffs up and down at the same time.

Ofgem proposed that the Big Six be broken up, to allow more independent suppliers to compete on prices. The Federation of Small Businesses has also called for the Big Six energy companies to be broken up, adding pressure on regulators to refer the energy companies to competition authorities this week.

Source: *The Independent*, July 2014

Extract 3: Ofgem defends record of reform over Big Six energy firms' high prices

[1] Tariffs in electricity market means electricity prices consumers pay.

Ofgem has hit back at claims that it may be partly to blame for high prices, after a group of former regulators said it had presided over a weakening of competition in the energy market. The energy regulator said it had introduced the "most radical set of reforms" to protect consumers in the retail energy market since competition began. Among its regulations, Ofgem has banned differential pricing in a bid to stop customers of the same energy company paying much higher tariffs in different parts of the country. Extra layers of complexity such as discount structures will also be removed altogether.

Ofgem has been fighting accusations as to the appropriateness and effectiveness of a number of these interventions. The submission also goes on to raise the concern that regulation could instead increase costs for consumers; the lack of meaningful competition would mean many families and pensioners are paying as much as £250 a year too much, with a risk of suppliers cutting back on investment in the long term.

Source: *The Guardian*, August 2014

Extract 4: Lower oil prices on Singapore's economy

Singapore was supposed to have emerged as a winner from the low oil prices, with 5 per cent of its gross domestic product coming from the oil industry. Lower global oil prices should stimulate global economic growth, according to the International Monetary Fund, in particular, countries which are net importers of oil, such as Singapore. Businesses and factories enjoy lower costs of input, especially industries heavily reliant on oil, gas and others such as airlines, transport companies and manufacturers of plastics. Consumers spend less on petrol and other energy-related expenses and thus saw an increase in their disposable income, contributing about 0.2 to 0.4 per cent in Singapore's economic growth.

However, initial cheer from energy cost savings appears to be turning into fear over a global economic slowdown. Dr Walter Theseira, senior lecturer at SIM University explained: "Rapidly declining oil prices suggest that global economic growth is slumping. That in turn has an effect on the economy that extends beyond the oil industry.

Source: Adapted from *The Straits Times*, Jan 2015

Questions

(a) (i) Compare the change in UK's Brent oil price with that of petrol price between 2010 and 2014. [2]

(ii) With the aid of a diagram, account for the change in petrol prices from 2014 onwards. [5]

(b) (i) Describe the type of market structure operating in the UK energy market. [2]

(ii) Explain why firms in the UK energy market are inclined to engage in "possible tacit co-ordination on prices". [3]

(c) Discuss the view that Singapore "was supposed to have been a winner from the low oil prices". [8]

(d) Discuss whether the set of reforms recommended by Ofgem in the energy market is justified. [10]

[Total:30]

Question 2 Economic challenges in different economies

Extract 5: US hiked interest rate for the first time since 2006

The US Federal Reserve (Fed) hiked interest rate for the first time in nearly a decade, signalling faith that the US economy had largely overcome the 2008 financial crisis.

The Fed raised interest rate by 0.25 per cent in view of the projected rise in the rate of inflation to 2% in the medium term. With the economy performing well and expected to continue to do so, the Fed committee judges that a modest increase in the interest rate is appropriate. "Policy remains accommodative," Fed Chairman, Yellen said. "The US economy has shown considerable strength. Domestic consumer spending has continued to rise and investment by firms have risen".

Adapted from Reuters, 16 Dec 2015

Extract 6: China takes steps to transit to a knowledge-based economy

China posted its weakest economic growth in the fourth quarter of 2015, adding pressure on policymakers to take more steps to ward off a sharper slowdown that could jolt global markets.

The government could widen the budget deficit to about 3 percent this year as leaders turn to tax cuts and increased spending on infrastructure to support growth. While the government is expected to lean more on fiscal policy to support growth this year, the central bank may still need to ease monetary policy to help cushion the impact of structural reforms on the economy. The central bank has already cut interest rates six times since November 2014 to spur economic growth.

China intends to transit to a knowledge-based economy by encouraging its organizations and people to acquire, create and use knowledge more effectively for greater economic and social development. Strong economic incentives and institutions are required to enable organizations and people to adjust to changing opportunities in flexible and innovative ways.

The government plans to push forward "supply-side reforms" by cutting corporate tax, upgrading the information and communication technology (ICT) and R&D infrastructure and removing barriers to encourage domestic entrepreneurship and foreign direct investment in the services sector. There is a need to establish clear rule of law and property rights. They also strive to privatize big, highly inefficient state-owned enterprises into market-oriented institutions.

In the short term, the critical challenge for China is to ensure a smooth and efficient transition, minimizing unemployment that will inevitably result from the restructuring. Retraining also needs to be provided for millions of workers that may be displaced. Even though literacy rates had soared due to government's increased spending on education, there is still overemphasis on knowledge transfer rather than the development of imaginative and creative capabilities. This has proved to be a major hindrance to its education reforms.

Adapted from Asian Development Bank, World Bank & The Guardian, 9 May 2016

Extract 7: Singapore faces external headwinds

While manufacturing remained in the doldrums, Singapore's economic growth in the fourth quarter of 2015 was supported by public-sector construction activities, and the finance and insurance sectors. With no signs of external demand picking up yet, economists, however, were cautious about the outlook for the coming year despite the better-than-expected fourth quarter performance. Barclays' economist Leong said: "The US economy is strong but it is offset by China's growing weakness, precipitated by a weaker ability to import due to the weaker Chinese yuan."

DBS economist, Irvin pointed out the risks of potential capital flight that could result from further US rate hikes and fears of further economic slowdown in China. "Growth outlook in the next six to nine months will remain modest before an improvement in the later part of 2016," he added.

Adapted from *Today, 4 January 2016*

Extract 8: Singapore's top export partners

Singapore shipped US$346.8 billion worth of products around the globe in 2015.

The top 5 export markets are:
1. China: US$47.7 billion (13.8% of total Singapore exports)
2. Hong Kong: US$39.7 billion (11.4%)
3. Malaysia: US$37.8 billion (10.9%)
4. Indonesia: US$28.4 billion (8.2%)
5. United States: US$23.2 billion (6.7%)

Source: http://www.worldstopexports.com/singapores-top-import-partners/, 17 Apr 2016

Table 1: Macroeconomic Indicators (China)

	2011	2012	2013	2014	2015
Real GDP growth (% per year)	9.5	7.8	7.7	7.3	6.9
Rate of inflation (%)	5.4	2.6	2.6	2.0	1.4
Unemployment (% of labour force)	4.3	4.5	4.6	4.7	4.8
Government budget balance (% of GDP)	0.1	-0.3	-0.7	-1.2	-2.6
Current account balance (US$ billion)	136.1	215.4	148.2	219.7	330.6

Table 2: Macroeconomic Indicators (United States)

	2011	2012	2013	2014	2015
Real GDP growth (% per year)	1.6	2.3	2.2	2.4	2.0
Rate of inflation (%)	3.2	2.1	1.5	1.6	0.1
Unemployment (% of labour force)	9.0	8.2	7.4	6.2	5.0
Government budget balance (% of GDP)	-10.7	-9.3	-6.4	-5.8	-2.4
Current account balance (US$ billion)	-460.4	-449.7	-376.8	-389.5	-484.1

Table 3: Macroeconomic Indicators (Singapore)

	2011	2012	2013	2014	2015
Real GDP growth (% per year)	6.2	3.4	4.4	2.9	2.0
Rate of inflation (%)	5.3	4.5	2.4	1.0	-0.5
Unemployment (% of labour force)	2.9	2.8	2.8	2.7	2.8
Government budget balance (% of GDP)	1.2	1.7	1.1	-0.3	-1.2
Current account balance (US$ billion)	60.6	49.8	54.1	58.8	57.5

Source: *The Economist, World Bank (2015), http://stats.mom.gov.sg, 28 Apr 2016*

Questions

(a) **(i)** Compare the change in China's current account balance with that of the US for the period 2011 to 2015. [2]

(ii) Explain whether the US should be concerned about the changes to her current account balance. [2]

(b) Explain whether the US central bank's action of raising the interest rate is justified. [4]

(c) Explain how the slowdown in China's economic growth will affect its government budget balance. [4]

(d) With reference to the data, discuss the likely impact of China's monetary policy (Extract 6) on the Singapore economy. [8]

(e) Assess the effectiveness of China's supply-side reforms in facilitating a smooth transition to a knowledge-based economy. [10]

[Total: 30]

2016 Prelim H2 Case Study 1

Suggested answer

(a) (i) Compare the change in UK's Brent oil price with that of petrol price between 2010 and 2014. [2]

Overall, both prices of Brent oil and petrol rose but start to fall in 2014. [1]
However, Brent oil prices rose as well as fell <u>more than</u> that of petrol price.

(ii) With an aid of a diagram, account for the price change in petrol price from 2014 onwards. [5]

The fall in petrol prices from 2014 onwards was due to a dampened demand and a rise in world supply of oil.

[A] A weakened global demand for petrol has led to a fall in petrol prices.
[C] Given the economic slowdown especially in China and the Europe reeling from the Eurozone crisis, as income growth dampened, demand for transportation of goods will fall, leading to a fall in demand for petrol.
[E] Extract 1 supports that weak economic activity is one of the few factors causing the slowdown in demand for petrol.

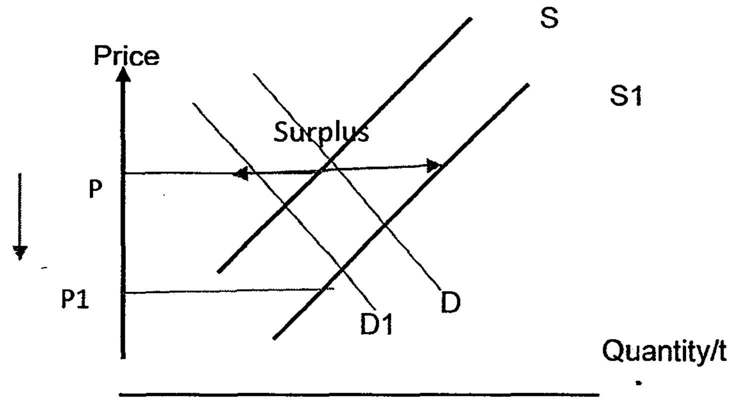
OR

[A] A shift in preference for cleaner energy source has led to a fall in petrol prices.
[C] Due to the availability of renewable energy and the awareness to reduce carbon footprints, more firms and households are slowly switching from traditional fuel to cleaner energy. As such, demand for oil, thus petrol will be dampened.
[E] Extract 1 mentioned the trend of growing number switching to other forms of cleaner energy source.

[A] A rise in US oil production has led to a fall in petrol prices.
[C] US's shale revolution means that US is using innovative techniques to unlock vast quantities of oil from shale rocks, causing excess supply to the rest of the world. Since marginal cost of production of petrol has fallen, supply of petrol would have increased.
[E] Extract 1 supports the success of US's shale revolution to allow US to overtake Saudi Arabia as the largest oil producer.

[A] <u>Given a rise in supply and a **fall** in demand on petrol</u>, petrol prices will fall.

[C] As seen in Figure below, the rise in supply to S1 for petrol and the fall in demand to D1 for petrol will cause a surplus at existing equilibrium price P, leading to a downward pressure on price. Given the price inelasticity of both demand and supply, the fall in price is significant.



(b) (i) Describe the type of market structure operating in the UK energy market. [2]

The UK energy market is operating as an Oligopoly market structure.[1]

The industry consists mainly of a few large producers. With reference to the Figure 2 , the market place is being dominated by Britain's six largest energy companies [1]

(ii) Explain why firms in the UK energy market are inclined to engage in "possible tacit co-ordination on prices". [3]

Being in an oligopolistic market structure where there are a few large firms each with substantial market share and they are of close rivals, the UK energy firms tend to avoid price competition because they are mutually interdependent and there is no incentive to do so. Any form of price cutting would mean an erosion of revenue as competitors will match such price cuts to prevent a loss of market share and any attempt to raise price will likewise see a fall in total revenue as competitors are unlikely to follow suit. [2]

On the other hand, given the market power the firms have, they are able to collude as a cartel to fix price at a level close to the level that would be expected from a monopoly. [1]

(c) Discuss the view that Singapore "was supposed to have been a winner from the low oil prices". [8]

Approach: Falling oil prices seem to bring about positive impact on Singapore's economic growth since Singapore is a net importer of oil. However, as mentioned in Extract 4, Singapore's oil industry with oil-related firms such as oil rig and marine companies involved in oil exploration (inferred) may be directly affected by the falling oil prices. The use of AD-AS model will be needed to explain the effect of falling oil prices on economic growth and thereby conclude if Singapore would have been a winner from the low oil prices.

