Name:____________________ Centre No. / Index No.:______/______ Class:__________

PIONEER JUNIOR COLLEGE, SINGAPORE
JC2 Preliminary Examination 2017
Higher 2

ECONOMICS 9757/01

Paper 1 14 September 2017

2 hour 15 minutes

Additional Materials: Answer Paper

*PJC/9757/Paper 1/ 2017

READ THESE INSTRUCTIONS FIRST

Write your Centre number, index number and name 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 diagrams, 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 all your work securely together.
Fasten your answers to each question SEPARATELY.

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

This document consists of **7** printed pages and **3** blank pages.

Pioneer Junior College Ministry of Education

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Answer **all** questions.

Question 1

Pharmaceutical Industry and Healthcare

Extract 1: Pharmaceutical industry gets high on fat profits

Throw in widespread accusations of collusion and over-charging, and banking no doubt springs to mind.

In fact, the industry described above is responsible for the development of medicines to save lives and alleviate suffering, not the generation of profit for its own sake. Pharmaceutical companies have developed the vast majority of medicines known to humankind, but they have profited handsomely from doing so, and not always by legitimate means.

Last year, US giant Pfizer, the world's largest drug company by pharmaceutical revenue, made an eye-watering 42% profit margin. Five pharmaceutical companies also made a profit margin of 20% or more - Pfizer, Hoffmann-La Roche, AbbVie, GlaxoSmithKline (GSK) and Eli Lilly. Pfizer was also discussing a possible merger with Allergan, best known for its Botox anti-wrinkle treatment. If the proposed merger goes through, the combination will be a monster among drug companies. As in other lines of business, such deals are a way to cut costs, gain market clout and achieve economies of scale. They also help firms expand to new markets. In pharmaceuticals the cost of developing new products is exceptionally high compared with many other industries. So it is especially tempting for them to seek to extend their product range simply by buying another firm.

Drug companies are also justifying the high prices they charge by arguing that their research and development (R&D) costs are huge. But drug companies spend far more on marketing drugs to ensure demand than on developing them. They have also been found guilty of mis-branding and wrongly promoting various drugs, and have been fined billions as a result.

No wonder, then, that the World Health Organisation (WHO) has talked of the inherent conflict between the legitimate business goals of the drug companies and the medical and social needs of the wider public. Indeed the Council of Europe is launching an investigation into protecting patients and public health against the undue influence of the pharmaceutical industry.

No matter what the outcome of such investigations, however, the pharmaceutical industry is facing fundamental change, as the traditional model of developing drugs breaks down due to rising costs and scientific advances. The cosy world of big pharmaceuticals is under threat like never before.

Source: Adapted from *BBC News*, 6 November 2014
and *The Economist*, 29 October 2015

Extract 2: High Cost of Diabetes Drugs Often Goes Overlooked

The problem of drug costs is expected to only get worse as Americans get older and fatter. An estimated 29 million people in the US have diabetes and many of them will take diabetes drugs for the rest of their lives. Cost increases for both old and new drugs are forcing many to scramble to pay for them.

For the fourth year in a row, per person spending on diabetes drugs in 2014 was higher than it was for any other class of traditional drug. "The cost of diabetes treatment has been increasing pretty rapidly," says Dr. Glen Stettin, senior vice president for clinical, research and new solutions at Express Scripts, which manages the pharmacy benefits for many companies.

Diabetes occurs when the body can't control the amount of sugar in the blood because of problems making or responding to the hormone insulin. High levels of blood sugar can cause damage to the heart and blood vessels, nerves, kidneys, eyes and feet, among other things.
About 90 percent of people who have diabetes have type 2 diabetes, which is linked to lifestyle factors such as obesity and inactivity. Type 1 diabetes, once called juvenile diabetes, commonly develops among children.

Insulin was considered a wonder drug when it was discovered in 1921. It remains a mainstay of treatment for millions of patients, and yet decades after its introduction there are still no generic forms of insulin available. The lack of generic insulin has hindered price competition for the key diabetes medicine.

Source: Michelle Andrews, www.npr.org, 18 August 2015

Extract 3: Healthcare costs cause concern in Singapore

Singaporeans are rank behind only Japan and Andorra in terms of leading the longest healthy lives in the world. But there are some worrying trends, said Health Minister Gan Kim Yong yesterday, including the ability to sustain the current level of service as the population ages. Costs are of particular concern.

"Many developed countries with ageing populations are facing similar challenges as us," he said. "One important lesson we can learn from their experience is that doing more of the same cannot be the solution."

The Government has already more than doubled its healthcare spending from $4.7 billion in FY2012 to $11 billion this year. The launch of MediShield Life which is a healthcare insurance to cover everyone from birth till death last year has also helped people pay for their healthcare cost. But more needs to be done and he suggested three paradigm shifts:

One of these deals with choosing appropriate care. Some insurance policies for private care provided by Integrated Shield plans pay according to what doctors and hospitals charge. Some people also buy "riders" that do away with the need for the patient to pay anything for major medical treatment. These could lead to a "buffet syndrome" since the cost is paid by someone else, said Mr Gan. "This contributes to rising healthcare costs for everyone and eventually pushes up premiums." This system will have to be studied, he said.

Meanwhile, the ministry has set up an Agency for Care Effectiveness (Ace) to look into the use of high-cost treatments and technologies "to ensure that the outcomes from these technologies are commensurate with these costs". Not all medical tests and treatments are necessary or useful, he said. Countries like the United States, Britain and Japan have launched "Choose Wisely" campaigns to educate people on low-value tests and treatments. This will help patients, caregivers and physicians make more informed treatment decisions and avoid over-provision of services that will drive up costs."

The third push is to increase the years of healthy life for people here, which stood at 70.8 years for men and 73.4 years for women in 2013. Unfortunately, with longer lives, the number of years people here live in ill health has also gone up, and in 2013 stood at 8.9 years for men and 10.6 years for women.

Dr Lily Neo (Jalan Besar GRC) and Dr Chia Shi Lu (Tanjong Pagar GRC) had asked about what Singapore is doing about diabetes, which is fast becoming a major global healthcare burden. To them, Mr Gan said his ministry will be waging a multi-year war against diabetes, a disease which costs Singapore more than $1 billion a year. These include measures to encourage Singaporeans to eat right, exercise more and go for health screenings.

With rising healthcare cost, Singapore is finding it harder to retain its title as the region's top medical tourism hub as patients eye cheaper options elsewhere. It was also noted that the challenges will only intensify as improved standards in neighbouring cities test the price premiums in Singapore, which are further exacerbated by a strong Singapore dollar. It is noted that the Singapore dollar has risen 24 per cent against the Indonesian rupiah over the past two years. This has had significant ramifications as the Indonesian market accounted for 56 per cent of total medical tourism revenues in 2013. This in turn puts multinational drug-makers in Singapore at risk, as medical tourism has been a strong source of demand for high-value medicines.

Source: Adapted from *The Straits Times*, 8 May 2015 and 14 April 2016

Table 1: Health care data for Singapore (current US$), 2010-2014

	2010	2011	2012	2013	2014
Total Health spending per capita	1842	2086	2310	2532	2752
Government spending on health per capita	968	1008	1158	1392	1689

Source: World Bank Group

Table 2: Value of Singapore Dollar (S$ per 100 units of Indonesian Rupiah)

2010	2011	2012	2013	2014
0.0143	0.0142	0.0127	0.0104	0.0106

Source: Monetary Authority of Singapore

Questions

(a) **(i)** Using Table 1, compare the trends of total health spending per capita and government spending on health per capita in Singapore between 2010 and 2014. [2]

(ii) Identify a reason for the difference in the trends observed in (a)(i). [1]

(b) Explain the type of market structure that pharmaceutical companies are likely to operate in. [2]

(c) Explain whether the high price of pharmaceutical drug is caused by demand or supply factors. [4]

(d) "The lack of generic insulin has hindered price competition for the key diabetes medicine." Explain the likely effect on the profits earned by the producer of insulin following the entry of generic insulin. [3]

(e) Discuss the factors that will influence the US government's decision to approve the merger between two larger pharmaceutical firms such as Pfizer and Allergan. [8]

(f) Discuss whether the Singapore government's policies in the healthcare market can be justified. [10]

[Total: 30]

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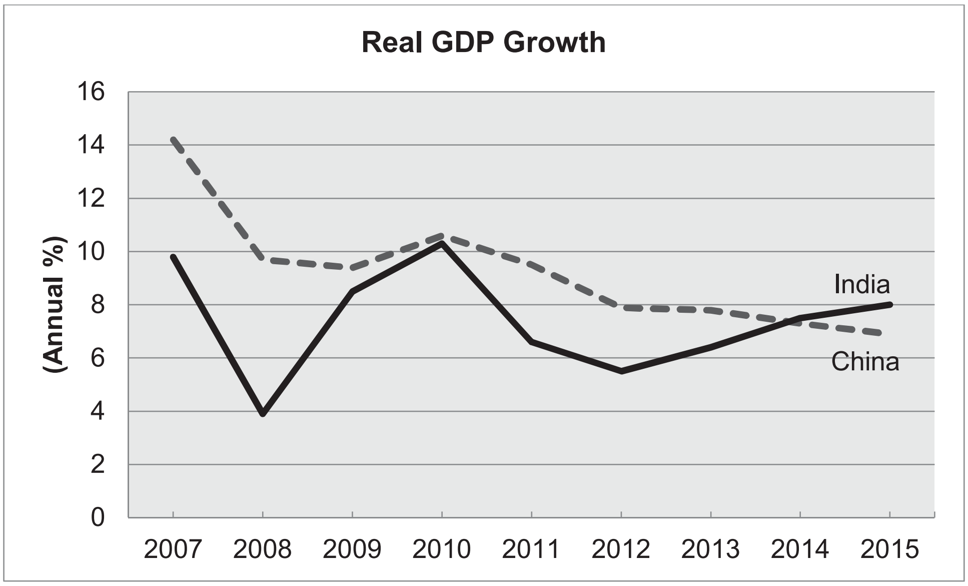
Question 2

Economic Performance, Prospects and Lessons

Figure 1: Real GDP Growth Rates for India and China (2007 – 2015)



Source: World Bank

Extract 4: The Rise of Anti-Globalisation and its Impact in Asia

There is no question that globalization has been a good thing for many developing countries who now have access to more markets and can export cheap goods. However, globalization has become deeply discredited in parts of the developed world. The general complaint about globalization is that it has made the rich richer while making the non-rich poorer. In developed countries, jobs are lost and transferred to lower cost countries. Workers in developed countries like the US and EU face pay-cut demands from employers who threaten to export jobs.

Globalization is an economic tsunami that is sweeping the planet. We can't stop it but there are many policies and strategies we can use to make it more equitable. We can enforce the trade laws, force the competition to play by the same rules, and stop giving our competitors the tools (technology and R& D) to ultimately win the global war. The anti-globalists claim that globalization is not working for the majority of the world. The United Nations Development Program reports that the richest 20 percent of the world's population consume 86 percent of the world's resources while the poorest 80 percent consume just 14 percent. Wage stagnation, insecure jobs and widening inequality between rich and poor are just some of the factors that led to rising anti-globalisation and increase protectionism sentiment seen in the West.

The increase in protectionist measures have profound implications for cross border global flows and negatively impact Asia that have built their fortunes on exports.

Adapted from *Forbes, 6 May 2015*

Extract 5: Economic Review for China

In 2015, China's economy grew 6.9 percent, one of the slowest growth rates among the recent years.

