Diploma Programme
Programme du diplôme
Programa del Diploma

Markscheme

May 2024

Economics

Higher level

Paper 3

International Baccalaureate
Baccalauréat International
Bachillerato Internacional

Notes for examiners:

1. **Whenever relevant, carry over marks must be awarded. If a candidate makes an error in calculation, but then uses the incorrect figure appropriately and accurately in later question parts, then the candidate may be fully rewarded. This is the "own-figure rule" and you should put OFR on the script where you are rewarding this.**

2. **Alternative approaches may be taken in responses to the [4] questions that use A02 command terms. If this is the case and the alternative approaches are valid, then full credit should be given.**

3. **A candidate may be penalized for not rounding correctly, failing to give answers correct to 2 dp or, in some cases, for not including the appropriate units. However, a candidate may only be penalized ONCE per <u>script</u> (not per question) for each type of error.**

1. (a) (i) Using the information provided in **Table 1**, calculate Chile's current account balance for the **second quarter (Q2)** of 2021. **[2]**

4665 – 2602 – 5015 – 243

Any valid working should be awarded with [1].
*Award [1] if **either** current transfers **or** income is omitted, but the working is otherwise correct. i.e. answer = – 2952 or 1820.*

= – $ 3195 million

An answer of – 3195 without workings is sufficient for [1].

For full marks to be awarded the response must provide valid working and include correct units.

(ii) The financial account balance for the fourth quarter (Q4) of 2021 was US$ 7552 million. Using the information provided in **Table 1**, calculate the change in reserve assets for the **fourth quarter (Q4)** of 2021. You **must** state whether reserve assets have increased or decreased. **[2]**

7552 – (6053 + 2390 – 3897)

Any valid working should be rewarded with [1].

*Award [1] if **official borrowing** is omitted, but the working is otherwise correct. i.e. answer = 9059*

= $ 3006 million – decrease in reserve assets

An answer of 3006 without workings is sufficient for [1].

For full marks to be awarded the response must provide valid working, specify the decrease and include correct units.

***N.B.** An answer of $ 3008 million (with workings) may be awarded [1].*

(iii) Using **Figure 1**, calculate the change in domestic spending on salmon in Chile as a result of the increase in the world price of salmon from US$5.20 to US$8.40 per kg. **[2]**

$= (90 \times 8.40) - (170 \times 5.20) = 756 - 884$

*Any valid working (either the initial or the final spending) should be rewarded with **[1].***

$= -$ $ 128 million **OR a decrease of $ 128 million**

*An answer of 128 without workings is sufficient for **[1].***

For full marks to be awarded the response must provide valid working and include correct units.

(iv) Using **Figure 1**, calculate the price elasticity of demand for salmon in Chile when the world price increases from US$5.20 to US$8.40 per kg. **[2]**

$$\text{PED} = \frac{\%\Delta Qd}{\%\Delta P} = \frac{\frac{-80}{170}}{\frac{3.2}{5.2}} = \frac{-47.06}{61.54}$$

*Any valid working (correct numerator or denominator, provided the formula is not inverted) is sufficient for **[1].***

= 0.76 or – 0.76

*An answer of 0.76 or – 0.76 without any valid working is sufficient for **[1]**.*
*A response in which the formula is inverted should be awarded **[0]**.*

For full marks to be awarded the response must provide valid working.

A "units" error is deemed to have occurred if the final answer is expressed as a percentage.

(v) Using **Figure 1**, calculate the social/community surplus in the salmon market in Chile after the increase in the price of salmon from US$5.20 to US$8.40 per kg. **[2]**

$\text{CS} + \text{PS} = 0.5 \times 3.6 \times 90 + 0.5 \times 6.4 \times 1000 = 3362$

*Any valid working should be awarded with **[1]**.*

*Award **[1]** if **either** the CS (162) **or** the PS (3200) figure is correct.*

= $ 3362 million

*An answer of 3362 without workings is sufficient for **[1]**.*

For full marks to be awarded the response must provide valid working and include correct units.

