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DUNMAN HIGH SCHOOL

Preliminary Examination

Year 6

ECONOMICS

9732/1

(Higher 2)

25 September 2015

Paper 1

2 hours 15 minutes

Additional Materials:
Writing Papers

READ THESE INSTRUCTIONS FIRST

Answer **all** questions.

Write your name and class on all pieces of work handed 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.

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

At the end of the examination, fasten all your work securely into **two** separate bundles (one for Question 1 and one for Question 2).

This document consists of **7** printed pages including this cover page.

[Turn over

Answer **all** questions.

Question 1

The US Pharmaceutical Industry

Table 1: Healthcare and overall inflation rate in the US

Year	2012	2013	2014
Healthcare Inflation (%)	3.5	3.3	2.1
Overall Inflation (%)	1.7	1.5	0.8

Source: www.ycharts.com, and www.usinflationcalculator.com

Extract 1: How does growth in healthcare costs affect the US consumers?

When the price of a gallon of gas or a pound of hamburger rises, consumers can anticipate how the increase will affect what they have left to spend on other goods. It is far less obvious to consumers how increases in healthcare costs hit their pockets due to the uncertainties of healthcare needs.

In 2011 when US healthcare costs increased by 3.5 percent, US healthcare expenditure per capita increased by 3.1 percent. According to the November 2013 issue of the Journal of the American Medical Association, the primary reason for the rise in healthcare costs in 2011 accounting for 91 percent, was an increase in the price of drugs, medical devices, and hospital care. In 2013, when US healthcare costs increased by 3.3 percent; US healthcare expenditure per capita increased by 3.4 percent. Back in 2009, even when the US economy plunged into recession and millions lost their jobs, healthcare costs grew by 4 percent and healthcare expenditure per capita grew by 2.9 percent. Although these numbers are striking, they may not be easily translated into figures that are meaningful to individual Americans.

Sources: Various

Table 2: Top five US pharmaceutical companies: share of pharmaceutical industry

Share of pharmaceutical industry (by value of US sales)	2012 (%)
Novartis	20.0
Merck	19.8
Pfizer	18.2
AstraZeneca	17.3
Teva	16.3

Source: www.statista.com, 26 May 2014

Extract 2: Pricing strategies of US pharmaceutical companies

Once drugs reach the mass market, they are often relatively inexpensive to produce. Therefore, selling these drugs at lower prices outside the US can still be good for business. However, these drugs could find their way back to the US market and undercut the higher price set initially. Pharmaceutical companies try to prevent this by selling drugs at a lower price in developing countries, while promoting regulations barring re-importation of these drugs.

A recent trend observed is that prices paid for a drug vary depending on how well it works for some set of patients. Expensive cancer drugs may help with a variety of different cancers but often work better for one in particular. For instance, *Tarceva*, a cancer drug extends survival of lung cancer patients by months while survival of pancreatic cancer patients is only by weeks.

Sources: Forbes, 12 December 2013 & LDI, University of Pennsylvania, 11 June 2015

Extract 3: Hot drugs show sharp price hikes

On May 30 last year, the price for a bottle of *Lantus* diabetes medication went up by 16.1 percent. On the next day, *Lantus*'s direct competitor, *Levemir*, also registered a price increase of 16.1 percent. The pattern repeated itself six months later when *Lantus* was marked up 11.9 percent, and *Levemir*, matched again exactly.

Contrary to the consumer's ideal in which rivals cut prices to grab market share, competitors in branded pharmaceuticals often drive each other's prices higher. Prescription spending rose 13 percent last year to \$374 billion, according to IMS Health Holdings Inc.

The price of *Lantus* is set independently, according to a company statement. Experts pointed that if firms make independent price decisions not due to collusion, it could have been a business decision to follow price increments of their competitors. It was also noted that greater demand for diabetes medication is helping to drive price increases.

Source: Bloomberg, 6 May 2015

Extract 4: Pharmaceutical industry gets high on fat profits

Pharmaceutical companies have developed the majority of medicines known to humankind, but they have profited handsomely from doing so, and not always by legitimate means.

Pharmaceutical companies justify the high prices they charge by arguing that their research and development (R&D) costs are huge even though their marginal cost of manufacturing is just a tiny fraction of the price charged. On average, only three in 10 drugs launched are profitable. Many more do not even make it to market. Pharmaceutical companies however, spend far more on marketing drugs - in some cases twice as much - than on developing them.

The industry also argues that the wider value of the drug needs to be considered. Drugs do save money for consumers over the longer term. Take hepatitis C, a virus that kills people and used to require a liver transplant; with a 12-week course of a drug, 90 percent of people are cured, will never need surgery or looking after, and can continue to support their families. Even then, critics argue that just because you can charge a high price for something does not necessarily mean you should, especially when it comes to health.

