# VCE ECONOMICS 3/4

## CPAP Practice Examination C 2023

[Note: This exam is a revised and updated version of the CPAP Practice Exam No. 1 2022. It is consistent with the new 2023 Study Design]

# SUGGESTED RESPONSES, MARKING SCHEME AND ADVICE

## Answers to MC questions

| | | | | |
|---|---|---|---|---|
| 1 | A | **B** | C | D |
| 2 | A | **B** | C | D |
| 3 | **A** | B | C | D |
| 4 | A | B | C | **D** |
| 5 | A | B | **C** | D |
| 6 | **A** | B | C | D |
| 7 | A | **B** | C | D |
| 8 | A | B | **C** | D |
| 9 | A | B | **C** | D |
| 10 | **A** | B | C | D |
| 11 | A | B | C | **D** |
| 12 | A | B | C | **D** |
| 13 | A | B | **C** | D |
| 14 | A | B | C | **D** |
| 15 | **A** | B | C | D |

**SECTION A**

**Question 1**
**Which of the following statements is inaccurate in relation to the Australian economy during 2022-23?**

A. Interest rates increased, the unemployment rate was below 4% and the budget was estimated to return to surplus
*B. Net foreign debt is negative, inflation increased above 3%, and the participation rate fell below 60%*
C. The exchange rate stayed below USD0.80, nominal wages growth remained positive and employment growth increased
D. House prices started to decline, job vacancies rose, and the Balance on Merchandise Trade remained positive

*Occasionally, VCE exams will include questions such as these in Section A that rely on students having a general (but not a precise) knowledge of contemporary economic statistics. **Option B is the best response** because two of the three statistics are inaccurate. While inflation has indeed increased above 3%, net foreign debt remains relatively high and is not negative (unlike net foreign equity which is indeed negative) and the participation rate has remained well above 60% (which has been the case for many years). The statistics contained in all other options are accurate.*

**Question 2**
**Which of the following is most likely to represent a cause of a downturn in the business cycle?**
A. High levels consumer confidence
*B. Very high market rates of interest on borrowing*
C. Growth in wages
D. Low rates of inflation

*The current Study Design requires students to be aware of the causes of the business cycle. Accordingly, students should be prepared to answer questions that test their understanding of what might cause the economy to enter the boom phase of the cycle (e.g. excessive business and consumer confidence) or the downturn phase of the cycle (e.g. overinflated prices, including the price of money - the interest rate). Reference to the business cycle has been made in Section B of the exam in 2019, 2020 and 2021, with Part A of the 2022 exam (Q12) focusing on the business cycle . While the 2021 reference was relatively straightforward (as the focus was on automatic versus discretionary stabilisers), the 2019 and 2020 versions were a little more demanding. In the 2020 exam, Q2b (5 marks) students were required to explain the role of automatic stabilisers in influencing aggregate demand and stabilising the business cycle in 2020 and in the 2019 exam, questions 2a, 2b and 2c required students to demonstrate an understanding of the meaning of 'business cycle', as well as the causes and effects. Common mistakes included: confusing the business cycle with a 'product life-cycle'; adopting too much of a micro focus (e.g. focusing on the drop in production for a particular product when attempting to describe the business cycle contraction) when a macro focus was required; and generally not being able to identify a factor contributing to a business cycle contraction. The current question focuses on the cause of a change in the business cycle (e.g. what is contributing to the downturn) rather than the effects (e.g. what is likely to be happening to macroeconomic variables such as economic growth, inflation and (un)employment) during a downturn (trough) in the cycle. **Option B is the correct response** because very high interest rates, despite being likely to occur at the peak of the business cycle, act as a disincentive to borrow for either consumption or investment, which then leads to a reduction in aggregate demand and economic growth, contributing to the downturn in the cycle. With respect to options A and C, each will cause, or contribute to, an upturn in the cycle. For those selecting D as the answer, it is likely to be because low rates of inflation will typically occur in the downturn of the cycle, which relates to the nature of the business cycle rather than the causes.*

**Question 3**
**If an Australian tourist returns from Bali in 2023 and inadvertently spreads 'foot and mouth disease' to Australia's livestock industry, resulting in widespread loss of stock, this is an example of:**

A. *A negative externality in consumption*
B. A negative externality in production
C. A negative externality in production and consumption
D. A positive externality in production and consumption

*The current Study Design requires students to understand 'externalities' as a source of market failure. This implies that both positive and negative externalities in consumption and production need to be explored. Students should be able to distinguish the two types of negative externalities, despite both resulting in third party or social costs. Given that it is an Australian tourist who spreads a disease that results in costs to the livestock industry, it is an example of a negative externality in consumption - as the third-party costs were created from the consumption of tourism services. This makes* **option A the correct response.** *Hypothetically, if it was an Australian traveling to Bali solely on business (e.g. a manager of a multinational such as Quicksilver conducting a routine audit of stores in Indonesia) then this would be considered an example of a negative externality in production, making option B the correct response. If it was an Australian traveling to Bali on a combination of business and leisure, then option C would be the correct response. Option D is clearly wrong as the example does not provide a positive externality.*

**Question 4**
**Which of the following does not provide a possible explanation for the continuing slow wages growth over the past few years?**

A. Low rates of unionisation
B. Higher labour force participation rates
C. Continuing casualisation of labour
D. *An increase in labour market tightness*

**Option D is the best response** *because an increase in labour market tightness reflects an excess demand for labour (or a shortage of labour) which continues to be experienced in Australia during 2023. [These labour shortages have also been reflected in very high job vacancy rates and a fall in the unemployment rate to as low as 3.5% during 2023, which exerted upward pressure on wages growth.] Each of the other options are examples of factors that have contributed to slow wages growth. With respect to option A, low rates of unionisation translate into less bargaining power for workers when negotiating wage agreements, which typically mitigates against strong growth in wages. With respect to option B, higher labour force participation rates [despite slower immigration up until 2022] reflects growth in the supply of labour relative to the demand for labor, which creates surplus labour and exerts downward pressure on the price of labour (wages). With respect to option C, continuing casualisation of labour [which is helped by the digitalisation of parts of the Australian economy and the greater ease with which people can offer their labour services to the labour market] also mitigates against stronger growth in wages given that casual or itinerant workers have less bargaining power and, in the case of casual of workers in the digital economy, the greater supply of labour exerts downward pressure on wages.*

**Question 5**
**Which of the following is most likely to be considered a public good?**

A. Healthcare services
B. Education services
C. *Prison services*
D. Banking services

*This question mirrors somewhat the most difficult multiple-choice question that appeared on the 2021 exam. Question 10 of that exam asked students to select which of the following four goods is NOT likely to be considered a public good: A. a fireworks display, B. street lighting, C. healthcare services, D. free-to-air TV broadcasts. Only 48% of students selected the correct option (i.e. C. healthcare services), with 32% selecting A, not appreciating that a fireworks display is indeed likely to be considered a public good. For these types of questions relating to public goods, it is important that students focus on the key characteristics of public goods: i.e. non-excludability and non-depletability (non-rival in*

*consumption) and to carefully consider each of the possible options to determine whether they meet <u>both</u> of these characteristics. Once this is done it should become evident that a fireworks display, streetlighting and free-to-air TV broadcasts all meet the characteristics of public goods. The inability of 52% of students to recognise that health care services is not an example of a public good is likely to stem from confusion related to the difference between goods with positive externalities in consumption (and/or merit goods) and public goods. For example, health care services, like education, is an example of a good that is only partly non-excludable and partly non-depletable. In other words, it is possible to exclude only some consumers who are not prepared to pay for the service (but not all consumers) and it is also the case that one person's consumption of the service can prevent another person from consuming the same services (e.g. a private consultation with a medical specialist for a fee). With respect to the current question, **option C is the best response** because the provision of prison services is non-excludable (given that it is impossible to exclude those members of the community who refuse to pay from enjoying the services that prisons provide) and non-depletable (given that one person's consumption of prison services, in terms of the security/safety it provides, does not prevent another person from enjoying the same benefits.) Options A and B are invalid because they are goods with positive externalities in consumption (and/or merit goods) and not public goods. Option D is invalid because banking services are a private good rather than a public good.*

**Question 6**
**Consider the following hypothetical Consumer Price Index (CPI) data.**

| Quarter | CPI |
|---|---|
| June 2021 | 100.0 |
| Sep 2021 | 105.0 |
| Dec 2021 | 106.3 |
| Mar 2022 | 110.0 |
| June 2022 | 112.5 |
| Sep 2022 | 116.0 |
| Dec 2022 | 118.0 |

**The inflation rate for the year ended September 2022 is**

A. *10.5%*
B. 18.0%
C. 16.0%
D. 5.0%

*A key skill in the current Study Design is the requirement for students to 'calculate relevant economic indicators using real or hypothetical data' and this skill has been tested in Section A of every exam over the life of the current Study Design, including two questions (5 and 9) on the most recent 2022 exam. Students often struggle selecting the right response when calculating hypothetical statistics, so it is reasonable to expect at least one question to appear in Section A of the 2023 examination. In the 2017 exam, students were required to calculate the rate of inflation from hypothetical (simplified) CPI numbers; terms of trade from hypothetical (simplified) export and import price indexes; and the current account balance from hypothetical (simplified) balance of payments data. In the 2018 exam, students were once again required to calculate inflation and the terms of trade from similar sets of data. In 2019, students were required to calculate the unemployment rate from hypothetical (simplified) labour force statistics. In the 2020 exam, students were required to calculate the underlying cash surplus from the hypothetical figures. [It is worth noting that the method of calculating the underlying cash balance has changed in 2020: Future Fund earnings are no longer taken away from the headline cash balance to arrive at the underlying cash balance.] In 2021 (Section A Q4), students were once again required to calculate the rate of inflation from hypothetical (simplified) CPI numbers, with the calculation essentially requiring students to determine if 2/110 equated to A) 2%, B) 1.8%, C) 1.0%, or D) 0.8%. This was challenging for students with only 53% of the cohort able to calculate (or guess?) that B was the correct option. A relatively high 27% selected A, not appreciating that 2/110 must be slightly less than 2% (i.e. 1.8%) given that 2/100 is 2%. For the current question, students first need to determine which two CPI figures are relevant (i.e. Sep Q 2022 and Sep Q 2021) and then perform a rough calculation using the CPI inflation formula, given that students do not have a calculator in the exam. **Option A is the correct** response given that the required calculation is 116.0 (CPI Sep 2022) – 105.0 (CPI Sep*