(vi) Using an international trade diagram, explain how an export subsidy could be used to increase the quantity of salmon exports from Chile. **[4]**

Level		Marks
0	*The work does not meet a standard described by the descriptors below.*	0
1	*The written response is limited.*	1–2
	For an international trade diagram showing a horizontal line above Pw indicating a higher effective price received for exports *and* an increase in exports *OR* an explanation that an export subsidy will increase the price exporters will receive per unit exported [1], **thus** inducing exporters to increase the quantity of exports [1].	
2	*The written response is accurate.*	3–4
	For an international trade diagram showing a horizontal line above Pw indicating a higher effective price received for exports *and* an increase in exports *AND* an explanation that an export subsidy will increase the price exporters will receive per unit exported [1], **thus** inducing exporters to increase the quantity of exports [1].	

N.B. A response which argues that a subsidy will reduce production costs and, therefore, increases the quantity of exports may be awarded [1] for the explanation.
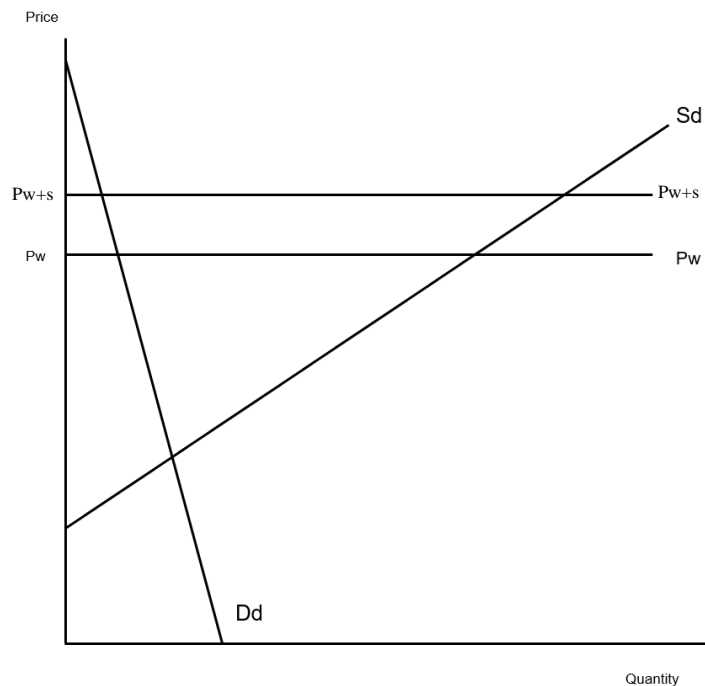
A response which only provides a new effective supply curve below the original and shows an increase in exports may receive [1] for the diagram provided Pw is above the domestic equilibrium.

Candidates who incorrectly label diagrams may be awarded a maximum of [3].
The use of P and Q on the axes is sufficient for an international trade diagram. The world price line may be labelled as S(World), SW, Pworld, PW, or any similar label indicating the horizontal line is the world price/supply. A title is not necessary.

(vii) Define the term *common access resources*.   **[2]**

| Level		Marks
0	*The work does not meet a standard described by the descriptors below.*	0
1	*Vague definition*	1
	For the idea that they are non-excludable **OR** that they are rivalrous.	
2	*Accurate definition*	2
	An understanding that they are (natural) resources which are non-excludable but rivalrous/subtractable.	

(viii) Using an externalities diagram and the information provided, explain how salmon farming in Chile can result in market failure.   **[4]**

Level		Marks
0	*The work does not meet a standard described by the descriptors below.*	0
1	*The written response is limited.*	1–2
	For a diagram showing a negative externality of production/consumption, with equilibrium output higher than the socially optimum level (or an accurate welfare loss) **OR** an explanation that production of salmon has negative effects on other users of the ocean and represents a negative production externality arising from salmon farming leading to overproduction **/** that the consumption of farmed salmon can be harmful to the health of the consumers and to society (*e.g.* burdening health services) and so represents a negative consumption externality, leading to overconsumption. **N.B.** Instead of overproduction/overconsumption, a response which states that MSC>MSB and, therefore, output is allocatively inefficient may be rewarded.	
2	*The written response is accurate.*	3–4
	For a diagram showing a negative externality of production/consumption, with equilibrium output higher than the socially optimum level (or an accurate welfare loss) **AND** an explanation that production of salmon has negative ` effects on other users of the ocean and represents a negative production externality arising from salmon farming leading to overproduction **/** that the consumption of farmed salmon can be harmful to the health of the consumers and to society (*e.g.* burdening health services) and so represents a negative consumption externality, leading to overconsumption. **N.B.** Instead of overproduction/overconsumption, a response which states that MSC>MSB and, therefore, output is allocatively inefficient may be rewarded.	