Big pharmaceutical companies also say they only have a limited time in which to make profits. Patents are generally awarded for 20 years, but 10 to 12 of those are typically spent developing the drug at a high cost. This leaves eight to 10 years to make money before the formula can be taken up by generic drug companies, which sell the medicines for a fraction of the price. Once this happens, sales fall by more than 90 percent.

This is why pharmaceutical companies go to extraordinary lengths to extend their patents. New formulations and combining two existing drugs to give a wider use are some legal ways to eke out patents. Until recently, paying bribes to doctors to prescribe their drugs was commonplace, although this is now illegal in many places. Rules on gifts, educational grants and sponsoring lectures are less clear cut. A recent study found that doctors in the US receiving payments from pharmaceutical companies were twice as likely to prescribe their drugs. This may change when new rules force doctors to disclose all gifts and payments received.

Pharmaceutical companies have also been accused of colluding with chemists to overcharge for their medicines and of publishing trial data that highlight the positive at the expense of the negative. They have also been found guilty of mis-branding and wrongly promoting various drugs, and have been fined billions as a result. The rewards are so great, it would seem, that pharmaceutical companies have continually been prepared to push the boundaries of legality.

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.

Source: BBC News, 6 November 2014

Questions

- a) (i) Compare US healthcare inflation rate with the US overall inflation rate between 2012 and 2014. [2]
- (ii) Using the concept of opportunity cost, explain the effect of an increase in healthcare costs on the US consumers. [2]
- (iii) Explain possible reasons for the relationship between healthcare costs and healthcare expenditure per capita in Extract 1. [4]
- b) (i) Explain the type of market structure operating in the US pharmaceutical industry. [4]
- (ii) Discuss the extent to which the various pricing strategies adopted by the pharmaceutical companies could help them increase their profits. [8]
- c) Discuss the case for government intervention in the pharmaceutical industry. [10]

[Total: 30]

Question 2

Economic Growth and Challenges

Extract 5: Singapore is counting on ASEAN for growth

Singapore is counting on Southeast Asia's economic boom to lure foreign investment as the island's clampdown on foreign labour raises wage costs. The region, known as the Association of Southeast Asian Nations (ASEAN), is forecast to grow 5.2 percent this year and 5.6 percent in 2014.

Singapore became Southeast Asia's only advanced economy by moving up the technology ladder, turning a trading port into the region's biggest banking centre and a manufacturer of electronics, petrochemicals and pharmaceuticals. As its bigger, less-developed neighbours lure companies with faster growth rates, larger populations and cheaper workers, the island is forced to find new ways to position itself to stay competitive. Singapore cannot afford to attract the same kind of land and labour-intensive industries as in the past but as a services hub, it still has many advantages.

Asia which had seven of the top 10 exporters of textiles and clothing and office and telecommunications equipment in 2011 - shipped \$5.98 trillion of goods that year, an 18 percent increase from the year before, according to the World Trade Organisation (WTO). Of that, Southeast Asia sent out \$1.24 trillion of products, compared with \$432 billion in 2000 and \$72 billion in 1980, data from the WTO show.

Source: Bloomberg, 16 September 2013

Table 3: Selected ASEAN key economic indicators

Indicators	2010	2011	2012	2013 ^{p/}
GDP per capita at current prices (US\$)	3,139	3,587	3,761	3,832
International merchandise trade (US\$ million)	2,009,116	2,388,444	2,476,427	2,511,517
Export (US\$ million)	1,051,614	1,242,199	1,254,581	1,271,128
Import (US\$ million)	957,502	1,146,245	1,221,847	1,240,388
Foreign direct investments inflow (US\$ million)	100,360	97,538	114,284	122,377

Table 4: Intra-ASEAN trade, 2014^{p/}

Country (Selected)	Intra-ASEAN exports		Intra-ASEAN imports	
	Value (US\$ mil)	Share to total exports (%)	Value (US\$ mil)	Share to total imports (%)
Cambodia	2037.9	19.1	5577.6	29.4
Indonesia	39822.1	22.6	50903.1	28.6
Lao	1451.3	55.0	2045.0	74.4
Malaysia	65297.0	27.9	53779.1	25.7
Singapore	127739.2	31.2	75457.2	20.6
Vietnam	18260.5	12.3	22537.1	15.5
ASEAN	329700.4	25.5	278617.6	22.5

p/ preliminary

Source: ASEAN Website, <http://www.asean.org/>

Extract 6: Asia's challenges

Asia's rapid growth in recent decades has lifted hundreds of millions out of extreme poverty, but the region remains home to two-thirds of the world's poor, with more than 800 million Asians still living on less than \$1.25 a day and 1.7 billion surviving on less than \$2 a day. Poverty reduction remains a daunting task.