Thesis: Falling oil prices can have positive impact on Singapore's economic growth

Development 1:

- [Extract 4, Para 1] Many industries in Singapore such as airlines, transport and shipping companies and manufacturers of chemical products use crude oil to process many types of manufacturing goods, and these sectors contribute much to the economic growth in Singapore via exports. The lower crude oil prices cause cost of production to fall as input prices fall, promoting more of such industrial production in the economy. As Aggregate supply rises due to the lower cost of production, prices of goods and services from these sectors will fall, leading to a rise in quantity demanded for exports of goods and services. Given Ep>1, this will lead to a rise in export earnings, resulting in a rise in national income.

Development 2:

[Extract 4, Para 1] suggested that for the end consumer, relief has come through in the form of smaller electricity bills and petrol costs.
As price of crude oil falls, cost of producing electricity and petrol will fall. This will lead to cost savings passed to end users of electricity in houses and individuals who drive for instance. Given that Ep < 1, a price drop in electricity and transport will cause a less than proportionate rise in quantity demanded, resulting in a fall in consumer expenditure. As mentioned in Extract 4, the cost savings from electricity and petrol spending will enable consumers to have more disposable income for domestic consumption of other goods and services. As induced C rises, it leads to a movement along AD as well and therefore national income rises.

[Evaluation for thesis above] The effect on national income via increased in C is not very significant [Extract 4: higher spending resulted in an increase of about 0.2-0.4 per cent in Singapore's economic growth].

Anti-thesis: falling oil prices may have adverse impact on Singapore's economic growth
If the rapidly declining oil price is evident slower growth/recession in the global economy [Extract 4, Para 2], then the current slump in oil prices may not prop up consumer spending in the manufacturing sectors. In this case, the slump in global trade is likely to negate the benefits of cheaper oil.

As Singapore is hit by weaker global economic condition, industries such as the petrochemical industry has seen a decline in export revenue due to lower global demand. Therefore even with cheaper input prices leading to such industries offering their goods more price competitively, the gains may be offset by a fall in demand for their goods. Instead of seeing a rise in national income, the fall in demand for overall exports would have contributed to a fall in AD, thus a fall in national income via multiplier.

Singapore's economy is exposed to the entire supply chain of oil, from marine industry to the petrochemical sector. [Inferred evidence]. Sustained lower oil prices have dampened oil related activities such as oil exploration and rig-building in the oil industry in Singapore [Extract 4] .As demand for crude oil falls, the demand for oil exploration and oil rig building will fall since these are derived demand. With a fall in demand for export of these services, AD will fall, causing a fall in national income via multiplier. Job losses are expected as well, mentioned in Extract 4, since labour is demand derived.

Synthesis and conclusion:

(Stand, Summary) In Singapore itself, businesses and households outside of the oil and gas sector have on the whole benefited from lower cost of living from lower utility and fuel-related costs. For example, those in the chemicals sector, airline and shipping companies have benefitted from cheaper fuel, which on the whole has helped to spur the economy.
(Special) As to whether Singapore will emerge as a winner from low oil prices depends largely on what leads to the falling oil prices. If the falling price of oil is largely due to a lower demand for energy, then Singapore may not benefit to the full extent due to the sluggish economy. Ultimately, falling oil prices is seen as a mixed bag for Singapore's economy but with more believing that a supply-driven drop in oil prices would then render Singapore a winner, particularly to net oil importers like Singapore.

(d) Discuss whether the set of reforms recommended by Ofgem in the energy market is justified. [10]

Introduction:

The set of reforms recommended includes i) breaking up of the Big Six ii) to ban differential pricing in terms of 3rd degree price discrimination and getting rid of pricing complexity such as discounts to allow more transparency. In the context of UK's energy market, it is dominated by 6 largest firms which highlight the presence of huge market power thus the accusation of profiteering and consumers paying more for energy power despite falling oil and fuel prices. Therefore the justification is centred mainly on <u>consumer welfare.</u>

<u>Thesis: Breaking up the Big 6 and introducing more competition will help to lower prices for consumers</u>

[A] Figure 2 suggests that the UK energy market is oligopolistic and also from Extract 2, it also suggest the presence of cartel formation through price fixing. Therefore breaking up the Big Six in order to reduce market power is justified.

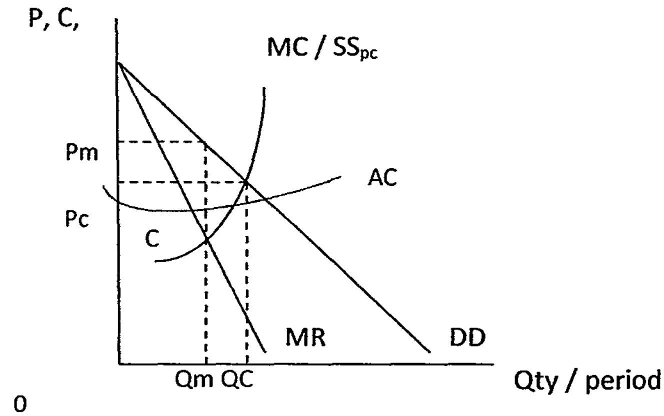
[C, E] As seen in Figure A below, a profit maximising UK energy firm will produce at the point where the rising marginal cost (MC) will intersect with marginal revenue (MR) curve at Qm and therefore charge at Pm, way above the marginal cost. Given the inelastic demand for energy, the price charged to consumers will be much greater. Despite the falling fuel prices, it is very likely that energy companies will continue to charge at Pm through forming a cartel [Extract 2] and behaving as close as a monopoly in terms of pricing. At Qm, total revenue will therefore be given by 0PmQm while total cost is 0PcCQm. This explains the huge profits enjoyed by energy companies as mentioned in Extract 2.

As a result, Ofgem recommends that the deregulation will allow greater competition to protect consumer welfare. Having more competition will bring the market closer to perfect competition market outcome by making the demand for energy power more elastic and therefore reducing the price from Pm closer to Pc.

<u>Thesis: Breaking up the Big 6 will help to improve productive and dynamic efficiency</u>

Greater competition will also ensure greater discipline in managing costs rather than remaining complacent therefore reducing productive inefficiency as well. This drives energy prices down and thereby increasing the level of consumer welfare. Greater competition may also motivate energy producers to conduct more R&D to develop more environmentally friendly and efficient sources of energy as part of product differentiation, leading to better and more energy choices for consumers, raising their level of consumer welfare.

Figure A



[Anti-thesis for breaking up the Big 6]

The extent to which consumer welfare can be increased via lower prices is limited in the context of energy market because as the top 6 UK energy firms are able to reap substantial amount of economies of scale (EOS) compared to the smaller energy retailers in the market, which allows them to enjoy lower average costs of production. By breaking up the Big Six, these firms may not be able to reap much EOS as before hence with a higher marginal cost, the consumers may end up paying more for now despite the greater competition in the market.

In the energy industry, MES is usually high relative to market share hence competition could result in wastage of resources. Eventually, some especially the smaller energy firms will have to exit unless the government covers the losses but then this will further lead to the wastage of resources. The top 6 UK energy firms will regain their market share, providing them with greater ability to restrict output and control prices once again.

Furthermore, the loss of market share due to the entrance of more firms may dampen profit margins, reducing the ability of energy providers to engage in R&D and in the process leading to possible lower consumer welfare in the long run. The lack of incentive and ability to engage in R&D may result in productive inefficiency, causing cost of providing the electricity to increase.

This is supported in Extract 3, whereby the lack of meaningful competition could mean many of them are paying as much as £250 a year too much and also with a risk of suppliers cutting back on investment in the long term.

Other suggested points forming the thesis: Removing the complex pricing will help consumers make more informed choices

Ofgem also decided to get rid of the complex pricing structure that each energy firm has implemented so that imperfect information can be reduced. [Extract 3]

By helping consumers making more informed choices in terms of choosing the tariff contract that best suit their needs, consumer welfare can be increased.

Removing differential pricing means the energy firms can no longer practice 3rd degree price discrimination. With firms no longer being able to earn higher profits from 3rd degree PD, it will result in improved equity.

Conclusion:

The claims of Big Six profiteering through market dominance may be valid for Ofgem to intervene mainly to protect consumer's interest, and through these short term measures, consumers would be well protected by paying too much for electricity despite the falling fuel prices. However, it is important to note that the very nature of this industry requires a firm to be large to enjoy substantial EOS; in order to offset the high fixed cost hence breaking up the Big 6 could backfire. Given the context of global warming, the country may need the existence of larger energy firms in order to have the capacity and resources to develop renewable energy and perhaps better technology that could help lower prices in the long run. By recommending this set of reforms can be seen as justified in terms of increasing consumer welfare in the short run but more needs to be thought out carefully to justify them for better long run outcomes.

2016 Prelim H2 Case Study 2

Suggested Answers

(a) (i) Compare the change in China's current account balance with that of the US for the period 2011 to 2015. [2]

The current account balance was consistently in surplus for China whereas for US, it was consistently in deficit. [1]

US current account deficit worsened whilst China current account surplus increased from 2011 to 2015. [1]

OR

However, there is a difference in magnitude: China's current account surplus increased substantially (by 142.9%) during the period whereas US current account deficit worsened marginally (by 5.1%). [1]

(ii) Explain whether the US should be concerned about the changes to her current account balance. [2]

US will be concerned about its current account deficit due to the persistence and size of the deficit. If the size of the deficit is large relative to the country's GDP, the country will not be able to service the deficit and over time, the need to borrow rises eventually leading to debt accumulation. [2]

Such debt financing / accumulation implies that the future standard of living of the country will fall as future incomes will need to be used for debt repayments i.e. borrow to finance current consumption at the expense of future living standards. [2]

Any of the above reasons with clear explanation are acceptable to gain full credit.

(b) Explain whether the US central bank's action of raising the interest rate is justified. [4]

The policy was justified to anticipate and prevent imminent demand-pull inflation. Extract 1 'domestic consumer spending has continued to rise and investment by firms have risen' suggested that there will be continued pressure for AD to increase in the successive quarters. Since the economy is operating near the full-employment level, any further increase in AD will lead to a sustained increase in the general price level. [2]

It may not be justified since the rate of inflation of 0.1% in 2015 is low, far from the central bank's 2% target. Moreover, the current account balance has worsened in 2015 which will also dampen the rise in AD caused by the rise in C & I. [2]

(c) Explain how the slowdown in China's economic growth will affect its government budget balance. [4]

As the economy slowed down from 9.5% in 2011 to 6.9% in 2015, China's government budget balance as a percentage of GDP worsened from an initial budget surplus of 0.1% of GDP in 2011 to a budget deficit of 2.6% of GDP in 2015 or widened the budget deficit to about 3%.

The budget balance has worsened due to a fall in government revenue and a rise in government expenditure. From Extract 6, China's slowdown has 'add pressure on policymakers to take more steps to ward off a sharper slowdown'. This implies that the fall in C, I, G or (X-M) may have been countered somewhat by China's effort to lean more on fiscal policy to support growth this year. This will result in a fall in government revenue as a result of tax cuts. There is also an increase in government expenditure as a result of "increased spending on infrastructure".

(d) With reference to the data, discuss the likely impact of China's monetary policy (Extract 6) on the Singapore economy. [8]

<u>Introduction</u>
China adopted an expansionary monetary policy approach which aims to boost actual economic growth via cutting interest rates (Extract 6: 'Central bank may still need to ease monetary policy'). With lower interest rate, the return to savings will be lower, so households will be encouraged to raise consumption (C) of domestic goods and services and imports.

<u>Impact on Singapore BOP</u>
Current Account Balance
With the lower interest rate in China, consumption of imports from Singapore will rise. Since China is Singapore's top trading partner, demand for Singapore exports will rise and assuming import expenditure remains unchanged, there will be an improvement in Singapore's net export revenue and current account balance.