*2021) / 105.0 (CPI Sep 2021) which becomes 11/105. Just like the VCAA question from 2021, students are not required to calculate the fraction 11/105 with precision. It is sufficient to realise that it is closest to 10.5 than any of the other options.*

## Question 7
**Assume that a hypothetical economy has the following labour market statistics?**

| | |
|---|---|
| Total population | 250 million |
| Working age population | 200 million |
| Total employed | 145 million |
| Job vacancies | 5 million |
| Unemployed persons | 5 million |
| Underemployed persons | 10 million |

**The labour force underutilisation rate is:**

A. 3.3%
*B. 10%*
C. 15%
D. 7.5%%

*As noted in the comments provided for the previous question, responses to multiple choice questions over the past few years have highlighted the difficulty students have experienced demonstrating the key skill 'calculate relevant economic indicators using real or hypothetical data'. It is advisable for students to annotate their examination paper by including the relevant formula required (e.g. UE rate as UE/UE+Empl; the PR as Empl+UE/working age pop, etc.). In relation to recent calculations involving the analysis of labour market statistics, the 2019 exam (Q13) required students to calculate the unemployment rate from the first adjacent table. The options were A: 10% B: 12%, C: 12.5% and D: 15%. Only 37% of students correctly selected C, with most students selecting A (41%). In the 2021 exam, students were required to calculate the participation rate based on the hypothetical data contained in the second adjacent table and the options were A: 50% B: 55%, C: 60% and D: 65%. Only 57% of students were able to determine that the participation rate was 12/20\*100 = 60% with a surprising 30% of students selecting B (55%) as the answer, highlighting that they did not have a solid enough understanding of how the participation rate is calculated (forgetting to add the unemployed to the employed when determining the size of the labour force as the numerator in the equation). The current question requires students to calculate the labour force underutilisation rate, which is total number of unemployed plus underemployed as a proportion of the labour force. Which is (5+10)/(145+5)\*100 which becomes 15/150\*100 = 10%, making* **option B the correct response**.

| total population | 100 million |
|---|---|
| employed persons | 70 million |
| unemployed persons | 10 million |
| underemployed persons | 2 million |

| employed persons | 11 million |
|---|---|
| unemployed persons | 1 million |
| persons not in the labour force but of working age (over 15 years of age) | 8 million |

## Question 8
**In the cash market, a decision by the RBA to purchase Commonwealth Government Securities (or bonds) from banks will be in response to:**

A. A rise in exchange settlement account balances and a rise in the actual cash rate above the target cash rate
B. A rise in exchange settlement account balances and a fall in the actual cash rate below the target cash rate
*C. A fall in exchange settlement account balances and a rise in the actual cash rate above the target cash rate*
D. A fall in exchange settlement account balances and a fall in the actual cash rate below the target cash rate

*The current Study Design no longer specifically requires students to demonstrate an understanding of the role of open market operations in altering interest rates. However, it remains required knowledge to the extent that it forms part of the way that conventional monetary policy operates (e.g. the RBA manipulation of the cash market to ensure that the cash rate remains at, or close to, the target cash rate) in contrast with non-conventional monetary policy (which requires no manipulation of the cash market). Over the life of the previous Study Design (i.e. 2017-2022) open market*

*operations was addressed twice, and both times in Section A of the examination in 2017 and 2019. It is typically a part of the course that creates problems for students, particularly the aspect relating to the purchase and sale of CGS/bonds. Students should remember that a purchase of CGS by the RBA means that the cash market becomes more liquid (or more flush with funds) because the banks' exchange settlement accounts (or the market) will now have more cash than before, following the receipt of cash from the RBA in exchange for the CGS. This increased supply of cash in the cash market then exerts downward pressure on the price of cash (i.e. the cash rate). [Of course, the reverse occurs in relation to a sale of CGS by the RBA.] **Option C is the correct response** because a decrease in ESA balances reflects a reduction of liquidity in the market (or a reduced supply of cash) and causes the actual cash rate to rise above any given target cash rate. To ensure that the actual cash rate returns back to the target, the RBA will then need to purchase CGS (or bonds) from the banks, injecting cash into the market, increasing liquidity and subsequently forcing the actual cash rate back down to the target. Options A&B are incorrect because they refer to an increase in ESA balances. Option D is incorrect because it refers to a fall in the actual cash rate.*

**Question 9**
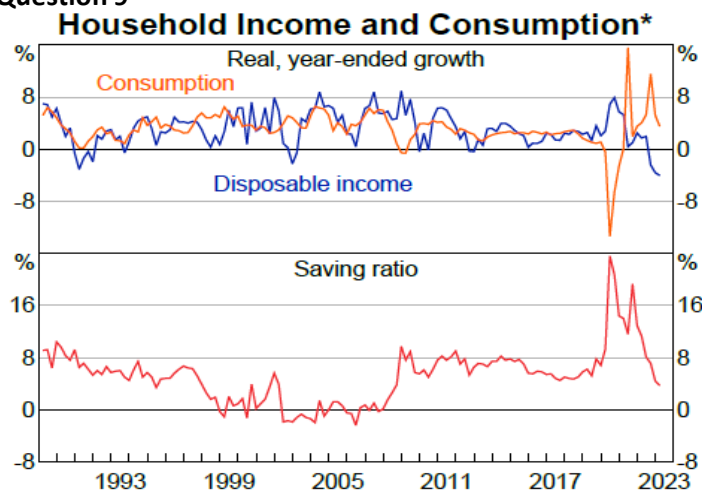


**An analysis of the data contained in the above chart reveals that during 2020:**

A. the change in disposable income caused Consumption to increase
B. the change in the savings ratio caused Consumption to increase
C. *the change in the savings ratio caused Consumption to decrease*
D. the change in disposable income caused Consumption to decrease

**Option C is the best response** *because the higher savings ratio during 2020 meant that the proportion of disposable income that was saved by households increased, which necessarily means that the proportion spent on Consumption decreased. In other words, despite the growth in disposable income during 2020 (as a consequence of generous government stimulus measures), more of this income was saved rather than spent on consumer goods and services, which caused consumption demand to decrease in the economy [contributing to the recession of 2020]. Option A and B are incorrect because Consumption did not increase during 2020. Option D is incorrect because Consumption did not fall as a consequence of the rise in disposable income but rather it fell as a consequence of the increased willingness of households to save rather than spend. Note that growth in disposable income, as a factor in itself, should increase Consumption.*

**Question 10**
**The removal of Chinese tariffs on Australian wine is likely to have which of the following effects in the Australian wine market?**

A. *The demand curve to shift to the right and a higher equilibrium price*
B. The demand curve to shift to the left and a lower equilibrium price
C. The supply curve to shift to the right and a lower equilibrium price
D. The supply curve to shift to the left and a lower equilibrium price

*A similar style question was asked on the 2021 exam which was poorly handled. In that question, students were required to analyse the effects that a removal of a 5% tariff on imported cars would have on the market for cars in*

*Australia. Only 57% of students were able to recognise that it would result in the supply curve for cars shifting to the right and a lower equilibrium price. A combined 37% of students either thought that the demand curve shifted to the right, increasing the equilibrium price, or that both the demand and supply curves shifted to the right, resulting in no change in the equilibrium price. For these types of questions, it is useful to draw small demand and supply diagrams in the border of the exam paper and carefully examine the impact on the market for each particular option. For the current question, **option A is the correct response** because the removal of Chinese tariffs on wine effectively increases the demand for Australian wine (from Chinese consumers), which shifts the demand curve to the right and results in a higher equilibrium price of wine in the market.*

## Question 11
**Which of the following is not likely to be a factor contributing to the growth in cost inflationary pressure?**

A. An increase in the compulsory superannuation guarantee levy
B. The ongoing war in Ukraine
C. Growth in unit labour costs
*D. A rise in business confidence*

*A similar question was asked in the 2020 exam and it was the second most poorly handled question on Section A of the exam, with only 47% of students selecting the correct response. In that question, most students did not recognise that an increase in superannuation payments effectively add to the costs of production and ultimately increase cost inflationary pressures. For this reason, it is expected that some students will incorrectly choose option A as the best response for the current question. However, **option D is the correct response** because a rise in business confidence adds to Investment demand and accelerates demand inflationary pressures. Option B is a relevant factor contributing to recent cost inflationary pressures in the economy, with the war in Ukraine (and the associated sanctions imposed on Russia) creating supply constraints in many markets, and causing the prices of key inputs (such as crude oil) to rise. Option C is also relevant given that unit labour costs add further to costs of production for businesses.*

## Question 12
**For any given period of time, production in the economy will increase and productivity will decrease if:**

A.   more goods and services are being produced and there is a rise in real GDP per hour worked
B.   real GDP per hour worked rises and real GDP per capita falls
C.   aggregate demand increases and allocative efficiency falls
*D.   real GDP increases and there is a decrease in output per hour worked*

*In exams, students continue to confuse production and productivity, often using the terms interchangeably and/or using the terms out of context. This point was highlighted once again in recent Examination Reports, where students are advised to 'develop a better understanding of the difference between production and productivity'. For the current question, students need to appreciate that real GDP represents the measure of production and that output (or real GDP) per hour worked represents the measure of (labour) productivity. This makes **option D the correct response** as both of the key variables move in the right direction – i.e. production as measured by real GDP increases and productivity as measured by output per hour worked decreases. Option A is incorrect because it refers to a rise in productivity (i.e. a rise in real GDP per hour worked). Option B is incorrect because it refers to productivity increasing rather than production increasing and also refers to a measure of living standards falling (i.e. real GDP per capita) rather than a measure of productivity. Option C is incorrect because it refers to aggregate demand increasing rather than production and also refers to a decline in a type of efficiency that is not directly related to productivity (i.e. allocative efficiency).*

## Question 13
**Which of the following budgetary policy measures is least likely to shift the aggregate supply curve to the right?**

A.   An increase in spending on training and education
B.   An increase in tax concessions on research and development expenditure
*C.   An increase in the rate of payment for the JobSeeker allowance*
D.   An increase in expenditure on infrastructure