The gap between Asia's rich and poor has widened alarmingly in the past two decades. The Gini coefficient, a measure of inequality, has increased in much of the region: taking developing Asia¹ as a single unit, the Gini coefficient has increased from 39 to 46. Three groups, in particular, have benefitted most - the owners of capital, those living in cities and near coasts and the better educated graduates. Inequality of opportunity is prevalent and is a crucial factor in widening income inequality. 1.7 billion people (45 percent of the population) continue to lack access to sanitation and 680 million are still without access to electricity.

Reducing inequality and making growth more inclusive in Asia, therefore, requires the following mutually re-enforcing policy actions. First, fiscal policy must play an important role. Spending on social sectors – health and education – should be increased. Second, the gap between rural and urban areas and across provinces must be bridged. Regions lagging behind need more and better infrastructure. Third, productive jobs are a must for inclusive growth. This requires eliminating distortions that favour capital over labour and setting up public employment schemes to address pockets of unemployment and underemployment.

Asia has enjoyed a remarkable period of growth and poverty reduction, but the new realities of technological progress, more globally integrated markets, and greater market orientation are magnifying inequalities in physical and human capital. Asian policymakers must redouble their efforts to bring opportunities in employment, education, health and other key social services to all – thereby making growth more inclusive.

Source: OECD Forum 2013, OECD Website

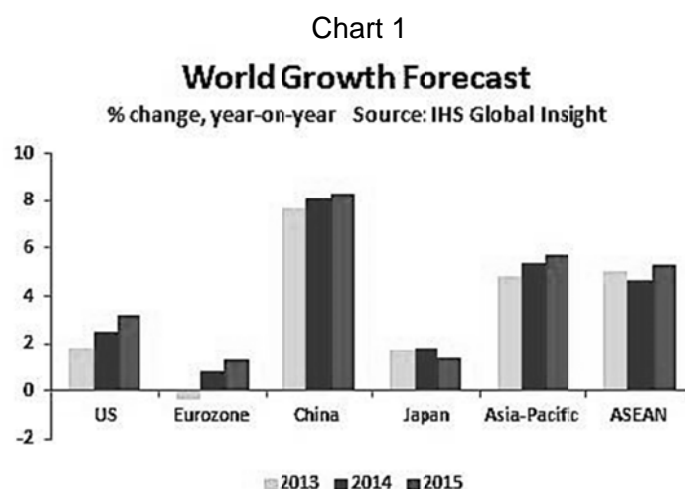
Extract 7: Global recovery should carry ASEAN through economic headwinds

One of the key risks to the ASEAN outlook for 2015 is the impact of Federal Reserve tapering of its quantitative easing programme and eventual policy-driven interest rate rises in 2015 as US recovery continues. This could pose risks of further depreciation of ASEAN currencies versus the USD.

Notwithstanding this, Southeast Asia remains one of the most rapidly growing regions of the global economy. Key megatrends supporting future ASEAN growth include the rapidly growing numbers of middle income households, strong growth in intra-Asian trade and manufacturing supply chains with Northeast Asia as well as a massive expansion in infrastructure spending and urban development across ASEAN over the next two decades. These megatrends will support rising valuations for ASEAN equity and property

¹ Developing Asia includes countries such as Afghanistan, Bangladesh, Bhutan, Brunei Darussalam, Cambodia, China, Fiji, India, Indonesia, Kiribati, Laos, Malaysia, Maldives, Myanmar, Nepal, Pakistan, Papua New Guinea, Philippines, Samoa, Sri Lanka, Thailand, Timor Leste (East Timor), Tonga, Vanuatu and Vietnam. It excludes the Middle East (Iran, Turkey and the Arab countries) and the Advanced Economies in Asia, which are classified as Japan, Singapore, Hong Kong, South Korea and Taiwan.

markets over the medium to long-term, due to rising household incomes, rapid urbanisation, and strong corporate earnings growth.



Many ASEAN countries will also remain attractive destinations for foreign mergers and acquisitions inflows, due to their fast-growing domestic consumer markets and their competitiveness as low cost manufacturing hubs. This has already been reflected in surging Japanese mergers and acquisitions inflows to ASEAN over the last three years, with Chinese mergers and acquisitions flows also expected to grow strongly as rapidly rising wages in coastal China make many ASEAN countries more competitive locations for low cost manufacturing.

Source: *www.forbes.com*, 19 January 2014

Questions

- a)
 - (i) Explain what is meant by 'GDP per capita at current prices (US\$)'. [2]
 - (ii) Explain whether the data in Table 3 is sufficient to provide evidence of a real economic growth in ASEAN in 2012. [3]
- b)
 - (i) Comment on whether there is a trade-off between economic growth and income inequality. [4]
 - (ii) Discuss the policy actions proposed to reduce income inequality for a more inclusive growth in Asia. [8]
- c)
 - (i) Explain the basis for the pattern of trade between Singapore and other ASEAN members. [3]
 - (ii) Assess the relative importance of internal and external factors in determining ASEAN's economic outlook. [10]

[Total: 30]

Suggested Answers:

Question 1

The US Pharmaceutical Industry

- a) (i) Compare US healthcare inflation rate with the US overall inflation rate between 2012 and 2014. [2]

The US healthcare inflation rate was consistently higher than US overall inflation rate between 2012 and 2014. [1m]

Both US healthcare and overall inflation rates were falling between 2012 and 2014. [1m]

- (ii) Using the concept of opportunity cost, explain the effect of an increase in healthcare costs on the US consumers. [2]

Define opportunity cost: the next alternative forgone when an economic decision has been made.