The impact on the current account balance will be significant since China is Singapore's largest export market, making up 13.8% of total Singapore exports according to Extract 8.

<u>Evaluation</u>
In China, the central bank adopted a managed-float exchange rate regime where it may allow the currency to depreciate in value as a result of the increase in the supply of Chinese yuan in the forex market (short-term capital outflows as

investors search for higher rate of returns overseas) to boost her export competitiveness in view of China posting its 'weakest economic growth in the fourth quarter of 2015'.

Due to the weaker Chinese yuan, the price of Singapore exports in terms of Chinese yuan will increase. So the Chinese consumers will purchase less of the Singapore exports, causing demand for Singapore's exports to fall. This results in a fall in export revenue.

On the other hand, the residents of Singapore will now find imported goods (e.g. China) cheaper in terms of S$. This leads them to purchase more foreign imports. If demand for imports is price elastic, expenditure on imports (in S$) will rise as there will be a more than proportionate increase in quantity demanded for imports. With export revenue falling and import expenditure rising, current account worsens.

Higher interest rate in the US means higher returns to savings, so households may save more instead of buying imports from Singapore, so the net improvement in Singapore current account balance may not be significant.

Capital Account Balance
If China buys more exports from Singapore and net export revenue rises, boosting Singapore economic growth since China is her largest trading partner and export revenue is a large component of Singapore GDP, the positive business outlook may spur capital inflows.

<u>Evaluation</u>
However, from Extract 7, there are 'risks of potential capital flight that could result from fears of further economic slowdown in China'. China's economic slowdown may lead to poor business outlook by foreign investors on the Singapore economy due to the country's high dependence on China as an export market. This may result in **long-term capital flows** out of Singapore to other developed markets such as US which has a lower reliance on trade.

From Extract 7, there are 'risks of potential capital flight that could result from further US rate hikes'. As US real interest rate increases, rewards earned by the owners of USD-denominated capital will increase. There will be **short-term capital flows** into the US from Singapore as funds in Singapore chase after the relatively higher rate of returns in USD-denominated financial assets.

<u>Overall impact on BOP</u>
Depends on the impact of China's expansionary monetary policy on its exchange rate which affects price competitiveness of Singapore exports.

<u>Impact on EG, Unemployment & Inflation</u>

Extent of impact on economic growth, employment will depend on the extent of the rise in (X-M). If the net export revenue rises, it will result in a rise in AD and at the initial equilibrium national income level, firms in the export sector will experience a fall in unplanned inventories. Firms will raise production and employment of resources causing the national income to rise by a multiplier and a fall in demand-deficient unemployment.

The extent of the rise in real GDP will depend on the initial state of the economy. From Table 1, Singapore's unemployment rate is at 2.8% in 2015 which suggests that Singapore is operating close to the full employment level. Therefore, the rise in AD is likely to lead to inflationary pressure. However, the impact may be cushioned by 'public-sector construction activities' (Extract 3) which help to boost potential growth.

Conclusion

China easing of monetary policy may result in a rise in purchase of imported goods and services from Singapore, boosting Singapore's trade balance, economic growth, and employment. However, the extent of the impact on Singapore economy will depend on the effect of the fall in interest rate on the Yuan which in turn will affect Singapore's export competitiveness. The rise in US interest rate may also have a negative impact on the Singapore economy since Singapore is an interest rate taker.

(e) Assess the effectiveness of China's supply-side reforms in facilitating a smooth transition to a knowledge-based economy. [10]

Introduction

A knowledge based economy places more reliance on intellectual capabilities like creativity and innovation to produce products that are more knowledge intensive. These products will be of higher value and so generate more exports revenue and economic growth.

Explain the impact of China's supply-side reforms

Impact of corporate tax cuts and infrastructure upgrade and effectiveness

From Extract 7, the cut in the corporate tax would lead to capital accumulation as it encourages both domestic and foreign direct investments (FDI). Local and foreign firms find it more attractive to invest in the country because they are able to retain a relatively larger portion of their profits earned (i.e. higher expected rate of return). FDI in the capital and service industries will help China to transit faster into the knowledge based economy.

The government also directly spends on 'upgrading the information and communication technology (ICT) and R&D infrastructure' which will increase the capital stock and productive capacity.

By boosting G and I, AD will rise, resulting in a multiplied rise in national income, hence achieving actual growth in the short-run. AS will also increase as there is increased accessibility and connectivity within China and with the rest of the world via an upgrade to the 'ICT and R&D infrastructure'. This will reduce business costs and improve productivity. Moreover, it will enhance the competitiveness of firms and attract FDI to invest in the knowledge-based economy. In addition, the growth in labour productivity from using better machineries and/or technology will raise the output produced per man hour and productive capacity.

However, as China is a large country, an effective ICT infrastructure will be very costly and will take time to develop. Moreover, both domestic entrepreneurs and foreign firms may be hesitant to invest if they are not able to rely on the 'clear rule of law and property rights' to protect the proprietary knowledge created.

Impact of removing barriers to encourage domestic entrepreneurship and FDI and effectiveness

With the removal of barriers such as limits on foreign ownership, complex rules, and regulations to start a new business and screening procedures on inward FDI, both local and foreign enterprises would now find it easier and more profitable (lower bureaucratic costs) to invest in different sectors of the economy, bringing much needed capital, skills, and technology.

The advantage of relying more on FDI in addition to domestic sources of capital accumulation is that FDI not only often brings in foreign capital, but also foreign technology and knowledge which can be transferred to the local workforce and facilitate China's transition to a knowledge-based economy.

Impact of privatization and its effectiveness

From Extract 6, the government 'strive to privatize big, highly inefficient state-owned enterprises into market-oriented institutions'. The profit motive of private firms would lead to greater efficiency in production as these firms would look to reduce costs and develop better quality goods and services to increase profits. Market-oriented institutions will be more competitive as they are profit maximisers as compared to state-owned enterprises which may be X-inefficient as they are less profit-driven. These private firms also have higher tendency to innovate and move into growth industries such as the knowledge based industries.

However, privatisation of state owned enterprises may lead to higher unemployment as excess workers might be laid off to cut costs to stay competitive. In addition, the inefficient state firms may be unable to compete and face a declining industry. This will result in unemployment as firms' demand for labour falls. Thus, the Government will need to come up with retraining program to equip workers with the requisite skills in order to enable them to move into the growth industries such as the knowledge based industries.

Impact of education reforms and effectiveness.
Even though literacy rates had soared with higher spending on education, there is still overemphasis on knowledge transfer rather than the development of imaginative and creative capabilities. To move into a knowledge based economy, it is insufficient to just have the infrastructure but the soft-skills are needed as well. Without the skilled manpower, it will be difficult to move into an economy that relies on knowledge to create value.

Education will improve the skills of the workforce, increase their ability to adapt to new knowledge and improve productivity. However, education takes time and China will have to upgrade its curriculum to focus on imagination and creativity, without which it is difficult to transit into a knowledge based economy.

Conclusion

Whilst the supply side reforms provide some impetus for the transition into the knowledge based economy, more specific policies need to be implemented to enable China to move into a knowledge based economy.

The Chinese government needs to identify the type of knowledge based industries that the country is moving into and provide the institutional supports such as an advanced financial system, good network of high speed ICT infrastructure, educational reforms with a focus on innovation and creativity to develop a pool of skilled workforce. However, there may be huge inertia for state-owned enterprises to embrace the reforms due to their private interests. In addition, these policies often have a long gestation period and require a large financial outlay which will worsen China's budget balance.

Based on the case evidences, the effectiveness of the policies in helping China to transit into a knowledge based economy is limited.

2016 JC 2 PRELIMINARY EXAMINATION

H2 ECONOMICS – PAPER NO.9732/02

1 September 2016 8am - 10.15am

Thursday 2 hours 15 min

Additional Materials: Answer Paper

READ THESE INSTRUCTIONS FIRST

Write your name and class on all the work you hand in.

Write in dark blue or black pen on both sides of the paper.

You may use a soft pencil for any diagram, graphs or rough working.

Do not use staples, paper clips, highlighters, glue or correction fluid.

Answer **three** questions in total, of which **one** must be from Section A, **one** from Section B and **one** from **either** Section A or Section B.

Start each question on a **FRESH** sheet of paper.

At the end of the examination, fasten your work securely, by question, using the strings provided.

The number of marks is given in brackets [ ] at the end of each question or part question.

Answer **three** questions in total.

Section A

One or two of your three chosen questions must be from this section.

1 Scotland's new food authority is prepared to take the hard-line on tackling obesity, with a sugar tax on sugary drinks and food, junk food tax and junk food advertising ban under consideration.

(a) Explain what is involved in rational decision-making both by consumers and by firms. [10]

(b) Assess whether governments necessarily fare better than the free market in resource allocation for goods with high sugar content. [15]

2 Amidst rising income, the Malaysian government implemented Goods and Services Tax (GST), which is a broad-based 6 percent tax on goods and services.

Source: Adapted from *The Straits Times and The Star Online,* 2015

Assess the impact of the above-mentioned changes on the market for different goods in Malaysia. [25]

3 The US courier and parcel delivery services industry has a combined annual revenue of about $90 billion and is steadily growing in the last few years. The major players are UPS, FedEx, DHL, Yamoto Holdings and TNT Express, who are constantly trying to obtain a bigger share through mergers and acquisitions.

(a) Explain the characteristics which determine the market structure that the courier companies operate in. [10]

(b) Discuss the extent to which actions of their rivals is the main factor affecting the behaviour of the firms. [15]

Section B

One or two of your three chosen questions must be from this section.

4 **(a)** Using AD-AS analysis, explain the possible relationships between inflation and unemployment. [10]

(b) To what extent do you agree that unemployment in the country affects the standard of living of the average Singapore citizen? [15]

5 United Kingdom's trade deficit with EU has hit £23.8 billion in the three months to February, 2016 while overall trade deficit with the rest of the world widened to £13.7billion, the biggest since March 2008.

Source: *The Daily Mail*, April 8, 2016

(a) Explain the adverse impact of a rising trade deficit on an economy. [10]

(b) Discuss whether demand management policy is the best way to address the economic problems caused by a rising trade deficit. [15]

6 The small island nation of 5 million people boasts the world's second-busiest seaport, a far higher per-capita income than its former British overlord, and a raft of number-one rankings on lists ranging from least-corrupt to most-business-friendly countries. So long as globalisation continues, Singapore thrives.

Source: Adapted from *TIME,* 28th May 2014

Discuss the extent to which globalisation has helped Singapore to achieve her economic aims. [25]

Essay Question 1

Scotland's new food authority is prepared to take the hard-line on tackling obesity, with a sugar tax on sugary drinks and food, junk food tax and junk food advertising ban under consideration.

(a) Explain what is involved in rational decision-making both by consumers and by firms. [10]

(b) Assess whether governments necessarily fare better than the free market in resource allocation for goods with high sugar content. [15]

Suggested answer to Part (a)

Introduction

All economies face the problem of scarcity, a situation where there are unlimited wants but limited resources. Thus, choices have to be made for the best allocation of resources in an economy. Similarly, consumers and firms also face constraints and thus must also make choices. As opportunity cost is incurred when making choices, societies will choose the particular assortment of goods and services with the objective of gaining the highest level of satisfaction with the least possible cost. Both consumers and firms makes rational decision where they aim to maximise their self-interest. In the case of consumers, utility maximisation while in the case of firms, it is profit maximisation. This can be achieved by weighing up the opportunity cost arising from an activity against the benefits, by considering the marginal effects of change.

Development - Marginalist principle applied to consumers
A rational consumer seeks to maximise net total benefits from consuming a good. Rational decision-making by consumers involves considering the marginal benefits and the marginal costs of consuming the good. The marginal benefit is the satisfaction derived from consuming an additional unit of the good while the marginal cost is the price paid for the good.

A rational consumer will buy an extra unit of a good as long as marginal benefit exceeds the price of the good because it increases the level of net total benefits from consumption i.e. consumers will consume up to the point where MB=P where the total net benefits are maximised. Consumers will not consume the additional unit where MB is less than prices as it lowers the net total benefits from consumption.

Since rational consumers will buy a product only if the MB exceeds or is at least equal to the price paid for it, it follows that the demand curve in a market represents the MB that consumers derive from consuming an extra unit of the good.

