

#### Question 4

- 4 Germany took in 1.1 million migrants in year 2015. The government will spend 12 billion euros on accommodating and integrating them in year 2016 in the midst of a decline in exports hit by global economic weakness. Furthermore, Germany's inflation rate may reach the European Central Bank 2 percent price stability ceiling in year 2016. It is unlikely to stay there for long as there are price pressures far weaker elsewhere in the European region.

Source: various

- (a) Explain how the combination of a decline in export revenue and an increase in government expenditure could affect the circular flow of income in Germany. [10]
- (b) Discuss whether an economy's inflation rate is more likely to be determined by domestic or external factors. [15]

#### Suggested Essay Outline

##### Part (a)

##### Question requirements:

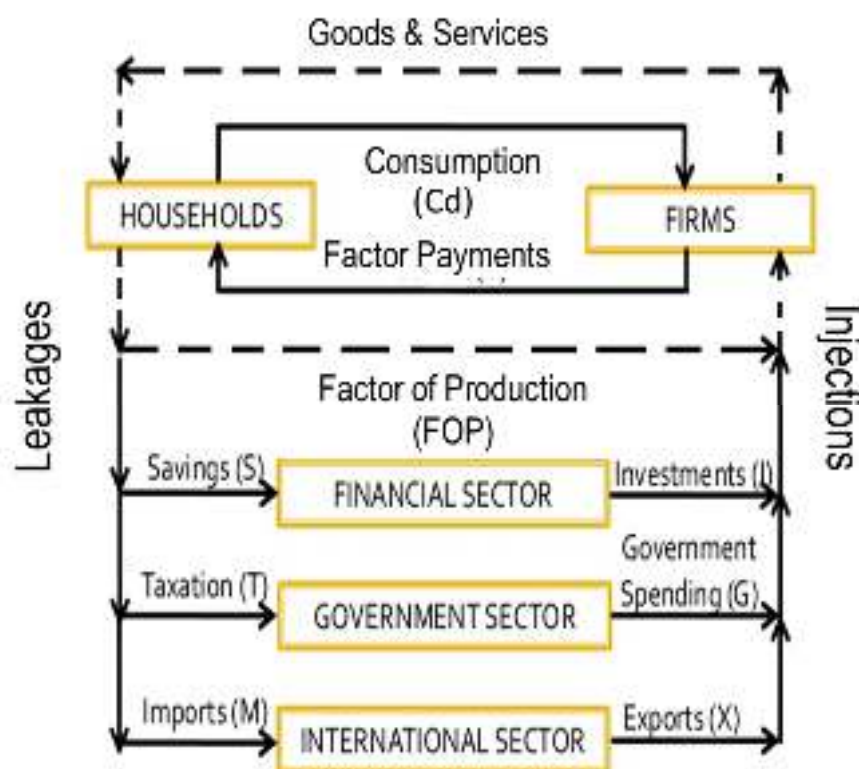
- Identify that **export revenue** and **government expenditure** are **injections**.
- Using circular flow of income, explain the underlying **process** (including multiplier process) of how the 2 injections result in the **change** in the national income in terms of **direction** and **magnitude**.
- Explain the **net** effect on national income due to the opposing direction of change in the injections (i.e. **decline** in export revenue and an **increase** in government expenditure).

##### Suggested Introduction

What is circular flow of income?

The **4-sector** model of the circular flow of income consists of (1) domestic households and firms, (2) financial intermediaries e.g. banks, (3) government and (4) foreign sector for which Germany engages in both the import and export of goods and services.

Identify the **injections** and **withdrawals** in the circular flow of income.



**Figure 1: Circular Flow of Income**

### Suggested Body

Suggested Body 1: With the aid of **circular flow of income** as the tool of analysis, explain how a **decline in export revenue** results in a **multiplied decrease** in national income in Germany.

When there is a decline in the export revenue in the circular flow of income, firms demand less labour and other resources from households to produce output such as Cars. The households in Germany would receive lesser factor payments from firms and experience a decrease in income. With decreased income, households tend to save less, purchase less imports as well as pay less taxes to the government. These are withdrawals from the circular flow of income since this part of household income is not spent on firm's output produced in Germany.

In addition, households in Germany would also purchase less output from firms in Germany due to the fall in income. The decreased expenditure by households in Germany decreases the production level of firms in Germany. To produce less output, firms will hence use less factors of production. Hence, the households in Germany experiences another wave of declining income. As before, with decreased income, households tend to save less, purchase less imports as well as pay less taxes to the government. Thus, this reduces the withdrawals from the circular flow. Similarly, the declining income will reduce households' expenditure on output from firms. The cycle then repeats itself.

However, the magnitude of the decrease in consumption/production is smaller at each successive round. This is because when household income decreases, part of it is saved, paid as taxes and paid for imports. In other words, part of the decrease in household income is withdrawn from the circular flow of income at each cycle. This process continues on until the original amount of the decrease in injections have leaked away as withdrawals. At this point,

the multiplier process stops. The result of a decline of export revenue is a **multiplied decrease** in the national income in Germany.