Price

MSC   MPC

MPB=MSB

Quantity

Q$_S$ Q$_M$

Price

MPC=MSC

MPB

MSB

Quantity

Q$_S$ Q$_M$
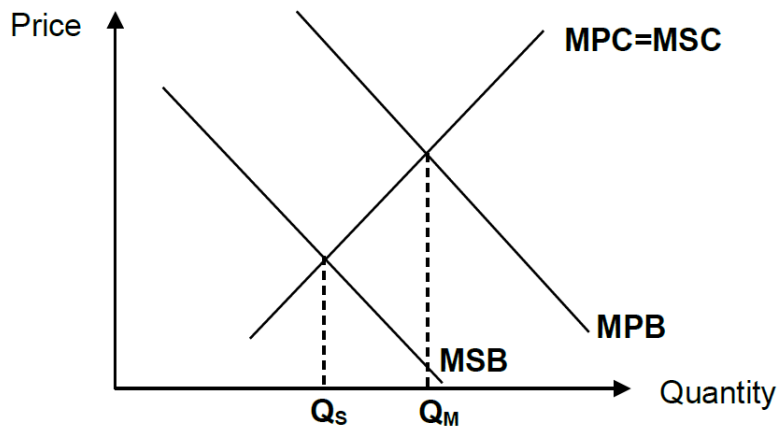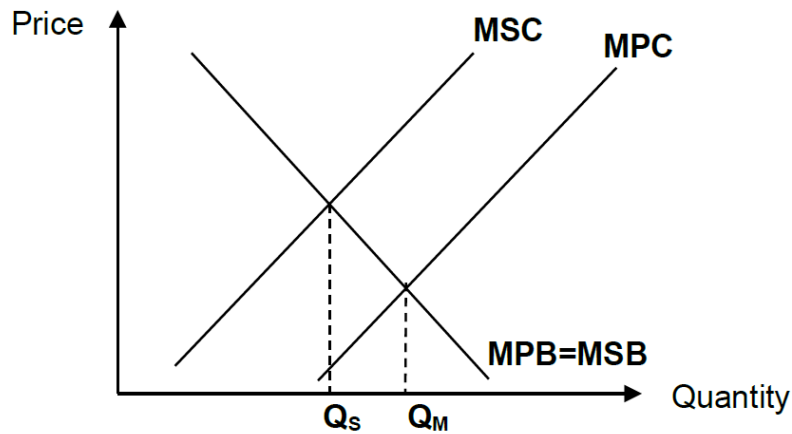
Candidates who label diagrams incorrectly can be awarded a maximum of [3].
The y axis may be labelled price or P and/or costs and/or benefits, and the x axis labelled
quantity or Q. A title is not necessary.

(b)   Using the text/data provided and your knowledge of economics, recommend a policy
      which could be introduced by the government of Chile to address market failure in the
      salmon farming industry.   **[10]**

      *Possible policies **may** include (but are not restricted to):*
      - Indirect taxation on salmon production
      - Regulations to control the use of antibiotics
      - Granting of property rights to indigenous groups/other users of the ocean
      - Quotas/restrictions on the intensity of salmon farming
      - Subsidies to support the introduction of alternatives to antibiotics
      - Provision of education/information on the possible effects of intensive salmon farming
      - Any other valid policy.

      If several policies are recommended, examiners should reward only the best one unless
      the policies are shown to be complementary or if they are compared/contrasted.

Assessment Criteria

Recommend—present an advisable course of action with appropriate supporting evidence/reason in relation to a given situation, problem or issue.

Marks	Level descriptor
0	• The work does not reach a standard described by the descriptors below.
1–2	• The response identifies a policy. • The response uses no economic theory to support the recommendation. • Economic terms are stated but are not relevant. • The response contains no use of text/data to support the recommendation. • The response contains no evidence of synthesis or evaluation.
3–4	• The response identifies an appropriate policy. • The response uses limited economic theory to support the recommendation in a superficial manner. • Some relevant economic terms are included. • The response contains no use of relevant text/data to support the recommendation. • The response contains superficial evidence of synthesis or evaluation.
5–6	• The response identifies and explains an appropriate policy. • The response uses relevant economic theory to partially support the recommendation. • Some relevant economic terms are used appropriately. • The response includes limited relevant information from the text/data which does not adequately support the recommendation. • The response contains limited evidence of appropriate synthesis or evaluation but lacks balance.
7–8	• The response identifies and fully explains an appropriate policy. • The response uses relevant economic theory to support the recommendation. • Relevant economic terms are used mostly appropriately. • The use of information from the text/data is generally appropriate, relevant and applied correctly to support the recommendation. • The response contains evidence of appropriate synthesis or evaluation that is mostly balanced.
9–10	• The response identifies and fully explains an appropriate policy. • The response uses relevant economic theory effectively to support the recommendation. • Relevant economic terms are used appropriately throughout the response. • The use of information from the text/data is appropriate, relevant and supports the analysis/evaluation effectively. • The response contains evidence of effective and balanced synthesis or evaluation.