Facing shrinking external demand, expanding overcapacity, increasing competition, intensifying trade protectionism and growing trade disputes, China is in the midst of a fundamental transition.

She is moving from an investment-intensive, export-led model of growth, to a consumption and innovation-driven one. Last year, China's outbound foreign direct investment (FDI) surpassed its inbound FDI for the first time. More investments were made in North America, Europe and other developed economies, where there are more high-quality targets to obtain advanced technologies that can be deployed domestically. For example, ChemChina's acquisition of Syngenta to improve crop productivity, such as crop sensors, agricultural robots, advanced irrigation systems, and genetically modified seeds. Similarly, Haier, a Chinese consumer electronic appliances multinational corporation, announced the acquisition of General Electric's Appliances business for USD 5.4 billion, which will not only allow Haier to expand its presence in the US market, but also provide Haier with great products, state-of-the-art manufacturing facilities and a talented team. China's FDI are also going into developing countries such as India as Chinese manufacturing sector is struggling with rising wages at home.

Back home, e-commerce is turning into a pillar of growth: reducing costs and other barriers to entry, increasing competition, driving down prices, and unlocking new demand. The role of e-commerce has become a dominant feature in the consumer spending landscape. In 2015, the online retail sales of goods and services totalled RMB 3.8 trillion, an increase of 37.2 percent. Recent economic data shows that the contribution from consumption as a percentage of GDP in China is rising, accounted for 52.7 percent of China's GDP in 2015, up from 51.4 percent in 2014. By comparison, consumption expenditure in the US accounted for 68.4 percent of the US GDP in 2015.

To meet the challenges of China's rapid rate of urbanisation such as traffic congestion and poor regional connectivity, the government has implemented a series of initiatives. The 'New-type Urbanization Plan' aims to connect ecological progress, urbanisation quality, expanding domestic demand and rural-urban coordination while the 'Belt-and-Road Initiative' is an infrastructure development plan proposed to improve the connectivity of the country.

Adapted from *China Outlook 2016, KPMG's Global China Practice*, March 2016

Extract 6: Economic Review for India

Having expanded by 7.3 percent in Real GDP in 2015, India has become the world's fastest growing large economy due mainly to her heavy reliance on oil imports and lower prices helped to lift the economy this year. However, growth has been uneven and driven mainly by private consumption and public investment. Continued weakness in global demand and failure of India's trade negotiators to get improved market access for the country's exports make the situation worse. The country's top exports are facing prohibitive tariff and non-tariff barriers in developing and emerging markets. In developed markets, where import tariffs are lower, India's exports are subject to all kinds of non-tariff barriers. All these hurt growth dynamics. For robust and sustainable growth, private investment and exports needs to revive. As inflation eased, the Reserve Bank of India (RBI) has also cut interest rates four times this year as to help stimulate growth.

Prime Minister of India, Mr Modi, jetted across the world this year to help raise India's profile as a business and investment destination, with high profile trips to the United Arab Emirates, the United States, the United Kingdom and China. India's demographics has much to offer: her 450 million labour force is expected to grow to 900 million by 2025, and the average Indian worker can be employed for just 22 percent of the cost of a Chinese worker.

The government in November announced several FDI deregulatory measures in major sectors including broadcasting, aviation, defence and mining. There were also progress made towards making India a manufacturing hub, which will be a key to creating jobs and lowering poverty rates across in India.

However, economists worry that the results will not match the rhetoric. With the appreciation of the US dollar and the US Fed's plan to increase interest rate as the US economy recovers, the Indian

Rupee will come under pressure this year. With investors exiting bonds and emerging market assets to buy US stocks and the Dollar, the Rupee has hit a more than two year-low. The likely resulting surge in inflation could well cause rises in interest rates and retard growth.

Adapted from *The National*, 27 December 2015

Table 3: Selected Economic Indicators (2015)

	China	India
GDP per capita, PPP (Current international $)	14,448	6,126
Current account balance (% of GDP)	2.7	-1.1
Human Development Index	0.74	0.62
Healthcare Expenditure per Capita (US$)	420	75
Income Gini Coefficient	0.42	0.35

Source: Various

Questions

(a) Compare China's GDP growth between 2010 and 2015 with that of India over the same period. [2]

(b) Extract 5 suggests an increase in China investment overseas.

(i) Explain **one** reason why Chinese firms are buying competitor firms overseas. [2]

(ii) Comment on the likely effects of this on China's balance of payments. [4]

(c) Explain the trade-off between inflation and growth in view of the action taken by the Indian government to deal with the weakening of the Indian Rupee. [4]

(d) Discuss whether the data provided are sufficient to compare China's standard of living with that of India in 2015. [8]

(e) In view of the anti-globalisation sentiments, discuss whether globalisation should be the driver of growth for emerging economies such as China and India. [10]

[Total: 30 marks]

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PIONEER JUNIOR COLLEGE, SINGAPORE
JC2 Preliminary Examination 2017
Higher 2

ECONOMICS 9757/02

Paper 2

19 September 2017

2 hours 15 minutes

Additional Materials: Answer Paper

PJC/9757/Paper 2/ 2017

READ THESE INSTRUCTIONS FIRST

Write your index number, 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 diagrams, 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.

Answer each question on a fresh sheet of paper.
At the end of the examination, fasten your answers to each question SEPARATELY.
The number of marks is given in brackets [ ] at the end of each question or part question.

If there are part questions you did not attempt, please write the question number and part in the margins before you submit your answers. *(i.e. if you did Q1 and Q2, but you did not complete 2b, indicate 2b in the margin of the answer script that you submit for question 2.)*

You are advised to spend several minutes reading the question and planning your answers before you begin writing.

You are reminded of the need for good English and clear presentation in your answers.

This document consists of **3** printed pages and **1** blank page.

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Answer **three** questions in total.

Section A

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

1 Oil prices have fallen after the OPEC group of oil producing nations said global crude stocks had risen coupled with Saudi Arabia's production increasing to 10.011 million barrels per day from 9.748 million barrels per day. In addition, a weaker economic outlook means demand for oil in 2017 is likely to grow at a slower rate.

Discuss how the above events are likely to impact the market for oil and its related markets. [25]

2 The firm's decisions and strategies are affected by cost, revenue, and threat from existing and potential competitors.

(a) Explain how producers in imperfect markets make rational price and output decision based on cost and revenue consideration. [10]

(b) Discuss the extent to which the behaviour of firms is influenced by the threat of competition. [15]

3 The biggest four airlines in America now control 80% of the market. The US Environmental Protection Agency (EPA) has said that greenhouse gases from aircraft endanger human health. Many people in the USA are calling for the use of carbon taxes rather than tradable permits to reduce greenhouse gas emissions.

(a) Explain how negative externality and market dominance can lead to market failure. [10]

(b) Discuss the alternative policies to tackle the above sources of market failure. [15]

Section B

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

4 Singapore's inflation moderated to −0.5% in 2015, from 1.0% in the preceding year. In October 2015, MAS eased policy further by reducing the rate of appreciation of the policy band slightly, in view of reduced price pressures alongside a weaker growth outlook.

Source MAS Annual Report 2015/16

(a) Explain the possible causes of deflation in a country. [10]

(b) Discuss whether exchange rate policy should remain the most important policy in maintaining price stability in Singapore. [15]

5 In the US, Japan, UK and much of Europe, there has been no increase in real incomes over the last decade for the median household. This reflects both the intense global competition and the forces of technology that are challenging a growing range of jobs. Singapore faces the same global realities and challenges.

Source: Singapore Budget 2015

(a) Explain the impact of global competition and technology advancement on a country's aim in achieving inclusive growth. [10]

(b) Assess the use of fiscal policy by the Singapore government to achieve inclusive and sustainable growth. [15]

6 Protectionism is the deliberate attempt by governments to limit imports or promote exports by putting up barriers to trade.

Assess the effects of protectionism on consumers, producers and government. [25]

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PJC 2017 H2 Prelim Exam Paper 1

Question 1: Pharmaceutical Industry and Healthcare

(a) **(i)** Using Table 1, compare the trends of total health spending per capita and government spending on health per capita in Singapore between 2010 and 2014. **[2]**

Suggested answer**:**
Both the total health spending per capita and government spending on health per capita increased between 2010 and 2014.

Government spending on health per capita rose at a faster rate than the increase in total health spending per capita.

Other accepted answer:
Total health spending per capita is increasing at a decreasing rate while government spending on health per capita is increasing at an increasing rate.

(a) **(ii)** Identify a reason for the difference in the trends observed in (a)(i). **[1]**

Suggested answer**:**
Singapore is facing an ageing population and government would be giving more subsidies for aged patients, resulting in faster increase in government spending on health per capita than total health spending per capita. OR

With the introduction of MediShield Life, government would be giving more subsidies for people to purchase it, resulting in faster increase in government spending on health per capita than total health spending per capita.

(b) Explain the type of market structure that pharmaceutical companies are likely to operate in. **[2]**

Suggested answer**:**
The market structure that pharmaceutical companies are likely to operate in is oligopoly.

In the pharmaceutical industry, there are high barriers to entry such as high innovation cost/ high cost of developing new medicine, ability to reap economies of scale (EOS) and the existence of patents. These high barriers to entry could result in few large firms producing a drug with large market share. OR

The mutual interdependence between the pharmaceutical companies results in collusion or mergers to reduce competition and uncertainty. These are the typical behaviour in an oligopolistic market structure.

(c) Explain whether the high price of pharmaceutical drug is caused by demand or supply factors. **[4]**

Suggested answer**:**
According to extract 1, the high price of pharmaceutical drug could be caused by high research and development (R&D) cost which is a supply factor. High R&D cost raise cost of production which shifts supply curve leftwards, leading to increase in price.

Pharmaceutical companies also market/advertise their drugs to ensure demand. Such marketing influences taste and preferences which increases demand, shifting demand curve rightwards, leading to increase in price.

Demand factor likely to be the main factor causing high price of pharmaceutical drug as the cost of innovation is mainly fixed cost rather than variable cost, thus supply does not rise by large extent.

(d) "The lack of generic insulin has hindered price competition for the key diabetes medicine." [3]

Explain the likely effect on the profits earned by the producer of insulin following the entry of generic insulin.

Suggested answer:
The entry of generic insulin increases the number of substitutes available. This reduces the market share of the producer of the original insulin and demand falls, also making the demand becoming more price elastic. The equilibrium price and quantity falls, leading to fall in total revenue. Assuming ceteris paribus, fall in total revenue leads to fall in profits.

(e) Discuss the factors that will influence the US government's decision to approve the merger between two larger pharmaceutical firms such as Pfizer and Allergan. [8]

Suggested answer:

US government has the objective of maximizing society welfare and will thus consider the impact on society when making the decision.

In terms of costs, consumer welfare may fall as the merger of Pfizer and Allergan will give the merged firm significant market share in the pharmaceutical industry, granting them higher market power which makes their demand more price-inelastic. This allows the merged firm to raise price to earn higher total revenue, leading to lower consumer welfare. With fewer firms in the market, there is also greater ability to collude informally via price leadership. There will be less price competition taking place, leading to consumers facing higher prices and lower consumer surplus. The higher price above MC worsens allocative inefficiency and causes welfare loss to society. Furthermore, the merged firm being able to earn greater supernormal profits in the long run, also worsens income distribution between producers and consumers.

