

2014 H1 Prelims Essay Question

Question 3

- (a) Explain why the prices for some goods and services would fluctuate more than others. [10]
(b) Assess whether Government intervention in the working of the free market through indirect taxation does more harm than good. [15]

(a)

INTRODUCTION

- Prices are determined by DD and SS factors.
- Fluctuate: to **rise** and **fall sharply** over time.
- Prices change when DD and SS change. The extent to which prices change depends not only on the magnitude of the shift of DD and SS curves, but also on PED and PES.

BODY

It is important to examine **both** the reasons for changes in price (**direction**), and the **magnitude** of the changes. The extent of the magnitude depends on (1) the extent of changes in DD and SS, and (2) PED and PES.

(1) Changes in DD (PES matters)

- When there is a global economic boom, demand for commodities such as oil increases as it is a major source of energy in the production of goods and services. When income increases, DD for normal goods increase.
- When DD increases, there will be a shortage at the original price, exerting upward prices.
- The extent to which prices increase depends on how responsive producers are to price changes, that is, PES.
- PES depends on the **spare capacity, nature of production and inventories level**. Use the determinants to give specific examples to illustrate $PES > 1$ and $PES < 1$.
- When $PES < 1$, producers are less able to respond to price changes that stem from changes in DD hence prices tend to increase more than proportionately for a given increase in DD. In contrast, when $PES > 1$, prices tend to increase less. Conversely, when DD falls, the magnitude of the fall in prices will be magnified when $PES < 1$.

(2) Changes in SS (PED matters)

- When there are supply shocks, production of goods and services will be disrupted, leading to a fall in supply. Examples include political instability in the Middle East and natural disasters.
- When SS decreases, there will be a shortage at the original price, exerting an upward pressure on prices.
- The extent to which prices increase depends on how responsive consumers are to price changes, that is, PED.
- PED depends on the availability of substitutes, degree of necessities and proportion of income spent. Use the determinants to give specific examples to illustrate $PED > 1$ and $PED < 1$.
- When $PED < 1$, consumers are less able to respond to price changes that stem from changes in SS hence prices tend to increase more than proportionately for a given decrease in SS. In contrast, when $PED > 1$, prices tend to increase less. Conversely, when SS increases, the magnitude of the fall in prices will be magnified when $|PED| < 1$.

Hence theoretically, prices fluctuate most for products whose PED and PES are of low values.

(3) Fluctuations in demand and supply

Besides PED and PES, the fluctuations in price of goods can be due to the unpredictable nature of demand and supply for some goods due to the following reasons:

- Seasonal nature of consumption:
 - The demand for oil consumption varies according to seasons i.e. higher consumption in winter, and lower consumption in summer
- Unpredictability of supply factors:
 - Agricultural products due to unpredictable climate change. Sudden changes to weather would lead to supply shocks in the form of either an abundant or poor harvest. This would either increase or decrease the supply of the good.

- Due to the significant concentration of the world's oil resources in the Middle East, the political instability in the region and the consequent disruptions to the oil supply accounts for the fluctuations in its price.

COMBINED ANALYSIS AND CONCLUSION

(Show combined diagram of increase in DD and fall in SS with price inelastic DD and SS)

In conclusion, goods with price inelastic demand and supply, and which tend to experience unpredictable changes in demand and supply, will see their prices fluctuate more than other goods. Usually agricultural produce and commodities fall under this category of goods.

Mark Scheme

L3	A clear and developed economic analysis of DD and SS concepts + both PED and PES + Appropriate examples Must consider the fluctuation of DD/SS as a contributing factor	7-10
L2	Economic analysis using DD and SS concepts + Underdeveloped application of PED <u>and</u> PES; OR Clear but one sided application of PED <u>or</u> PES May not have considered the fluctuation of DD/SS as a contributing factor	5 - 6
L1	Smattering of ideas why prices change more with no/minimal reference to elasticity concepts. For example, just using DD and SS concepts.	1-4

(b) Assess whether Government intervention in the working of the free market through indirect taxation does more harm than good. [15]

INTRODUCTION

- Define indirect tax: A sales tax, a specific tax, value added tax (VAT), or goods and services tax (GST)) collected by an intermediary (such as a retail store) from the consumers who bear the ultimate economic burden of the tax.
- State the objectives of government intervention in the free market through indirect taxation:
 - To correct market failure due to demerit goods
 - To promote equity