The increase in healthcare costs will mean that US consumers have to spend more of their income on the same quantity of healthcare. Assuming their budget/income unchanged, US consumers will have less to spend on other goods and services. This will cause them to incur opportunity costs in terms of other goods and services forgone.

- (iii) Explain possible reasons for the relationship between healthcare costs and healthcare expenditure per capita in Extract 1. [4]

Two well explained reasons [2m each]

In 2011 when US healthcare costs increased by 3.5 percent, US healthcare expenditure per capita increased by 3.1 percent. According to the November 2013 issue of the Journal of the American Medical Association, the primary reason for the rise in healthcare costs in 2011 accounting for 91 percent, was an increase in the price of drugs, medical devices, and hospital care. In 2013, when US healthcare costs increased by 3.3 percent; US healthcare expenditure per capita increased by 3.4 percent.

This meant that an increase in healthcare cost would lead to increase in expenditure, implying that the demand for healthcare is price inelastic. The increase in price would have led to a less than proportionate decrease in quantity demanded, since healthcare is a necessity for those who require it, there will be an increase in expenditure as the increase in expenditure from paying a higher price outweighs the decrease in expenditure from consuming less units. [2m]

Back in 2009, even when the US economy plunged into recession and millions lost their jobs, healthcare costs grew by 4 percent and healthcare expenditure per capita grew by 2.9 percent. Although these numbers are striking, they may not be easily translated into figures that are meaningful to individual Americans.

There could have been an increase in demand for healthcare, leading to an increase in the price and quantity of healthcare in the healthcare market, causing an increase in expenditure. It seemed that even when there was a recession, the healthcare expenditure continued to increase. This can be deduced as increase in demand. [2m]

- b) (i) Explain the type of market structure operating in the US pharmaceutical industry. [4]

The US pharmaceutical industry is an oligopolistic market. [1m]

Table 2: Market share of 5 largest companies in the industry combined to be 91.6%. [1m]

Pharmaceutical companies justify the high prices they charge by arguing that their research and development (R&D) costs are huge even though their marginal cost of manufacturing is just a tiny fraction of the price charged. On average, only three in 10 drugs launched are profitable.

The US pharmaceutical companies incur large start-up costs due to the significant amount to be spent on research and development (R&D). The spending can only be recovered if the firm sells a large quantity and earns a large amount of revenue. In addition, pharmaceutical companies may own patents that allow them to enjoy monopoly status and keep out other companies from producing similar drugs. This helps to maintain high and price inelastic demand for their products and allow them to earn high profits (supernormal profit), which is typical of oligopolies. [2m]

- (ii) Discuss the extent to which the various pricing strategies adopted by the pharmaceutical companies could help them increase their profits. [8]

Thesis: Various pricing policies help pharmaceutical companies increase their profits

T1: Third degree price discrimination – US market vs. developing countries market

Relate to the 3 conditions of price discrimination:

- (i) Price setting ability (This is made possible by patents that prevent other companies from manufacturing a drug with similar properties. This reduces the availability of substitutes and thus the company has price setting ability of the drugs.)
- (ii) Able to segment the market into smaller submarkets and keep them separate (This is possible as there is a geographical factor that separates the two groups of consumers. People in need of medical care may be too weak to travel and cannot wait for a better time to consume the drugs, thus they are not likely to be able to purchase the same drug from a country that sells at a lower price; extract also mentioned that the pharmaceutical companies try to prevent re-importation.)
- (iii) Each submarket has different PED (This is possible since US is the relatively advanced nation; US consumers typically have higher purchasing power and thus exhibit higher willingness and ability to pay → the PED is lower and demand larger. Consumers in the developing nations have on average lower income; the same drug takes up a larger proportion of their income, thus the PED is more elastic and the ability to pay is lower.)

Show on diagram the result of higher revenue with the same cost of production.

T2: Price discrimination; same drug, same cost but different effectiveness to the user → considered a different product (MB to consumer is different; thus AR and MR will differ) → different price is due to different MC=MR level (show on diagram)

Expensive cancer drugs may help with a variety of different cancers but often work better for one in particular. For instance, Tarceva, a cancer drug extends survival of lung cancer

patients by months while survival of pancreatic cancer patients is only by weeks.