In terms of benefits, there exist some benefits to consumers. According to extract 1, the merger allows the merged firm to cut cost and reap economies of scale. This is so as the merged firm would have larger market share and hence producing on a larger scale. This allows the merged firm to enjoy cost savings from large scale production. AC and MC falls, leading to the fall in equilibrium price and quantity increases, raising consumer welfare. The supernormal profits earned by the merged firm will also increase their ability to pay for high cost of innovation. New drugs could be produced as a result, increasing consumer welfare and also leading to greater dynamic efficiency in the economy.

There are also some unintended consequences arising from the merger. The merger will mean less resource will be devoted for marketing and advertising purposes, leading to less wastage of resources. There could also possibly be less mis-branding taking place, reducing the market failure that arises from imperfect information. Thus from the microeconomic perspective, the merger provides some advantages.

Evaluation
Thorough long term cost-benefit analysis is necessary to decide whether to approve the merger between Pfizer and Allergan. In particular, the US government has to consider whether the medical needs of patients would be compromised due to the merger. If the

merger goes through, mitigating policies such as healthcare subsidy to lower-income households should be implemented to ensure pharmaceutical drugs/medicines remain affordable to patients.

(f) Discuss whether the Singapore government's policies in the healthcare market can be justified. [10]

Suggested answer**:**

Singapore government's policies in the healthcare market can be justified.
Singapore government has implemented MediShield Life, setting up the Agency for Care Effectiveness (Ace) and moral suasion via campaigns to encourage Singaporeans to adopt healthy living and to go for regular health screenings. These policies can be justified.

MediShield Life was meant to help Singaporeans with rising healthcare costs as well as because of Singapore's ageing population. MediShield Life is a healthcare insurance policy that offers protection for everyone, even the very old, for life. MediShield Life pays for more of patient's hospital bills and patients will have to pay less, helping Singaporeans cope with rising healthcare costs. Such policy which covers the elderly also aim to help elderly in Singapore sustain the level of healthcare service that they can enjoy, aiding them in enjoying longer healthy lives. MediShield Life is also intended to address inequity issues by ensuring everyone is covered and no one is left behind. With this policy, PMB could also increase and converge with SMB and the external benefits of healthcare can then be internalized.

Ace was set up to reduce imperfect information. Patients and physicians may have viewed certain medication to have higher perceived benefit than actual benefit, possibly due to the mis-branding by pharmaceutical companies. This leads to the divergence between perceived PMB and actual PMB, leading to overconsumption/over-provision of the medication, leading to deadweight loss (DWL) as shown by the shaded area in Figure 1 below.

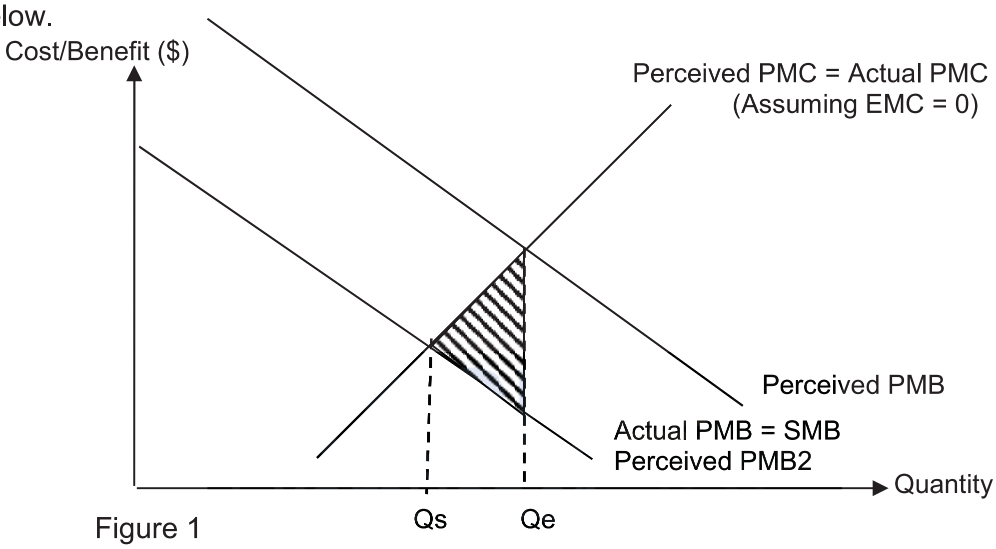


Figure 1

Ace will plug the information gap and fill patients and physicians with more accurate information on medication, allowing them to make more informed treatment decisions. Such policy will shift perceived PMB to perceived PMB2 which coincides with actual PMB, eliminating DWL and market failure arising from imperfect information. This policy also complements MediShield Life in terms of lowering healthcare cost as Ace is meant to help patients get the most out of what they are paying for their medication.

Singapore government is also adopting moral suasion on healthier living and more regular health screening to combat diabetes. Diabetes is a disease which is linked to lifestyle factors and patients may have to take the diabetes medicine for life. Furthermore, according to extract 2, diabetes can in turn lead to damages to heart, kidney and blood vessels. It is thus a costly disease for patients as well as for the government. It is intended that with moral suasion, Singaporeans can make better lifestyle choices and allow perceived PMB of healthcare services such as health screening to rise and converge with actual PMB, addressing imperfect information. Singaporeans will then adopt healthier lifestyle habits, preventing the incidence of diabetes. This reduces the healthcare burden on Singaporeans and also on the government.

The policies adopted are not without limitations. With MediShield Life being a healthcare insurance policy, it could possibly lead to 'buffet syndrome' (perceived PMC < actual PMC), where patients consume healthcare more than what they required, as most of the cost is paid by insurance company. Overconsumption of healthcare procedures results. Such healthcare insurance policy could potentially cause moral hazard issues as well. Patients, knowing that they are covered by insurance, may take risker behaviors, such as unhealthy lifestyle habits. They now have less incentive to take care of their health, knowing the healthcare costs will be borne by insurance company and not by themselves.

Campaigns on healthy living are costly and can put a strain on limited government resources. In addition, success of moral suasion depends a lot on the mindset of Singaporeans and their commitment level in wanting to change their lifestyle habits. Singaporeans' mindset may be rigid due to cultural and social norms. It also takes a long time to see the result of the policy.

In view of Singapore's ageing population, rising healthcare costs and market failure due to imperfect information, the three policies adopted by the Singapore government are justified. In particular, it is important that the Singapore government cushions the rise in healthcare cost as it is affecting medical tourism. Other than the above policies, more can also be done to ensure Singapore medical hub provides quality medical treatments that are better than neighbouring countries such that medical tourists continue to come to Singapore, boosting Singapore's export revenue (X). Optimistic outlook for medical tourism also attract greater investments by pharmaceutical firms into Singapore, increasing investment (I). Increase in X and I increase aggregate demand (AD), leading to higher real GDP for the Singapore economy.

PJC 2017 H2 Prelim Exam Paper 1

Question 2: Economic Performance, Prospects and Lessons

(a) Compare China's GDP growth between 2010 and 2015 with that of India over the same period. **[2]**

Suggested answer:
Both experience positive GDP growth between 2010 and 2015. While China GDP growth fell throughout the whole period, India GDP growth fell till 2012 and rises thereafter.

(b) Extract 5 suggests an increase in China investment overseas.

(i) Explain one reason why Chinese firms are buying competitor firms overseas. **[2]**

Suggested answer:
(Candidates need to focus only on one advantage – revenue advantage or cost advantage)
When two companies come together by acquisition, the joint company benefits in terms of cost efficiency. An acquisition is able to create economies of scale which in turn generates cost efficiency. As the two firms form a new and bigger company, the production is done on a much larger scale and when the output production increases, there are strong chances that the cost of production per unit of output gets reduced. This benefits the firms in terms of profits gain.
Or
By buying a competitor firm overseas, the joint company enjoys tremendous amount of revenue advantages due to their large size and market share. A large firm has the resources to engage in non-price competition such as advertisement of their products to make their goods more cross-price inelastic relative to their rivals. Hence, they are better able to withstand the competition from the rivals. They could even possibly set a higher price for their products without losing many of their customers given an inelastic demand, leading to rising TR.

(ii) Comment on the likely effects of this on China's balance of payments. [4]

Suggested answer:
An increase in China investment overseas will lead to a deterioration of her capital account in the short run as this is recorded as a debit entry in the long term capital account. Ceteris paribus, her BOP will deteriorate. However, in the long run her balance of payment may improve as investment overseas reap returns in the form of investment income such as profits and dividends. These are remitted back to China and are recorded as credit entry in China's Current account in her Balance of Payment.

(c) Explain the trade-off between inflation and growth in view of the action taken by the Indian government to deal with the weakening of the Indian Rupee. [4]

Suggested answer:
To deal with the weakening of the Indian Rupee, the Indian government need to increase interest rate to increase net capital inflow. A strong rupee will result in a fall in price of imports and helps to mitigate the effect of imported inflation which India is susceptible to as her growth is driven main by her reliance on imports of cheap oil. However, an increase in interest rate will increase the cost of borrowing and hence reduce C on big ticket items and I as at the same expected returns, some investment projects are no longer profitable. A reduction in C and I will reduce AD and hence reduce GPL. But an increase in i/r will at the same time retard growth as a fall in AD will reduce real GDP through the reverse multiplier process.

(d) Discuss whether the data provided are sufficient to compare China's standard of living with [8] that of India in 2015.

<u>Suggested answer</u>:
Define SOL
Standard of living of a country refers to the social and economic well-being of a country which includes both the material and non-material aspects of life. The material well-being is determined by the quantity and quality of goods and services for consumption while the non-material well-being is the quality of life and environment which ones lives determined by the intangible factors such amount of leisure and life expectancy.

GDP is the purchasing power parity (PPP) value of all final goods and services produced within a country in a given year divided by the population for the same year. The GDP per capita, PPP is higher in China than India.	GDP per capita, PPP is a commonly used national income statistic to compare living standards between countries. International comparisons have to be undertaken in a common unit of measurement for example, the US dollar. The market exchange rate, however is not a good indicator of the relative domestic purchasing powers of the two currencies. Thus, the GDP per capita is converted using Purchasing Power Parity (PPP) exchange rate which is the rate of exchange that would allow a given amount of money income country to buy the same amount of gods in another country after exchanging it into the currency of the other country. Thus, since GDP per capita in PPP in China is higher than GDP per capita in PPP, it meant that average citizens in China have more goods and services available for consumption than in India. This indicates a higher level of material standard of living in China. Additionally, a higher level of good and services led to an increase in demand for labour, resulting in an increase in wages. A higher wage means Chinese households was earning higher income and disposable income and they had higher purchasing power to buy more and better quality goods and services compared to India	The difference in GDP per capita, PPP could lie in the non-availability of important data in some countries and in the nature and reliability of the data collected. Underground economy such as a cleaner who is paid in cash and does not declaring this earning are not accounted for in the statistical figure but contribute to the income and therefore material SOL of the residents. The size of underground economy differs between China and India. This meant that India could have a higher standard of living than China if there is a large underground economy. Additionally if the higher GDP per capita is due to longer working hours of workers, this meant that the Chinese had less leisure time and rest than India. This could lead to worse health condition and higher stress level. As a result, the Chinese workers could have experienced a fall in a quality of life. Need to know working hours to determine whether the China workers have a lower quality of life than India. Despite the higher GDP per capita, it does not reflect the income distribution in China and India. It is merely an average figure indicating the amount of goods and services available to each citizen in the country.