BODY

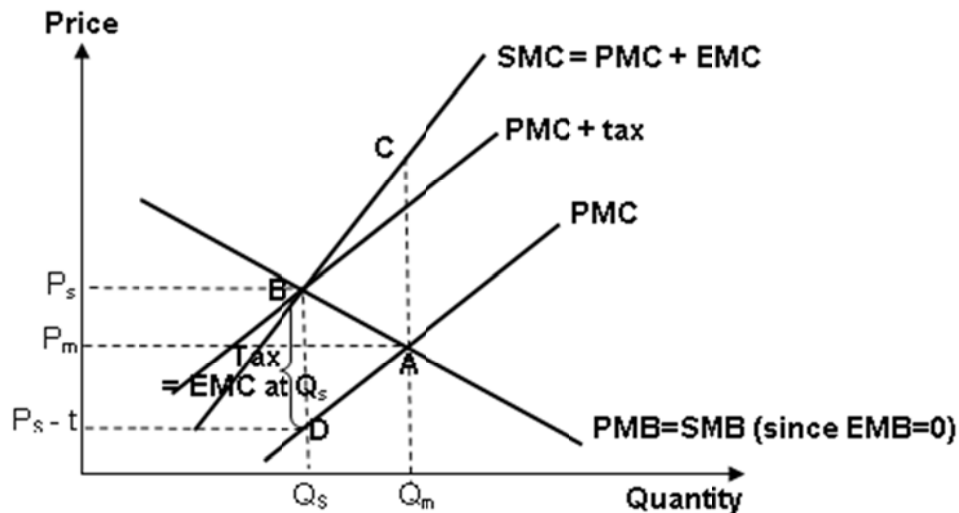
Thesis: Indirect taxation do more good than harm by achieving both efficiency and equity

(A) Indirect taxation by governments on demerit goods are useful to address the problem of overconsumption

Example of smoking

- Smoking generates negative externalities because third parties who do not smoke but live or work in close proximity to the smoker would suffer from the second hand smoke, potentially developing or worsening health problems such as asthma and lung cancer. They would then have to incur healthcare costs for their treatment. However, the third parties are not compensated by smokers for the external costs.
- Cigarettes are therefore deemed undesirable by most government and is considered a demerit good.
- Explain with reference to Figure 1 how the market equilibrium quantity, Q_m , is more than the socially efficient quantity, Q_s . Thus there is **overconsumption of cigarettes by the quantity $Q_s - Q_m$** , and there is inefficient allocation of resources.
- The government might impose an indirect tax on producers corresponding to the external marginal cost i.e. Tax=EMC **at Q_s** (distance BD) on each unit of cigarette. This shifts the PMC upwards so that the new PMC, which equals PMC + tax, coincides with the PMB at Q_s .
- Hence, the new market equilibrium quantity where PMB = PMC + tax, now coincides with the **socially efficient** quantity Q_s , where SMB = SMC.
- If the tax accurately reflects the external marginal cost, cigarette consumers are now in effect paying for the external cost they impose on others as the price they are paying is now higher at P_s , compared to P_m before the tax. The externality has then been **internalised or priced in**.

Figure 1: Tax to internalise EMC from cigarette consumption



(B) Governments can also improve the equity of outcomes thru indirect taxation.

Government can also improve the equity of outcomes thru indirect taxation via the redistribution of income. The classic Singapore example is the GST voucher introduced in Budget 2012. The government imposes a 7% GST and since the rich pays a higher amount of GST in absolute terms, the government is able to use the tax revenue to fund the GST voucher scheme for the poorer Singaporeans.

Also, such revenue raised thru indirect taxes can also be used by the government to fund education and retraining programs for the unskilled workers, who are typically the lower income groups, to raise their labor productivity and hence their wages.

Anti-thesis: Indirect taxation does more harm than good - Government use of indirect taxation hurts efficiency and equity.

(A) Without existing market failure, taxation leads to an inefficient allocation of resources

With reference to Fig 1, considering the case of the consumption of a good that does not lead to both positive and negative externalities, the market equilibrium Q_m where $PMB=PMC$ would also be the socially efficient output. In this case, taxation leads to Q_s , which corresponds to the underconsumption of the good. Government intervention via indirect taxation would therefore lead to an inefficient allocation of resources to the production of the good.