Development 2 – Marginalist principle applied to firms

A rational firm seeks to maximise total profits from the production and sale of a good. Rational decision making by firms means that firms will base their output decision on the marginal revenue and marginal cost. In deciding how many units of a good to produce, a profit maximising firm will produce up to the point where the additional cost from producing one additional unit of output equates the additional revenue from selling it.

A rational firm will produce and sell an extra unit of a good as long as MR > MC. Because this means that by producing that unit, there will be bigger addition to revenue (MR) than to cost (MC) and total profits will increase given that marginal profit is positive. When production by the firm is at an output where MC exceeds MR, producing that add more to cost than to revenue and hence reduce profit. Firms' profits can be increased by cutting back on production since marginal profit is negative. Firms thus produce up to the point where MR=MC where the total profit is maximised.

In perfect competition, MR=P. This means that the firms produce up to the point where P=MC. This also means that the firm's supply curve for the good, reflects the MC of the good.

Conclusion

The marginalist principle is adopted by both consumers and firms when they attempt to maximise their self-interest. When resource allocation is left to the price mechanism, goods are produced up to the point where demand matches supply. Since demand reflects MB and supply reflects MC, at the market equilibrium point, where demand matches supply, MB=MC and society's welfare is maximised.

Suggested answer Part (b)

Introduction

Allocative efficiency is achieved when the right amount of the right goods are being produced and productive efficiency occurs when the output is produced at the lowest cost. Under strict assumptions of perfectly competitive market, and for which no externalities are present, the interaction between rational producers and consumers result in an allocative efficient outcome and society welfare is maximised. However, should the market fail due to the presence of information failure or externalities, then the resource allocation will not be efficient and government intervention may result in a better outcome.

Thesis: Government may fare better

(1) Market fails as food with high sugar content is a form of demerit good

Food with high sugar contents tend to be over consumed due to consumer ignorance on the long term future costs to himself e.g. potentially high medical bills and lower quality of life when diagnosed with diabetes. Consumers over-value the true marginal benefits of consuming sugary foods and thus results in a divergence between his perceived marginal value and the true marginal value from consumption of these sugary foods. Demand is higher than the level that is socially desirable and can foods with high sugar contents can be over-consumed and produced if left to the free market.

Rational decision making by consumers who consume by considering only their own private cost and benefit may not generate the socially optimum level of consumption due to the presence of externalities. In the case of the market for foods with high sugar content, there are likely to be negative externalities, which are costs of consumption experienced by parties other than the producers or consumers themselves. For example, the consumption of junk food leads to higher occurrence of obesity, which is usually accompanied by a host of diseases, less productive labour force.

With the presence negative externalities, marginal social benefits is lower than marginal private benefits. As a result, decision based on private marginal costs and benefits will result in over consumption of the good. Too much resources are allocated to the production and consumption of these junk food.

(2) Government intervention leads to allocative efficiency

Intervention by the government achieves the socially desirable outcome. For example, the tax on junk food is likely to raise the cost of production and thus the shift MPC to MPC_1. Ceteris paribus, the higher price causes consumers to reduce consumption to socially ideal level of Q1 and government thus fare better resources are better channelled to other markets and the deadweight loss to society is removed.

Likewise, advertising ban may limit the misinformation and "correct" the perception of these foods, causing the demand for these high sugar content foods to fall back to a more accurate level of MPB (true).

Anti-thesis: Government may not fare better

Government intervention may not always lead to an improved outcome compared with the free market. Government intervention may sometimes exacerbate a problem or produce unintended negative results making the cost of government failure considerably greater than the cost of market failure.

Whether or not government fares better depends on various factors;

(1) Imperfect Information

- One factor which would affect the level of success of the government, even if it intervenes in the market with the intent of correcting market failure, is the accuracy of information. In the absence of perfect information to use when correcting the market failure, government may create more inefficiencies.

- For example, one solution to the overconsumption problem is to introduce indirect tax to raise MPC so as to get consumers to cut back consumption of high sugar content foods towards the socially optimum level. Without accurate information on the level of externalities and PED value, the government is not able to determine the indirect taxes required to bring the consumption level exactly to the socially optimum level.

- The government may overestimate the tax required, shifting the MPC to MPC_2. The new private equilibrium output will be at Q_2, lower than the socially optimum amount Q_S. The overcorrection therefore creates a new deadweight loss of abc. Should the new deadweight loss abc exceed the original deadweight loss of area xyz , government intervention makes the society worse off.

(2) Choice of policy considering the root cause of the failure and the trade-off

In addressing the market failures in the market for food with high sugar contents, the choice of policy is crucial in determining its success.

Equity

- In correcting the market failure using tax, government may end up worsening the problem of inequity. It is widely known that the poor spends a large proportion of their income on the "junk food" (for a few reasons, these foods tend to be relatively cheaper in both monetary terms and preparation time for these low income who takes on multiple jobs to survive). Therefore, a tax which artificially raises the market price may affect the low income more adversely than the high income who are not the main consumers, thereby achieving efficiency at the expense of equity.

Root cause of market failure

- While both negative externalities and information failure are possible causes of the overconsumption of the foods with high sugar content, to fare better than the market, the government has to address each of the 2 sources of failure in a targeted fashion. For example, between taxing unhealthy food and subsidising the healthier food option, the impact of the latter may be more effective in moving the low income towards the healthier food choices.

- Likewise, given that children are the main victims of the overconsumption of high sugar content food and drinks, it may be more effective to introduce campaigns which shift their tastes and preferences by educating them on the damage and longer term implication of consuming these goods than to simply regulate the advertising ban.

(3) Administrative costs

Even if there were no serious information imperfection problem, government intervention can also produce inefficiency when administrative cost is high. Following from the above example, administrative cost of an indirect tax could include the wages paid to tax officers to monitor the companies. The reduction in deadweight loss from the cutback in consumption has to be weighed against the administrative cost incurred in the intervention. Should the administrative cost exceed the reduction in deadweight loss arising from overconsumption, government intervention makes the society worse off.

Synthesis and Conclusion

Weighing up the various factors, government is likely to fare better than market forces in the market for foods with high sugar content. There exists no visible incentives for firms to cut back on the production and sale of these high sugar foods or produce an equally priced healthier option for the market without clear government signals through intervention. If the government can collaborate with the firms to market fairly priced healthier food options and encourage the children in schools to eat healthily through, it might be more effective than market distorting measures such as taxes or politically unfavourable ones such as advertising bans.

Essay Question 2

Amidst rising income, the Malaysian government implemented Goods and Services Tax (GST), which is a broad-based 6 percent tax on goods and services.

Source: Adapted from The Straits Times and The Star Online, 2015

Assess the impact of the abovementioned changes on the market for different goods in Malaysia. [25]

Suggested Answer

Introduction

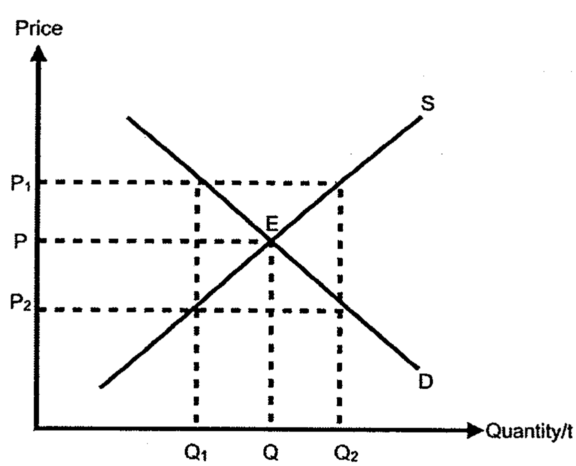
To analyse the impact of the abovementioned changes on the market for different goods, I would make use of the demand and supply model along with elasticity concepts to aid in the analysis of what happens to the markets in terms of price, quantity, and expenditure, which is equals to price multiplied by quantity. The impact on different markets would differ based on the type of goods they are.

Body:

(If the explanation of the demand-supply model and elasticity is weaved into the explanation in the body paragraphs below, it's also acceptable)

The demand and supply model enables us to determine the equilibrium price and quantity of the market.

Demand is the willingness and ability of consumers to purchase a given good at a given price in a given time period, ceteris paribus. Supply is the willingness and ability of producers to provide a good for a sale at a given price, in a given time period, ceteris paribus. The intersection of the demand and supply curves will give us the equilibrium price and quantity.



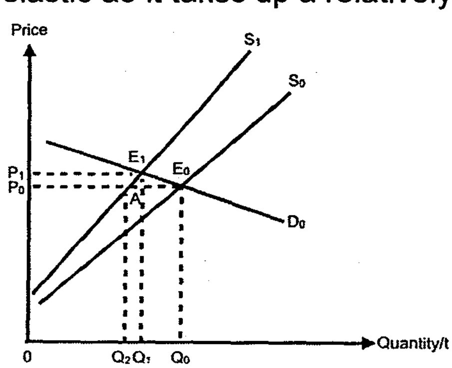
In the above diagram, the market equilibrium point is at point E, where demand curve D intersects supply curve S, giving us equilibrium price P and quantity Q. If price is at P_1, quantity demanded will be Q_1 and quantity supplied will be Q_2, causing a surplus of Q_1Q_2. This will lead to a downward pressure on price, until equilibrium is obtained again where demand equals supply. Similarly, if price is at P_2, quantity demanded will be Q_2 and quantity supplied will be Q_1, causing a shortage of Q_1Q_2. This will lead to an upward pressure on price, until equilibrium is obtained again where demand equals supply.

In order to analyse the impact on different markets, we will also make use of elasticity concepts, namely price elasticity of demand and income elasticity of demand.

Price elasticity of demand (E_P) measures the responsiveness of quantity demanded of a good to a change in its price, ceteris paribus. Demand for a good can be price inelastic or elastic. The main factors affecting price elasticity of demand of a good are firstly number and closeness of substitutes, and secondly, proportion of income spent on the good. The greater the number and closeness of substitutes, the more price elastic the demand for the good. Similarly, the greater the proportion of income spent on the good, the more price elastic the demand for the good.

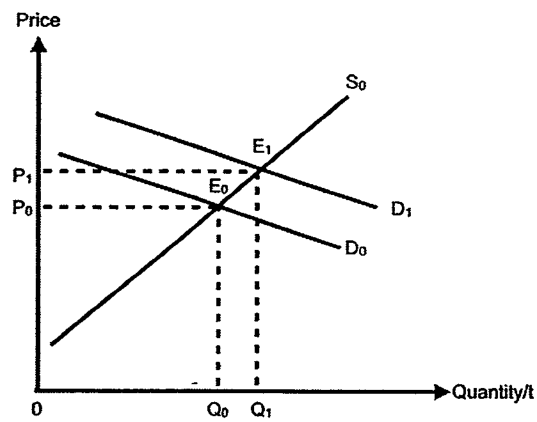
Income elasticity of demand (E_Y) measures the responsiveness of demand to a change in income, ceteris paribus. There can be 3 types of goods, which are inferior, necessity and luxury goods. For inferior goods, an increase in income will lead to a fall in demand. For necessities, an increase in income will lead to a less than proportionate increase in demand. For luxury goods, an increase in income will lead to a more than proportionate increase in demand.

Market 1: Branded bags (Luxury good)
When GST is implemented, it will affect the market through the supply curve. GST will cause the marginal cost of production for branded bags to increase, represented by an upward shift of the supply curve, which will cause equilibrium price to increase and equilibrium quantity to fall. The impact on total expenditure will depend on the price elasticity of demand for branded bags. The demand for branded bags is price elastic as it takes up a relatively huge proportion of consumers' income.