	The higher GDP per capita also enables China's government to earn higher tax revenue and hence able to increase their spending on merit goods such as better healthcare and education services. This is evident from the **higher healthcare expenditure per capita (US$)** for China than India. This leads to improvement in non-material SOL such as higher life expectancy and literacy rates.	
Gini coefficient varies from a value of 0 to 1. The larger the Gini coefficient, the less equitable is the income distribution. As seen from the data, the Gini Coefficient for India is lower than the Gini Coefficient in China.	China's higher Gini coefficient indicates that the income distribution in China is more unfair than India. Thus, even though India has a lower GDP per capita, standard of living of the general population could be higher in India.	-
Human Development Index (HDI) is considered as a composite indicator of SOL, taking into consideration economic, social and demographic aspects. It is a composite index designed by the United Nations comprising three elements: an index for life expectancy, and index for school enrolment and the adult literacy and an index for real GNI per capita (in PPP$). Each country receives an HDI value of O to 1 and the countries are ranked according to their HDI values. The country which has the HDI value closest to 1 is considered to have highest living standard based on HDI.	China's higher HDI ranking indicates that standard of living in China is higher than India since HDI seek to account for population health and life expectancy, knowledge, education and material SOL respectively. Together they account for both material and non-material aspects of welfare.	However, HDI only looks at one criterion of each aspect of economic, social and demographic aspects. Thus, it may overlook other aspects of human development such as income distribution, gender inequalities and political participation, which are all factors that also affect economic and human development. Thus, affecting the reliability of this HDI as a measure of standard of living.

China has a higher HDI ranking than India.		

Given data is necessary but not sufficient to compare China's standard of living with that of India. E.g. the higher GDP per capita, PPP may not necessarily lead to higher SOL if there is larger underground economy and worst income distribution. To have better assessment of SOL, more indicators such as size of underground economy and working hours are required. Composite index such as HDI indicate change in material and non-material SOL. However, there are also limitations of it such as using one criterion per aspect. Negative externalities, income distribution and gender inequalities are not taken into account. Thus, the data given are insufficient to compare China's standard of living with that of India, more data is required.

(e) In view of the anti-globalisation sentiments, discuss whether globalisation should be the driver of growth for emerging economies such as China and India. [10]

Suggested answer

Globalisation should be the driver of growth for emerging economies such as China and India.

Globalisation is the greater integration of the global economies due to greater trade and capital flows. With globalisation, China can gain access to more markets and can export more of its goods that it has comparative advantage (CA) in to the rest of the world resulting in higher export earnings (X). This causes her AD to rise in resulting in her NY rising by a larger extent via k effect. This can be seen in the positive economic growth rates averaging 6% - 10% as shown in Figure 1. In addition, greater flow of investment resulted in transfer of knowledge and technology from foreign MNCs to China's firms, and subsequently expands China's AS. As stated in Extract 5, China firms like Haier and ChemChina are now able to produce better quality products as they obtained improved manufacturing facilities and talents through increased outbound FDI. Capital flows also allow China to gain presence in new markets, which will benefit the economy as an additional source of export earnings. Lastly, as China struggles with rising wage rates and cost of production, globalisation and ease of capital flows will allow firms to tap on pools of resources in other developing countries with more competitive cost of production such as India. This brings about economic benefits to India as it attracts more inbound FDI, bringing about multiplied increase in it's NY and at the same time creating more employment in the economy. The Indian government is working towards higher economic growth that is driven by I, as seen in the many deregulatory measures in attracting FDI in its major sectors.

As a whole, globalisation should be the driver of growth for developing economies as it brings about increases in AD and AS leading to a sustained economic growth.

However, while increased trade and capital flows due to globalisation helps an economy achieve sustained economic growth, it has also led to greater interdependence among countries. If China focuses on globalisation as a driver of growth, China will be vulnerable to changes in the level of economic activities in the global economy. As mentioned in Extract 5, in the face of shrinking external demand, rising trade disputes and protectionism as well as other factors that result in China losing its competitiveness in low cost of production, the Chinese government wants to move the economy towards a consumption and innovation driven one. Similarly in India, these factors had hurt the growth dynamics of its economy. As globalisation speeds up economic restructuring, it threatens the employment of jobs that are in direct competition with developing countries, particularly low-skilled jobs. Even though China is also a developing country, it is a fact that the economy is suffering from rising wage rates and overall cost of production. This puts its low-skilled workers in a vulnerable position as they may lose their jobs if firms decide to outsource the production to economies with lower cost of production. In light of rising cost of production, China's government needs to focus on improving the economy's productivity so as to improve its competitiveness in the global economy. Lastly, globalisation led to rapid urbanization of China, exposing the country to various environmental and income distribution challenges. The Chinese government has implemented many relevant initiatives and plans to tackle these issues. Ease of capital flows may also hurt the balance of payments and bring about other of some countries. For instance, rising interest rate in the US coupled with appreciation of the US Dollar led to short-term capital outflow from India, causing the Rupee to depreciate. A depreciation of the Rupee could result in imported inflation in India. As a policy measure to tackle inflation, short-term measures such as contractionary demand management policies may lead to other economic problems for India. As stated in Extract 6, India government's plan to increase interest rates is likely to conflict with its macroeconomic aims of economic growth.

Despite the challenges, globalisation should still be the driver of growth for emerging economies such as China and India. The economy will benefit from increased trade and capital flows, as long as the government put in place appropriate policies to minimize the negative impacts of globalisation and must not be complacent and should regularly review their policies. In the long run, China needs to balance its dependence on external and internal demand as drivers of economic growth. Similarly, India should look towards implementing policies that would better allow the economy to reap the benefits of globalisation. The government should also retrain their workers and reallocate their resources to industries where they have CA, this would enable them to promote greater growth and welfare than if they had resisted globalisation through putting up more protectionistic barriers.

PJC 2017 H2 Prelim Exam Paper 2 Q1

Question:

Oil prices have fallen after the OPEC group of oil producing nations said global crude stocks had risen coupled with Saudi Arabia's production increasing to 10.011 million barrels per day from 9.748 million barrels per day. In addition, a weaker economic outlook means demand for oil in 2017 is likely to grow at a slower rate.

Discuss how the above events are likely to impact the market for oil and its related markets. [25]

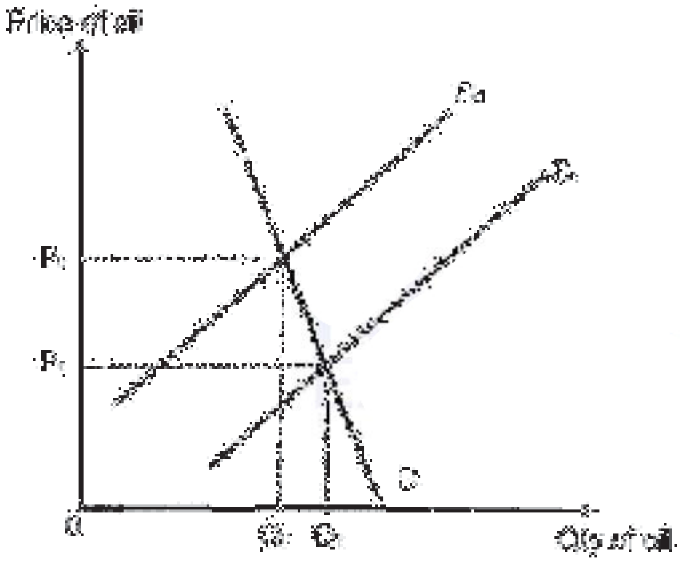
The market for oil works through the forces of demand and supply. Demand refers to the willingness and ability to pay at each and every price while supply refers to the willingness and ability to produce a good at each and every price level.

Hence, if there are any changes to demand and/or supply for oil, the market will be affected and the equilibrium quantity and price will change depending on the extent and direction of the changes in demand and supply. In addition, the price elasticity of demand and supply can also impact the extent of price changes when demand and supply change.

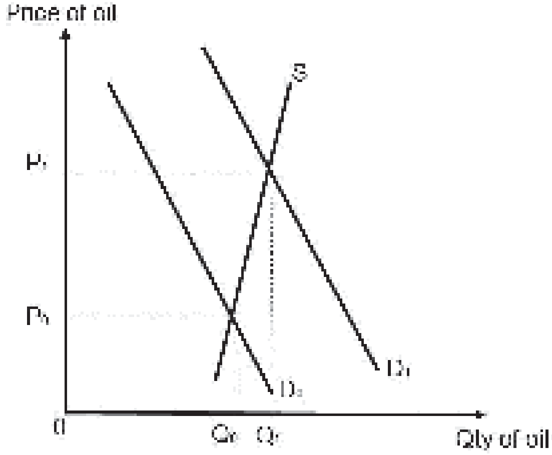
Being an essential factor input that is involved in almost the production of all other goods and services, the change in the price of oil would definitely have an impact on many other markets such as air travel, energy and manufactured goods.

With reference to the preamble, the rise production of oil by Saudi Arabia and slower growth will impact the supply and demand for oil respectively.

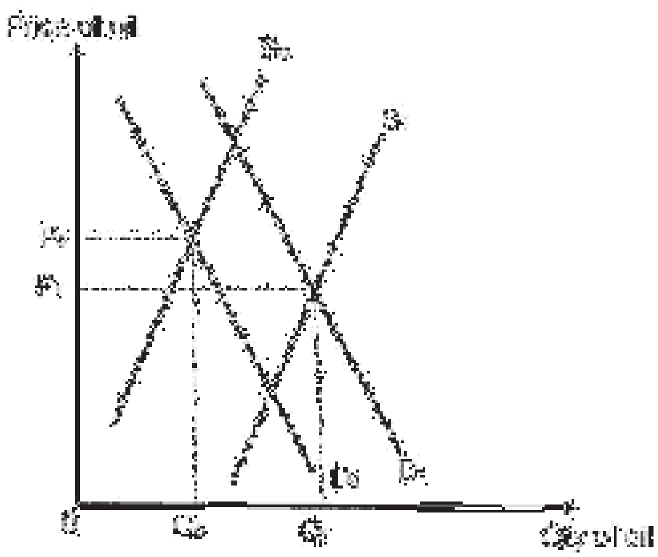
With a rise in supply of oil due to the higher production by Saudi Arabia, this will result in a rightward shift of the supply curve. A surplus will occur at the original price, causing downward pressure on price and a subsequent fall in oil prices and an increase in equilibrium quantity. As demand for oil is price inelastic due to the fact that it is an essential factor input used for producing almost all goods and services and a basic commodity, a rise in supply against a price inelastic demand curve will result in a huge fall in its price.



The preamble also mentioned that growth rate is expected to slow down amidst the weaker economic outlook. With slower growth, income levels will rise but at a much slower rate. Demand for goods and services will still increase and this raises the demand for oil as oil is a necessary factor input used in essential areas such as transport and energy. The rise in demand for oil will result in a shortage at the original price, with upward pressure on price and ultimately causing the equilibrium price and quantity to increase. With supply of oil being price inelastic as it takes a long time to carry out exploration and extraction, the rise in demand against a price inelastic supply will cause the price of oil to rise significantly.



Overall, it is likely that the rise in supply of oil will outweigh the rise in demand as economic outlook is still bleak and many economies' growth rates are only starting to pick up. Hence, taking into account the change in demand and supply factors, the price of oil should fall in conjunction with a rise in equilibrium quantity.



Evaluation: The extent to which price of oil may fall might be limited as Saudi Arabia would attempt limit its production in view of the rapidly falling prices. This is because the fall in oil prices will have an adverse impact of the country's economy since oil is one of their main sources of export revenue and it is likely the Saudi Arabian government will intervene accordingly to boost oil prices to minimize the negative consequences of falling oil prices.