*The Study Design requires students to develop an understanding of how aspects of budgetary policy are designed to influence aggregate supply: spending on training and education, research and development grants, subsidies, infrastructure and tax reform. The question requires students to focus on a government measure that is <u>least</u> likely to be effective. This makes* **option C the correct response** *because the effects of an increase in the rate of payment for the JobSeeker allowance has a more ambiguous impact compared to the effects of each of the other measures. It can certainly be argued that an increase in JobSeeker allowance can help to incentivise welfare recipients and generate improvements in national productivity, or potentially increase the supply of labour to markets. However, it can also be argued that the reverse is true to the extent that the increase in these payments becomes too generous, working to disincentivise JobSeekers. All other options are less ambiguous and more likely to generate improvements in productivity/technical efficiency, boosting productive capacity and shifting the aggregate supply curve to the right.*

## Question 14
**Which of the following will cause an expansion of demand for a product like beer?**

A. An increase in disposable incomes
B. An increase in the price of Canadian Club (CC), which is a substitute for beer
C. A decrease in the price of nuts, which can be considered a complement for beer
D. *A decrease in the excise tax applying to all alcohol*

*The Study Design requires students to know the difference between movements along demand/supply curves and shifts of the curves. In addition, students are expected to have an understanding of the types of factors that will shift each of the curves. This includes changes in disposable income, the prices of substitutes and complements in relation to factors that will shift the demand curve, and costs of production as a factor shifting the supply curve. For questions such as these it is always useful to draw demand and supply diagrams in the border of the exam paper in order to avoid any confusion.* **Option D is the correct response** *because a decrease in excise on alcohol will reduce the costs of production for beer manufacturers, shifting the supply curve to the right, causing the price to fall and therefore inducing an increase in demand (i.e. expansion of demand) as consumers are enticed by the lower prices. All of the other options A-C are examples of factors that will shift the demand curve to the right – i.e. cause the demand for beer to increase at any given price.*

## Question 15
**In terms of the weaknesses of using budgetary policy to achieve macroeconomic goals, which of the statements below is most accurate?**

A. *There will typically be implementation and impact lags that cause a delay between the inception of a policy and its impact on the economy*
B. Any change in interest rates affects the whole economy and is therefore 'blunt' in nature
C. It can simultaneously achieve stronger rates of economic growth, combined with lower rates of unemployment and lower rates of inflation
D. Australia's high household debt levels limit the effectiveness of interest rate reductions designed to stimulate AD

*In Section B of the exam, students are often asked about the strengths and weaknesses of using policies to achieve specific government objectives. This includes the 2021 exam where Q1d focused on two weaknesses related to monetary policy and Q2c focused on budgetary policy strengths and weaknesses. The current Study Design no longer requires students to demonstrate an understanding of the strengths and weaknesses associated with the use of aggregate supply policies. This is now only required when analysing the use/effectiveness of aggregate demand policies. For strengths and weaknesses questions, many students make the mistake of 'listing' a strength and a weakness of the policy more generally, instead of clarifying how the supposed strength made the policy particularly effective at reducing the rate of unemployment, and how the suggested weakness made it less effective at reducing unemployment. Students should remember this advice in the event that a question is asked in Section B of the exam on strengths and weaknesses of using aggregate demand policies. For the current question,* **option A is the correct response** *because both impact lags and implementation lags are genuine factors that limit the effectiveness of budgetary policy and therefore represents a weakness. Option B is incorrect because it refers to a weakness of monetary policy. Option C is incorrect because it refers to a strength of (budgetary policy) supply side measures. Option D is incorrect because it refers to a weakness of monetary policy, rather than a BP weakness.*

**SECTION B**

**Question 1 (22 marks)**
**Petrol prices increased significantly in Australia since 2021 due largely to disruption to the supply of crude oil in global markets. These higher petrol prices had implications for cost of living, resource allocation and government policy.**

a. **Describe how a supply factor might account for higher petrol prices since 2021. Use a demand/supply diagram for petrol to illustrate your response.** **5 marks**

- 1 mark for the identification of a relevant supply factor
- 2 marks for an accurate description of how the factor causes the price of <u>petrol</u> to rise
- 2 marks for accurate use of the diagram (in the market for petrol)

**Note 1:** Full marks can only be awarded if the description makes reference to the market for and price of petrol, not crude oil.

**Advice 1:** The Study Design requires students to understand the factors likely to affect supply (and the position of the supply curve). This key knowledge (KK) is tested in most examinations, but usually within Section A (MC) of the exam, such as Q2 of the 2022 exam. In the 2021 exam, this KK was tested in question 3a, with students being required to outline a demand or supply factor that might increase the consumption of fish. The External Assessment Report reveals that, while the question was generally well handled, some students erred by confusing movements along curves (expansions or contractions) with shifts of curves. In addition, some students simply identified a relevant factor without expanding on how the factor resulted in an increased demand for (or consumption of) fish. There was also evidence of students misreading the question and talking about both a demand and a supply factor when only one was required. In the context of the current question, students should not focus on a demand factor contributing to the higher prices. Use of the term 'might' in the question provides scope to describe hypothetical factors, but it is recommended that students endeavour to describe a relevant factor in the current context.

**Advice 2:** A key skill in the Study Design is the need for students to construct and interpret demand and supply diagrams. Over the life of the former Study Design (i.e. 2017-2022), students were required to construct a demand/supply diagram in the examination in 2017, 2018, 2020 and 2022. Importantly, for a question such as this, students should avoid the common mistake of going beyond the scope of the question and talking (too much) about the dynamics of adjustment from one equilibrium to another or the implications for resource allocation (which is the subject of a subsequent question).

**Advice 3:** When constructing demand and supply diagrams, such as the one required in this question, students should ensure that they accurately label both x and y axes, as well all curves/lines. It is also advisable to clearly indicate the movement in the relevant variable(s) on the diagram, i.e. price of petrol in this instance (e.g. increasing from P1 to P2).

***Sample answer:*** *The conflict in Ukraine and the associated sanctions imposed on Russian oil exports has led to a fall in the supply of oil to global markets, which has resulted in a higher price of oil. This has increased the costs of production for petroleum refineries in Australia as crude oil is the key ingredient in the production of petrol. The refineries have attempted to protect profit margins by passing on these higher costs to consumers by increasing petrol prices. This can be illustrated with reference to the demand and supply diagram below, with the high cost of production shifting the supply curve for petrol to the left which [leads to excess demand at the pre-existing price of P1 and] causes price to increase from P1 to P2 over time.*

**Note 2:** Square bracketed section is not required for full marks.

Market for petrol 2022

Price

S2

S1

P2

Increase in price

P1

D1

Q2  Q1

Quantity
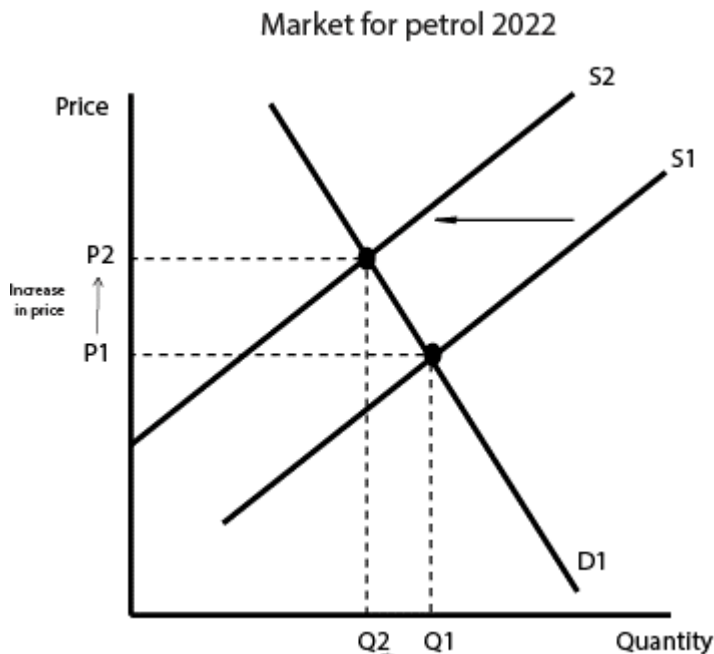
b. **Examine one implication that higher petrol prices might have for resource allocation. In your response refer to relative prices.**

**3 marks**

- 1 mark for making meaningful reference to relative prices
- 2 marks for explaining how resources will or might be reallocated

**Advice:** An understanding of relative prices and the price mechanism is a fundamental building block for understanding the nature of economics in a market system and a structured/short answer question testing this part of the course was only asked only twice over the life of the previous Study Design – in 2020 and 2022. It is an area of VCE Economics that consistently troubles students and past examination performances reveal that students fail to demonstrate an adequate understanding of this part of the course, with average results regularly falling below 50%. While the average score on the 2020 exam was a relatively high 58%, only 18% of students achieved full marks. That question required students to 'explain how an increase in demand for a product might result in a change in relative prices, and explain how this would influence resource allocation and living standards'. The 2022 version (Q4c), required students to use a D/S diagram to illustrate and analyse how one form of government intervention might lead to a change in relative prices and the allocation of resources. The best performing students were those who were able to clarify how the change in relative prices ultimately sends important signals to producers/consumers, and then explain how this causes resources to move from the production of one good to another. It is important that the explanations provided by students are not inconsistent with the information conveyed in the diagrams that are drawn/presented in the exam – which was a common error in 2022. It is also important that students use the diagram in a meaningful way to illustrate how resources are reallocated and avoid an overemphasis on explaining the dynamics of adjustment from one equilibrium to another.

**Sample answer:** *An increase in petrol prices results in a lower relative price of other forms of energy or fuel, such as a lower relative price of electricity [that can be used to fuel electric vehicles]. Over time, this will encourage economic agents to shift their demand away from the purchase (or use) of forms of transportation relying on petrol, such as petrol fueled motor vehicles, and towards relatively cheaper forms of transportation. For example, the demand for petrol fueled motor vehicles by both consumers and businesses will decrease, to be replaced by an increased demand for electric or hybrid vehicles. This necessarily results in a reallocation of resources such as labour and capital away from the production of traditional means of transport and towards the production of those means of transportation relying more on renewable energy.*

**Note 1:** Teachers are advised to use discretion when assessing student responses given that there are alternative ways of approaching the question. It is possible, for example, that some students will refer to Australian producers of crude oil being motivated by higher prices of crude oil (linking higher petrol prices back to higher crude oil prices) and devoting more resources to the exploration of oil. This type of approach is also deserving of full marks if explained well.