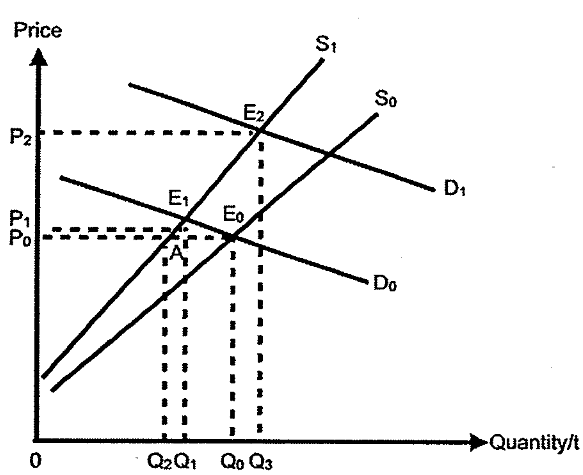
The initial equilibrium was at point E_0, where equilibrium price was P_0 and quantity Q_0. Implementation of GST will cause supply to shift leftwards from S_0 to S_1. At the initial equilibrium price of P_0, quantity demanded is Q_0 and quantity supplied is Q_2, resulting in a shortage of Q_0Q_2. Frustrated consumers will be willing to pay higher prices and quantity demanded will fall, as fewer consumers are willing and able to pay a higher price. This price signal to the producers will cause them to increase the quantity supplied. Quantity demanded will fall and quantity supplied will increase until demand meets supply again at point E_1, where equilibrium price is P_1 and quantity is Q_1. Given the price change of P_0P_1, we can see from the diagram that there is a more than proportionate change in quantity demanded of Q_0Q_1. The decrease in total expenditure resulting from a fall in quantity demanded ($Q_1AE_0Q_0$) is greater than the increase in total expenditure resulting from an increase in price ($P_1P_0AE_1$). Thus, total expenditure has fallen.

When there is an increase in income, it will lead to a more than proportionate increase in demand for branded bags, which are items that Malaysian consumers can do without during periods of falling income.



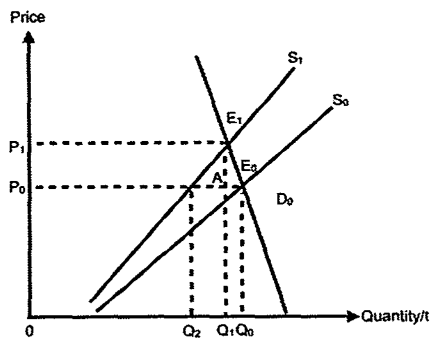
Initial equilibrium is at point E_0, with equilibrium price P_0 and quantity Q_0. An increase in demand is represented by a rightward shift of the demand curve from D_0 to D_1. This will cause a shortage and upward pressure on price, causing price to increase to P_1 and quantity to Q_1. The resultant impact will be an increase in total expenditure from $0P_0E_0Q_0$ to $0P_1E_1Q_1$.

Implementation of GST has caused expenditure to fall while increase in income has caused expenditure to rise. If the extent of increase in demand (from D_0 to D_1) is greater than the extent of fall in supply (from S_0 to S_1), then we will see an increase in total expenditure from $0P_0E_0Q_0$ to $0P_2E_2Q_3$



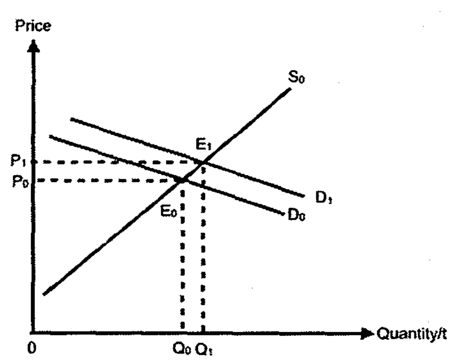
Market 2: Canned Food (Necessity good)

Similar to the market for branded bags, implementation of GST will cause the marginal cost of production for canned food to increase, represented by an upward shift of the supply curve, which will cause equilibrium price to increase and equilibrium quantity to fall. The impact on total expenditure will depend on the price elasticity of demand for canned food. Canned food has limited substitutes that offer as much convenience and therefore, its demand is price inelastic.



The initial equilibrium was at point E_0, where equilibrium price was P_0 and quantity Q_0. Implementation of GST will cause supply to shift leftwards from S_0 to S_1. There will be a shortage of Q_0Q_2 and prices will increase from P_0 to P_1. Given the price change of P_0P_1, we can see from the diagram that there is a less than proportionate change in quantity demanded of Q_0Q_1. The decrease in total expenditure resulting from a fall in quantity demanded ($Q_1AE_0Q_0$) is smaller than the increase in total expenditure resulting from an increase in price ($P_1P_0AE_1$). Thus, total expenditure has risen.

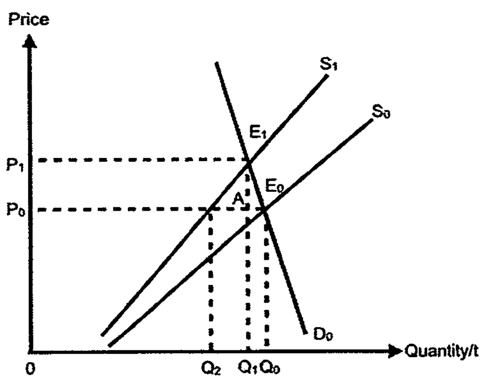
When there is an increase in income, it will lead to a less than proportionate increase in demand for canned food, which is deemed a necessity by Malaysians.



Initial equilibrium is at point E_0, with equilibrium price P_0 and quantity Q_0. An increase in demand is represented by a rightward shift of the demand curve from D_0 to D_1. This will cause a shortage and upward pressure on price, causing price to increase to P_1 and quantity to Q_1. The resultant impact will be an increase in total expenditure from $0P_0E_0Q_0$ to $0P_1E_1Q_1$.

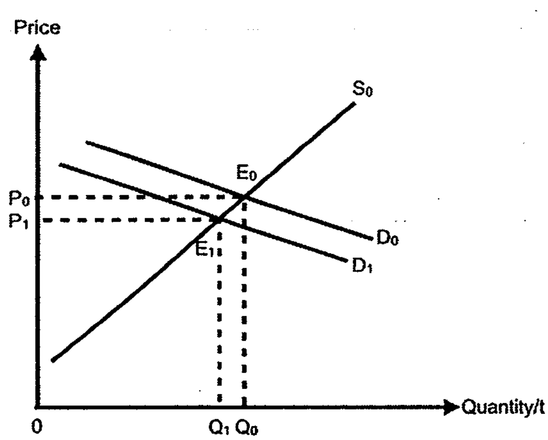
The combined effect of GST and increase in income on the market for canned food is that total expenditure will definitely increase.

Market 3: Non-smart phones/TVs (Inferior good)
Implementation of GST will cause the marginal cost of production for non-smart phones/TVs to increase, represented by an upward shift of the supply curve, which will cause equilibrium price to increase and equilibrium quantity to fall. The impact on total expenditure will depend on the price elasticity of demand for non-smart phones/TVs. Non-smart phones/TVs takes up a relatively smaller proportion of consumers' income so the demand is relatively price inelastic.



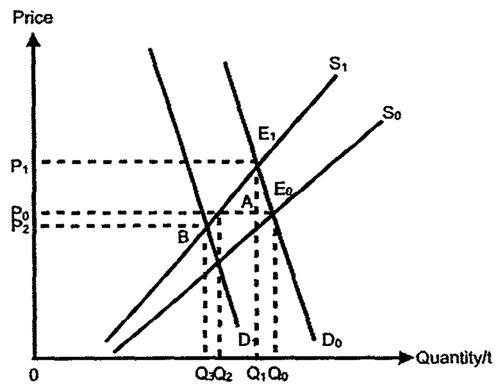
The initial equilibrium was at point E_0, where equilibrium price was P_0 and quantity Q_0. Implementation of GST will cause supply to shift leftwards from S_0 to S_1. There will be a shortage of Q_0Q_2 and prices will increase from P_0 to P_1. Given the price change of P_0P_1, we can see from the diagram that there is a less than proportionate change in quantity demanded of Q_0Q_1. The decrease in total expenditure resulting from a fall in quantity demanded ($Q_1AE_0Q_0$) is smaller than the increase in total expenditure resulting from an increase in price ($P_1P_0AE_1$). Thus, total expenditure has risen.

When there is an increase in income, it will lead to fall in demand for non-smart phones/TVs, which is deemed an inferior good by Malaysians.



Initial equilibrium is at point E_0, with equilibrium price P_0 and quantity Q_0. A decrease in demand is represented by a leftward shift of the demand curve from D_0 to D_1. This will cause a surplus and downward pressure on price, causing price to decrease to P_1 and quantity to Q_1. The resultant impact will be a decrease in total expenditure from $0P_0E_0Q_0$ to $0P_1E_1Q_1$.

Implementation of GST has caused expenditure to rise while increase in income has caused expenditure to fall. If the extent of decrease in demand (from D_0 to D_1) is bigger than the extent of fall in supply (from S_0 to S_1), then we will see an increase in total expenditure from $0P_0E_0Q_0$ to $0P_2BQ_3$



Conclusion

Summary/Stand: The impact on the different markets will differ, depending on price and income elasticity of demand of the various goods. With more information about the impact on supply due to GST and impact on demand due to increase in income, we will then be able to draw a more substantial conclusion about the extent of change in revenue.

Something Special: With the implementation of GST, we would see that the standard of living for the lower income might decrease. For this group of people, the Malaysian government could implement other policies like grants to aid this group of consumers, in order to maintain their current standard of living. This is especially important for Malaysia because there might exist a large group of people who will be affected quite substantially due to the changes

Essay Question 3

The US courier and parcel delivery services industry has a combined annual revenue of about $90 billion and is steadily growing in the last few years. The major players are UPS, FedEx, DHL, Yamoto Holdings and TNT Express, who are constantly trying to obtain a bigger share through mergers and acquisitions.

(a) Explain the characteristics which determine the market structure that the courier companies operate in. [10]

(b) Discuss the extent to which actions of their rivals is the main factor affecting the behaviour of the firms. [15]

Suggested answer to Part (a)

The type of market structure in which courier companies are operating in can be determined by examining the features of the industry, namely – the level of barriers to entry, the number of firms in the industry, the level of information and the nature of product.

In the courier services industry, the level of barriers to entry is high. For example, there are high set-up costs involved to enter the industry because an entrant would have to invest significant capital in purchasing delivery vehicles, planes and distribution warehouses. Potential entrants may not be able to afford this large capital required, or may not be willing to take on the high risk involved should the business fail. As such, potential entrants are deterred, leaving a limited number of firms in the industry.

As stated in the preamble given, there are 5 major players (UPS, FedEx, DHL, Yamato Holdings, TNT Express) in the US courier market. This suggests that there are a few dominant firms which control a large market share. The existence of a few dominant firms also suggests mutual interdependence, as the firms would be responsive to the influential actions of the other major players.

The level of information in the market is not perfect, as consumers do not have perfect knowledge of the quality of services available in the courier market such as the reliability of delivery. Courier firms also do not have perfect knowledge of the delivery processes (technology) of the other firms and their exact factor costs incurred.

While the nature of the service provided by the courier companies may be regarded as largely similar since they all provide delivery of parcels, there is likely to be some degree of differentiation. For example, there may be differences in terms of speed of delivery, or additional features such as the ability to track the parcel.

Therefore, based on the features of high barriers to entry, a few dominant firms which are interdependent, imperfect information and largely homogeneous services with some degree of differentiation, we can conclude that the US courier services market is likely to be an oligopoly.

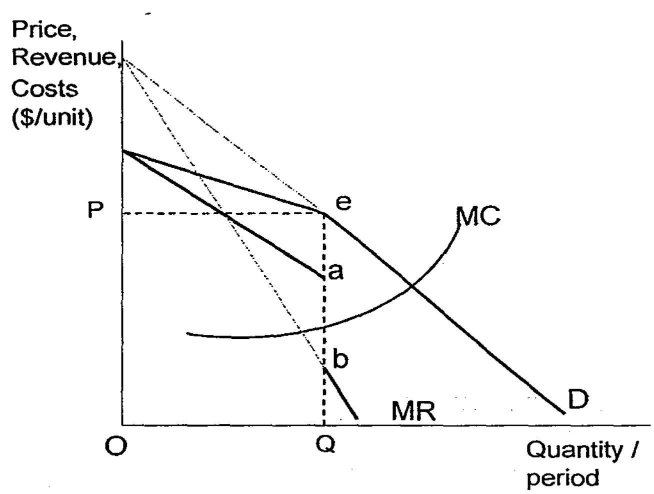
Suggested answer to Part (b)

Introduction

In an oligopoly, firms exhibit mutual interdependence which means that one firm's action will have a significant impact on the other firms and the other firms will respond accordingly. Given that the US courier firms are trying to obtain larger market shares through mergers & acquisitions, it suggests that the industry is operating as a non-collusive oligopoly. Assuming that the firms are profit-maximising, their behavior may be influenced by their rivals' actions and other factors.

