#### JC2 H2 Prelims Question 5

(a) Explain the process whereby an increase in government expenditure can lead to a bigger change in national income. [10]

## (b) In view of rising government debts, discuss whether governments' subsidies to increase its global competitiveness is justified. [15]

Suggested Answer to Part A

#### Introduction

#### Identify the process as Multiplier process and state the multiplier and its formula:

This is the multiplier process, where any increases in injection, e.g. government spending, will cause national income to increase by a multiplied amount of the rise in G. This is determined by the size of the multiplier, k, where

k = 1/1 - Marginal Propensity to Consume (MPCd)

= 1/ Marginal Propensity to Withdraw (MPW)

A small MPW will mean that a small proportion of additional income is allocated to withdrawals such as savings, taxes and import expenditure in the economy, therefore the size of the multiplier will be large, resulting in a large multiplied increase in national income.

#### Explain the <u>underpinning</u> of the multiplier process:

For instance, a country like U.S. will have relatively higher rate of consumption due to welldeveloped social security systems hence less incentive to save.

This means that given an amount of injection, lesser income is leaked away as withdrawals while a larger proportion of additional income is spent on domestic consumption in each round of spending. This means that every round of the inner flow results in larger rounds of induced consumption. This results in a larger multiplied increase in national income.

#### **Development**

#### Explain the multiplier process:

Let us assume a four-sector economy with an MPC of 0.9. It is assumed to be initially in equilibrium and spare capacity is available in the economy.

**Briefly Explain the CFol, role of HHs and Firms**: In the inner flow there are 2 key sectors, the households and the firms. The role of the households is to supply factors of production e.g.



land, labour, capital and entrepreneurship to the firms in return for factor income. This income is then used to purchase goods and services or be withdrawn from the inner flow as savings, taxes and import expenditure. The role of the firms is to produce goods and services which households will exchange for consumption expenditure.

### Explain trigger(s):

An injection is an addition to the circular flow of income which does not come from the expenditure from domestic households. In this case, the Increased spending by the government could be spent to improve public infrastructure.

### Explain multiplier effect:

**[Round 1]** When \$10bn of government spending is spent on infrastructure upgrading  $\rightarrow$  construction firms will have to increase their output by a value of \$10bn. This means that they will have to hire FOP such as skilled workers and machinery. HHs that supply factor inputs to these industries will hence receive \$10bn worth of income. Given the MPCd is 0.9, they will spend 90% of it on goods and services such as food. Domestic consumption will increase by \$9bn. \$1bn is withdrawn from through savings, taxes and imports.

**[Round 2]** Firms in the food industry will thus to increase their output by a value of \$9bn. This means that they will have to hire FOP such as labour and machinery to manufacture food. As the HHs working in the food industries receive \$9bn worth of income, they will spend 90% of it on goods and services such as clothing. Domestic consumption will increase by \$8.1bn. \$0.9bn is withdrawn from through savings, taxes and imports.

**[Conclude]** The process continues with each round of consumption expenditure being 90% of the previous rounds income. This process does not go on indefinitely and it stops when the value of the initial injections (or total injections) is equal to the sum of the withdrawals.

As k=1/MPW, k=1/0.1 = 10

Change in NI = change in injection x k = S10bn x 10 = \$100bn

### National income would have increased by a multiplied amount of \$100bn.

Level	Knowledge, Application, Understanding and Analysis	Marks
L3	Detailed and analytical explanation of the impact of increased	8-10
	government spending on a country's national income with a clear	
	understanding of the working of the 'k' process	
L2	Some analysis of the impact of increased government spending on a	5-7
	country's national income.	
L1	Unexplained statements of the multiplier process, largely lacking in	1-4
	analysis.	