(B) Government failure in addressing negative externalities of demerit goods due to imperfect information

- Indirect taxation used to internalise a negative externality is considered a market-based approach. However, it is difficult for the government to determine the amount of tax accurately in order to attain the socially optimum level of consumption, as it is difficult to accurately measure the extent of EMC due to tangible and intangible benefits.
- As a result, overconsumption may persist or if too much tax is imposed, underconsumption may occur, and the deadweight loss increases.
- If demand for a good is price inelastic, a very high indirect tax rate would be needed to decrease the consumption of demerit goods. Such a tax will hurt income distribution, and hence equity, as indirect taxes are fundamentally a regressive tax: it takes a higher proportion of income when your income is low as compared to when your income is high.

(C) Indirect taxation may not result in a more equitable distribution of income.

- Indirect taxation have to be funded from taxes, and taxpayers are also consumers. If the tax revenue is used to redistribute income to only a certain group, it may not result in a more equitable distribution.

SYNTHESIS AND CONCLUSION

While the market may fail to achieve allocative efficiency and an equitable income distribution, it is important to always be aware that government failure can also occur, where government indirect taxation can possibly worsen resource allocation. Moreover, indirect taxation have to be funded from taxes and entails opportunity costs. It would be difficult to conclude in a sweeping manner that indirect taxation does more harm than good, given that the circumstances and context of the implementation would vary from country to country.

Mark Scheme

L3 (10-11)	For an answer that
L3 (9)	<ul style="list-style-type: none">• Has a <u>balanced response</u> spanning discussion on demerit goods and inequity + consider other possible arguments e.g. opportunity costs of indirect taxation• Depicts good understanding of question requirements with a very clear attempt to discuss both sides of the question• Provides sufficient rigour/analysis (including taxation diagram) to analyse
L2 (6-8)	<ul style="list-style-type: none">• Lacks either scope or depth in coverage• Lop-sided analysis:<ul style="list-style-type: none">o Did not consider arguments in anti-thesiso Only considered either market failure due to demerit goods or the argument on inequity, but not both
L1 (4-5)	<ul style="list-style-type: none">• Descriptive answers without framework for analysis.
L1 (1-3)	<ul style="list-style-type: none">• Serious conceptual errors
E2 (3-4)	<ul style="list-style-type: none">• For an evaluative judgement based on economic analysis
E1 (1-2)	<ul style="list-style-type: none">• For an unexplained judgment, or one that is not supported by analysis.

Question 4

- (a) Explain the main causes of inflation in Singapore in recent years. [10]
- (b) Discuss the view that exchange rate policy is the best way for Singapore to achieve non-inflationary economic growth. [15]

(a)

INTRODUCTION

- Define inflation
- The two main causes of inflation in Singapore in recent years are demand-pull and cost-push inflation.

BODY

Demand-pull inflation in Singapore

Demand-pull inflation is caused by a rise in AD with no or little increase in the productive capacity of the economy, i.e. supply bottleneck.

The rapid rise in AD may be a result of spending by the households, firms, public sector and foreign sector during prolonged economic boom time. Households and firms may be spending excessively due to good economic outlook and low interest rate while exports are high due to vibrant world economic activities.

In the case of Singapore, which is heavily dependent on exports for her national income (exports are 2-3 times GDP), most of the demand pull inflation stems from rising export demand. At the same time, with rising affluence due to strong growth and a property market boom, wealth of Singaporeans increased, leading to higher consumption levels and an overall increase in AD in the economy.

Explain using a diagram how a rightward shift in AD will lead to demand-pull inflation.

Cost-push inflation in Singapore (import-price-push inflation)

Cost-push inflation is a result of an increase in the costs of production at all levels of output in the economy. For Singapore the main form of cost-push inflation is that of import-price-push inflation.

This is a type of inflation which originates from importing raw materials and finished goods from other countries. When other countries face inflation, the prices of goods that we import from them also rises, hence causing inflation. When prices of raw materials increase, costs of production will rise, shifting AS to the left, causing cost-push inflation.

Import-price-push inflation is especially pertinent to small and open economies such as Singapore, which possesses limited natural resources and hence need to import these necessities for consumption and production of exports that will drive trade and hence economic growth. In 2008, oil prices saw an unprecedented sharp increase (US\$147 per barrel in July 2008), together with rising food prices in neighbouring countries. Both oil and food prices have driven Singapore's inflation rate for 2008 to be 6.6%, which was 3 times the inflation rate in 2007.