One of the markets that would be heavily affected by changes in the oil market would be air travel. Oil is an essential factor input used in the production of fuel and petrol. As oil prices fall, the cost of production for airline will fall as fuel costs take up a huge percentage of their total costs of production. This will result in a significant rise in supply of air travel services, resulting in a fall in equilibrium quantity and a fall in the equilibrium price. In addition, demand for air travel should also rise significantly due to the fact that income levels are actually still increasing and air travel to most consumers are luxurious goods. Thus the overall impact on price depends on the extent of the shifts in demand and supply while equilibrium quantity has increased. **Evaluation:** The extent to which the price of air travel will be affected by the fall in oil prices might be mitigated by rising costs of labour and other expenses which airlines might incur such as airport taxes. With many developed countries such as Singapore, Japan and UK facing demographic challenges such as an ageing population, labour costs will rise significant and this may have a greater impact on airlines' operating costs. Thus, the net rise in supply for air travel could be limited with opposing factors working against each other. With falling oil prices resulting in lower fuel costs for airlines, the airlines may see this as an excellent opportunity to expand their operations due to the existence of higher potential profits and offer more routes and choices for consumers. For instance, Scoot has embarked on providing flights to places such as Athens, Honolulu and Osaka. With more marketing and options for consumes, the demand for air travel will increase, leading to a rise in equilibrium price and quantity.
The overall impact on the air travel industry will depend on the extent of the shifts of the demand and supply curves. In the short term, the rise in supply of air travel is likely to outweigh the demand for air travel as expansion plans always take time to materialize and the fall in oil prices seemed substantial and is likely to persist in the midst of weak economic outlook.
Another related market that is affected by falling oil prices would be the energy market. As oil is an essential factor input used in the production of many forms of energy and fuel such as electricity and petrol, the fall in oil prices would imply a fall in cost of production for energy. This would lead to a rise in supply of energy in the energy market, causing energy prices to fall and the equilibrium quantity to fall. The fall in energy prices could even reduce cost pressures greatly, increasing the short run aggregate supply curve for economies and lead to a fall in cost push inflation. The impact on the traditional energy market may impact the market for alternative sources of energy such as natural gas. As traditional sources of energy is now cheaper, the substitution effect will reduce the demand for these alternative sources of energy, leading to a lower price and quantity traded in the market. **Evaluation:** The impact of falling oil prices on the alternative energy market is uncertain. This is because many governments in the world are heavily subsidizing and supportive of the use of such energy sources to combat climate change. The market price of such energy sources may be driven to very low levels through government intervention and despite the fall in traditional sources of energy derived from oil, the demand for alternative sources of energy such as natural gas may not be affected to a large extent.

Falling oil prices will have an impact on the market for manufactured goods and services. As oil has a direct impact on energy prices and energy is required to produce all kinds of goods and services, the cost of production for all types of goods and services will rise. A fall in cost of production will increase the willingness and ability of firms to produce goods and services at each and every price. Supply for goods and services hence will rise. With economic growth, demand for goods and services generally will increase with a rise in income. Similar to the impact stated above, the overall impact on equilibrium quantity depends on the extent of the shifts in demand and supply. **Evaluation:** However, the extent of the impact of falling oil prices on markets of manufactured goods depends on how much a change in energy price affects the total costs of production of a manufactured good. For instance, using the example of a smartphone, labour costs and electronic components may take up a larger proportion out of its total costs of production compared to energy costs. So, even when energy prices fall due to a decrease in oil prices, the overall positive impact on the costs of production of a smartphone may be negligible.
Lastly, a fall in oil prices will positively affect a related market such as the public transport sector. The fall in oil prices will lead to a fall in fuel costs for public transport providers such as SMRT and SBS Transit in Singapore. As explained earlier, this will lead to a rise in supply and lower transport prices in Singapore with an increase in equilibrium quantity. **Evaluation:** However, due to recent breakdowns, the public transport operators have strengthened their maintenance regime, which brings about more cost pressures. Therefore, even with a fall in oil prices, public transport fares in Singapore have not been reduced significantly.
Being a crucial essential factor input for producing other goods and service and as a basic commodity, a fall in oil prices will generally create an impact of many other related markets. However, the extent of the impact is not always very predictable as it depends on government intervention, whether the fall in price of oil is substantial and also whether fall in oil prices is substantial.

PJC 2017 H2 Prelim Exam Paper 2

Question:

The firm's decisions and strategies are affected by cost, revenue, and threat from existing and potential competitors.

(a) Explain how producers in imperfect markets make rational price and output decision based on cost and revenue consideration. [10]

(b) Discuss the extent to which the behaviour of firms is influenced by the threat of competition. [15]

Producers in imperfect market would make rational decision of maximising profit by producing at an output where marginal cost is equal to marginal revenue (MC=MR). They would also attempt to price discriminate if they have control over the market to maximize profits. In the case where they earn subnormal profit, it would also make decisions whether to shut down or continue production to maximise profit.

Producers will aim to produce at the output where MC=MR to maximise profit.

In Figure 1, Producers will produce at Q_M, where MC = MR to maximise output and sell it at price = P_M as indicated by the AR (DD) curve. If producers produce at Q_1, which is below profit maximising output, the marginal revenue is MR_1 while marginal cost is MC_1. This means that the additional revenue is more than additional cost and producers could generate more revenue and profit if they increase output towards Q_M. On the other hand, producers produce beyond Q_M, for example, Q_2, the marginal cost of producing at Q_2 is MC_2 while marginal revenue is MR_2. This means that producers can reduce cost by reducing its output, leading to an increase in profits. Hence, producers would decrease its output to increase its profits. At Q_M, where MC=MR, producers cannot increase its profits any further by changing its output.

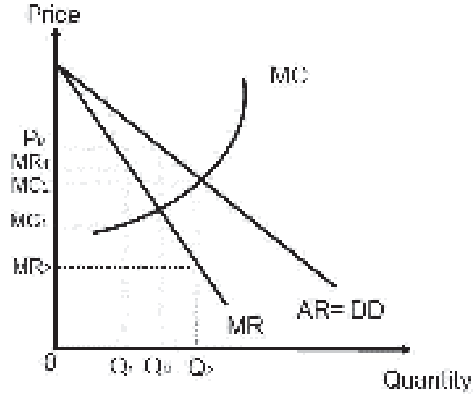


Fig 1: Profit maximising output

Hence, producers will produce at output Q_M, and price it at P_M to maximise profit.

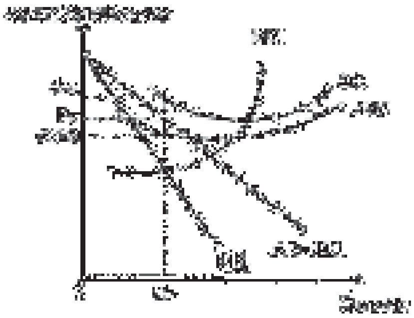
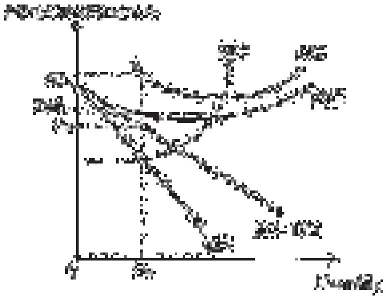
For producers who dominate the market (e.g.: Monopoly), they could also practice price discrimination to maximise revenue and profit.

Price discrimination is the practice of charging different prices for the same product or services for reasons not due to cost differences. It can occur when producers have control of market supply, able to separate the market with little cost and the separate markets have different price elasticity of demand.

For example, public transport firms are able to charge a lower price for students and elderly, where their demand is price elastic (due to high proportion of income spent). This would allow public transport companies to earn higher revenue as the lowering of price will result in a more proportionate increase in quantity demanded, leading to an increase in total revenue. On the other hand, they will be able to charge a higher price for working adults as their demand is price inelastic (due to low proportion of income spent on public transportation). Hence the increase in price will result in a less than proportionate fall in quantity demanded, leading to an increase in total revenue.

Hence, producers could price discriminate by charging different prices at profit maximising output in markets with different price elasticity of demand to increase total revenue and hence maximise profits.

In the case where the producer is earning subnormal profit when they are producing at profit maximising output, firms would need to decide whether to shut down or continue production.

Producers will shut down when the price is less than average variable cost of production. From Fig 2, at profit maximising output Q_M, price is P_M. Even though the firm is earning subnormal profit ($AC_M > P_M$), price is more than average variable cost ($P_M > AVC_M$). Hence the producer will continue production as the revenue earned could be used to offset the fixed cost.   Fig 2: Producer continue operation   Fig 3: Producer decides to shutdown However, if the average variable cost at profit maximising output is more than price (seen in Fig 3, where $P_M < AVC_M$ at Q_M), the revenue earned from production is not enough to cover the variable cost. Hence, producers will choose to stop production to minimise loss.
Thus, if producers earn subnormal profit when they produce at MC = MR, they would decide to continue production only when $P_M > AVC_M$ at profit maximising output.
Thus producers will make a rational decision to produce at MC=MR to maximise profit and price its goods as indicated by its AR. However, its pricing decision may vary if they could price discriminate. They would also consider shutting down production if they earn subnormal profit.