## (b) In view of rising government debts, discuss whether governments' subsidies to increase its global competitiveness is justified. [15]

Suggested Answer to Part B

#### Introduction

In this essay, we will define global competitiveness in terms of

- increasing price competitiveness of a country's exports
- increasing non-price competitiveness of a country's exports

(Students may also define global competitiveness in terms of the ability to attract FDI)

#### Thesis: Governments' subsidies to increase its global competitiveness is justified

#### **Development 1:**

Governments' subsidies to increase its global competitiveness can be implemented through **supply side policies** to:

#### 1. increase non-price competitiveness

With the use of better technology and machinery to harness better designs and <u>quality</u> of exports produced  $\rightarrow$  this can help to <u>increase non-price competitiveness</u>  $\rightarrow$  demand of exports will increase and at the same time, become more price inelastic due to the reduced substitutability to other competitors' goods

#### 2. increase price competitiveness

Policies directed at SMEs and capital enhancement through funding of research and incentives to innovate. E.g. Productivity and Innovation Credit Scheme resulted in capital accumulation which takes the form of capital broadening & capital deepening.

E.g. Through the Productive Innovation credit, firms enjoy tax deduction or cash reimbursement for the retraining of workers, investing in automation or acquiring intellectual property.

#### Economic analysis version 1: firm analysis

By encouraging automation, if export-related firms are likely to increase their investment spending on capital goods such as automated equipment and this might be used to replace labour as machine might be able to increase the output per hour especially for repetitive task.

On the other hand, use of retraining to equip workers with new skills can increase labour productivity as workers are more able to work with more efficient technology etc. this helps to further increase output per manhour.



The above will help to <u>lower unit cost of production</u>, lowering average and marginal cost of the firm, resulting in <u>lower prices charged</u> at PN. <u>Price competitiveness of exports produced</u> <u>increases</u>. Assuming PEDx>1, a fall in price will lead to a more than proportionate increase in quantity demanded, hence, increasing export revenue.

#### OR

#### Economic analysis version 2: macro. level analysis

if these policies are conducted across all industries, the increase in productivity will lead to <u>lower unit cost of</u> <u>production</u>, increases in aggregate supply from AS1 to AS2, hence, <u>GPL falls</u> from P1 to P2. <u>Price competitiveness of</u> <u>goods including exports will increase</u>. Assuming PEDx>1, a fall in price will lead to a more than proportionate increase in quantity demanded, hence, increasing export revenue.



#### **Development 2:**

# Use of subsidies is justified as there are positive impacts of increased competitiveness on the macroeconomy

- Increase X → increase AD → increase <u>actual growth</u> and hence, increase material standard of living, given that consumers will have higher incomes and hence greater ability to consume more goods and services
- On the other hand, with increases in real output produced this will increase the aggregate demand for labour → decreasing demand-deficient unE which can also improve non-material standard of living → with more individuals being able to find jobs and receive income → less financial difficulties met will lead to decreased crime rates → increases the safety and security in the neighbourhood → improve quality of life
- Both domestic and foreign investments can increase as foreign firms may also be attracted to tap on the new expertise → increase AD & AS → increase non-inflationary sustained growth
- The increase in net export revenue and greater net inflow of foreign investments will also improve current account balance(if initially in a deficit) and hence balance of payments
- The increase in economic growth in the later time period would help to raise tax revenues, as workers would be able to contribute to higher tax revenues with higher income levels and firms would be able to pay higher corporate taxes with higher profits earned. This would be helpful to pay off government debts.
- EV: If the improvement in economic outlook brings about sustained increases in export revenue and FDI levels, this can allow the government to receive a stable increasing stream of corporate and personal income taxes, which can help to offset any existing government debts.

## Anti-thesis: Governments' subsidies to increase its global competitiveness is not justified in view of rising government debts

#### Limitations of ss-side policies

However, the outcomes of these supply side policies are often uncertain because it depends on the receptivity of the firms and workers towards these schemes. Firms might be unwilling to allow their workers to engage in training as they might lose these workers after the training, if these workers chose to be employed by other firms. Traditional companies might also be unwilling to adopt automation and choose to stick to their labour intensive methods. Therefore, the extent of increase in AS is limited, which reduces the effectiveness of the policy. (judgement) If the outcomes on productivity is minimal, then this will also represent a wastage of government resources which could have been spent for financing the government debt in the current time period.