<u>Thesis 1: Price rigidity</u>

If the product/service sold by the oligopolistic firms is sufficiently similar, the actions of one firm would warrant a response by the other firms. With this interdependence, firms may find their pricing decisions resulting in price rigidity in the market. This can be represented with the kinked demand curve model.



Assume that initially the market equilibrium price is P. If a firm raises its price above P, rival firms will not follow suit because customers will now increase demand for their products (substitutes) since they have become relatively cheaper. As such, this firm will lose substantial sales and experience a fall in revenue. This means its demand curve is price elastic above P.

If a firm lowers price below P, rival firms will quickly follow with price cuts as they would want to prevent a loss of sales and protect their market share. Being unable to lure customers away from rivals, this firm will see only a very slight increase in sales. This means its demand curve will be price inelastic below P, and this firm would experience a fall in revenue with a reduction of price.

Since both unilateral raising and cutting of price will lead to a loss of revenue, an oligopolist tends to avoid price changes as it takes into account its rivals' likely responses. Hence in an oligopoly, there is generally price stability (or price rigidity) at the prevailing price P.

Instead, oligopolistic firms tend to compete on the basis of non-price strategies like advertising and innovation given their ability to do so due to supernormal profits earned. Even then, firms would be responsive to such actions by their rivals as it would significantly impact the firm's demand, where the firm would likely respond with advertising and innovation of their own. Mergers and acquisitions may also sometimes be used as a strategy to expand market share by gaining an edge over rival firms such as through reaping economies of scale.

Anti-thesis 1: Entry deterrence

Rather than responding to rivals' actions, incumbent firms may instead act based on entry deterrence intentions. For example, if incumbent firms perceive a threat of another firm entering the market, they may engage in extensive advertising to build brand loyalty. This would raise the market penetration costs for new entrants, as they would also have to engage in costly advertising to be able to gain market share from the incumbent firms.

With higher entry costs due to the need to engage in mass advertising, entrants may be deterred as they may lack the capital to fund such a costly advertising campaign which has uncertain results. Furthermore, since new entrants produce a smaller output than larger incumbents, the entrant does not reap as much economies of scale as the incumbent and therefore the entrant is less able to compete against the incumbents due to a cost disadvantage. The entrant may therefore be deterred due to a lack of ability to compete against the incumbents.

Anti-thesis 2: Government intervention

Firms may also be subject to government intervention measures in the industry, making their behaviour being affected by government regulations rather than responding to rivals' actions. For example, the US government may apply anti-trust laws to disallow mergers and acquisitions that the courier firms wish to undertake to reduce the concentration of market power. Alternatively, the government may choose to nationalise the courier companies to take over production of the service directly. Such government intervention may be carried out with the aims of improving allocative efficiency or equity.

Conclusion

The actions of their rivals would likely be the main factor affecting the behaviour the US courier firms. This is because the degree of rivalry is likely to be high, given the close substitutability of the delivery services provided by the different firms as perceived by consumers.

Furthermore, there is a low likelihood of potential entrants overcoming the high barriers to entry for the industry, since high start-up costs would remain a constant feature due to the nature of the service. The likelihood of government intervention in the courier market is also low, since the market appears to be sufficiently competitive between the major players and the nature of the service does not warrant strong equity considerations. Therefore, entry deterrence and government intervention are likely to be less significant factors that may affect the US courier firms' behaviour.

**Note: This is a suggested answer that can realistically be completed under exam conditions. There are other valid points that can be discussed as well – price war, collusion, alternative objectives of the firm, price discrimination, changes in market demand / marginal cost.*

Essay Question 4

(a) Using AD-AS analysis, explain the possible relationships between inflation and unemployment. [10]

(b) To what extent do you agree that unemployment in the country affects the standard of living of the average Singapore citizen? [15]

Suggested Answer to Part (a)

Introduction

- Define inflation
  - Inflation refers to a sustained and inordinate rise in the General Price Level
- Define unemployment
  - Unemployment refers to a situation where available resources such as labour is not utilised in an economy.
- Identify components that affect AD and AS
  - AD is made up of expenditures from Households (C), firms (I), government (G) and trade (X – M)
  - AS refers to the ability and capacity of an economy to produce goods and services. It is dependent on the quantity and quality of her factors of production (FOP).

Body

- Explain the types of inflation
  - Demand-pull inflation occurs when the AD rises but the economy does not have spare capacity to meet the rise in demand
  - This is illustrated by a rightward shift in the AD curve near or at the vertical section of the AS curve
  - Cost-push inflation occurs when the cost of production rises. This could be due to rise in domestic costs or the rise in the cost of imports. Such a situation is illustrated by an upward shift in the horizontal section of the AS curve
- Explain the types of unemployment
  - Cyclical unemployment occurs when the AD is too low vis-à-vis the capacity of the economy to produce. In such a situation, the AD is at the horizontal portion of the AS curve, or has fallen to those levels
  - Structural unemployment occurs when unemployed workers are unable to find suitable jobs because they lack the required skills due to occupational immobility or are geographically immobile
  - Frictional unemployment refers to a situation where unemployed workers are in transition to another job or are looking for a more suitable jobs. Such unemployment are voluntary and temporary in nature.

- Explain inverse relationship between DD-pull inflation and cyclical unemployment
    - As AD rises close to the vertical portion of the AS curve, cyclical unemployment is reduced. However, if the AD continues to shift rightwards, there will be DD-pull inflation even as cyclical unemployment falls. Thus, there is an inverse relationship between DD-pull inflation and unemployment
- Explain inverse relationship between DD-pull inflation and structural unemployment
    - As AD falls, cyclical unemployment is likely to rise. If the unemployed is unable to find suitable jobs that match their ability (ie. mismatch of skills or occupational immobility), these group of unemployed may persist, leading to a rise in structural unemployment. This is particularly so if the fall in AD is due to a loss of comparative advantage
- Explain direct relationship between cost-push inflation and cyclical unemployment
    - When there is cost-push inflation, the horizontal portion of the AS curve shifts upwards, resulting in a rise in GPL
    - Economies with little natural resources and poor economic structure may face domestic cost pressures coming from rising rentals or face imported cost pressures if it is highly reliant on imported raw materials
    - As the GPL rises, firms cut production resulting in unemployment. Thus, there is a positive relationship between inflation and unemployment.
- Explain the direct relationship between cost-push inflation and structural unemployment
    - As output falls due to a rise in the cost of production, the unemployment may become structural if there is occupational immobility.
    - The inability of the unemployed to retrain themselves, or find themselves ill-equipped to take up jobs in other industries will lead to structural unemployment
- Explain no relationship between inflation and frictional unemployment
    - Frictional unemployment is voluntary and is not directly dependent on the state of economy.
    - It is affected by the level of information in the economy on job opportunities. Improved knowledge of available job opportunities will help alleviate the temporary loss of jobs as such workers are able to transit between jobs faster. Hence, there is no relationship between inflation and this particular type of unemployment

Conclusion

Depending on the types of inflation and causes of unemployment, there may be a direct or indirect relationship between these two objectives. The relationships would also be dependent on the state of economy and nature of economy.

Suggested Answer to Part (b)

Introduction

- SOL should be material and non-material
  - Material aspect is usually measured by the change in national income (GDP or GNP). It is also measured in real terms to reflect the true purchasing power.
  - Real GDP per capita is used as a benchmark for measuring material SOL
  - Non-material aspects of SOL could be measured using stress levels, leisure, literacy rates, mortality rates, impact on environment etc
- SOL of average Singaporean
  - The change in population should also be considered – ie. per capita is usually used to reflect the impact on the average person in the economy. However, there may be poor distribution of benefits that is not reflected in the average figures. Thus, the GINI coefficient should be considered in order to show how the change in material SOL is distributed among the population.

Agree or disagree that unemployment affects SOL and demonstrate the extent using key considerations

- Explain how unemployment may affect SOL based on state of economy
  - Depending on the state of economy, rise in cyclical unemployment may be positive for material SOL since it reduces the erosion in the value of money.
  - If the economy is at the full employment level, there is no change in employment level but general price levels fall. This actually increases the real income. Holding all else constant, real GDP per capita actually rise.
  - If the economy is operating at the Keynesian range, unemployment will have a more significant negative impact as the unemployed lose the ability to consume goods and services.
  - Rising unemployment is also likely to have a negative impact on the unemployed due to the stress of looking for new jobs and losing the ability to maintain previous lifestyle and commitments
- Explain how unemployment may affect SOL based on type of unemployment
  - Depending on the type of unemployment, the impact may also be different.
  - If there is a rise in structural unemployment, material SOL will fall in the short run. However, the impact in the long run depends on whether these unemployed workers are able to retrain / reskill themselves to meet the demand of new jobs.
  - In addition, the unemployed who suffered due to the restructuring is likely to be for specific sunset industries and as such, may not be widespread. As such, the impact on average may not be significant.
  - If there is frictional unemployment, there may not be any significant change in SOL.

- In addition, the unemployment figures may not accurate reflect the incomes of households. The presence of underground economy will affect the true extent of unemployment on the material SOL.

- Explain how unemployment may affect SOL based on extent of Government involvement
  - If the government provides unemployment benefits, the immediate impact for the unemployed may not be significant. Thus, the material SOL may not fall significantly.
  - However, the Singapore government does not provide any unemployment benefits.
  - In addition, with the rise in unemployment, government tax revenue is likely to fall, affecting its ability to provide public amenities. Thus both the material as well as non-material aspect of SOL may fall. Eg of material aspects such as the number of hospitals or schools or playgrounds provided. Eg of non-material covers the quality of these provisions (mortality and literacy)
  - Government schemes in place may also help reduce the long term negative impact on material SOL of structural unemployment as the retraining and redesign of jobs help the unemployed obtain jobs.

- Explain other factors besides unemployment that affect SOL
  - Cyclical unemployment correlates positively with GDP, which reflects the purchasing power of households
  - Real GDP relies on inflation rate as well. A rise in inflation rate for a given level of GDP implies that there will be a fall in the purchasing power. This would reduce the material SOL.
  - Population changes affects the Real GDP per capita. Using such a benchmark provides only an average that does not fully reflect the distribution effect of any form of unemployment or GDP changes. As such, GINI coefficient should also be considered to measure the impact on material SOL.
  - In addition, the severity and duration of unemployment also play a part in determining the extent of impact on SOL of an average citizen. A high rate of unemployment implies that the negative impact is likely to be more significant and widespread.
  - Non-material aspects of SOL such as crime rates, pollution etc should also be considered to ascertain the impact on the SOL of an average citizen.

Conclusion

- The additional use of HDI or MEW would be better to ascertain the SOL of an average citizen.
- Everyone places different values on the trade-off between leisure and work; between material and non-material aspects. Hence, it is difficult to use unemployment figures to determine the SOL

Essay Question 5

United Kingdom's trade deficit with EU has hit £23.8 billion in the three months to February, 2016 while overall trade deficit with the rest of the world widened to £13.7billion, the biggest since March 2008.

Source: *The Daily Mail*, April 8, 2016

(a) Explain the adverse impact of a rising trade deficit on an economy. [10]

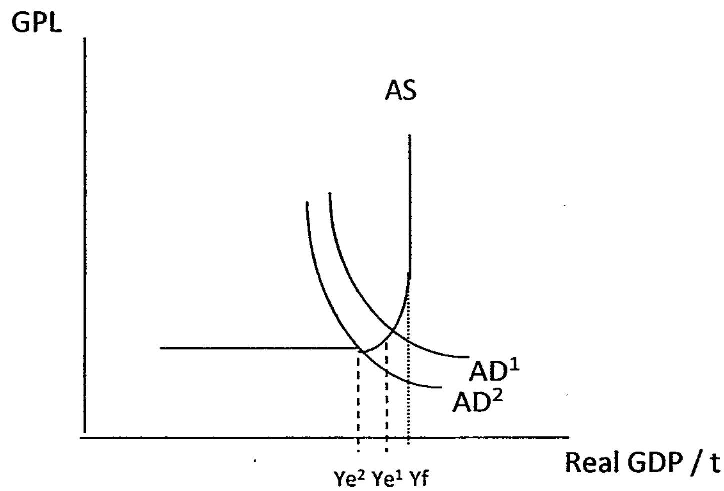
(b) Discuss whether demand management policy is the best way to address the economic problems caused by a rising trade deficit. [15]

Suggested answer to Part (a)

Trade deficit occurs when a country's revenue from the export of goods is less than the expenditure on imported goods. The impact on an economy can be seen in terms of effect on level of real national income, level of employment of resources, overall balance of payment, exchange rate and economic growth in the long term. The extent of the impact of the rising trade deficit on the economy will also depend on whether it is persistent and large.