Antithesis: Various pricing policies do not help pharmaceutical companies increase their profits

AT1: Success depends on the ability to prevent seepage between the submarkets, which could be a problem. The companies may experience difficulties preventing re-importation as there will be black markets and outlaws who are willing to smuggle the drugs into US. This will compromise the efforts of the companies as the demand in US market will fall as they switch over to genuine but smuggled drugs from the black market.

The revenue pharmaceutical companies can make from the US market will be reduced. In contrast the revenue made in developing companies will increase. There will be arbitration of prices between the submarkets, eroding the additional profits arising from price discrimination.

AT2: Does not follow kinked demand curve model where companies do not raise price when their competitor increases price

On May 30 last year, the price for a bottle of Lantus diabetes medication went up by 16.1 percent. On the next day, Lantus's direct competitor, Levemir, also registered a price increase of 16.1 percent. The pattern repeated itself six months later when Lantus was marked up 11.9 percent, and Levemir, matched again exactly.

Contrary to the consumer's ideal in which rivals cut prices to grab market share, competitors in branded pharmaceuticals often drive each other's prices higher.

When a competitor increases price, the typical oligopoly will not follow the price increment so that it can capture the market share when consumers switch over from purchasing competitor's goods to its good. However, this is not observed in the case between Lantus and Levemir.

Evaluation:

There are many deterrents present to prevent seepage. Pharmaceutical companies can work closely with authorities to snub out the smuggling activities and thus retain the profits made from price discrimination. Consumers may be wary of the black market drugs as there may be some drugs that are fake and do not possess the supposed medicinal properties. The willingness to switch to black market drugs may be low in US and thus the arbitration of prices will not happen.

The price of Lantus is set independently, according to a company statement. Experts pointed that if firms make independent price decisions not due to collusion, it could have been a business decision to follow price increments of their competitors. It was also noted that greater demand for diabetes medication is helping to drive price increases.

It seemed that there could be other factors contributing to the decision for Levemir to raise prices. The increase in prices for drugs could have been due to increase in demand that allows the entire market to adjust price upwards. This is aligned with profit maximising objective where MR increases, thus $MC=MR$ occurs at a higher price and output. In this case, the increase in price is justified and it did help the pharmaceutical companies raise profit.

L3	Balanced argument on various pricing strategies and ability to apply the possibility of price rigidity that was perceived to exist in the pharmaceutical industry	5-6m
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	Clear understanding of price discrimination Good use of diagram(s) and few/little conceptual errors Good reference to extract material	
L2	Underdeveloped answer on the pricing strategies of pharmaceutical companies; lack of economic rigour, lack of diagram(s), some conceptual errors, poor application of extract information One-sided answer that shows the either the strategies that raise profits or why they do not	3-4m
L1	Smatter of points that use little case material to explain pricing strategies of pharmaceutical companies	1-2m
E	Judgment on whether pharmaceutical firms adopt appropriate pricing strategies to raise profits	1-2m

c) Discuss the case for government intervention in the pharmaceutical industry. [10]

Introduction:

Government intervention exists to achieve microeconomic or macroeconomic goals. In this case, focus is on microeconomic goals → economic efficiency and dynamic efficiency. Because of the nature of the good, equity is also taken into consideration.

Thesis: There is a need for government intervention

T1: Presence of positive externalities in consumption

Consumers of drugs take into account of marginal private benefit in consumption of drugs but they do not take into account the marginal external benefit arising from them being healthy and productive to the workforce and economy at large.

Take hepatitis C, a virus that kills people and used to require a liver transplant; with a 12-week course of a drug, 90 percent of people are cured, will never need surgery or looking after, and can continue to support their families.

There will be under-consumption and a resultant deadweight loss in the absence of government intervention.
(Draw CBA to illustrate.)

T2: Presence of imperfect information

Consumers are often over-charged or even misled into consuming wrong drugs or over-priced drugs because they lack perfect information in making informed decisions. In this case, the demand may be higher than what it should have been, and this will also cause a deadweight loss from over-consumption.

A recent study found that doctors in the US receiving payments from pharmaceutical companies were twice as likely to prescribe their drugs.
Pharmaceutical companies have also been accused of colluding with chemists to overcharge for their medicines and of publishing trial data that highlight the positive at the expense of the negative. They have also been found guilty of mis-branding and wrongly promoting various drugs, and have been fined billions as a result.

(Draw DD/SS or CBA to illustrate.)

T3: Presence of imperfect competition

Pharmaceutical companies are oligopolistic firms that set $P > MC$. This

inevitably creates a deadweight loss due to under-production. (Draw cost-revenue diagram to illustrate.)

Pharmaceutical companies justify the high prices they charge by arguing that their research and development (R&D) costs are huge even though their marginal cost of manufacturing is just a tiny fraction of the price charged.