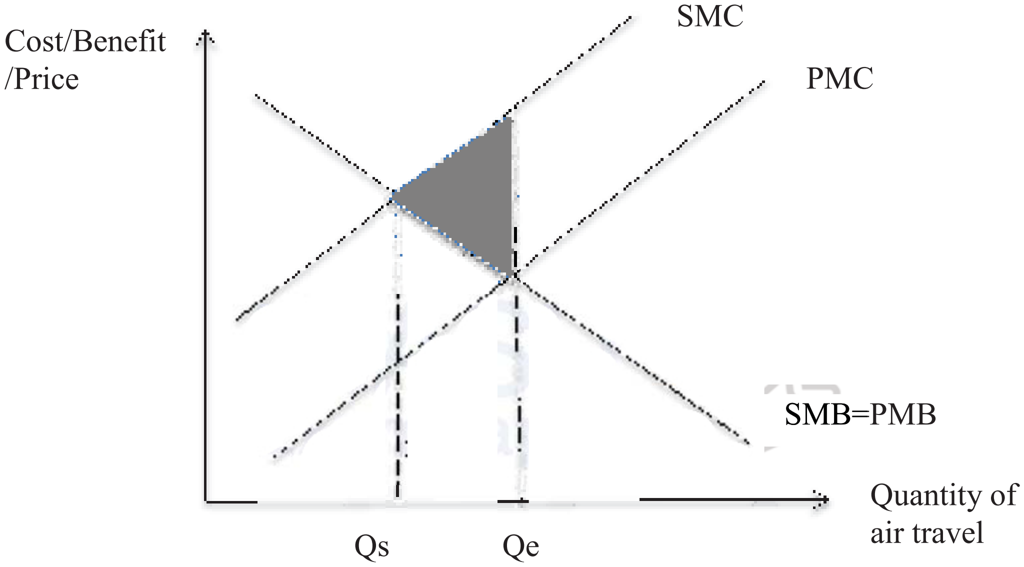
b) Discuss the extent to which the behaviour of firms is influenced by the threat of competition. [15]
Firms will normally engage in price and non-price strategies (behaviours) in order to maximise profits. While the behaviour of some firms in oligopoly and monopolistic competitive industries is influenced by the level of threat of competition in the market, there are also other factors that influence the behaviour of firms as the profit level of firms and alternative aims of firms. As such, the extent of which the threat of existing and potential competition influence the behaviour of the firms depends on whether which factor has greater significance of it.
Threat of competition could influence the behaviour of firms in an oligopoly market.
With a few large dominant firms in an oligopoly market (e.g: telecommunication firms in Singapore), they are subjected to existing and potential threat of competition since the government deregulate the industry. Hence, they exhibit mutual interdependency as the action of one firm would affect others. In light of competition, they would avoid changing their prices. This is because if a firm increases its price, their rivals would not follow suit, which could result in a more than proportionate fall in quantity demanded, resulting in a fall in total revenue and profit, ceteris paribus. If a firm reduces its price, the rivals would follow suit, which could result in a less than proportionate increase in quantity demanded, causing total revenue and profit to fall, ceteris paribus. As a result, in light of competition, Singtel, M1 and Starhub would usually avoid price competition. Instead, they would engage in non-price competition such as improving connectivity island wide, varying the amount of mobile data given to subscribers, to increase their demand and quantity, leading to an increase in total revenue and profit.
Hence, oligopoly firms in light of threat of competition, would avoid changing prices and instead focus on non-pricing strategies to increase total revenue and profit.
However, even with threat of competition, oligopolistic firm may still engage in pricing competition to achieve alternative aims.
Instead of aiming to achieve profit maximisation, firms in oligopoly would use pricing strategies or predatory pricing strategies in order to increase market share. This strategy could be used in attempt to establish market dominance in the industry in the short run. In Singapore's telecommunication industry, there was a price war in 2016, where Singtel, M1 and Starhub reduced its monthly subscription plans to gain more market share in the industry even if it means that they would see a fall in total revenue in the short run. This behaviour might be influenced by alternative aims of firms (market share dominance). However, the underlying reason for this behaviour is to reduce existing threat and attempts to ensure that it could withstand the pressure of potential threat in the future. Hence, for oligopoly firms, the threat of competition will influence firms' behaviour by a large extent.
The threat of competition influences the behaviour of firms in a monopolistic competitive industry.
Because there are many small firms with insignificant market share selling similar but differentiated products, it is unlikely that their actions would affect the decision of firms as the action of one firm would have very little impact on individual firms. Hence, they would decide on price and engage in non-price strategies independent from one another in order to increase profit. However, if the monopolistic firms are operating very close to each other, the threat of competition among its existing firms would result in them displaying mutual interdependence behaviour such as engaging in pricing and non-pricing strategies such as advertising in order to increase demand, quantity and total revenue.
Hence, the behaviour of monopolistic competitive firms would be influenced based on the level of threat of competition in the industry.
However, the threat of competition is not significant in deciding the behaviour of firms in monopolistic competitive industry.

As monopolistic competitive industry have low barrier to entry, firms will end up earning normal profit in the long run. As a result, this would influence the type of non-pricing strategy they engage in. Firms will have no financial ability to engage in research and development to create real significant changes to its products in the long run. So in the midst of threat of competition, they will be restricted in the variety of non-price strategies that it could use. In the end, they might only be able to engage in advertising in order to create imaginary differences between its products and its rivals' in order to maximise profits. Some monopolistic competitive firms could also be aiming to be profit satisficing. For example, social entrepreneurs could set up restaurants in order to advocate a cause (providing job opportunities for people with mental disabilities). Thus, it would engage in advertising in order to increase awareness even if they do not face threat of competition. So, even if there is a threat of competition in a monopolistic competitive industry, the level of profit and the alternative aims of firms seem to play a more significant role in influencing how they behaviour with or without threat of competition.
Thus, the type of non-price strategies to increase profit by monopolistic competitive firms is influenced by threat of competition by a small extent. The profit level of the firm and alternative aims of firms could be more significant in this case.
Besides threat of competition, other factors including profit level and alternative aims of firms could influence the behaviour of firms. For oligopoly firms, the threat of competition influences the behaviour by a larger extent while it may have a smaller extent of influence on a monopolistic competitive firms' behaviour.

PJC 2017 H2 Prelim Exam Paper 2
Question 3: The biggest four airlines in America now control 80% of the market. The US Environmental Protection Agency (EPA) has said that greenhouse gases from aircraft endanger human health. Many people in the USA are calling for the use of carbon taxes rather than tradable permits to reduce greenhouse gas emissions.
a) Explain how negative externality and market dominance can lead to market failure. **[10]**
Market failure occurs when the free market fails to achieve economic efficiency without government intervention. Allocative efficiency is achieved where Price (P) is equal to Marginal Cost (MC). Market failure could occur due to the presence of negative externalities and market dominance.
The presence of negative externality can lead to market failure.

Negative externalities are costs borne by third parties who are not involved in the production or consumption of the good and they are not compensated for. In the air travel market, the Private Marginal Benefit (PMB) of airlines/producers is the additional revenue they get from the provision of air travel services. The Private Marginal Cost (PMC) borne by the airlines are the fuel and manpower costs of operating a flight. In the free market, airlines decide to produce at Qe where PMB=PMC to maximize their welfare. Assuming no positive externalities, EMB=0 hence PMB=SMB (Social Marginal Benefit). Negative externalities arise as the provision of air travel services lead to the emission of greenhouse gases, which according to US Environmental Protection Agency (EPA), the emissions endanger human health. Thus residents living near the airport who are the third parties may suffer health problems, such as increased risk of respiratory problems as a result of prolonged exposure to carbon emissions from aircraft. This increased health costs which are third party costs are not compensated for. These External Marginal Costs (EMC) cause a divergence between Social Marginal Costs (SMC) and PMC by a distance of EMC since SMC=PMC+EMC.

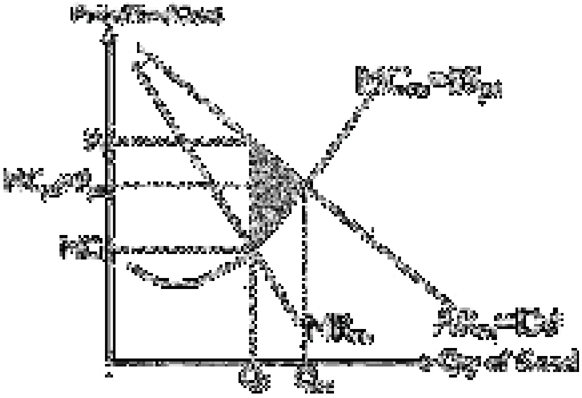
The socially optimum level occurs when the additional cost to society is equal to the additional benefit to society where SMC=SMB for the last unit of air travel service produced at Qs. Since Qe is greater than Qs, there is an over-production of air travel services in the free market. For every additional unit produced between Qs and Qe, SMC>SMB, causing a deadweight loss to society of the shaded area.



Thus, negative externalities cause welfare loss and economic inefficiency. Hence negative externalities cause market failure.

Market dominance is another source of market failure as it results in allocative inefficiency.
The four airlines in America control 80% of the market. The air travel industry in US exists in an oligopolistic market structure. Oligopolistic firms have high barriers to entry and thus high market power and are able to restrict output and set price higher than marginal cost causing market failure due to allocative inefficiency.

With only four airlines providing for most of the air travel services in US, there are few substitutes to consumers, making the demand for their air travel services to be price inelastic. With a downward sloping demand curve, they seek to maximize profits and will set output where MC_m=MR_m at Q_1. Price, P_1 exceeds marginal cost, MC_1. Consumers value an additional unit of the air travel service more than its marginal cost and welfare can be maximized by increasing output to Q_{pc} and lowering price to P_{pc}, which are the output and price levels of a perfectly competitive market structure. At P_{pc}, price is equal to marginal cost and thus allocative efficiency is achieved. By producing at Q_1 and P_1, deadweight loss of the shaded area is incurred, resulting in market failure.



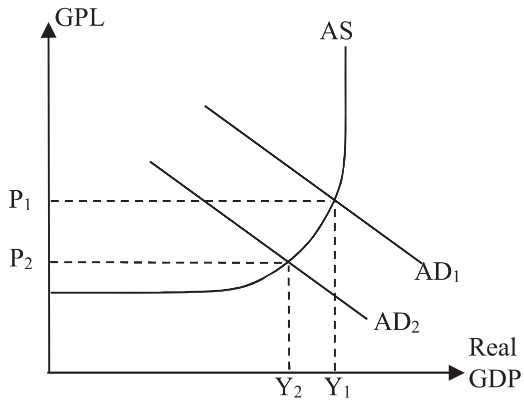
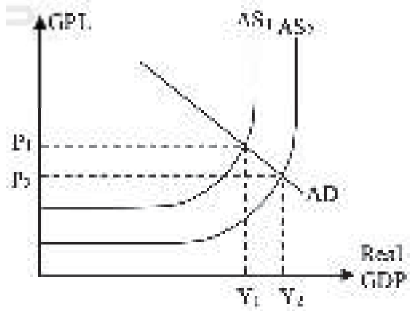
In addition, if the airlines are in a collusive oligopoly, they collude and agree to restrict output and raise prices. They would be behaving like a monopolist in the market, setting prices to maximize profit and the impact on equilibrium price and output leads to allocative inefficiency and this is can also be shown by the same diagram above.

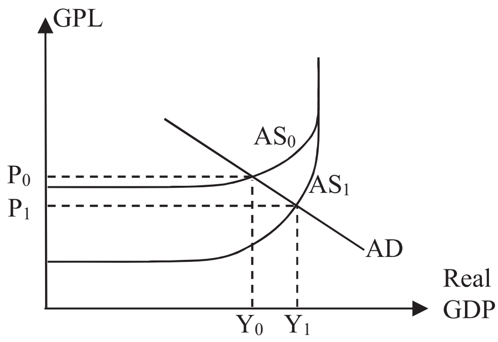
Market dominance results in allocative inefficiency and thus causes market failure.