The most immediate impact of a rising trade deficit on the economy is through effect on the economy's aggregate demand (AD). The components of aggregate demand are consumption expenditure (C), investment expenditure (I), government expenditure (G) and net exports (X- M). A trade deficit means that (X-M) is now negative. Assuming other things remain unchanged, this will mean a fall in AD. AD curve will shift to the left from AD1 to AD2.

This leftward shift of AD will have an adverse effect on the economy if it is operating at or near full employment. With the fall in AD, inventory builds up and firms will cut back on production. There will be a fall in real national income from Ye1 to Ye2 as seen in the diagram. The level of employment of resources will also fall as demand for resources is derived from demand for the final output. The economy move further away from the full employment level and is experiencing demand deficient/cyclical unemployment.



The extent of the contraction of the economy will depend on the relative size of the (X-M) in the economy's AD. In an economy which is highly dependent on trade to generate output and employment such as Singapore, a given fall in trade value will result in greater fall in national income and employment as compared to an economy where (X-M) is relatively small in relation to the other components of AD.

A rising trade deficit will have an adverse effect on the overall position of the country's balance of payment. Assuming the other components of balance of payment remain unchanged, a rising trade deficit will result in a worsening of the overall position leading to a deficit or worsening deficit on the overall balance of payment.

Over time, a persistent trade deficit will reduce the attractiveness of the economy to foreign investors as the rate of return on investment projects will be reduced and often uncertain. The lower level of foreign investment will adversely affect growth and employment. The inflow of foreign direct investment contributes to investment expenditure, a component of AD. With the fall in investment, AD falls and output and employment will fall. In the longer term, there will be slower expansion of productive capacity leading to slower shift of the aggregate supply curve and thus slower potential growth.

The rising trade deficit, if persistent, will also have adverse effect on exchange rate (such as those on managed float and fixed exchange rate). The deficit will lead to a depreciation of the currency due to the higher supply and lower demand for the currency in the forex market. A fall in the exchange rate could lead to higher price of imports in terms of domestic currency. Cost of production will increase especially if the economy is highly dependent on inputs for production which will affect their export price competiveness if it is a very large proportion of unit cost of production. This will further worsen trade deficit and negatively affect growth and employment.

A rising and persistent trade deficit (which worsens the overall BOP) may lead to other problems such as depletion of foreign exchange reserves if the economy adopts a managed or fixed exchange rate system. This may eventually lead to the need to borrow in order to finance the deficit. Borrowing will result in greater burden on the economy as it has to service the debt. This will mean fewer resources will be available for future investment and spending on training leading to a slower shift of the AS curve to the right. Potential economic growth will be impeded with a potential rise in structural unemployment.

Suggested answer to Part (b)

Introduction

A rising trade deficit brings about various economic problems as seen in part (a). Given these problems, government could adopt various policies such as demand management policies, supply-side policies and trade policies to reduce import expenditure and increase export revenue. Whether demand management policy is the best to address the economic problems will also depend on whether the rising trade deficit is persistent and large in relation to the overall GDP. The various economic problems caused by the rising deficit could be addressed first by demand management policy.

Body:

Thesis: Demand management policy is the best policy to address economic problems of rising trade deficit.

Cause of a rising trade deficit: Rise in import expenditure leading to a fall in net exports, causing a fall in AD.

Demand management policy refers to actions taken by the government to adjust the level of aggregate demand in order to achieve various macroeconomic aims. In this case, demand management policy can be used to reduce problem of demand deficient unemployment experienced as a result of rising trade deficit. Expansionary fiscal or monetary policy can be used to increase aggregate demand. In the case of expansionary fiscal policy, government could increase its own expenditure on infrastructure and cut direct taxes, like reduce income tax for households and corporate tax for firms. Reduction in income taxes will increase disposable income of households. This will increase their ability to consume. Consumer expenditure of domestic goods will increase. Reduction in corporate tax for firms will increase rate of returns of investment projects (their post-tax profits) assuming other things unchanged. This will induce higher level of investment. With increase in consumption and investment, aggregate demand will increase. With higher aggregate demand and there is excess capacity, producers will react to the fall in inventory and hire more factors of production like labour. (labour is a derived demand) Real output and employment will increase. This will address the economic problem of demand deficient unemployment. However, part of the increase in consumption and investment will result in increase in imports thus worsening the trade deficit and would aggravate the other economic problems caused by the deficit.

To address the economic problems caused by trade deficit, government could adopt policies targeted at reducing imports expenditure directly. Expenditure reducing policy such as contractionary fiscal and monetary policy could be used to deflate the economy. Contractionary fiscal policy influences the level of aggregate demand through an increase in income tax and reduction in government expenditure. The increase in income taxes will reduce households' disposable income and hence cause consumers to reduce consumption of imported goods. A reduction in government expenditure will also mean that less may be spent on imported goods by the government. This would reduce import expenditure. Net exports will improve (assuming no change in export revenue) reducing the rising trade deficit. This could reduce the problem of balance of payment deficit (assuming no change in capital account) and the consequences of exchange rate depreciation for an economy with large demand for imported inputs.

However, the deflationary policy through the contractionary fiscal policy may not address the unemployment problem. A reduction in disposable income would cause not only import expenditure to fall but also expenditure on domestically produced goods to decrease. Hence, domestic production would decrease and may lead to higher level of demand deficient unemployment. Thus demand-management policies may not be an appropriate policy to resolve the economic problems caused by the rising trade deficit.

Anti-thesis: Demand management policy is not the best way to address the economic problems caused by a rising trade deficit.

Cause of rising trade deficit: Loss of export competiveness or quality of exports, leading to a fall in export revenue and thus rising trade deficit.

Measures to improve export revenue could be more effective in dealing with trade deficit and addressing the various economic problems caused by it. These measures include supply-side and trade policies.

However, this policy might be ineffective if the foreign country retaliates by imposing tariffs on the given country's exports as well. There is also the possible feedback effect. The fall in import expenditure will mean a fall in export revenue of the trading partners. This will lead to a fall in their national income thus reducing their ability to import. This is the beggar-thy neighbour effect. All these will render the policy ineffective.

One of the main causes of the rising trade deficit is the loss of export competitiveness leading to a fall in export revenue and thus trade deficit. Measures to improve export revenue could be more effective in dealing with trade deficit and addressing the various economic problems caused by it. These measures include supply –side policies and trade policies.

Supply–side policies refer to actions taken to influence aggregate supply. Examples of such policies include government spending on infrastructure, investment in human capital, tax incentives to promote research and development and to attract foreign direct investment.

In order to increase export revenue, it is necessary to improve both price and non-price competitiveness of the exports. Government could provide tax incentives for firms to invest in acquisition of new capital goods with new technology, undertake R&D to improve product quality/innovation or to improve methods of production. Improvements in these areas will reduce costs of production thus improving price competitiveness of exports while product innovation will improve non-price competition.

With rapid changes in technology and increasing globalisation, there are changes in pattern of comparative advantage. In order to improve export revenue, the economy needs to find new niche areas as their existing comparative advantage gets eroded. Government could identify new areas of growth and support the development of these areas. Support could be in the provision of new infrastructure to cater to the new industries for example in the case of Singapore, government build new infrastructures such as One North, Biopolis, and Fusionpolis to support new industries. Reduction in corporate taxes, provision of various tax incentives on R&D expenditure will induce firms to increase R&D activities leading to new exports and higher value exports. In Singapore, the Productivity and Innovation Credit Scheme (PIC) was also used by business firms to embrace technology to raise productivity to enhance price competiveness for exports. Taken as a package, improvement in infrastructure and provision of tax incentives will also improve the rate of returns on investment.

This will improve the investment climate for foreign investors leading to increase in foreign direct investment. Government expenditure on training and retraining of workers will allow workers to upgrade their skills or equip them with new skills set relevant in the new areas of growth to reduce structural unemployment. With skills upgraded, labour productivity will increase and cost of production will fall leading to greater price competitiveness of exports. With the acquisition of new skills set relevant to new export industries allow for the expansion of these industries to further increase exports. All these could lead to an increase in export revenue. Rising trade deficit will decrease, national output will increase with the increase in net exports (assuming no change in import expenditure) and foreign direct investment and employment level will increase.

In the long run, with improvement in quality of factors of production, there will also be sustainable growth with rise in AS. With the improvement in trade position, the exchange rate will improve.With the improvement in trade position, the exchange rate will improve.

However, the main limitation of using supply-side policies is the long time period required for the policy to be effective and the outcome from R&D investment is often uncertain. Government expenditure on infrastructure, tax incentives and provision of R&D grants require huge amount of tax revenue which may be a great strain on government budget which could lead to budget deficit.

The government can also introduce trade policy to increase demand for exports by seeking new export markets. Singapore achieved much macro benefits through signing of more free trade agreements. Free Trade Agreements are binding agreements between two or more countries to reduce or remove trade barriers and to facilitate cross border movement of goods and services between the territories of the parties. They typically include reducing tariffs on imports and relaxing restrictions on capital flows. Gains from trade are from theory of comparative advantage. Specialisation and free trade has expanded production and consumption possibilities for countries. The production will be greater and there will be economic growth, overcoming the economic problems from rising trade deficit.

Gains from free trade agreements include the diversification to avoid overdependence on any particular trade partner. Being a trade-driven economy, Singapore is highly susceptible to external shocks from her trade partners. For example, if China experiences an economic downturn, demand for Singapore's exports may be reduced. A reduction in Singapore's exports will reduce net exports, which in turn reduces AD, and economic growth and demand deficient unemployment will rise. Having a closer economic integration with more other economies in the event of a regional downturn, Singapore's exports demand may still be supported by other markets.

To reduce imports, the government could also impose tariffs on imported goods. This would cause the price of imports to become relatively more expensive compared to domestically produced goods. Hence consumers would switch away from imports to domestically produced goods if they are of equal quality. This increase consumption will increase aggregate demand leading to higher level of employment of resources. Economic problem of demand deficient unemployment will fall.

However, this policy might be ineffective if the foreign country retaliates by imposing tariffs on the given country's exports as well. There is also the possible feedback effect. The fall in import expenditure will mean a fall in export revenue of the trading partners. This will lead to a fall in their national income thus reducing their ability to import. This is the beggar-thy neighbour effect. All these will render the policy ineffective.

Conclusion:

Stand/Substantiation: Demand management policy is a good policy to address the economic problems caused by a rising trade deficit but it is not able to overcome all the effects arising from the rising trade deficit and the root cause of the rising trade deficit. The use of only demand management policy can also lead to unintended macro consequences. A combination of policies are more suited, and the government when faced with multiple negative macro effects will need to implement other policies like expenditure reducing, supply side, trade policy and possible even deflationary fiscal policy. The Timbergen rule will apply here to overcome unintended consequences from multiple macro problems tackled with limited policies that might only address AD and not AS or short run and not the long run cases. There is also the need to consider the nature of the economy such as the trade reliance ratio to total real GDP.

Essay question 6

The small island nation of 5 million people boasts the world's second-busiest seaport, a far higher per-capita income than its former British overlord, and a raft of number-one rankings on lists ranging from least-corrupt to most-business-friendly countries. So long as globalisation continues, Singapore thrives.

Source: Adapted from *TIME*, 28th May 2014

Discuss the extent to which globalisation has helped Singapore to achieve her economic aims. [25]

Suggested answer

Introduction

Globalisation is the increased integration of economies around the world, through the movement of goods, services, capital, labour and knowledge across international borders. Singapore has adopted an open approach towards development, and globalisation has led to both positive and negative impact on Singapore's aims. Singapore's aims would include both microeconomic aims (efficiency and equity) as well as macroeconomic aims (sustained growth, low inflation, healthy balance of payments and low unemployment).