T4: Equity concerns

It is fair that everyone has access to medical drugs that will help prolong life and reduce pain/discomfort. The access to drugs should not be based on purchasing power as it is preposterous to assume that a poorer person deserves more pain and lower life expectancy. This is an argument related to healthcare being a merit good.

Even then, critics argue that just because you can charge a high price for something does not necessarily mean you should, especially when it comes to health.

Antithesis: There is no need for government intervention

AT1: There are multiple market failure sources that make intervention difficult as government may not have perfect information. It is possible that the good intentions of government may lead to government failure.

Illustrate with example where a government can potentially over-subsidise cost of drugs in view of the presence of positive externality and lead to a larger deadweight loss from over-consumption.

AT2: Governments from developing nations may not want to interfere as the presence of third degree price discrimination allows drugs to be sold in their countries. Without price discrimination, the single price of drugs that apply across countries will be too high, and even fewer people in the developing countries will have access to these drugs. The cross-subsidisation allows drugs to be supplied to countries with lower income per capita.

AT3: The presence of large profits is required for future R&D and to allow dynamic efficiency.

On average, only three in 10 drugs launched are profitable. Many more do not even make it to market.

Patents are generally awarded for 20 years, but 10 to 12 of those are typically spent developing the drug at a high cost. This leaves eight to 10 years to make money before the formula can be taken up by generic drug companies, which sell the medicines for a fraction of the price. Once this happens, sales fall by more than 90 percent.

Intervention that prevents pharmaceutical companies from making large profits will limit their ability to engage in R&D activities to further develop drugs. This will impair dynamic efficiency that is highly valued in this industry and for the greater good of people and society.

Evaluation:

Reasoned judgment on whether:

- (i) need for intervention
- (ii) type of intervention
- (iii) area/aspect of intervention (prioritisation)
- (iv) length of intervention
- (v) ability of government to intervene.

L3	Balanced argument: At least two well explained sources of market failure and two well explained reasons for government not needing to intervene in the industry Good use of diagram(s) and few/little conceptual errors Good reference to extract material	6-8m
L2	Underdeveloped answer on the different types of market failures; lack of economic rigour, lack of diagram(s), some conceptual errors, poor application of extract information One-sided answer that shows the sources of market failure or a direct reasoning on why government should not intervene in the industry	4-5m
L1	Smatter of points that use little case material to explain market failure or rationale for government intervention	1-3m
E	Judgment on whether government should intervene in the pharmaceutical industry	1-2m

[Total: 30]

Suggested Answer Outline / Mark Scheme

Questions

- ai Explain what is meant by 'GDP per capita at current prices (US\$)' [2]

GDP per capita at current US\$

- GDP means Gross domestic product which is the sum of the value of all final goods and services produced in the country during the year.
- GDP per capita is gross domestic product divided by the population size.
- Data are in current U.S. dollars and has not been adjusted for inflation

Mark Scheme

- Need to explain all three concepts of 'Gross Domestic Product', 'Per Capita' and 'Current Prices' to get 2 marks'.]

- aii Explain whether the data in Table 3 is sufficient to provide evidence of a real economic growth in ASEAN from 2011 to 2012. [3]

Table 3: Selected ASEAN Key Economic Indicators

Indicators	2010	2011	2012
GDP per capita at current prices (US\$)	3,139	3,587	3,7
International merchandise trade (US\$ million)	2,009,116	2,388,444	2,476,4
Export (US\$ million)	1,051,614	1,242,199	1,254,5
Import (US\$ million)	957,502	1,146,245	1,221,8
Foreign direct investments inflow (US\$ million)	100,360	97,538	114,2

Thesis: To explain how table 3 provide evidence of a real economic growth in ASEAN from 2011-12

Antithesis: To explain how Table 3 is lacking in evidence of a real economic growth in ASEAN from 2011-12

- Table 3 shows that FDI (in US\$) has increased from 2011 and 2012 and BOT (in US\$) continued to be surplus in 2012, both contributing to **nominal economic growth (at current prices)**. However it is uncertain if real economic growth has increased since the inflation rate is not given.
- Table 3 also shows that GDP per capita at current price (US\$) has increased from 2011 to 2012. However both the population size and the inflation rate are not given. Hence it is not certain whether real GDP has increased.
- Although the population size should only increase marginally within a year, the inflation rate may nevertheless be higher than the nominal economic growth rate. Hence the data in Table 3 is insufficient to conclude that there is real economic growth in ASEAN from 2011 – 2012.