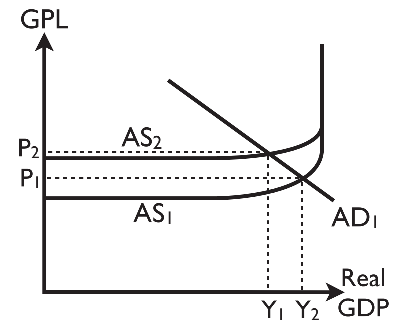
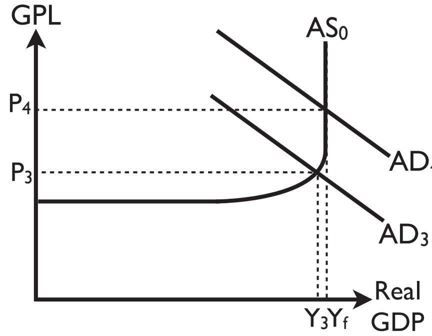
Negative externalities and market dominance are sources of market failure in the US air travel market. The US government needs to correct the market failure and the policy responses will be discussed in (b).

b) Discuss the alternative policies to tackle the above sources of market failure. **[15]**
The sources of market failure in the US air travel market are negative externality and market dominance. The policy responses can include the use of tradable permits, carbon tax and also antitrust policies.
One of the policies to correct market failure due to negative externality is the use of tradable permits.
The implementation of tradable permit is where a maximum permitted level of emissions is set for a country and the government distributes permits to various industries in the economy, allowing them emit up to a specified amount of carbon. US government can consider implementing this policy and distribute permits to the airline industry. It allows airline industry to trade with the other industries on carbon emissions. Airlines that use more efficient methods of production will emit less greenhouse gases and hence the EMC in production is lowered, resulting in the divergence between SMC and PMC to be reduced. Qs rises and deadweight loss is reduced. These 'greener airlines' can sell the permits to other airlines/firms in other industries who may need to emit more carbon emissions in their production. For firms that are unable to reduce their level of emissions will have to buy permits to pollute. These firms pay for permits to pollute will thus face higher marginal cost of production as they need to buy emissions permits to produce additional output. PMC rises to PMC2 and Qty falls (Q2 closer to Qs). There are however limitations to the use of tradable permits. The US government faces administrative costs as they still needs to monitor and measure the amount of greenhouse gas emissions each firm emits when producing their goods and services. It is also administratively complex as the amount of carbon emissions due to flying is not easy to estimate. It is also important to note that the use of tradable permits in the US air travel market may result in unintended consequences. This is so as the US air travel market is dominated by a few large airlines, meaning the airlines could potentially exercise their market power in the permit market to create distortions in output level. For example, an airline could buy up all or most of the permits to push up permit price so as to increase the cost of production for their competitors, either to drive them out of the market or to reduce the market share of their competitors. Such unintended consequences must be addressed if tradable permits are to be used in the US air travel market.
Tradable permit is one policy that can be implemented to tackle the market failure caused by negative externality.
One of the policies to correct market failure due to negative externality is the use of taxation.
Carbon tax can help reduce emissions. With pollution monitoring equipment, the government can impose a tax on airlines, according to how much greenhouse gas they emit. The higher the emissions, the higher the tax. This similarly shifts PMC up to PMC2 as firms face higher costs of production when they need to pay an additional carbon tax. They reduce production to Q2 and hence less carbon emissions. Because of imperfect knowledge, governments may not set the correct amount of carbon tax equal to EMC. Furthermore, carbon emissions due to flying are not easy to estimate. Too low a tax and the output remains too high. Too high a tax leads to underproduction and airlines may need to raise prices of their air travel services, lowering consumer welfare. However, carbon tax may still be a better policy than tradable permits because it avoids the unintended consequences caused by tradable permits. Regardless of the market power of airlines; they have to pay the carbon tax based on their emission levels. This could also be the reason why many people are calling for the use of carbon taxes instead of tradable permits to reduce the emissions.
Carbon tax is one policy that can be implemented to tackle the market failure caused by negative externality.

One of the policies to correct market failure due to market dominance is the use of antitrust policy.
The US government regulates market dominance via the US Department of Justice (DOJ) Antitrust Division. The DOJ monitors companies pricing behavior and if they discover evidences of anti-competitive behavior such as price fixing or collusion the DOJ will fine the firms involved or to forbid future anticompetitive behavior and require the firms to take steps to remedy the anticompetitive effects of past violations. DOJ could look into the US airline industry, especially since there are only four major airlines controlling 80% of the market, which makes it easier for these four airlines to agree not to compete head to head. If the four airlines are competing unfairly, such as raising prices together, DOJ should intervene to stop such practices as such pricing behaviour penalizes the consumers. DOJ should also stand ready to block mergers, to prevent airlines from building monopoly positions at airports. Such interventions by DOJ will encourage greater competition in the US air travel market, reducing allocative inefficiency as prices would be lowered to be closer to MC. Antitrust policies are not without limitations. One important one is that it is often difficult to identify whether rising prices in the market is due to firms abusing their market power or due to rising costs. Furthermore, it is costly to run such regulatory body as such organizations require lawyers and economists to put together lawsuits against large corporations.
Another policy to correct market failure due to market dominance is the use of MC pricing. The US government could regulate that airline must set price at P = MC. Firm produces where MC intersects AR. Quantity is higher and price is lower than profit maximizing price and output. Consumers are better off as they could enjoy air travel at lower prices. There is allocative efficiency and society's welfare is maximized. However, such policy is only sustainable if airline is still able to make normal or supernormal profits when P=MC.
Tradable permits, carbon tax and antitrust policies are the policies to tackle the two sources of market failure. For tradable permits to work effectively, antitrust regulatory bodies must also be able to ensure the permit market is not used as a tool to build airline's monopoly position. Only if this can be addressed will tradable permits be a good policy to implement for the US air travel market. Otherwise, carbon tax and antitrust policies should complement each other to solve the market failure caused by negative externality and market dominance respectively.

PJC 2017 H2 Prelim Exam Paper 2
Question: 4 **Singapore's inflation moderated to −0.5% in 2015, from 1.0% in the preceding year. In October 2015, MAS eased policy further by reducing the rate of appreciation of the policy band slightly, in view of reduced price pressures alongside a weaker growth outlook.** **Source MAS Annual Report 2015/16** **(a) Explain the possible causes of deflation in a country. [10]** **(b) Discuss whether exchange rate policy should remain the most important policy in maintaining price stability in Singapore. [15]**
Deflation is defined as a sustained decreased in the general price level of an economy. It can be caused by either a fall in aggregate demand or a rise in aggregate supply or both.
Deflation can be caused by a fall in aggregate demand.
For example, falling C and I due to due to consumer and business pessimism about the future state of the economy as that witnessed in Japan or debt problem in the euro zone and austerity measures implemented which reduces government spending. All this cause a leftward shift of the aggregate demand (AD) curve from AD_1 to AD_2, leading to a fall in the general price level from OP_1 to OP_2.    Thus, one of the causes of falling GPL is falling AD.
Another cause of deflation is due to rising AS due to improvement in technology. An improvement in technology improves the efficiency of capital, reduces the average cost of production and raises the productive capacity in the economy. The lower cost of production allows firms to lower prices, and this will lead to a downward shift of the aggregate supply (AS) curve. The increased productive capacity increases the full employment output of the economy, hence there is also a rightward shift of AS. AS curve shifts from AS_1 to AS_2, the equilibrium general price level falls (P_1 to P_2) while the real output increases (Y_1 to Y_2). Hence another cause of deflation is due to improvement in technology. 

The third cause of deflation is due to falling prices of factors of production.
A reduction in the price crude oil for example, reduces the cost of production of most industries as crude oil is a main source of energy. This will increase the profit margin of firms and increase the aggregate supply in the short run. Given aggregate demand curve AD, the AS curve shifts downwards from AS_0 to AS_1 as shown in figure 1 below, leading to a fall in the general price level from OP_0 to OP_1 .  A fall in prices of factors of production is another possible cause of deflation
Deflation is cause by either a fall in AD or / and a rise in AS. The desirability of negative inflation on an economy depends on the cause, extent and duration. If the negative inflation is due to a fall in aggregate demand and a deflation results as seen in the euro zone and Japan, the economies are likely to be in recession and is undesirable.

Question: 4 **Singapore's inflation moderated to −0.5% in 2015, from 1.0% in the preceding year. In October 2015, MAS eased policy further by reducing the rate of appreciation of the policy band slightly, in view of reduced price pressures alongside a weaker growth outlook.** **Source MAS Annual Report 2015/16** **(b) Discuss whether exchange rate policy should remain the most important policy in maintaining price stability in Singapore. [15]**
Singapore uses exchange rate policy to manage inflation. Being a small and open economy largely reliant on FDI & trade for its growth. Singapore also lacks resources and hence very reliant on imports. Whether the use of exchange rate policy is the most important policy for an economy such as Singapore depends on the context of the economy, cause of inflation and the time period.
Gradual appreciation of the Singapore Dollar is the most important policy in maintaining low inflation in Singapore. As the Singapore economy which lacks natural resources, Singapore has to rely on imports for almost everything. Hence a gradual appreciation of the Singapore dollar can reduce the effects of imported inflation. As Singapore dollar appreciates, imports become cheaper in terms of domestic currency, reducing imported cost of production. Assuming firms pass on cost savings to consumers by reducing prices, the AS curve shifts downwards to alleviate cost push inflation as seen in Fig 1 where a downward shift of AS from AS_2 to AS_1 will reduce general price levels from P_2 to P_1.  Figure 1  Figure 2
Currency appreciation can also help dampen the rise in AD to control demand pull inflation as an appreciation of currency causes exports to be more expensive in foreign currencies, causing quantity demanded for exports to fall and imports to be cheaper in domestic currencies, causing quantity demanded for imports to rise. If Marshall-Lerner condition holds where $\|PED_x + PED_M\|>1$, the appreciation of currency will cause net exports (X-M) to fall, resulting in a fall in AD, controlling the overheating effects in our economy. In Fig 2 above, a fall in AD from AD_4 to AD_3 can reduce the general price levels from P_4 to P_3. Therefore, given Singapore's open economy, a gradual appreciation of our currency is an effective and important tool to manage inflation in our economy. This is further supported in the preamble where MAS eased policy further by reducing the rate of appreciation of the policy band slightly in view of reduced price pressures alongside a weaker growth outlook.
Despite the importance of Exchange rate, it does not tackle demand-pull or cost push inflation attributed to domestic reasons (high demand for housing, high labour cost etc), which has been a source of inflation in recent years. Hence it alone might not be enough to maintain price stability.
The Singapore government also make use many cooling measures to tackle high inflation brought about by domestic cost pressures. For example, a higher additional stamp duty was imposed on citizens who are purchasing their second property and this will reduce excessive demand for housing

which subsequently reduces investments. The ease of obtaining a housing loan has also been tightened, tackling the problem of rising housing prices caused by rising demand. Also, measures to restructure the auto vehicle loan limits and additional registration fees system were also targeted at cooling the rising COE prices.

The usage of targeted cooling measures serves to tackle the problems of rising prices caused by domestic cost pressures efficiently. However, sometimes cooling measures may not bring about the intended effects and this requires additional policies. For instance, the housing cooling measures was the seventh cooling measures thus far. On top of that, the effectiveness of such cooling measures depends on the abilities of the authorities to check market trends and to identify appropriate measures.

Supply-side policies like education, training, subsidies and tax incentives to encourage Research & Development allow the economy to shift the AS curve to the right by increasing the quantity and quality of resources. With an increase in AS, Singapore can better meet the rising demands of the country (rise in AD), yet managing high inflation. These lead to outward shifts in the AS curve as rising labour productivity increases the productive capacity of the economy. This means reduced likelihood of demand-pull inflation since when AS shifts from AS_1 to AS_2, an increase in AD from AD_0 to AD_1 only increases GPL from P_1 to $P_{1.2}$ as shown in Figure 3.

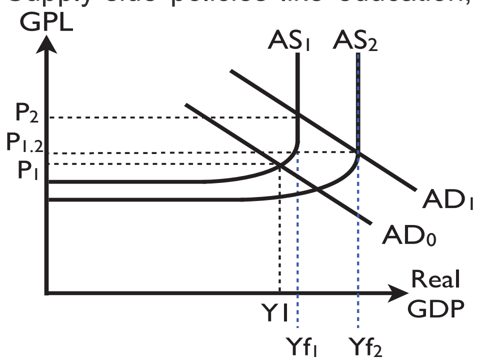


Figure 3

Education and training take time to have an effect, for example, it will take several years before improvements in education result in higher labour productivity.
Moreover, subsidies or tax incentives on R&D are costly, R&D takes a long time to take effect and it is often difficult to predict a definite outcome. That said, supply side policies are important policies to use to help the economy maintain price stability as it boosts competitiveness and attracts FDI, and without increasing AS and focusing only on exchange rate policies to manage AD, the economy will not achieve sustained non-inflationary economic growth.