Suggested Body 2: With the aid of **circular flow of income** as the tool of analysis, explain how an **increase in government expenditure** results in a **multiplied increase** in national income in Germany.

Other than households, expenditure on the firm's output produced by Germany may also come from government. This is known as injection.

When there is an increase in injection of **12 billion euros of government expenditure** on output to integrate and accommodate 1.1 million of migrants (as seen from preamble), firms would demand more labour and other resources from households to produce output. The households in Germany would receive more factor payments from firms and experience an increase in income. Households in Germany would also purchase more output from firms in Germany due to the increase in income. *Similar to the effects of a decline in export revenue on the national income*, this would result in a **multiplied increase** in the national income in Germany due to an increase in government expenditure.

***[Students are expected to provide detailed explanation of the (reverse) multiplier process for ONE of the 2 given injections.]***

Suggested Body 3: Explain the **net** effect on national income in Germany due to the opposing direction of change in the injections (i.e. **decline** in export revenue and an **increase** in government expenditure).

The extent of the decline in export revenue due to global economic weakness is unlikely to be so huge as compared to an increase in government spending of 12 **billion** euros in year 2016 given that Germany's inflation rate would be approaching 2% price stability ceiling in 2016 (as seen from preamble). This could be an indication that Germany is approaching the full employment level of national income when there is a net increase in injections due to the increase in government expenditure outweighs the decline in export revenue.

In view of this, this would result in a **multiplied increase** in national income in Germany.

### **Suggested Conclusion**

Assuming that there is no change in investment expenditure in 2016, it is likely that there would be a **multiplied increase** in national income in Germany given that the decline in export revenue is likely to be lesser than the increase in government expenditure.

### **Marking Scheme: Part (a)**

<b>Knowledge, Application, Understanding, and Analysis</b>		
<b>L3</b>	Well developed explanation and illustration of the <b>underlying process</b> (including multiplier process) of how <b>decline in export revenue and increase in government expenditure</b> result in <b>multiplied</b> change in national income in Germany with relevant use of <i>well explained</i> examples and <b>circular flow of income</b> .  <b>AND</b> Well developed explanation of the <b>net</b> effect on national income in Germany due to the opposing direction of change in the injections.	<b>8 – 10 m</b>

<b>L2</b>	<p><b>Undeveloped</b> explanation and illustration of the <b>underlying process</b> of how <b>decline in export revenue and increase in government expenditure</b> result in <b>multiplied</b> change in national income in Germany with relevant use of <b>circular flow of income</b>. Include explanation of the <b>net</b> effect on national income in Germany due to the opposing direction of change in the injections.</p> <p>OR</p> <p><b>Well developed</b> explanation and illustration of the <b>underlying process</b> (including the multiplier process) of how either <b>decline in export revenue or increase in government expenditure</b> result in <b>multiplied</b> change in national income in Germany with relevant use of <b>circular flow of income</b>. Did not explain the <b>net</b> effect on national income in Germany due to the opposing direction of change in the injections.</p>	<b>5 – 7 m</b>
<b>L1</b>	<p>For an answer that use <b>AD – AS framework</b> instead of circular flow of income</p> <p>For an answer that shows a <b>descriptive</b> knowledge of the circular flow of income.</p>	<b>1 – 4 m</b>

### **Part (b)**

#### **Question requirements:**

- **Identify** and **explain how** the domestic and external factors can cause inflation in an economy.
- **Identify** and **explain how** the domestic and external factors determine the inflation **rate** in an economy.
- **Compare** whether inflation rate is **more** likely to be determined by **domestic** or external factors.

#### **Suggested Introduction**

Briefly state how inflation rate is measured.

Identify the possible **domestic** and **external** factors that could determine inflation rate.

#### **Suggested Body**

**Suggested Body 1:** Using **AD - AS graph** (as a tool of analysis), explain how **domestic** factors cause inflation in an economy.

#### **Possible examples:**

- Unintended consequences of demand pull inflation due to 12 billion euros of Government expenditure of goods and services (i.e. Increase in G) is spent on integrating the migrants in the short run OR/AND
- Any other **domestic** factors that affect C, I (i.e. demand pull inflation): Optimism of the Chinese economy in the early 2010 due to its strong economic growth rates, Investor's confidence.

- Any other **domestic** factors that affect X (i.e. demand pull inflation): Central Bank depreciates its currency to boost export revenue

Suggested Body 2: Using **AD - AS graph** (as a tool of analysis), explain how **external** factors cause inflation in an economy.