Mark Scheme

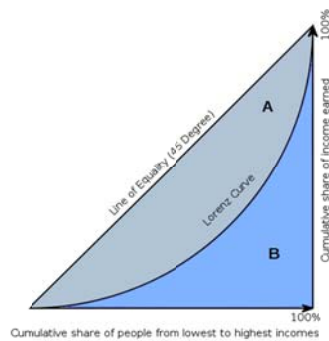
- Capped at 2 marks if response only focused on GDP figures, ignoring data on FDI and BOT
- Capped at 2 marks if response is imbalanced and only focused on thesis or anti-thesis

- bi Comment on whether there is a trade-off between economic growth and income inequality. [4]

Analyse issues in given context

- Economic growth – increase in real GDP
- Income inequality - The unequal distribution of household or individual income across the various participants in an economy. Income inequality is often presented as the percentage of income to a percentage of population and measured using the Gini coefficient = Area A/Area (A+B); As Gini Coefficient increases, income inequality increases. (See fig below)

Note:



Trade-off between economic growth and income inequality means that economic growth is at the expense of income inequality, i.e, income gap widens with economic growth

Thesis: Yes - Evidence from Extract 6 showed that there was 'Asia's rapid growth in recent decades' and that 'the gap between Asia's rich and poor has widened alarmingly in the past two decades' and Gini Coefficient has increased from 39 to 46 showing income inequality has increased.

Economic reasoning - Economic growth in ASEAN was driven by technological progress, more globally integrated markets, and greater market orientation -> provided more opportunities for the owners of capital (entrepreneurs) **rather than owners of labour (workers)**, those living in cities and near coasts **rather than rural areas** and the better educated graduates **rather than the non-graduates**.

- More globally integrated markets -> Increase in demand for export > increase in derived demand for workers near coasts -> higher wages for coastal workers
- Greater market orientation -> higher demand for goods and services -> higher profits for firms
- Higher technological progress -> higher tech production -> higher derived demand for skilled / educated workforce -> higher wages for skilled / educated workers

They will hence gain more of the increase in income (in the form of profits and wages) from economic growth than the uneducated labour living at the rural areas -> greater income inequality

Anti-thesis: The uneducated labour living at the rural areas also saw increase in their income levels with economic growth. It was stated in Extract 6 that 'Asia's rapid growth in recent decades has lifted hundreds of millions out of extreme poverty'.

Judgment: Income levels generally increase with economic growth. However, given that the uneducated labour living at the rural areas experience lower increment of income due to sources of economic growth, they have lesser opportunities compared to the entrepreneurs and better educated graduates, there is a trade-off between economic growth and income inequality.

Mark Scheme

- Explain the meaning of a 'trade-off' between economic growth and income inequality [1m]
- Thesis - Explain the economic reasoning for the trade-off [1m]
- Antithesis – Explain possible reasoning why there is no trade off [1m]
- Judgement – [1m]

- bii Discuss the policy actions proposed to reduce income inequality for a more inclusive growth in Asia. [8]

From Extract 6: Reducing inequality and making growth more inclusive in Asia, therefore, requires the following mutually-re-enforcing policy actions.

- First, fiscal policy must play an important role. Spending on social sectors—health and education—should be increased.
- Second, the gap between rural and urban areas and across provinces must be bridged. Regions lagging behind need more and better infrastructure.
- Third, productive jobs are a must for inclusive growth. This requires eliminating distortions that favour capital over labour and setting up public employment schemes to address pockets of unemployment and underemployment.

Approach

- Explain how two of the above proposed policy options work to reduce income inequality for a more inclusive growth in Asia
- Discuss the pros and cons of each option
- Make a judgment on the option(s) to adopt using the FRESH criteria

Mark Scheme

- L1 (1 - 2 m) – statements with economic reasoning. Did not focus on reducing income inequality.
- L2 (3 – 4 m) – with economic reasoning but explanation of policies to reduce income inequality may be vague or not balanced, focusing either on demand management or side-side policies.
- L3 (5 – 6 m) – with good economic reasoning and a balanced approach, assessing the relative appropriateness/effectiveness of the policies in reducing income inequality for a more inclusive growth.
- E1(1 - 2m) – Make a sound judgement based on economic reasoning

- ci. With reference to Extract 5, explain the basis for the pattern of trade between Singapore and the other ASEAN members. [3]

Extract 5

Singapore became Southeast Asia's only advanced economy by moving up the technology ladder, turning a trading port into the region's biggest banking centre and a manufacturer of electronics, petrochemicals and pharmaceuticals. As its bigger, less-developed neighbours lure companies with faster growth rates, larger populations and cheaper workers, the island is forced to find new ways to position itself to stay competitive. Singapore cannot afford to attract the same kind of land and labour-intensive industries as in the past but as a services hub, it still has many advantages.

Asia which had seven of the top 10 exporters of textiles and clothing and office and telecommunications equipment in 2011 -- shipped \$5.98 trillion of goods that year, an 18 percent increase from the year before, according to the World Trade Organization. Of that, Southeast Asia sent out \$1.24 trillion of products, compared with \$432 billion in 2000 and \$72 billion in 1980, data from the WTO show.

The pattern of trade between Singapore and the other ASEAN countries can be explained using the theory of CA which is based on the fact that different countries have different factor endowments.