Using exchange rate as a tool is pertinent in Singapore's context due to its small size and high degree of openness to trade and capital flows. As Singapore depends largely on imports for raw materials, as well as the external demand for exports, changes in exchange rate have powerful influence on net exports which has significant impact on aggregate demand. Whether exchange rate policy is the most important tool to maintain low inflation, the government needs to assess the cause of inflation and the context of the economy. For Singapore's economy, ER appreciation might be the most important if inflation experienced is largely caused by external factors.

In the event inflation is identified to be caused by both external & domestic triggers, the approach taken to achieve long term price stability would have to include the plethora of measures mentioned above even in the context of a small and open economy reliant on trade for its GDP growth such as Singapore.

PJC 2017 H2 Prelim Exam Paper 2

Question 5:

In the US, Japan, UK and much of Europe, there has been no increase in real incomes over the last decade for the median household. This reflects both the intense global competition and the forces of technology that are challenging a growing range of jobs. Singapore faces the same global realities and challenges.

Source: Singapore Budget 2015

a) Explain the impact of global competition and technological advancement on a country's aim in achieving inclusive growth. [10]

b) Assess the use of fiscal policy by the Singapore government to achieve inclusive and sustainable growth. [15]

a) Explain the impact of global competition and technological advancement on a country's aim in achieving inclusive growth. [10]

Inclusive Growth

Growth that takes into account income distribution

Global competition	Global competition	Technological advancement
Results in a loss of CA for declining industries → DD for workers in these declining industries fall → wages fall → if these workers do not fall the relevant skills to move to other growing industries → rising structural unemployment → affects ability of country to achieve inclusive growth	Countries that are less competitive due to higher cost and lower productivity will experience fall in exports and investment → economic growth falls → less tax revenue for government to redistribute income → affects aim of achieving inclusive growth	Results in unskilled workers being made redundant → if these workers cannot upgrade their skills → will not be able to work in the new industries created by the new technology → rise in structural unemployment of the less skilled → affects ability of country to achieve inclusive growth

Question:
In the US, Japan, UK and much of Europe, there has been no increase in real incomes over the last decade for the median household. This reflects both the intense global competition and the forces of technology that are challenging a growing range of jobs. Singapore faces the same global realities and challenges.

Source: Singapore Budget 2015

(b) Assess the use of fiscal policy by the Singapore government to achieve inclusive and sustainable growth. [15]

Fiscal policy can be used to achieve inclusive growth and sustainable growth

- Inclusive growth indicates a rate of growth that is sustained over a period of time, is broad-based across economic sectors, and creates productive employment opportunities for the majority of the country's population. In the case of Singapore, inclusive growth implies economic growth that takes income distribution into consideration and does not contribute to worsening income inequality.
- Sustainable growth indicates a rate of growth that can be maintained without creating other significant economic problems (such as depleted resources and environmental problems), particularly for future generations. It implies a positive and stable growth rate over an extended period of time. This will involve a country pursuing not only actual but potential growth taking into consideration the impact on environment as well.

Examples of FP	Support	Question
Progressive tax system – higher income earners pay a proportionately higher tax, with the current highest personal income tax rate at 22%	Through a progressive tax system, income is being redistributed from the higher income workers to lower income workers. The tax revenue collected is used to help the lower income people through schemes such Pioneer Generation Package, Wage Credit Scheme etc.	If the tax system is too progressive, it can affect incentive to work and result in brain drain, which will affect our AS and ability to sustain growth.
Low/competitive corporate tax rate – maintains a low corporate tax rate of 17%	Through adopting a low and competitive corporate tax rate, this will increase the expected returns of investment and hence leads to a higher level of investment in Singapore. This will bring about higher AD and AS leading to sustained economic growth necessary for a sustainable growth.	This is only one factor affecting investment. We will also have to ensure other factors affecting investment are present, e.g. competitive wage cost, low business cost such as rentals and utilities, ease of access to the rest of the world
Government spending on R&D E.g. Research Innovation Enterprise 2020 Plan	Spending on R&D promotes innovation which is important to increase our export competitiveness and	Costly and uncertain results. Government needs to ensure that the money is well spent to result in higher

(RIE2020) seeks to support and translate research into solutions that address national challenges, build up innovation and technology adoption in companies, and drive economic growth through value creation.	increase our export earnings, thus leading to higher AD and economic growth. Spending on R&D e.g. to promote renewable energy helps to reduce environmental problem so that we can achieve sustainable growth	productivity
Government spending on retraining e.g. SkillsFuture which aims to ensure a competitive and career resilient workforce. It enables working adults,d regardless of their starting qualifications, to continue to build and deepen their skills and competencies, throughout their lives.	This reduces occupational immobility and helps workers to stay relevant in view of changing demands in the job markets. As a result, it allows workers in all sectors to remain relevant and generate stable incomes and promote productivity growth which is essential for inclusive growth.	Subject to receptiveness of workers to go for the retraining schemes. Employers must also be open to employing older workers who undergo retraining.
Evaluation FP in Singapore important in achieving both inclusive and sustainable growth But be complemented with other policies such as exchange rate policies, free trade agreements, wage policies etc.		

PJC 2017 H2 Prelim Exam Paper 2 Question 6

Question:

Protectionism is the deliberate attempt by governments to limit imports or promote exports by putting up barriers to trade.

Assess the effects of protectionism on consumers, producers and government. [25]

Protectionism is a policy of sheltering the domestic industries from foreign competition through the imposition of trade barriers/ protectionist measures on foreign goods and services. There are tariff and non-tariff trade barriers. Examples of protectionist measures that are commonly used are import tariffs, import quotas and export subsidies.

Due to the negative effects that globalisation would bring about, some economist would argue the use protectionist measures to protect the economy from the harmful effects. Thus both the benefits and costs of protectionism should be considered from the perspectives of economic agents.

Protection can be given to industries that have lost their competitiveness or comparative advantage. Without any trade barriers, foreign imports which are cheaper and possibly of better quality will do better than the domestically produced substitutes which are more expensive. Massive unemployment will happen if these are large industries. Governments may use protectionism to prevent this massive unemployment which can lead to loss of income and a drastic fall in the standards of living. For example, restrictions on imports can slow the decline of such industries, providing time for labour to be retrained for other growing industries. This reduces the incidence of structural unemployment and helps sustain or at least ameliorate the impact on living standards. Hence, temporary protection for declining industries may be justified to prevent rising unemployment in the short run.

Imports can be limited through tariffs or quotas. A tariff is a tax imposed on imported goods. Tariffs raise the price that domestic consumers pay for imported goods. Many countries protect their agricultural sector through imposing tariffs, such as the US, Japan and China.

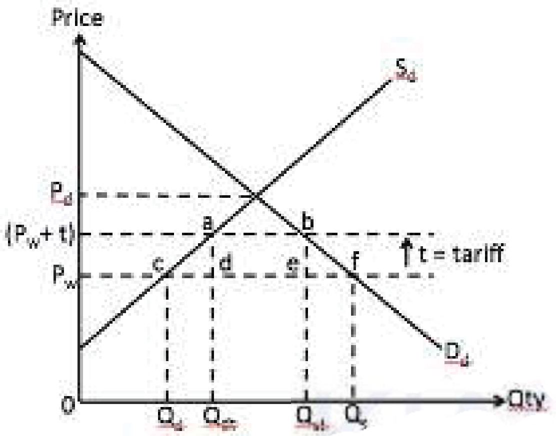


Figure 1

Tariff increases the price of imports compared to domestic goods. With reference to Figure 1, assuming a tariff of t is imposed on imported sugar in the US. This will increase the price of imported sugar from Pw to Pw+t. Without tariff, the US economy spends QdQsfc on imported sugar. After tariff, the economy will now spend QdtQstba on imported sugar. Tariffs reduce the demand for imports as consumer switch to the relatively cheaper domestic goods. As seen in Figure 1, domestic spending on sugar increases from 0PwcQd to 0(Pw+t)aQdt.

An import quota is a policy of only allowing a limited quantity of goods to be imported. Limiting the quantity of imports leads to a shortage of imports at the world price, this will drive up domestic prices to clear the market. For instance, the US government imposes import quotas on a wide range of goods, such as textile and sugar, the imposition of such quotas protects domestic producers.

An export subsidy is given when the government decides to subsidise an industry as a mean of helping to improve the competitiveness of the industry in the global market. For example, the Indian government's subsidy on raw sugar export. The subsidy will reduce cost of production for domestic sugar producers and hence shift the supply curve rightwards, allowing them to export their raw sugar at a relatively lower price as compared to other world exporters. A subsidy can also be given when the government decides to subsidise an industry as a mean of protecting the producers from competition of lower-priced foreign goods. The subsidy will reduce cost of production for domestic firms and hence shift the domestic supply rightwards, leading to a fall in the price of domestically produced goods to a price that is relatively cheaper than imports. This means that the country would import less of such goods and domestic firms would be able to produce higher quantities in the domestic market. All the above will bring about higher consumption expenditure (C) or export earnings (X) and lower import expenditure (M), AD will increase and national income will increase k times via the multiplier effect. Higher real output means that there will be higher derived demand for factors of production, leading to lower unemployment rate. The government benefits from collecting higher revenue as national income rises, and from the imposition of tariffs. Domestic producers benefit from the protection given by the government, and will be able to increase their revenue. However, consumers will be disadvantaged in terms of consumer welfare and consumer surplus as tariffs result in higher prices and less variety of goods.
Governments make use of protectionism to protect domestic industries. As explained above, trade barriers increase domestic quantity supplied and domestic price. Domestic producers will then enjoy higher revenues and profits. On top of that, higher quantity supplied means larger scale of production, some of these producers from protected industries may be able to enjoy cost savings as they reap the benefits of economies of scale. Protectionism benefits consumers in terms of employment opportunities. If the protected industries are leave to decline rapidly, it will lead to massive unemployment and many social problems, especially if these are dominant industries in the economy. Therefore the government needs to protect these industries for a while to allow the workers time to be retrained and re-employed by emerging industries. However, protectionism also means that the protected industries can continue to charge high prices to locals and consumers suffer lower-quality goods, higher prices and limited variety of goods. As a result, consumer surplus and consumer welfare will fall as consumers are forced to buy more expensive goods from the inefficient protected local industries. Sometimes, a government may put in place protectionistic measures as a measure to deal with a worsening balance of payments, so as to prevent continuous depletion of its foreign reserves. A balance of payments deficit occurs when international payments are greater than international receipts and a balance of trade deficit (X<M) is a problem in many developed countries. Hence, the government may resort to protectionism by introducing import duties, import quota or exchange control to reduce imports and thus improve the balance of trade and balance of payments. However, protectionism will reduce exports of trading partners, leading to beggar-thy-neighbour effects. Retaliation and beggar-thy-neighbour effects not only cause a fall in the country's exports causing the country to face the same BOP problems as before, it will eventually affect the employment and national income of the country as well.
Advantages of protectionism can outweigh benefits of free trade in the short run. Governments may protect large industries which are in direct competition with other countries and are losing out in terms of cost of production, this is particularly likely in developed countries such as the US. However, in the long run it protects inefficiency and ultimately depresses the standard of living of a nation. Therefore, it will be better to let the industry decline if it has already lost its comparative advantage and subsidise retraining and investment in the new efficient industries as a solution for the longer term. In this way, unemployment is avoided and the consumers do not suffer. Furthermore, a country that imposes tariffs in an attempt to create domestic jobs risks starting a 'trade war' with its trading partners. This could lead to lower X and thus lower AD which is detrimental to the growth of the country.