2. (a) (i) Using the information in **Table 2**, calculate the real GDP per capita in Turkish lira (TRY) for Türkiye in 2021. **[2]**

Real GDP = 7207 x 100/235.2 = 3064.2 billion

Real GDP per capita = 3064.2 billion/85.04 million

Any valid working is sufficient for [1]. e.g. using nominal GDP instead of real GDP i.e 7207 billion / 85.04 million = 84748
OR neglecting to convert to per capita figure. i.e. 3064.2

= **36 032.46 OR 36 032**

(TRY is not required for this part as it is included in the question.)

Allow rounding to the nearest whole unit. i.e. 36 032.

An answer of 36 032 (without workings) is sufficient for [1].

For full marks to be awarded the response must provide valid working.

*A response that provides an inaccurate figure for real GDP <u>and</u> which is divided **accurately** by 85.04 million may be awarded with [1]. **This is an OFR.***

(ii) Using the information in **Table 2,** calculate Türkiye's rate of inflation for 2022. **[2]**

$[(1003/558.7) - 1] \times 100$

Any valid working should be awarded with [1].

= 79.52 %

*An answer of 79.52 without workings is sufficient for [1]. **The % sign is not necessary as "rate" is in the question.***

For full marks to be awarded the response must provide valid working.

(iii) Using the information in **Table 3** to illustrate your answer, outline why GDP data is often presented with an adjustment to purchasing power parity (PPP). **[2]**

Level		Marks
0	*The work does not meet a standard described by the descriptors below.*	0
1	*Vague understanding*	1
	For *one* of the following: • to eliminate the influence of differences in price level/cost of living • to reflect the fact that Türkiye's price level/cost of living is lower than that in USA.	
2	*Clear understanding*	2
	For *both* of the following: • to eliminate the influence of differences in price level/cost of living • to reflect the fact that Türkiye's price level/cost of living is lower than that in USA.	

(iv)   Using the information in **Table 4**, explain **one** reason why an increase in real GNI per capita might have a positive impact on living standards **and one** reason why it might have a negative impact.

Level		Marks
0	*The work does not meet a standard described by the descriptors below.*	0
1	*The written response is limited.*	1–2
	*For a limited explanation of **one** reason, award a maximum of **[1]**.* *For an accurate explanation based on the data/indicator of **one** reason (refer to L2) **OR** a limited explanation of **two** reasons, award a maximum of **[2]**.* *Limited explanations **may** include:* An increase in GNI/capita may: *Positive:* • lead to an increase in spending on health • lead to an increase in spending on education • result in higher levels of literacy • result in lower poverty • lead to the purchase of more/higher quality goods & services *Negative:* • result in higher levels of pollution • result in greater income inequality *Any other valid response.*	
2	*The written response is accurate.*	3–4
	*For an accurate explanation based on the data/indicator of **one** reason **AND** a limited explanation of **one other** reason, award a maximum of **[3]**.* *For an accurate explanation based on the data/indicator of **two** reasons, award a maximum of **[4]**.* *A response that does not refer explicitly to the data in **Table 4** should be awarded a maximum of **[2]**.* *Accurate explanations **may** include:* *Positive:* • GNI/capita growth may lead to an increase in tax revenue, allowing the government to increase spending on merit goods, thus increasing living standards, with reference to life expectancy/schooling indicator • GNI/capita growth may lead to an increase in spending on health by households, with reference to life expectancy indicator • GNI/capita growth may lead to an increase in spending on education by households, with reference to schooling or literacy indicator	

	• GNI/capita growth may lead to higher incomes, thus improved living standards, with reference to poverty indicator *Negative:* • GNI/capita growth may result in higher levels of pollution due to more industrial/transport activity, with reference to CO_2 indicator • GNI/capita growth may lead to greater income inequality, with reference to Gini coefficient indicator *Any other valid response.*	

(v)   Outline why there is "concern over the central bank's monetary policy".   **[2]**

Level		Marks
0	*The work does not meet a standard described by the descriptors below.*	0
1	*Vague outline*	1
	For the idea that a decrease in the rate of interest/expansionary monetary policy/increasing the money supply is not an appropriate policy when addressing high inflation.	
2	*Accurate outline*	2
	For an understanding that a reduction in the rate of interest is likely to increase aggregate demand or one of its components and, therefore, exert upward pressure on the rate of inflation. ***OR*** that lower interest rates will lead to a currency depreciation which will in turn result in inflation.	