Wage-push inflation

The government has tightened the flow of foreign labour into Singapore and increased the foreign worker levy for firms in Singapore that hire foreign labour. The tightening of foreign worker inflow has forced firms in Singapore to increase wages in order to attract more Singaporeans to take up jobs that tend to be filled by foreign labour. The increase in the foreign worker levy meant that it costs more for firms in Singapore to hire foreign labour. Both factors have led to an increase in wage costs and hence cost of production for firms in Singapore without a corresponding increase in labour productivity, resulting in wage-push inflation.

Explain using a diagram how a leftward shift in AS will lead to cost-push inflation.

CONCLUSION

Singapore faces both demand-pull and cost-push inflation. For cost-push inflation, imported inflation and wage-push inflation are most relevant to Singapore.

Mark Scheme

Level		Descriptors
L1	1-4	<ul style="list-style-type: none"> Conceptual errors Poor or inappropriate examples given Insufficient elaboration and link to AD and/or AS
L2	5-6	<ul style="list-style-type: none"> Recognises both demand-pull and cost-push inflation with some attempts to apply to Singapore context Attempts to link to AD and AS Cap at 6m if candidate only focuses on demand-pull inflation or cost-push inflation
L3	7-10	<ul style="list-style-type: none"> Excellent analysis of both demand-pull and cost-push inflation with application to Singapore context Excellent link to AD and AS

(b)

INTRODUCTION	
<p>Non-inflationary economic growth is achieved when the aggregate supply of the economy increases in tandem with aggregate demand. Aggregate supply increases when the economy experiences an increase in her productive capacity and hence her full employment level of real GDP. Therefore, when aggregate demand increases, real GDP increases while the general price level does not increase significantly. Exchange rate policy is employed by Singapore to achieve non-inflationary economic growth. However, this policy has its limitations and drawbacks and thus Singapore also employs other policies to achieve her objective.</p>	
BODY	
<p>Thesis: Exchange rate policy is capable of helping Singapore achieve non-inflationary economic growth.</p>	<p>Anti-thesis 1: Exchange rate policy has its limitations/drawbacks</p>
<p>Singapore is a small and open economy with few natural resources. Therefore, Singapore is heavily dependent on imported consumer goods and raw materials. Because of her small domestic market, Singapore is also heavily dependent on her export markets to boost her real GDP.</p> <p>The Monetary Authority of Singapore (MAS) pursues a modest and gradual appreciation of the Sing Dollar. When this happens, imported consumer goods and raw materials become cheaper in Sing Dollar while Singapore's exports become more expensive in foreign currency.</p> <p>The fall in the price of imported raw materials in terms of Sing Dollar would decrease the cost of production of firms in Singapore which produce goods and services with high import content, such as refined oil. This in turn translates into a fall in the final price of goods and services produced in Singapore in terms of Sing Dollar, contributing towards keeping the cost of living in Singapore at bay.</p> <p>When these goods and services are exported, their prices in terms of foreign currency would increase due to the appreciation of the Sing Dollar, but the extent of this increase is mitigated by the fall in cost of production -> rightward shift of SRAS. This means that the price of</p>	<p>The modest and gradual appreciation of Sing Dollar would mitigate the increase in Singapore's exports with high import content in terms of foreign currency. However, the price of said exports will still rise in terms of foreign currency and hence become less price competitive in the international market.</p> <p>In addition, not all of Singapore's exports have high import content, especially in sectors like banking and consultancy. The price of such exports in terms of foreign currency would thus increase at around the same pace as the rate of the modest and gradual appreciation of the Sing Dollar.</p> <p>If Marshall-Lerner condition ($PED_x + PED_m > 1$) holds for Singapore, Singapore's net exports ($X - M$) are likely to decrease. This results in a downward impact on Aggregate Demand and hence real GDP. Therefore, although import price-push inflation may be kept at bay, Singapore's actual growth may slow down.</p> <p>Furthermore, an appreciating Sing Dollar may deter foreign investment as it becomes more expensive for foreign investors to set up businesses in Singapore. Therefore, there might be a fall in the flow of foreign direct investment into Singapore, which has a negative impact on Aggregate Demand and hence real GDP growth.</p> <p>In addition, besides import price-push inflation, there are other sources of inflation that Singapore also faces.</p>