**Note 2:** Square bracketed section is not required for full marks.

c. **Explain what is meant by a high price elasticity of supply and describe one factor that suggests the price elasticity of supply of petrol will be relatively high.**

**4 marks**

- 1 mark for demonstrating an accurate understanding of price elasticity of supply
- 1 mark for an accurate explanation of the meaning of a high price elasticity of supply
- 1 mark for the identification of a relevant factor (e.g. spare capacity, production period, or durability of goods)
- 1 mark for an accurate description of how the factor results in a high price elasticity of supply

**Advice:** Unit 3, AOS 1 requires students to demonstrate an understanding of the factors affecting the price elasticity of supply (specifically spare capacity, production period, and durability of goods). In Section B of the examination, there was only one exam question testing this part of the course during the life of the previous Study Design (i.e. 2017 - 2022). That question surfaced on the 2021 exam (Q3e) and it was one of the most poorly handled questions on the paper, with an average score of 47%, and only 30% of students achieving the full 3 marks. Students were required to explain one factor that would affect the price elasticity of supply of fish, and the bulk of students could not demonstrate a sufficient enough understanding of PES. Specifically, many erred by inappropriately explaining factors that impact on the price elasticity of <u>demand</u> for fish or they described a relevant factor affecting the PES (e.g. durability or storability) but could not explain how or why an increase/decrease in storability/durability causes the PES to increase/decrease. Given that the question was poorly handled on the 2021 exam, combined with the fact that the question has only been asked once over the past six years, increases the likelihood that a question covering this part of the course might appear on the 2023 examination.

*Sample answer: A high price elasticity of supply (PES) of a good or service refers to supply being relatively responsive to a change in the price of that good or service. Specifically, it means that any given percentage change in the price of a good or service will result in a larger percentage change in the quantity supplied. [For example, if a 10% increase in the price of petrol results in a 50% increase in supply to the market, it means that the PES will be high - i.e. greater than 1, or as in this example, 5.] The durability of petrol is a factor that suggests the PES for petrol will be relatively high because it will not easily perish and can be stored for long periods of time before use. This means that producers of petrol can stockpile supply in great quantities and release supply to the market when prices increase.*

**Note:** Square bracketed section is not required for full marks.

d. **Explain how higher petrol prices since 2021 have contributed to inflation and caused an erosion of purchasing power for households. In your answer, distinguish demand inflation from cost inflation.**

**5 marks**

- 1 mark for linking higher petrol prices to inflation
- 2 marks for linking higher petrol prices/inflation to an erosion of purchasing power
- 2 marks for accurately distinguishing demand inflation from cost inflation

**Note 1:** Teacher discretion is advised in relation to the marks allocated for the final part of the question. It is recommended that those responses that simply demonstrate an understanding of demand inflation and cost inflation in isolation should achieve 1 mark in total, with the full 2 marks being awarded to those students who clearly/actively distinguish the two terms.

**Advice:** The current (and former) Study Design requires students to demonstrate an understanding of the causes of inflation, including demand and cost inflation. Question 1b and 1c of the 2022 exam centred around the causes of inflation and students were required to distinguish between demand inflation and cost inflation. It is important not to err by adopting too micro a focus (e.g. referring to a higher demand for a good, or a lower supply of a good) when attempting to demonstrate an understanding of demand and cost inflation. Students should also avoid saying that 'demand inflation is caused only by consumers or households while cost inflation is caused only by businesses' – which was a common mistake made by students in the 2022 exam.

*Sample answer: Given that most households require petrol to fuel their motor vehicles, it means that any increase in the price of petrol will increase the prices within the 'Transportation' category of the consumer price index (CPI) and*

*therefore result in an increase in the rate of inflation (as measured by growth in the CPI). The higher inflation rate [or growth in fuel prices specifically] will erode the purchasing power of households because more of any given level of income will be required to be spent on fuel, which is generally considered to be a non-discretionary item, particularly in the short term [i.e. it is very difficult to avoid the additional expenditure required to run a motor vehicle]. This means that households will have less 'discretionary income' to spend on other goods and services and their purchasing power is therefore eroded. The higher petrol prices over the course of 2022 have been a result of a global supply shock that has resulted in higher crude oil prices. Given that it has emanated from the supply side, it is an example of cost inflation, which is distinct from demand inflation which would require the higher prices to be a result of excessive demand for goods and services [as opposed to restrictions of supply].*

**Note 2**: When explaining the erosion of purchasing power, students can achieve full marks if their focus is on the link between higher petrol prices and purchasing power or higher inflation more generally and purchasing power.

e. **Describe how the federal government used its control over taxation to reduce cost of living pressures for households since 2022.**

**2 marks**

- 1 mark for the identification of a relevant tax initiative
- 1 mark for describing how it provided cost of living relief

**Note 1:** While students can identify and describe the cut to excise on fuel that occurred for six months during 2022, full marks can will be awarded for any tax relief provided to households in the two 2022-23 Budgets (such as extension of low-and-middle-income tax offset (LMITO)) or the 2023-24 Budget delivered in May 2023 (such as introducing a new tax break - the Small Business Energy Incentive - to help small and medium businesses electrify and save on their energy bills) . To the extent that students refer to tax relief measures announced prior to 2022, but coming into force during 2022, such as the personal income tax plan, it is recommended that students be awarded full marks, provided the link to cost of living relief is provided.

**Note 2:** Measures that refer to cost of living relief that are planned to occur via government expenditure (as opposed to tax changes) should receive a maximum of 1 mark.

**Advice:** Often, the examination will include questions that require students to demonstrate a knowledge of contemporary economic events, or policy actions, that have been implemented over the past couple of years. This is consistent with the Study Design, such as Unit 4, AOS 1 where students are expected to know the 'effect of budget initiatives from the past two years on the achievement of the domestic macroeconomic goals and living standards'. While it is unlikely that exam questions will expect a knowledge of specific policies or events, it is not impossible for such a question to surface on the exam. For example, Q2a of the 2021 exam expected students to know that the government's forecast budget outcome for 2021-22 was a deficit. Given the media attention given to both high petrol prices over 2022, and the federal government's response, this type of question might indeed surface on the exam (provided the exam was finalised after the announcement of this measure in the 2022-23 Budget delivered in late March 2022).

*Sample answer: The federal government reduced the excise tax on petrol [for a period of six months from 44.2 cents to 22.1 cents per litre]. This helped to reverse somewhat the decline in discretionary income and erosion of purchasing power described above, as excise relief helped to reduce the price of petrol below that which would have applied in the absence of the tax relief. [At the time of its implementation in late March 2022 it helped to reduce petrol prices below $2 per litre.]*

**Note 3:** Square bracketed section is not required for full marks.

**f. Explain how the change to the tax system referred to in part e., or any other recent government intervention, may have unintentionally decreased efficiency in the allocation of resources.**

**3 marks**

- 1 mark for identifying an unintended consequence of the initiative
- 2 marks for an accurate description of how the initiative (or part thereof) reduces efficiency in some way

**Note:** Students are free to focus on any relevant government intervention in the context of the question. It is no longer necessary for the intervention to be 'contemporary' (e.g. over the past few years), which was a requirement of the former Study Design (2017-2022).

**Advice 1:** The current Study Design requires students to have knowledge of one example of government intervention in markets that unintentionally leads to a decrease in one of allocative, productive, dynamic or intertemporal efficiency. This key knowledge was assessed only twice on the exam, first in 2017 (Q1c) and again in 2022 (Q4d). In both instances, the question was basically a repeat of the key knowledge point from the Study Design, which deliberately gave students scope and choice to focus on any example they had covered during the year. Importantly, only 36% of students achieved full marks for that question in 2017 and only 25% in 2022, with the majority of students demonstrating an inability to move beyond a discussion of the unintended consequence. It is important that students are prepared to make the concrete link to at least one type of economic efficiency in order to achieve full marks. Indeed, this point was made in the 2022 Examination Report where students were advised 'to identify a relevant form of government intervention in markets and then explain how the intervention leads to a reduction in at least one type of economic efficiency'.

**Advice 2:** Technically, the Study Design requires students to think in terms of government failure in the sense that the government intervention led to a 'net' reduction in economic efficiency. Higher order responses will be those that attempt to make this argument. For example, in relation to subsidies provided to private vocational colleges (or subsidies provided to industries more generally), allocative efficiency would be impaired if it could be shown that the benefits of the subsidies are outweighed by the costs in terms of the rorting, waste and/or inefficiencies that become entrenched. However, full marks can still be achieved in the event that students do not extend their analysis this far.

***Sample answer:*** *The reduction in excise tax on petrol, despite its temporary nature, exerts downward pressure on the price of petrol and therefore raises the relative price of alternative fuel sources [e.g. solar electricity]. This can work to slow down the rate of substitution away from fossil-based fuels (such as petrol) and towards more renewable fuel sources (such as electricity generated by wind or the sun) and delay action on climate change mitigation. The tax change comes at a high opportunity cost and contributes to a less efficient allocation of resources to the extent that fewer resources are allocated to the production of goods and services (e.g. renewable energy) that better serve the national interest in the long run. It therefore compromises the achievement of both intertemporal and allocative efficiency.*

**Question 2 (22 marks)**

a. **Outline how and why the Reserve Bank of Australia (RBA) changed its monetary policy stance since 2022. In your response, refer to price stability and full employment.**

**5 marks**

- 1 mark for demonstrating an understanding of monetary policy stance
- 1 mark for identifying that the RBA raised the target cash rate (or interest rates) to deliver a less expansionary and then restrictive stance
- 0.5 marks for demonstrating an understanding of full employment
- 0.5 marks for demonstrating an understanding of price stability
- 2 marks for an accurate justification of why the RBA adopted a less expansionary/restrictive stance

**Advice 1:** The current Study Design requires students to demonstrate an understanding of the stance of monetary policy (expansionary/accommodative, contractionary/restrictive or neutral) and this key knowledge point is examined on a regular basis. Typically, it will be clear that students need to demonstrating an understanding of the change (to) or effects (of) the recent monetary policy stance. For example, questions 1(e) and 1(f) of the 2022 exam focused on what influenced the monetary policy stance since January 2022 and then what the effects were. However, it can sometimes be less clear that a reference to the stance is required. For example, in the 2021 exam, Question 1(c) focused primarily on one transmission mechanism and the influence on aggregate demand and full employment. But, the question also referred to how 'the monetary policy stance was designed to influence AD and FE' and many students made the mistake of ignoring the need to demonstrate an understanding of what the monetary policy stance was at the time, and simply focused on how low interest rates influenced AD and FE (i.e. the transmission mechanism).