(vi) Using an exchange rate diagram, explain how a relatively high rate of domestic inflation is likely to affect the exchange rate for the Turkish lira. **[4]**

Level		Marks
0	*The work does not meet a standard described by the descriptors below.*	0
1	*The written response is limited.*	1–2
	For an exchange rate diagram showing a decrease in demand for the Turkish lira and/or an increase in supply and a lower equilibrium exchange rate ***OR*** an explanation that a relatively high rate of domestic inflation will make Türkiye's exports less competitive (or makes imports relatively cheaper), resulting in a decrease in demand for Turkish lira to purchase Turkish exports (or increase in supply to purchase imports) and thus a lower exchange rate for the currency.	
2	*The written response is accurate.*	3–4
	For an exchange rate diagram showing a decrease in demand for the Turkish lira and/or an increase in supply and a lower equilibrium exchange rate ***AND*** an explanation that a relatively high rate of domestic inflation will make Türkiye's exports less competitive (or makes imports relatively cheaper), resulting in a decrease in demand for Turkish lira to purchase Turkish exports (or increase in supply to purchase imports) and thus a lower exchange rate for the currency. ***N.B.*** if the explanation does not match the diagram, then a maximum of [3] may be awarded (*e.g.* a response which explains capital flight but draws a diagram showing a decrease in demand for lira).	

N.B. *Any other reasonable response should be rewarded. e.g. "the likelihood of increased capital flight because of low investor confidence/increased uncertainty will increase the supply of TRY."*