### Consequences of rising government debts

In view of rising government debts, this spending on supply-side policies may then result in more government borrowing and hence, this could lead to a crowding out effect, where the increased demand for private loans pushes up the interest rate, resulting in a fall in private investments. This fall in I would lead to a fall in AD, negating the effect of increase AD due to the fiscal boost. With a smaller increase in AD, this will lead to a smaller increase in actual growth.

Furthermore, the increased government borrowing would mean government debts will worsen

 $\rightarrow$  government will have to increase taxes in the future to repay the government debts (elaborate any further outcomes below)

- This will lower the proportion of future income that can be spent on consumption → lower future material SOL
- increase disincentive to work → lower labour productivity → decrease in output per manhour → productive capacity decreases → AS shifts to the left → fall in potential growth & actual growth
- decrease credit rating (assessment of the creditworthiness of a borrower in general terms or with respect to a particular debt) of the country as investors are less confident of returns of their investments in the country → reduce foreign investments into the country → worsen economic recovery / dampen economic growth [SR effect]

EV: Efforts to increase innovation and productivity usually take a long time to reap its desired outcomes. This means that governments should expect such expenditure to be long-term and hence, negative short-run consequences of rising debts may actually outweigh the long-run benefits from increased competitiveness if the intended outcomes of investment is not successful.

#### **Conclusion**

## In view of rising government debts, discuss whether governments' subsidies to increase its global competitiveness is justified

Ultimately, whether government's spending on subsidies to raise global competitiveness is justified or not depends on the intent of the government in its decision-making through considerations on the constraints faced by the government, cost and benefits onto the various economic agents in the economy, intended vs unintended consequences, and lastly, any internal & external changes which also have impacts on the decision.

Government spending on subsidising for productivity changes can be justified provided that the government has <u>sufficient information</u> to decide how they can still carry out other supplementary measures to increase taxes and reducing government spending to finance the current government debts and yet at the same time, not forgoing growth entirely. For example,

- To reduce the disincentive effects of increased taxation on labour productivity, the government may want to increase the tax revenue from other tax sources i.e. indirect taxes instead which are more broad-based.
- Government spending should also be cut and directed on spending that will aid economic recovery. I.e. boosting productivity gains such as grants for re-training and innovation purposes which will lead to both increases in AD and AS, hence ensuring a more sustained economic recovery.

#### Other acceptable approaches:

Students may discuss the use of government subsidies in the case of <u>developing infant</u> <u>industries</u>, where in the long run, may contribute to building of new comparative advantages and hence, ability to export and hence positively impact the various macroeconomic goals. In the anti-thesis, drawbacks of protectionism should be recognised i.e. risks of retaliation and downward world multiplier effect and addressed together with the consequences of rising government debts.

	Knowledge Application Understanding and Applysic	Marka
Level	Knowledge, Application, Understanding and Analysis	warks
L 3	Clear analytical explanation of advantages and disadvantages of government's raising global competitiveness in view of rising government debts	8 – 10
	· · · · · · · · · · · · · · · · · · ·	
L 2	Description of use of government subsidises to raise global competitiveness	5 – 7
	OR one that does not consider the impacts of rising government debts	
L 1	Knowledge of increasing global competitiveness or impacts of government	1 – 4
	debts but largely unexplained $-i.e.$ a list like presentation.	
	Allow up to 5 additional marks for Evaluation	
E3	For an answer that arrives at an analytically well-reasoned judgment on whether efforts to raise global competitiveness is justified in view of rising government debts	4 - 5
E2	For an answer that makes some attempt at evaluating or a conclusion that answers the question but does not explain the judgement or base it on analysis .	2 - 3
E1	For an answer that gives an unsupported evaluative statement.	1