**Advice 2:** In relation to monetary policy questions, it is very common for students to include information that is not relevant to the question being asked. For example, in the context of the current question, students are not required to explain how the RBA might manipulate the cash market in order to raise the cash rate. Nor is there any requirement to examine any of the transmission channels.

**Advice 3:** Students should be careful to avoid the confusion that is commonly made in relation to monetary policy stances (e.g. expansionary or contractionary) and the means by which the RBA changes monetary policy settings (e.g. a loosening or tightening of monetary policy). For example, it was common for students in the 2022 exam to confuse the early tightening of monetary policy over 2022 with a restrictive or contractionary monetary policy stance. Students should always remember that a tightening of monetary policy does not necessarily mean that monetary policy is or becomes restrictive, nor does a loosening of monetary policy necessarily mean that monetary policy is or becomes expansionary. Whether a tightening of policy becomes restrictive depends on how high the cash rate increases in relation to what is considered to be the 'neutral cash rate' (currently revised to approximately 3.5%). Technically, this means that the tightening of monetary policy over 2022-23 did not cause the monetary policy stance to become restrictive/contractionary until the cash rate rose above approximately 3.5%.

**Advice 4:** When any reference to Australia's macroeconomic goals is made in the question, such as the reference to price stability and full employment in this question, students should always attempt to demonstrating an understanding of what is meant by these goals somewhere in the response. This is relatively straightforward for the current question because students are directed to refer to both price stability and full employment. However, it is common for questions to make less specific reference to the goals which results in students making the mistake of only focusing on the key economic indicators underpinning the achievement of the goals. For example, question 2d of the 2021 exam required students to explain how a particular budgetary policy supply side initiative might influence aggregate supply and the achievement of the goal of low inflation. It was not uncommon for students to link the initiative to the impact on inflation without extending their response by demonstrating some understanding of how this influences the achievement of the low inflation goal.

*Sample answer: Since 2022, the RBA implemented a less expansionary and eventually restrictive monetary policy stance by tightening monetary policy and increasing the target cash rate, from a historically low level 0.1% in April 2022 to 4.1% by June 2023. It adopted this less expansionary/restrictive stance because inflationary pressures were increasing, with the CPI increasing above 6% for the year ended June 2022, and climbing to close to 8% over 2023. This high rate of inflation jeopardised the achievement of price stability as inflation could potentially remain above the top end of the RBA target range of 2 to 3% for some time. In addition, the RBA no longer needed to focus on further stimulus to support economic growth and employment given that the rate of unemployment fell to below what is*

*generally considered to be the full employment rate of unemployment (or NAIRU) of around 4.25%. With an unemployment rate below 4% [reaching as low as 3.5% over 2022-23] providing evidence of a tight labour market and capacity constraints affecting the economy, it was naturally expected to cause an acceleration in wages growth and further increase inflationary pressures [as the RBA feared the emergence of a price/wage spiral that could be difficult to unravel over time]. In this environment, it was natural for the RBA to reduce the monetary stimulus to the economy and focus on reducing inflation and inflationary expectations via the delivery of a less expansionary and then restrictive stance.*

**Note:** Square bracketed section is not required for full marks.

b. **Evaluate the effectiveness of the exchange rate channel of the monetary policy transmission mechanism over 2022-3 in light of other countries, such as the USA, raising interest rates by more than the rise in Australian interest rates.**

**5 marks**

- 2 marks for an explanation of how the exchange rate channel ordinarily can help to reduce aggregate demand (and/or inflationary pressures) over 2022-23.
- 2 marks for an explanation of how higher interest rates overseas negate the ability of the exchange rate channel to reduce aggregate demand (and/or inflationary pressures)
- 1 mark for an overall conclusion (that the channel becomes totally ineffective in the current context)

**Advice 1:** The current Study Design requires students to demonstrate an understanding of four key channels of the monetary policy transmission mechanism (savings and investment, cash flow, exchange rate movements and asset prices/wealth) and questions related to the channels of monetary policy transmission have featured on the past five exams. In the 2022 exam (Q1f) focused on the exchange rate mechanism and the achievement of one macroeconomic goal, and only 25% of students were able to achieve the full 4 marks. In the 2021 exam (Q1c), only 34% of students were able to achieve the full 5 marks and in the 2020 exam (Q1c) only 28% of students were able to achieve the full 6 marks. The 2019 and 2018 examinations saw relatively low average scores of 55% and 56% for questions related to the transmission mechanism channels. In all of these exams, students made the same types of mistakes. In relation to the exchange rate channel (e.g. Q1f of the 2022 exam), students spent insufficient time explaining how higher interest rates actually contribute to a higher exchange rate (e.g. referring to the role of interest rate relativities, capital inflow/outflow and the change in the demand/supply of the AUD on foreign exchange markets). In relation to mistakes more generally, a common point of confusion is the difference between the cash flow channel and the cost of credit/savings and investment channel, with many students naming the channels incorrectly (e.g. naming/identifying the cash flow channel and describing the cost of credit channel or naming/identifying the cost of credit channel and explaining the cash flow channel). Students need to remember that lower interest rates positively impact on spending by making it easier to repay existing loans, which improves discretionary income [the RBA refers to this as disposable income] and therefore improves cash flows (i.e. the cash flow channel). This is distinct from the ability of lower interest rates to encourage more households/businesses to take on more credit (e.g. increase the use of a credit card or even take out more loans), which of course is the cost of credit/savings and investment channel.

**Advice 2:** Discussing or evaluating the effectiveness of policies (in terms of strengths and weaknesses related to the way they operate) is a key skill that troubles students. For example, the 2022 exam (Q2d) required students to evaluate the use of budgetary policy in achieving the Australian Government's goal of full employment, with only 18% of students able to achieve full marks (and an average of 1.8/4). The 2021 exam (Q1d) require students to explain weaknesses associated with monetary policy and the 2020 exam (Q2d) required an evaluation of the effectiveness of monetary policy. The average scores in 2021 and 2020 was a relatively low 55% and 42% respectively. A common mistake made by students is an inability to recognise that an evaluation of the effectiveness of policy requires a discussion of the relative strengths and weaknesses. Instead, many students simply describe how monetary policy was used over the relevant period. As noted in Examination Reports, the best performing students in an evaluation question are those able to prioritise their arguments (e.g. strengths/weaknesses) to arrive at a reasoned conclusion as to the overall effectiveness of the policy.

**Advice 3:** The current question requires students to do more than simply explain how the exchange rate channel operates to influence aggregate demand (and economic growth/inflation). Instead, it is necessary to 'evaluate' how effective this channel becomes when other countries are also increasing interest rates by more than Australia. This relates to both the key knowledge (to understand the strengths and weaknesses of using monetary policy) and key

skill (evaluate the strengths and weaknesses of aggregate demand policies) listed in the Study Design. The evaluate task word in the context of this 5-mark question therefore requires students to examine how the exchange rate channel can be effective in reducing AD (or demand inflationary pressures) on the one hand (e.g. a strength) but how the tightening of monetary policies in other countries prevents this from working (e.g. a weakness) on the other hand. An overall conclusion is then required - given that other countries like the USA are more aggressively tightening monetary policy, students should recognise that this makes the channel ineffective.

**Advice 4:** As noted in the advice provided in the previous question (i.e. part a), students should avoid making reference to aspects of monetary policy that are unrelated to the question, such as the goals of the RBA or its charter, a discussion of open market operations or the impact on other macroeconomic goals.

*Sample answer: The tightening of monetary policy in Australia over 2022-3 is designed to reduce aggregate demand and inflationary pressures, with the exchange rate channel being one of the five key channels by which this is achieved. The increase in the target cash rate [to as high as 4.1% in June 2022] resulted in higher market interest rates. This ordinarily leads to higher relative interest rates in Australia, causing capital inflow as foreign investors chase higher investment returns on offer in Australia [e.g. it becomes more attractive to purchase Australian debt instruments such as bonds which will be offering a higher rate of return], which in turn leads to an increase in the exchange rate as the demand for the AUD on foreign currency markets necessarily increases. The exchange rate appreciation then helps to reduce aggregate demand, given that it reduces the competitiveness of Australia's tradables sector [exporters and import competing businesses]. This then helps to reduce demand inflationary pressures in the economy. However, if other countries, such as the USA, are increasing their official interest rates by more than the increase that is occurring in Australia it totally undermines the effectiveness of the exchange rate channel in terms of its ability to reduce aggregate demand in Australia. This is because the higher 'relative interest rate' in Australia will not occur given that foreign central banks are raising interest rates by more than Australia. in fact, the interest rate differential will work in the other direction, with Australian interest rates becoming relatively lower, which contributes to downward pressure on the exchange rate and upward pressure on the rate of inflation. This means that the exchange rate channel has been relatively ineffective over 2022-3 [and the remaining channels became the means by which monetary policy tightenings helped to reduce demand aggregate demand and inflationary pressures].*

**Note 1:** When explaining the relationship between higher interest rates and the exchange rate, students can also achieve full marks if they refer to a decrease in capital outflow instead of, or in addition to, the increase in capital inflow.

**Note 2:** Square bracketed section is not required for full marks.

c. **Explain how changes to the structural component of the budget over recent years may have influenced monetary policy settings.**

**4 marks**

- 2 marks for describing at least two recent changes to the structure of the budget
- 2 marks for a logical explanation for how this influenced the RBA to change policy settings (e.g. tighten monetary policy)

**Advice 1:** While the Study Design does not specifically require students to understand or analyse the 'relationship' between monetary and budgetary policies, this does not preclude a question such as this from surfacing on the exam. Unit 4 key knowledge within the Study Design requires students to demonstrate an understanding of the 'role of discretionary stabilisers (structural component of the budget) in influencing aggregate demand' and a key skill requires students to 'analyse the effect of current factors on the setting of aggregate demand policies'. In this context, it can be argued that the budget stimulus measures handed down over recent budgets (or more generally, the continuing large structural budget deficits) have added to (demand) inflationary pressures and necessarily influenced monetary policy settings.