Define the different economic aims.

- Sustained growth refers to growth at low inflation rates. This would involve actual growth (which refers to an increase in national income) as well as potential growth (an increase in productive capacity).

- Unemployment refers to factors of production not being used in the production of goods and services. Therefore, people in the labour force who are without work but are actively seeking jobs.

- Inflation refers to a sustained increase in the general price level.

- BOP 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 BOP comprises of the current account as well as the capital account.

- Efficiency refers to both productive and allocative efficiency. Productive efficiency would mean that firms are producing at the lowest cost possible. Allocative efficiency means that the right amount of the right type of goods are produced such that society's welfare is maximised.

- Equity in income distribution refers to a distribution of income that is fair and just.

Thesis: Greater trade and capital flows has helped Singapore to achieve higher actual growth and lower unemployment, and a healthy BOP

Globalisation has led to reduced trade barriers, such as removal of tariffs through free trade agreements. This has led to greater trade, and a higher amount of exports and imports for Singapore. With a larger market to sell her goods to, this has enabled Singapore's exports to increase. Due to her skilled workforce, Singapore has a comparative advantage in high value-added goods and services and is able to produce these goods at a lower opportunity cost. Examples of such goods are refined petroleum, pharmaceutical products and integrated circuits. This has led to higher net exports for Singapore, especially as Singapore has a small domestic market. By producing more for the global market, this has enabled firms in Singapore to reap internal economies of scale due to reasons such as indivisibilities of capital, which enable the firms to produce at lower unit cost, and pass it on to consumers in terms of lower prices. This allows Singapore's exports to achieve price competitiveness, leading to higher export revenue.

With greater capital flows, there has also been an influx of foreign investments into the country. Multi-national companies (MNCs), such as Rolls-Royce and Novartis can choose to set up production plants in Singapore. Firms might be attracted to carry out their production activities in Singapore due to her skilled labour, good infrastructure as well as pro-business policies. This would lead to an increase in investments.

With an increase in net exports and investments, this leads to higher Aggregate Demand, as AD = Consumption (C) + Investment (I) + Govt spending (G) + Net exports (X-M). Firms face an unplanned decrease in inventories, and this is a signal for firms to increase production. Firms would then hire more factors of production such as workers. Workers then experience higher income, and will spend a part of the increase in income on domestic goods and services. This would then lead to unplanned fall in inventories for other firms, and the cycle repeats. This would eventually lead to a multiple increase in national income, hence actual growth.
Therefore, an increase in net exports leads to a rightward shift of the AD curve from AD0 to AD1, and a multiple increase in national income from Yo to Y1, as shown in Figure A below.

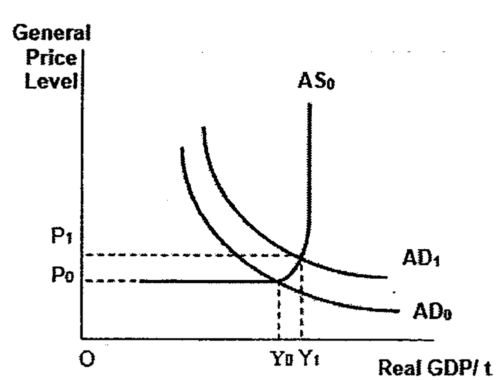


Figure A

As Singapore is an export-oriented economy, this impact is significant as X+M takes up a large proportion of Singapore's GDP. As demand for workers is a derived demand, and more workers are hired due to greater production of goods and services, this would lead to lower demand-deficient unemployment. Higher net exports would also lead to an improvement of the current account under BOP.

Thesis: Higher amount of imports has helped Singapore to achieve lower inflation and facilitates export-oriented growth

Due to lack of natural resources, Singapore is heavily dependent on imports for final goods as well as inputs for production. With the removal or reduction of trade barriers, Singapore is able to import more goods. Singapore can import goods which require labour-intensive or land-intensive production, such as agricultural products e.g. vegetables and fruits. Therefore, Singapore imports such products from land-abundant and labour-abundant countries like Thailand and Malaysia.

With lower prices of imports, this would lead to lower marginal costs of production. Therefore, as seen in Figure B below, the horizontal portion of the AS shifts downwards. This leads to lower cost-push inflation in Singapore.

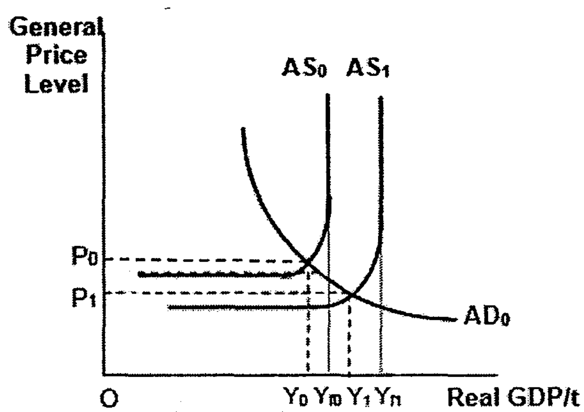


Figure B

Imports also enables Singapore to overcome her resource constraints. Although Singapore is not endowed with natural sources of oil, she is able to produce refined petroleum by purchasing crude oil imports from other countries. There is a high proportion of imported inputs in Singapore's exports, therefore imports also help to boost Singapore's growth through enabling greater production of exports.

Thesis: Labour flows and capital flows has helped Singapore to achieve sustained growth (labour and capital flows) – lack of domestic capital, small population

Globalisation has also led to relaxation of immigration laws and introduction of schemes, such as employment passes, to allow foreigners to work in the country. This helps to overcome Singapore's constraint due to her small population, and an ageing population. This would lead to a tight labour market and push up wage costs, leading to higher costs of production and loss of competitiveness for Singapore firms.

With more foreigners coming to work in Singapore, this has led to a increased quantity of labour in Singapore. This has led to a rightwards shift of the vertical portion of the AS curve, as the productive capacity (max amount of goods and services an economy can produce) has increased. This has led to potential growth in Singapore, enabling sustained growth (growth at low rates of inflation) to occur. This is important especially, as Singapore economy is operating near full-employment, and is hence vulnerable to demand-pull inflation.

The influx of foreign labour, ranging from low-skilled labour such as construction workers and cleaners, to high-skilled labour such as nurses and scientists, has helped to ease the manpower crunch. This has prevented wages from rising further due to a tight labour market, hence leading to lower marginal costs of production. The horizontal portion of the AS curve would shift downwards.

With foreign direct investments, this would lead to technological transfer as MNCs would bring in new technology and methods of production. This would lead to greater productivity as more output can be produced with the same amount of inputs. With greater amount of capital, this would also lead to higher quantities of factors of production. This would lead to potential growth, as productive capacity has increased.

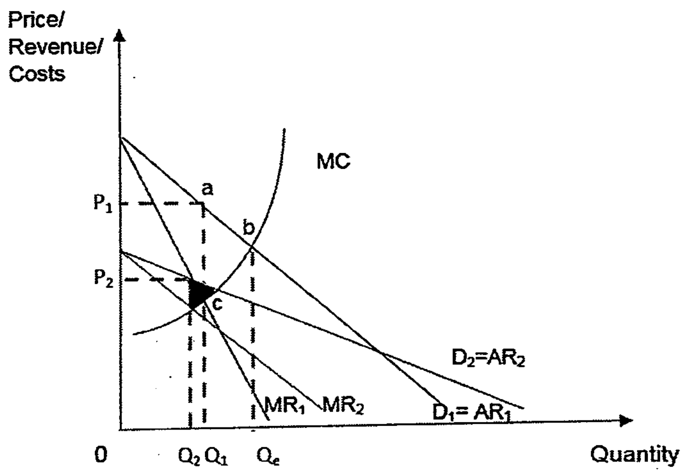
As seen in Figure B above, the overall effect would be a shift of the AS curve from AS0 to AS1. This has led to lower cost-push inflation, and a fall in the general price levels from Po to P2.

Thesis: Greater trade flows has helped Singapore to achieve greater efficiency (competition from MNCs)

The reduction of trade barriers would also mean that local firms are exposed to foreign competition. Therefore, firms are incentivised to compete on the basis of price as well as quality of goods. If local firms are less competitive, they would lose out in the export market or local consumers would switch to consuming imports instead. This would lead to a fall in revenue as well as profits for the firm, ceteris paribus. Hence, firms would embark on R&D projects to use more technology to enable them to increase productivity and able to produce at lower cost, so that they can pass it on to consumers in terms of lower prices. This would lead to greater efficiency.

As domestic firms are exposed to global competition, they may experience a fall in the demand for their own products as well as increased price elasticity, as consumers turn to imported goods. This would lead to a fall in welfare loss due to market dominance.

Assume that domestic firms were initially producing at MR= MC at price P1 and quantity Q1. A fall in demand shifts their demand curve from D1 to D2, ceteris paribus. This would lead to a new price P2 and quantity Q2. The amount of welfare loss has fallen to the shaded area from the bigger area of abc.



Trade also enables countries to specialise based on their comparative advantage(CA), resulting in a more efficient allocation of resources. A country possesses comparative advantage in a particular good if it can produce the good at a lower opportunity cost, hence allowing for mutually beneficial trade to occur between countries. Singapore possesses CA in capital-intensive production due to her high-skilled labour and would hence produce goods such as refined petrochemical products as well as pharmaceuticals. Singapore would import goods which require labour-intensive production, such as textiles from China. This would enable the production of goods to be carried out by the relatively more efficient producer, hence improving efficiency in the allocation of resources.

Anti-Thesis: Globalisation has led to higher income inequality

Globalisation has also led to greater exposure to foreign competition. Certain industries might expand if they are able to cope with foreign competition while certain industries might suffer due to greater foreign competition. The factors of production in these two sectors will be subject to increasing and decreasing demand respectively.

Since Singapore's comparative advantage is in high-tech manufacturing and financial and consultancy services, demand for skilled labour, in particular, will rise, whilst demand for low-skilled labour will fall. Furthermore, with the influx of low-skilled labour from other countries, this has depressed the wages of low-skilled workers, such as cleaners.

Taken together, a further increase in demand for skilled labour and decrease in demand for unskilled labour widens the income gap between the two groups.

Anti-Thesis: Globalisation has led to higher structural unemployment

Globalisation could also lead to higher structural unemployment. With the rise of emerging economies, Singapore lost her comparative advantage in producing labour-intensive goods such as garments and textiles, as the emerging economies were able to produce such goods at lower opportunity cost due to abundance of labour. This led to unemployment in such industries.

As Singapore moved towards a knowledge-based industry and more jobs were created in the finance and pharmaceutical industries, the unemployed workers were unable to find jobs in such sectors due to a mismatch of skills. Therefore, this led to higher structural unemployment.

Anti-Thesis: Globalisation has led to lower growth and higher inflation

Singapore's heavy dependence on exports and FDI has also made her vulnerable to external shocks. For example, during the 2008 US subprime crisis, which led to a fall in national income in many countries. As countries experienced a fall in national income, consumers would cut back on spending and spend less on imports. This would lead to a fall in net exports for Singapore, leading to a fall in actual growth due to a multiple fall in national income. Foreign firms would also withdraw their investments in Singapore, threatening actual as well as potential growth.

Singapore's reliance on imports also makes her susceptible to imported inflation. If there is a supply shock such as conflict in oil producing countries that lead to an increase in prices of oil, this would lead to higher prices of imports, leading to higher costs of production. This would lead to higher cost-push inflation.

Conclusion

Globalisation has helped Singapore to achieve her economic aims to a large extent. This is due to her small domestic market and lack of natural resources that necessitates an open approach towards development. Other factors such as pro-business policies (e.g. low corporate tax rate), a strong intellectual property rights framework, excellent infrastructure and a skilled workforce has helped to attract FDI to Singapore.

While Singapore does suffer from greater vulnerability to external shocks and imported inflation, there are policies that the government can implement to mitigate such effects. An example would be signing of FTAs with many countries to diversify her trade partners, as well as the use of XR policy to keep the Singapore dollar strong to curb imported inflation. Subsidies to send workers for retraining could also help to address structural unemployment and schemes such as the Workfare Income Supplement scheme could be used to provide additional income for low-skilled workers wo are adversely affected.