#### Examples:

- **Weaker price pressures in the European region** could increase relative inflation rates in Germany and thus erode Germany's export price competitiveness. This would reduce demand for Germany's exports and Germany's export revenue. → Demand pull inflation
- **Rising global oil prices** during the early 2010s results in an increase in the price of imported oil and thus causes imported cost push inflation which in turn affect the inflation rate of open economies that heavily imports oil for factor inputs (i.e. Singapore)

Suggested Body 3: Using **AD - AS graph** (as a tool of analysis) and real world examples, explain how **domestic**, **external** factors result in the interaction of AD and AS to determine the inflation **rate** (i.e. **EXTENT** of increase in GPL) in an economy.

#### Possible examples:

- 12 billion euros of Government spending that are intended to increase quantity of labour (i.e. 1.1 million migrants) in Germany and thus shift LRAS to the right coupled with an increase in AD (i.e. an increase in government expenditure on goods and services) in Germany → Domestic factor determines the extent of increase in GPL in Germany → Determine Germany's inflation rate.
- Strong bargaining power of trade unions would determine the possibility of **wage price spiral** → Determine the extent of increase in GPL → Determine the inflation rate.

*[Students are expected to use examples from various economies to illustrate when domestic or external factors determine inflation rate.]*

Evaluation: Compare whether inflation rate is **more** likely to be determined by **domestic** or external factors.

#### Possible Considerations:

- **State** of the economy - i.e. increase in AD at classical range which determines the magnitude of inflation rate.
- **Characteristics** of the economy – Small and Open economy is more likely to be determined by external factors as compared to large economy
- **Type** of the inflation issue (i.e. inflation or deflation) – E.g. Japan's negative inflation rate for the past two decades is mainly caused by domestic factors due to sustained pessimistic outlook of the economy and expectations of future prices to fall.
- **Cause** of the inflation issue (i.e. Persistent rising global oil prices during the 2010s result in most economies in the world to suffer from mild to high inflation rate.)

#### Suggested Conclusion

An economy's inflation rate like Germany is more likely to be determined by **domestic** factors as it is generally a large economy in terms of its domestic demand. This explains why the Germany's government is willing to spend a hefty sum of 12 billion euros to integrate migrants as the benefits of spending on integrating the migrants are likely to outweigh the opportunity

cost of incurring such large sum of government expenditure. This is especially so as Germany currently lacks labour to increase the productive capacity of the economy which could inhibit Germany from achieving the price stability goal of 2%.

However, for small and open economies like Singapore, her inflation rate is more likely to be determined by external factors given her high dependence on trade of goods and services in most situations. For instance, Singapore's inflation rate is largely attributed by the sharp rise in property prices from year 2011 to 2012 due to the quantitative easing implemented by the United States which encourages hot money to flow to the property market in Singapore. In view of this, Singapore government implemented targeted microeconomic policies such as property cooling measures to prevent these hot money inflows from eroding Singapore's export price competitiveness which is an important driver of Singapore's economic growth.

### Marking Scheme: Part (b)

<b>Knowledge, Application, Understanding, and Analysis</b>		
<b>L3</b>	<p><b>Well developed</b> explanation (i.e. at least 3 factors) and illustration of how <b>BOTH domestic</b> and <b>external</b> factors determine inflation <b>rate</b> (i.e. address the question requirement of inflation rate) in an economy.</p> <p>Analysis is <b>consistently</b> supported with <b>AD- AS framework</b> and <b>examples</b> from different economies.</p>	<b>8 – 10 m</b>
<b>L2</b>	<p><b>Undeveloped</b> explanation (i.e. at least 2 factors) and illustration of how <b>BOTH domestic</b> and <b>external</b> factors determine inflation rate in an economy.</p> <p>Analysis is supported with <b>AD- AS framework</b>.</p> <p>OR</p> <p><b>Well developed</b> explanation (i.e. at least 3 factors) and illustration of how <b>EITHER domestic</b> or <b>external</b> factors can cause inflation in an economy.</p> <p>Analysis is <b>consistently</b> supported with <b>AD- AS framework</b>.</p>	<b>5 – 7 m</b>
<b>L1</b>	For an answer that shows a <b>descriptive</b> knowledge of the causes of inflation without clear distinction between domestic and external causes.	<b>1 – 4 m</b>

<b>Evaluation</b>		
<b>E3</b>	For an answer that arrives at an <b><u>analytically well – reasoned judgment supported by economic analysis</u></b> (i.e. <b>Decision Making Model Considerations</b> or <b>Cost Benefit Analysis</b> namely <b>contextual benefits over the costs</b> ) and <b>clear specific examples</b> to illustrate how various considerations (i.e. state of the economy) determine whether domestic and external factors determine the inflation rate of various economies.	<b>4 – 5</b>

<b>E2</b>	An <u>unexplained judgment</u> (i.e. sum up with respect to the various <b>possible considerations</b> to determine whether domestic and external factors determine the inflation rate of an economy) that is <u>not supported by economic analysis</u> .	<b>2 – 3</b>
<b>E1</b>	For an answer that <b>takes a stand</b> on whether domestic and external factors determine the inflation rate of an economy.	<b>1</b>