**Advice 2:** Questions related to the structural component of the budget regularly appear on the examination, usually in tandem with questions related to the cyclical component of the budget. It is common for students to confuse the two types of budget stabilisers and to also forget that changes to the structure of the budget, or the structural component of the budget, refers specifically to discretionary stabilisers. Also see the advice provided in part e. below.

*Sample answer:* *Since 2021, the government has used the budget to deliver ongoing stimulus to the Australian economy which was designed to counter the lingering effects of the COVID induced recession of 2020-21. This included the delivery of tax concessions (e.g. continuing provision of accelerated depreciation allowances) and expenditure initiatives (e.g. increased payments to welfare recipients), in addition to a host of other deliberate stimulus measures on both the revenue and expenditure sides of the budget that resulted in ongoing structural budget deficits [despite the temporary return to cyclical surplus in 2022-23]. These stimulus measures ultimately boosted disposable incomes, much of which was spent [and continues to be spent as households drewdown some of the savings that were accumulated over the past couple of years]. The stimulus measures [or expansionary budgetary policy] contributed to growth in aggregate demand to such an extent that signs emerged of an overheating economy during 2022, with rapidly falling unemployment and rising job vacancies (i.e. tighter labour markets), combined with much stronger rates of economic growth. This combined with the supply shocks being experienced across the economy to accelerate inflationary pressures and contributed to inflation increasing towards 8% by late 2022, well above top end of the RBA's target range [of 2-3%]. This influenced the RBA to tighten monetary policy and adopt a less expansionary stance, and eventually restrictive stance by early 2023 [increasing the target cash rate to 4.1% by June 2023] in order to prevent inflation from climbing further and imposing a real threat to the achievement of price stability going forward.*

**Note 1:** Students can be rewarded if they focus on the most recent 2023-24 Budget and the cost of living initiatives (discretionary measures) that were designed to directly reduce prices for households (e.g. energy price relief). To the extent that these measures contained inflation (or inflationary expectations) and influenced the RBA to delay further monetary policy tightenings, students can argue that the discretionary budgetary policy initiatives influenced monetary policy to become less restrictive.

**Note 2:** Square bracketed section is not required for full marks.



Budget outcome and Government (public) debt
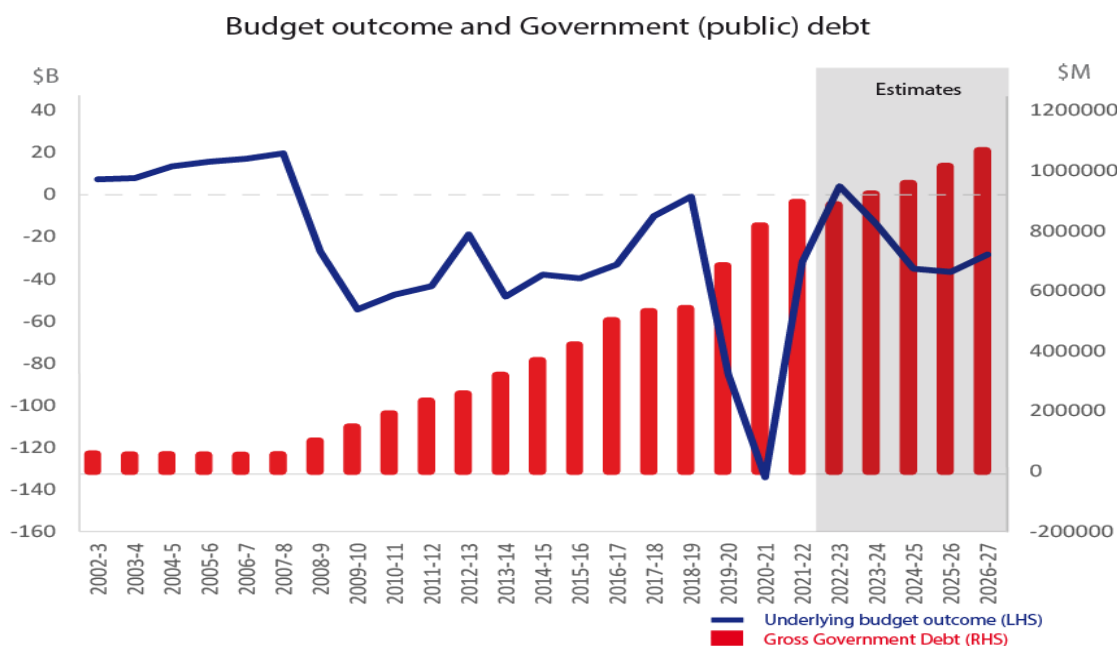
d. **Define public debt and describe the movement in public debt between 2019-20 to 2022-23.**

**4 marks**

- 2 marks for an accurate definition of public (or government) debt
- 2 marks for an accurate description of the trend between 2019-20 to 2022-23 drawing accurately on data from the chart.

**Note:** Students cannot achieve full marks for the second part of the question if they focus on the increase in public debt that is estimated to occur beyond 2022-3, nor can they achieve full marks if they focus on the entire period covered by the chart or the years prior to 2019-20.

**Advice 1:** The current Study Design requires students to demonstrate an understanding of (the relationship between the budget outcome and) the level of government (public) debt as well as to understand the effect of automatic and discretionary changes in the budget on the budget outcome and government (public) debt. Questions relating to the relationship between the budget outcome and government debt were asked in both the 2021 and 2019 examinations

(and this relationship is the subject of the next question (part e.)). In these exams, students continued to demonstrate a misunderstanding what is meant by public debt, often confusing public debt with net foreign debt, public debt (which is the same as gross government debt) with net government debt, or even confusing public debt with budget deficits. Students need to remember that public debt refers to the total 'stock' of government debt in existence at a given point in time, which equates to the total stock or supply of Australian Government Securities (AGS) in existence. [Note AGS = Commonwealth Government Securities = Australian Government Bonds].

**Advice 2**: The Study Design requires students to explain and interpret trends and patterns in economic data and other information. It is common for students when asked to describe trends to make the mistake of omitting any reference to the data/graphs presented. Students should always be prepared to use the figures/information contained in charts or data when asked to describe the movement/trend in certain economic variables. Even if students are not asked to refer to the stimulus material, making reference to the material in a meaningful way will add value to responses and increases the chances of receiving full marks.

*Sample answer: Public debt refers to the total value of Australian Government Securities (AGS) on issue which represents a liability that the government has to lenders (who are the purchasers of the AGS and require repayment once the AGS mature). The value of government debt has increased between 2019-20 to 2022-23, from approximately $700 billion in 2019-20 to approximately $900 billion [estimated] in 2022-3.*

e.  **Describe how automatic stabilisers may have influenced the movement in both the budget outcome and public debt over the past two years. In your response, refer to the relationship between the budget outcome and public debt.**

**4 marks**

- 1 mark for identifying that automatic stabilisers have helped to reduce the size of the budget deficit and reduced (the growth in) public debt
- 1 mark for demonstrating an understanding of how automatic stabilisers helped to increase budget revenue relative to budget expenditure (See Note 2)
- 2 marks for accurate reference to the relationship between the budget outcome and public debt.

**Advice 1:** The Study Design (U4 AOS 1) requires students to demonstrate an understanding of the effects of automatic and discretionary changes in the budget on the budget outcome (as well as the effect of automatic and discretionary changes in influencing aggregate demand and stabilising the business cycle). It is quite common for students to lose valuable marks in the examination by misinterpreting questions that relate to the cyclical (and structural) components of the budget. First, students should be aware that the cyclical components of the budget refer to automatic stabilisers and the structural components of the budget refer to discretionary stabilisers. Importantly, students need to remember that automatic/discretionary stabilisers can be examined from two angles. First, the impact that they can have on the budget outcome and second, the impact that they can have on the economy (e.g. the impact on aggregate demand and the business cycle). It is not uncommon for students to write a brilliant response, demonstrating a clear understanding of how automatic/discretionary stabilisers impact on the budget outcome, when the question is actually asking students to explain how these stabilisers impact on the economy (e.g. AD and economic growth).

**Advice 2:** The most recent four examinations (2019 - 2022) tested student understanding of the role of automatic stabilisers, and on all occasions, students performed relatively poorly. In the case of the 2022 exam, the average score was a relatively low 50% and only 21% of students achieved the full 4 marks. Question 2b required students to explain how automatic stabilisers affected the Australian Government's budget outcome for 2021–22. Unfortunately, many students erred by arguing that automatic stabilisers are changes 'in the economy' that occur without government intervention, without specifically linking this to the budget or the budget outcome. In addition, many students did not stay focused on the 2021-22 Budget as specified in the question. In relation to the 2021 exam, students were required to 'explain the difference between the role of automatic stabilisers and discretionary stabilisers in influencing aggregate demand and stabilising the business cycle' (8 marks). The average score was 55%, with only 8% of students achieving the full 8 marks. Importantly, many students erred by simply defining automatic and discretionary stabilisers without isolating a key point of difference between the two terms in relation to how they operated to support aggregate demand and stabilise the business cycle. Other problems included references to lower tax rates and lower interest rates when attempting to explain how automatic stabilisers operate, as well as a propensity to explain how these stabilisers operate in a theoretical setting, rather than the context of 'the past two years' as specified in the question.

**Advice 3:** Question 2b of the 2020 exam required students to explain the role of automatic stabilisers in influencing aggregate demand and stabilising the business cycle in 2020, which was very similar to Question 3b of the 2019 exam which required students to describe how a budgetary policy automatic stabiliser operates to influence aggregate demand and economic growth. The average scores achieved were very low (52% in 2020 and 45% in 2019). In both exams, students inappropriately examined the impact that automatic stabilisers have on the budget outcome and therefore erred by making no reference to how the automatic stabilisers help to influence AD and the rate of economic growth. In addition, while a number of students could appropriately select an example of an automatic stabiliser (e.g. the progressive tax system or unemployment benefits) they could not adequately describe how it influences AD and the rate of economic growth.