Price of TRY in €

P1

P2

S

D

D1

Quantity of TRY

Price of TRY in €

P1

P2

S

S1

D

Quantity of TRY
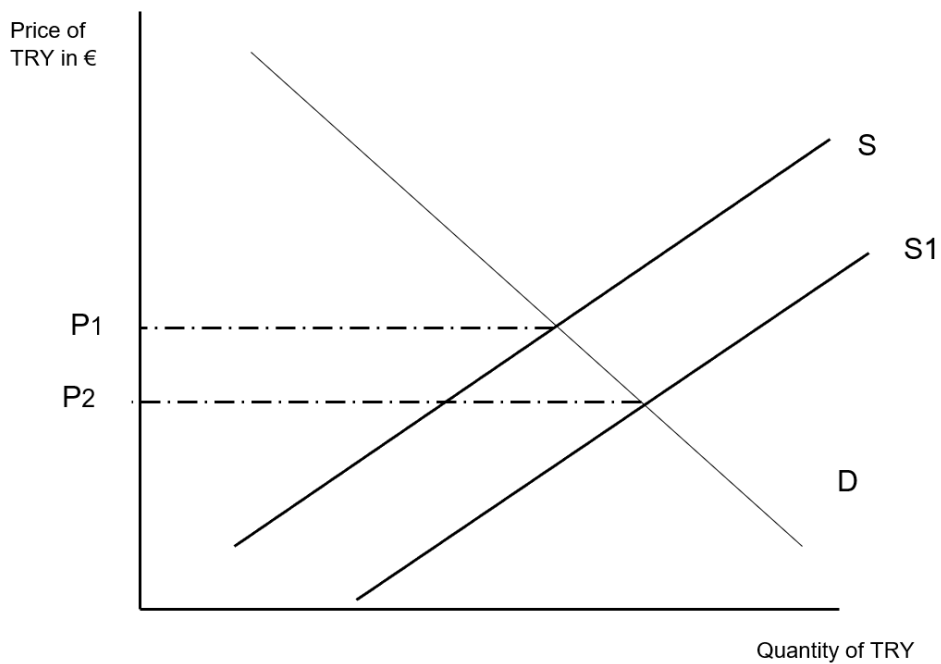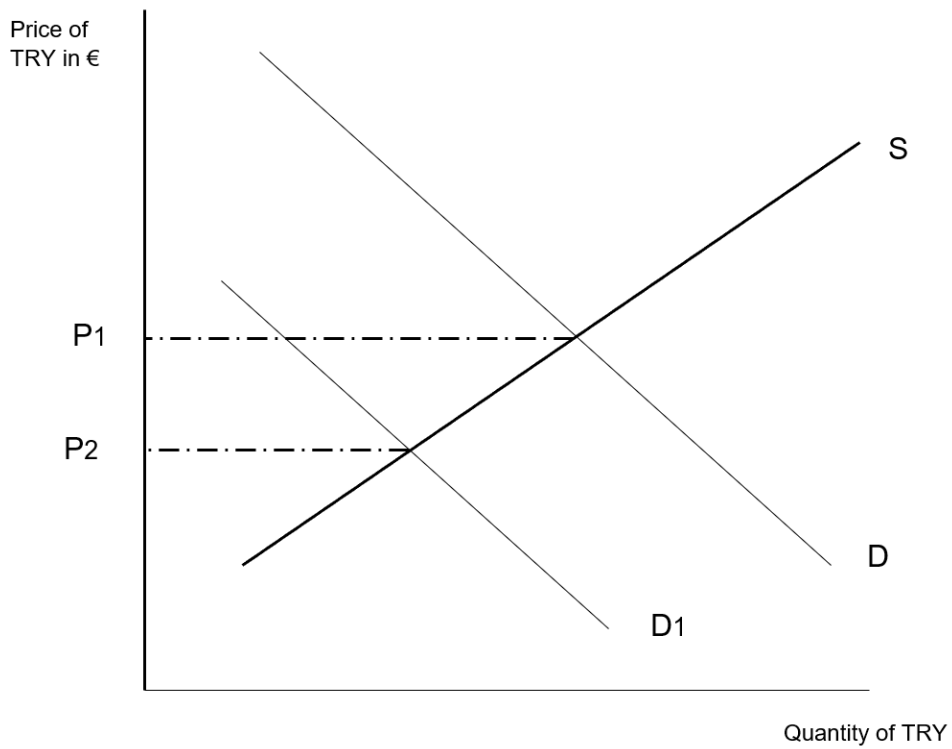
*Candidates who incorrectly label diagrams may be awarded a maximum of [3].
For an exchange rate diagram, the vertical axis may be exchange rate or Price of
TRY (in another currency) or Other currency/TRY or Other currency per TRY or
TRY in another currency. The horizontal axis should be quantity, or quantity of
TRY. A title is not necessary.*

***N.B.** For the vertical axis label, the price of TRY in any other currency is
acceptable.*

(vii) The price of a Turkish carpet, exported to Italy in August 2022, was TRY 120 000. Using the information in **Table 5**, calculate the price of the carpet in euros. Assume no indirect tax has been added. **[2]**

(120 000)/18.1

Any valid working should be rewarded with [1].

= 6629.83

An answer of 6629.83 without workings is sufficient for [1]. The € (EUR) sign is not necessary as "in euros" is in the question.

For full marks to be awarded the response must provide valid working.

(viii) Calculate indirect tax collected on the sale of a more valuable carpet sold for €11 316 (including indirect tax) in Italy. **[2]**

11 316 × (0.22/1.22)

Any valid working should be rewarded with [1].

*Calculation of the tax-exclusive price (**11 316/1.22 = 9275.41**) may be considered valid working.*

= € 2040.59 (euros)

An answer of 2040.59 without workings or without units is sufficient for [1].

For full marks to be awarded the response must provide valid working and correct units.

(b) Using the text/data provided and your knowledge of economics, recommend a policy which could be introduced by the government of Türkiye to reduce the rate of inflation in Türkiye. **[10]**

*Possible policies **may** include (but are not restricted to):*
- Intervention by the central bank to prevent further depreciation of the Turkish lira
- Increase in the rate of interest
- Other forms of contractionary monetary policy
- Contractionary fiscal policy
- Supply-side policies (one or a complementary set)
- Any other valid policy.

If several policies are recommended, examiners should reward only the best one unless the policies are shown to be complementary or if they are compared/contrasted.

Assessment Criteria

Recommend—present an advisable course of action with appropriate supporting evidence/reason in relation to a given situation, problem or issue.

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0	• The work does not reach a standard described by the descriptors below.
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