<p>Singapore's exports in terms of foreign currency would increase by a smaller extent than the rate of appreciation of the Sing Dollar.</p>	<p>Hence other policies are needed together with exchange rate policy.</p>
	<p>Anti-thesis 2: There are other policies that are also capable of helping Singapore achieve non-inflationary economic growth.</p>
	<p><u>Supply side policies to tackle wage-push inflation</u> Singapore may also face other sources of inflation such as wage-push inflation.</p> <p>Wage-push inflation occurs when wages of workers increase faster than their labour productivity. To reduce this, the Singapore government could give firms more incentives such as financial grants and tax breaks to send their workers for retraining to update their skills and learn new skills related to their jobs, hence increasing their productivity.</p> <p><u>Supply side policies to increase Singapore's productive capacity</u> The Singapore government could allocate funds from the budget surpluses it has accumulated over many years to provide firms with financial incentives to engage in R&D to increase productivity and the quality of Singapore's exports. The R&D efforts should also be geared towards developing new technologies and more efficient production methods.</p> <p>In the short run, this increase in spending on R&D increases investment and government spending. This increases Aggregate Demand and hence real GDP. Actual growth thus occurs.</p> <p>In the long run, if the supply side policies are successful, the quality of Singapore's exports increases. This increases the non-price competitiveness of Singapore's exports in the international market. Therefore, even though the appreciation of the Sing Dollar makes Singapore's exports more expensive in foreign currency, foreigners may not be deterred to purchase Singapore's exports if the quality of Singapore's exports is improving. As foreigners switch their taste and preferences towards Singapore's exports, they increase their demand for Singapore's exports, resulting in an increase in $(X - M)$ and hence Aggregate Demand. Real GDP growth is thus achieved, leading to actual growth.</p> <p>At the same time, the productive capacity of the Singapore economy increases. When Singapore's productive capacity increases in tandem with Aggregate Demand, potential growth is achieved and demand-pull inflation is kept at bay.</p> <p>The Singapore government has to continue to improve the infrastructure in Singapore. A more efficient public transport system, wider roads and expressways increase the efficiency of transportation of goods and services within Singapore. A more efficient</p>

	<p>airport and seaport increases the efficiency of transporting goods from overseas to Singapore and from Singapore to overseas. These factors attract domestic and foreign firms to set up businesses in Singapore. When this happens, Singapore's Aggregate Demand and real GDP increases in the short run. Actual growth is achieved. In the long run, potential growth is achieved as Singapore's productive capacity increases.</p> <p><u>Limitations of supply side policies</u></p> <p>It remains to be seen if these supply side policies would be successful. Workers may be resistant to retraining due to their advancing age, limitation in aptitude and less than forthcoming attitude towards retraining. Long run supply side policies to improve Singapore's productive capacity have a long gestation period and may not be successful due to unforeseen circumstances that result in R&D failure.</p>
EVALUATIVE CONCLUSION	
<p>Exchange rate policy is best for Singapore to achieve a low inflation rate. However, exchange rate policy has its limitations and drawbacks and thus should never be used as a stand-alone policy. To achieve low inflation, actual and potential growth, exchange rate policy has to be complemented with appropriate short and long run supply side policies. Supply side policies help to further enhance Singapore's competitiveness, especially during instances where exchange rate policy may prove to be harmful to Singapore.</p>	

Mark Scheme

Level		Descriptors
L1	1-3	<ul style="list-style-type: none"> Serious conceptual errors Answer is largely out of point
	4-5	<ul style="list-style-type: none"> For a descriptive answer that is poor in or lack economic analysis An answer with very limited ideas relevant to the given context, or containing some conceptual errors
L2	6-8	<ul style="list-style-type: none"> Discussion based on BOTH exchange rate policy and supply side policies but underdeveloped OR Excellent discussion based only on exchange rate policy or supply side policies, but not both Only considered SS supply side policies to address other causes of cost push inflation (besides import price push such as wage push inflation), or to increase productive capacity, but not both
L3	9-11	<ul style="list-style-type: none"> Discussion is based on BOTH exchange rate policy and supply side policies (BOTH one other cause of cost push inflation besides import price push, and to increase productive capacity have to be addressed) Discussion has excellent elaboration on the arguments raised. Candidate pointed out that the pursuit of supply side policies also boosts Aggregate Demand and hence achieves actual growth in the short run
E1	1-2	<ul style="list-style-type: none"> Relevant stand taken but with inappropriate or inadequate justification.
E2	3-4	<ul style="list-style-type: none"> Relevant stand taken with appropriate and adequate justification.