**Advice 4:** Given the difficulty that students continue to experience in relation to this part of the course, it is not unreasonable to expect another question on automatic versus discretionary stabilisers on the 2023 exam.

*Sample answer: Over the past two years,  the growth in national income [or nominal GDP] has increased well above expectations as a result of better than anticipated growth in commodity prices/terms of trade.  This led to an automatic increase in government revenue (e.g. higher company tax receipts from mining companies) relative to expenditure, causing the budget deficit to fall and eventually return to [estimated] surplus for 2022-23.  The lower deficit then helped to reduce the growth in the value of government (public) debt, and the (estimated) return to budget surplus actually causes the value of public debt to fall [as can be seen in the chart, with public debt decreasing between 2021-22 and 2022-23].   This highlights the clear relationship between deficits and debt, with a smaller budget deficit reducing the need for the government to borrow as much in financial markets [i.e. fewer Commonwealth Government Securities issued] and a return to surplus eliminating the need for the government to issue new CGS [i.e. no borrowing requirement and the surplus funds can be used to pay off existing debt].*
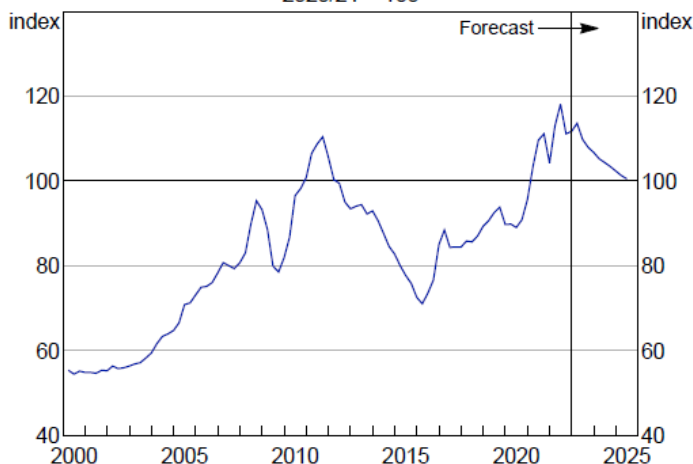
**Note 1:** Square bracketed section is not required for full marks.

**Note 2:** Students can also achieve full marks if they focus on the improvement in the budget outcome as a consequence of lower government expenditure on income support.

**Question 3 (15 marks)**



**Terms of Trade**
2020/21 = 100

a.  **Explain why an increase in the terms of trade contributes to a higher exchange rate.**

**3 marks**

- 1 mark for demonstrating an accurate understanding of the TOT that includes reference to prices received for exports over (relative to) the prices paid for imports.
- 2 marks for a comprehensive description of how a higher TOT causes the exchange rate to appreciate
  - 1 mark for a superficial description (e.g. because it results in an increased demand for the Australian dollar on foreign currency markets).

**Advice 1**: The Study Design requires students to demonstrate an understanding of the terms of trade, both its meaning and how it is measured, as well as both the causes and effects of movements in the terms of trade. Questions related to the terms of trade, either definition or the causes/effects, regularly cause students problems in examinations. Students will typically confuse the terms of trade with the trade weighted index (TWI); the terms of trade with the balance of trade (or BOMT) and/or inappropriately define the terms of trade as the value of exports over the value of imports (or even 'exports over imports'). As noted in a recent Examination Report, 'Students need to remember that growth in the TOT means that the prices received for exports are increasing relative to the prices paid for imports and it does not refer to exports over imports; or the value of exports over the value of imports; or worse the price of imports over the price of exports.'

**Advice 2:** Questions relating to causes and/or effects of changes in the exchange rate appear regularly on exams given that changes in the exchange rate are topical and feature heavily in the press every year. For example, in the 2020 exam, the first three questions (1a-1c), worth a total of 16 marks, related to either the cause (1a and 1b) or effects (1c) of a changing the exchange rate. Importantly, when responding to exchange rate questions, students should be careful not to confuse cause and effect – which is relatively common. On occasions, assessors will read responses that are brilliant in terms of the ability of the student to connect key economic variables but are awarded zero marks because the student confused cause and effect.  In relation to Q1b (2020), it was similar to the current question, requiring students to explain how a more favourable terms of trade (and a slowdown in global economic growth) would influence the exchange rate. As noted in the Examination Report, many students were unable to understand the role of the terms of trade in the context of the question.

**Advice 3:** It is worth remembering that the major drivers of a change in the exchange rate are changes in the interest rate differential and changes in the terms of trade. Given that no question examining either the causes or effects of a change in the exchange rate appeared in Section B of the 2022 and 2021 examinations, it is perhaps likely that students will be required to demonstrate an understanding of one or both in the 2023 examination.

*Sample answer: The terms of trade (TOT) represents the average prices received for exports relative to the average prices paid for imports [and is commonly measured by an index that is derived from dividing the export price index by the import price index expressed as Px/Pm x 100 = TOT]. A rise in the TOT, for example one caused by higher prices received for exports, will typically contribute to an appreciation of Australia exchange rate.  This occurs because exporters will be receiving more for any given volume of exports, which leads to an increase in export values (or sales) and necessarily leads to an increase in the demand for Australian dollars (AUD) in the foreign exchange market in order to facilitate the purchase of the higher value of exports. The greater demand for AUD will then exert upward pressure on the price of the AUD which means that the exchange rate appreciates.*

**Note:** Square bracketed section is not required for full marks

b.  **Explain how the forecast movement in the terms of trade beyond 2023 is expected to influence the Balance on Merchandise Trade and Australian living standards.**

**5 marks**

- 1 mark for Identifying that the terms of trade is forecast to decline from 2023 onwards
- 2 marks for an accurate and comprehensive explanation of how a lower TOT impacts on the BOMT
- 2 marks for an accurate and comprehensive explanation of how a lower TOT impacts on living standards

**Note:**  Those students who misread the chart and talk about a rise in the terms of trade should be awarded a maximum of 2 marks for this question (1 mark for each explanation for how a higher terms of trade improves the BOMT and increases living standards).

**Advice 1:** With respect to the effects of a change in the terms of trade, the current Study Design specifically mentions the effects of movements in the terms of trade on the domestic macroeconomic goals and living standards . As mentioned in the previous piece of advice, questions related to the terms of trade, either in terms of a definition, or the causes/effects, regularly cause students problems in examinations. This was again illustrated by student responses to questions in the 2020 and 2019 exams. In Question 1b of the 2020 exam, many students were unable to understand the role of the terms of trade in influencing the exchange rate. Further, a number of students erred by arguing that a favourable movement in the terms of trade means that the terms of trade index increases above 100. Students should recognise that a favourable movement in the terms of trade does not require the index to be above 100.  In Question

4c on the 2019 exam, students found it difficult to explain how an unfavourable movement in the terms of trade affected the goal of strong and sustainable economic growth and living standards. The average score was a very low 50%, with only 19% of students achieving the full 4 marks. Common mistakes when interpreting an unfavourable movement in the terms of trade included students saying that export values declined relative to import values, exports declined relative to imports, and import prices declined relative to export prices.

**Advice 2:** Students should avoid making the common mistake of arguing that a rise in the TOT negatively impacts on net exports because 'a higher price of exports leads to a fall in the demand for exports and therefore leads to lower value of exports' (and/or a 'lower price of imports raises the demand for imports and leads to a higher value of imports'). It is very important to remember that the TOT records the prices 'already received' by exporters (e.g. higher prices received for coal or iron ore because of an increase in the world price of these commodities) as well as the prices 'already paid' for imports (e.g. lower prices for imported technology because of lower world prices). Accordingly, rising export prices and falling import prices help to lift Net Export values and appreciate the exchange rate.

**Advice 3:** Given the poor performance by students in dealing with a terms of trade question, combined with the fact that there was no terms of trade question on Section B of the most recent two exams, it is reasonable to expect a terms of trade question to appear on the 2023 the examination.

*Sample answer: The forecast decline in the terms of trade (TOT) from 2023 reflects that the prices Australia is expected to receive for its exports declines, on average, relative to the prices we are expected to pay for imports. This decline in the TOT should result in a smaller surplus in the Balance on Merchandise Trade (BOMT). This is because Australian exporters are expected to receive lower prices for any given volume of exports [and/or importers are expected to pay higher prices for imports] which necessarily leads to lower export values [and/or higher import values], which leads to a decrease in export credits relative to import debits, reducing the value of net exports and decreasing the BOMT surplus.*

*The lower TOT will also negatively impact on Australian living standards because the decline in Net Exports (X − M) ultimately results in a lower level of [nominal] GDP and national income. The lower incomes earned in the economy, such as the incomes earned by those with an interest in the tradables sector of the economy (including wages, bonuses and dividends), will further reduce AD and real GDP growth. This will be reflected in a lower rate of growth in real GDP per capita and a reduced ability of Australians, on average, to access goods and services [therefore impacting negatively on material living standards].*

**Note:** Square bracketed section is not required for full marks

c. **Explain whether a surplus on the Balance on Goods and Services for Australia means that the current account balance will be in surplus.**

**3 marks**

- 0.5 marks for demonstrating an understanding of the Balance in Goods and Services
- 0.5 marks for demonstrating an understanding of the current account balance
- 0.5 marks for identifying that a surplus on the BOGS doesn't guarantee that the current account will be in surplus
- 1.5 marks for an accurate explanation of why a surplus on the BOGS might occur alongside a current account deficit

**Advice 1:** Questions requiring students to demonstrate an understanding of the current account and its components (e.g. movements and causes) regularly feature in the examination. This included all of the exams between 2017 and 2021), but excluded the most recent 2022 exam. Students should expect to either describe the trend and/or explain a factor that has contributed to the movement in the current account balance (or its sub-accounts) as well as examine the implications of a change in the current account balance (or its sub-accounts) for the achievement of Australia's macroeconomic goals/living standards or the capital and financial account in the balance of payments (see Advice provided in part d. below).

**Advice 2:** Students should not be confused by the term Balance on Goods and Services (BOGS) given that it is a key component within the current account, representing the combination of the BOMT and Net Services (or the total value of exports minus the total value of imports). The BOGS is sometimes expressed as the Trade Balance, as was the case in the 2021 exam (Q4c).