- Singapore is the only advanced economy in SEA with developed technology and economic infrastructure but faces scarcity in land and labour while SEA's technology and service sectors are not yet developed but has a large population size.

Differences in factor endowment lead to differences in relative prices of factors between countries and these differences in turn affect relative prices of goods and services.

- Prices of capital equipment and technology will hence be cheaper in Singapore relative to SEA while prices of labour will be cheaper in SEA relative to Singapore.

Each therefore specialises in producing goods that require the factors for which they have abundant supply and can hence likely to be able to produce at lower opportunity cost while trading to obtain goods and services that they do not produce or produce at higher opportunity cost.

- Hence Singapore specialises and exports services and high valued goods, becoming the region's biggest banking centre and manufacturer of electronics,

- petrochemicals and pharmaceuticals.
- SEA on the other hand specialises and exports labour-intensive goods. In fact, Asia exports seven of the top 10 exporters of textiles and clothing and office and telecommunications equipment in 2011.

Mark Scheme

- Max 2 m if the answer is generic and not applied to given context based on Extract 5.
- For 3 m, candidate needs to explain how differences in factor endowment between Singapore and SEA -> differences on opportunity costs of producing the same good -> basis for specialisation and hence trade.

- cii Assess the relative importance of internal and external factors in determining ASEAN's economic outlook. [10]

Approach

- Explain what it meant by 'economic outlook'
- Discuss the extent that internal factors in determining ASEAN's economic outlook and assess its importance
- Discuss the extent that external factors in determining ASEAN's economic outlook and assess its importance
- Make a judgement on their relative importance based on a set of criteria (characteristics of ASEAN, prevailing external economic environment etc)

Suggested answer

Discuss how ASEAN outlook is determined by external factors

- *From Extract 7, 'One of the key risks to the ASEAN outlook for 2015 is the impact of Federal Reserve tapering of its quantitative-easing program and eventual policy-driven interest rate rises in 2015 as US recovery continues. This could pose risks of further depreciation of ASEAN currencies versus the USD. [External factor – Outlook depends on US MP. If US r/l increases -> net capital outflow from ASEAN -> depreciation of ASEAN currency -> fall in confidence -> fall in I and C -> fall in actual and potential EG. How important a factor it is, is dependent on how dependent ASEAN is on US for FDI. Note that ASEAN is dependent on trade [See Table 3]. Depreciation of ASEAN currencies could improve its CA. Hence be it trade or investment, ASEAN's economic outlook is dependent on external factors]*
- *From Extract 7, Many ASEAN countries will also remain attractive destinations for foreign mergers and acquisitions inflows, due to their fast-growing domestic consumer markets and their competitiveness as low cost manufacturing hubs. This has already been reflected in surging Japanese mergers and acquisitions inflows to ASEAN over the last three years, with Chinese mergers and acquisitions flows also expected to grow strongly as rapidly rising wages in coastal China make many ASEAN countries more competitive locations for low cost manufacturing. [External factor – Economic outlook depends on FDI from China and Japan into ASEAN to tap on its available resources. Chart 1 shows the high potential growth of China. Hence reinforcing that external factors are indeed more important in determining ASEAN economic outlook.]*

Discuss how ASEAN outlook is determined by internal factors

From Extract 7, it was also stated that Southeast Asia remains one of the most rapidly growing regions of the global economy and the rapidly growing numbers of middle income households -> increase in purchasing power -> increase in Cd; strong growth in intra-Asian trade and manufacturing supply chains -> increase in I and X -> AD; expansion in infrastructure spending and urban development across ASEAN -> Increase in AS . These

megatrends will support rising valuations for ASEAN equity and property markets over the medium to long-term -> increase in wealth -> increase in Cd [Internal factor – Rapid economic growth in ASEAN for the past decade -> increase in HHY + Profits -> increase in Cd + I -> -> ASEAN's economic outlook is dependent on internal factors. How important it is dependent on domestic consumption and investment as a % of AD. Extract 6 stated that 'two-thirds of the world's poor, with more than 800 million Asians still living on less than \$1.25 a day and 1.7 billion surviving on less than \$2 a day. Poverty reduction remains a daunting task'. Given the low per capita GDP (table 3) and the high % of export outside ASEAN, internal factors are relatively less important]

Judgement:

Given its low GDP per capita and high income disparity ASEAN is still in its infant stage of development, it is still very much dependent on the developed economies for external trade and foreign direct investors. Hence its economic outlook hinges on external factors.

Mark Scheme:

- L1 (1-3 m) – statements with economic reasoning
- L2 (4 – 6 m) – with economic reasoning but explanation may be vague or not balanced, focusing either on internal or external factors
- L3 (7 – 8 m) – with good economic reasoning and a balanced approach, weighing the relative importance of the external and internal factors
- E1(1-2m) – Make a sound judgement based on economic reasoning