*Sample answer:* *A surplus on the Balance on Goods and Services (BOGS) means that two sections of the current account, the BOMT and Net Services will be in a combined surplus which means that the total amount received (credits) from exports of goods and services exceeds the total amount paid (debits) for imports of goods and services. This surplus does not necessarily mean that the current account will be in surplus because the third sub-account within the current account, the Net Primary Incomes (NPI) section, is typically in deficit [owing to Australia's large stockpile of net foreign liabilities], the size of which, up until 2019, was always so large that it prevented any BOGS surplus from creating an overall current account surplus. [The BOGS surplus since 2019 has actually been so large in comparison to the NPI deficit that the current account balance became a surplus for the first time in approximately 50 years].*

**Note:** Square bracketed section is not required for full marks.

d.  **Describe one cyclical factor that might result in a deterioration in the current account balance and outline how this should influence the capital and financial account**

**4 marks**

- 1 mark for demonstrating an understanding of a cyclical factor influencing the current account balance
- 1 mark for describing how the cyclical factor causes the current account surplus to fall (or a CAD to increase)
- 1 mark for identifying that any CA deficit/surplus must be offset by a CAFA surplus/deficit
- 1 mark for further added value that articulates how the CAFA balance changes

**Note:** In relation to the second part of the question, given the use of the command term (instructional verb) 'outline' and the fact that this part of the question is (likely to be) worth 2 marks, there is no requirement for students to go beyond a mere mechanical explanation of the relationship between the current account balance and the CAFA balance. For example, there is no need for students to link a deteriorating current account balance (e.g. a movement of the current account into deficit) with national spending exceeding national income such that there is a requirement to fund the shortfall via the inflow of either foreign debt or equity, which enters the Financial Account of the CAFA as credits and results in a CAFA surplus. This type of response is more likely to be warranted in the event that it was clear that this part of the question was worth more than 2 marks, or if this part of the question was asked in isolation and the mark allocation was 3 or 4 marks

**Advice 1:** The current Study Design requires students to demonstrate an understanding of the cyclical and structural influences on Australia's current account balance. Again, as mentioned in the previous advice, questions related to the current account (deficit) have proved burdensome for students in the past, with questions related to the difference between the structural and cyclical factors affecting the CA or CAD being particularly problematic, as evidenced by student responses to Q4d of the 2021 exam ('explain how a change in one structural factor might result in improvement in the CA balance'). This was the most poorly handled question on the examination, with an average score of 33% and only 19% of students achieving the full 3 marks. Students should remember that structural factors are those unrelated to the economic cycle, and instead relate to the underlying factors or forces driving any particular current account outcome. For example, to the extent that higher rates of productivity growth might be a factor contributing to any improvement in the current account balance, this is a structural factor. It is quite distinct from a cyclical factor causing the current account balance to improve, which might simply be a decline in AD or national spending. As noted in the 2021 Examination Report, students needed to 'focus on any 'non-cyclical' factor, or long-term factor, that had the potential to contribute to a higher CAS over time. Reference to factors such as any savings and investment imbalance, relative rates of productivity growth, shifts in technology uptake, international competitiveness, changes in resource endowments and shifts in comparative advantage were all examples of relevant factors that can help to achieve a sustained (structural) boost to the current account surplus.' In relation to the current question, cyclical factors (like cyclical factors affecting AD, economic growth, or the budget outcome for example) are purely related to changes in the economic cycle. Accordingly, if the current account balance changes for 'cyclical reasons', it means that it is due entirely to changes in the key macroeconomic variables of production, income and expenditure, which of course are commonly measured by changes in AD, GNE or GDP.

**Advice 2:** In relation to the second part of the question, the Study Design specifically requires students to know about the relationship between the current account and the capital and financial account. A similar question was once again poorly handled on the 2021 exam. Question 4b effectively required students to explain how the improved current account balance would have affected the balance on the capital and financial account and the average score was a

relatively low 50%, with only 40% of students receiving the full 2 marks, and 44% of students receiving 0 marks. See Note above in relation to a 'mechanical' outline being sufficient in the context of this question.

**Advice 3:** Unfortunately, when endeavoring to respond to questions related to the current account balance, students continue to make the common mistake of confusing the current account balance with the budget balance (or a current account deficit with a budget deficit or a current account surplus with a budget surplus).

***Sample response****: A cyclical factor that might cause the current account surplus to fall, or even enter into deficit territory (i.e. a CAD), is a rise in national spending [or Final Demand/Gross National Expenditure] that might occur if the economy were to enter a boom period for example. This should lead to an increase in expenditure on imports, and ceteris paribus, cause net exports to fall and the BOGS to decrease, which leads to a lower current account surplus. [The growth in national spending also leads to a potential imbalance between national spending (e.g. GNE) and national income (e.g. GDP) which has traditionally been the primary cause of Australia's CAD until 2019.]*

*Over any given period, the balance of payments must balance meaning that the sum of the two accounts within the balance of payments (CA and CAFA) must equal to zero such that a CA deficit must be offset by a CAFA surplus (or a CA surplus must be offset by a CAFA deficit). Therefore, if the current account surplus decreases [or it moves into deficit] it must mean that the CAFA deficit also decreases [or moves back into surplus] by the same amount which therefore ensures that the balance of payments equals 0 [or that the lower CA surplus is exactly offset by the lower CAFA deficit].*

**Note:** Square bracketed section is not required for full marks.

**Question 4 (6 marks)**
a. **Explain how the recent return to strong growth in skilled immigration might influence wages growth and inflation in Australia.**

**3 marks**

- 0.5 marks for identifying that a growth in skilled immigration should decrease wages growth
- 0.5 marks for identifying that a growth in skilled immigration should help to reduce the rate of inflation
- 1 mark for a logical explanation of the link between growth in skilled immigration and wages growth
- 1 mark for a logical explanation of the link between growth in skilled immigration (or lower wages growth) and employment

**Advice 1:** Unit 4 of the Study Design requires students to demonstrate an understanding of the effect of skilled immigration on population, productivity and participation and the subsequent effect on productive capacity, aggregate supply, international competitiveness, the achievement of domestic macroeconomic goals, and living standards.

**Advice 2:** Students should carefully interpret questions related to (skilled) immigration. While the current question refers to growth in skilled immigration, the VCAA exam might refer to a decline in (skilled) immigration, as was the case in the 2018 exam (Question 3c). In that question, students were asked to explain one likely effect on the labour market and aggregate supply of decreasing the annual immigration intake from 200,000 to 100,000. Only 7% of students were able to achieve the full 4 marks, with the average score a very low 2.1/4 or 53%. Too many students misread the question and argued on the basis that there was a decrease in the total volume of immigrants living in Australia and a shrinking of the labour market. It was an easy mistake to make, arguing that the total number of immigrants in the country is falling and therefore glossing over the important fact that there (will) remain an additional 100,000 immigrants entering the country each year.

***Sample response****: The return of strong growth in skilled immigration will help to increase the supply of labour in Australian labour markets and alleviate to some extent the labour shortages that exist in a number of industries and occupations. This should then exert downward pressure on the price of labour (e.g. wages) as the bargaining power of employees falls, resulting in them being in a weakened position to negotiate higher wages from employers. This should then contribute to a decrease in wages growth [in the short to medium term]. This lower price of labour should then help to reduce costs of production, contributing to downward pressure on both prices and the rate of inflation as businesses are less inclined to raise prices when costs fall.*

**Note:** Students can be awarded full marks if they refer to the possible long run impact on wages growth, with skilled immigration boosting productivity, adding to productive capacity and boosting international competitiveness (e.g. via higher labour productivity) which helps to stimulate low inflationary growth in real GDP and lift wages growth over time.

b. **Describe how a recently introduced aggregate supply policy initiative can raise productive capacity and reduce inflation.**

**3 marks**

- • 0.5 marks for identifying a relevant aggregate supply policy initiative
- • 0.5 marks for a description of the initiative
- • 1 mark for describing how the initiative raises productive capacity
- • 1 mark for describing how the initiative reduces the rate of inflation

**Advice 1:** Students must be in a position to answer questions on the nature of aggregate supply policies, the types of aggregate supply policies, and how aggregate supply policies are designed to influence aggregate supply/productive capacity and assist with the achievement of Australia's domestic macroeconomic goals. There are a host of aggregate supply policies to choose from, and students are not restricted to the list of supply side initiatives specifically listed in the Study Design (i.e. spending on training and education, research and development grants, subsidies, and investment in infrastructure, welfare and tax reform and immigration policy). Generally, the easiest approach is to focus on supply side initiatives announced in recent budgets.

**Advice 2:** Questions related to the implementation and/or impact of aggregate supply policies have featured in Section B of every exam over the life of the previous Study Design. This includes the 2022 and 2021 exams where questions 3 and 2 respectively focused on how specific budgetary policy supply side measures (spending on training and education, R&D grants, infrastructure investment, tax reform or subsidies) might influence aggregate supply and the goal of low inflation. Q2e of the 2021 exam also focused welfare reform, but this area has been removed from the current Study Design. The errors made by students in relation to BP supply side initiatives mirror the errors made in relation to aggregate supply policies more generally. This includes spending an excessive amount of time describing the initiative and insufficient time on an explanation/description of how the initiative actually influences the target variables in the question (e.g. productive capacity and inflation). Students need to remember that, for a question such as this, the best responses will be those which provide a comprehensive description of how the initiative actually helps to increase productive capacity and reduce inflation. Other ongoing issues include the confusion students experience when referring to productivity versus production or focusing on an aggregate demand side explanation as opposed to an aggregate supply side explanation.

**Sample response:** *The government recently devoted more funding to vocational education and training, including thousands of new apprenticeships as well as employer subsidies. This should help to improve the quality of human capital, as younger Australians will ultimately exit these courses/programs with enhanced workplace skills, which improves productivity of labour, and reduces the effective costs of production for Australia's business sector. This, in turn, increases the willingness and/or ability of businesses to supply goods and services to the market, boosting aggregate supply and the capacity of the economy to produce goods and services (i.e. productive capacity). The higher productivity (and greater aggregate supply) exerts downward pressure on the rate of inflation because the lower average costs of production (and/or abundance of goods and services) encourages businesses to reduce prices in order to generate more sales, without eating into profit margins.*