2.22 The Effects of Exchange Rate Changes on Trade and the Macroeconomy: 30-minute Pack

AQA 7136 · Calculators not allowed · about 30 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer all questions. A calculator is not allowed. Show working for calculations where asked.

1 Data extract: UK trade with Restlandia surrounding a depreciation. The table shows quarterly values in GBP billion. Quarter 0 is just before the 10% depreciation; Quarter 1 is immediately after; Quarter 4 is one year later.

Table: Quarter	Exports to Restlandia (GBP bn)	Imports from Restlandia (GBP bn)
0	20.0	18.0
1	20.5	19.8
4	23.0	16.5

Using the data in the table, Explain how the figures illustrate the J-curve effect and the Marshall-Lerner mechanism. Use the data in your answer. (9 marks)

(Total for Question 1 is 9 marks)

2 Calculation context: After a 10% depreciation of the pound, suppose UK export volume responds with price elasticity 0.6 and import volume responds with price elasticity 0.7. Use the Marshall-Lerner rule to determine whether the current account should improve or worsen in the long run, showing the arithmetic.

(Total for Question 2 is 4 marks)

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3 Explain the J-curve effect for the UK current account after a sterling depreciation, naming the short-run reason for an initial worsening and the longer-run reason for later improvement.

(Total for Question 3 is 3 marks)

4 Numerical elasticity example: A 20% depreciation of sterling raises the foreign-currency price of UK exports so that foreign demand responds with price elasticity 0.4, while UK demand for imports responds with elasticity 0.8. Use the Marshall-Lerner condition to state the likely long-run effect on the current account. Show the sum of elasticities and your conclusion.

(Total for Question 4 is 4 marks)

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Mark scheme · 2.22 The Effects of Exchange Rate Changes on Trade and the Macroeconomy: 30-minute Pack

Question 1

Level 1 Simple statements about the table with limited use of the data. May note either the short-run worsening or the later improvement but without clear linkage to economic mechanisms. **1-3**

Level 2 Accurate use of the data to show both an initial deterioration and later improvement, with some explanation of why volumes or prices changed, but with limited development of the Marshall-Lerner condition or timing issues. **4-6**

Level 3 Clear, accurate analysis using the data: identifies the small initial deterioration from Quarter 0 to Quarter 1 and the larger improvement by Quarter 4, explains short-run inelastic response and longer-run volume adjustments, and links the observed pattern to Marshall-Lerner showing how changes in volumes by Quarter 4 support an improved trade balance. **7-9**

Indicative content:

- use the data quantitatively: net exports at Q0 = 20.0 - 18.0 = £2.0bn; at Q1 = 20.5 - 19.8 = £0.7bn (net exports fall), at Q4 = 23.0 - 16.5 = £6.5bn (net exports rise above initial)
- short-run explanation: between Q0 and Q1 net exports worsen from £2.0bn to £0.7bn, illustrating the initial J-curve fall; possible reasons include contracts, slow volume response, and immediate rise in sterling cost of imports
- long-run explanation: by Q4 export volumes have risen to £23.0bn and import value fallen to £16.5bn, showing volume responses that more than offset price changes, consistent with Marshall-Lerner being satisfied over time
- link to Marshall-Lerner: the later large rise in exports and fall in imports implies combined elasticities were sufficient to improve the trade balance in the long run, as shown by the net export increase to £6.5bn
- evaluate timing and magnitude: mention that the size of the improvement depends on elasticities and that other factors (global demand, Restlandia growth, trade policies) could also explain the changes

Question 2

compute sum of elasticities: 0.6 + 0.7 **M1**

= 1.3, showing the sum exceeds 1 **A1**

apply Marshall-Lerner: since 1.3 > 1, the trade balance should improve in the long run **M1**

concludes that the current account is expected to improve after the 10% depreciation **A1**

Answer: 0.6 + 0.7 = 1.3 > 1, so Marshall-Lerner is satisfied and the current account should improve in the long run.

Question 3

explains the short-run worsening: trade volumes are relatively price inelastic in the short run, so import spending in sterling terms can rise while export volumes do not increase enough, making the current account worse initially **M1**

explains the longer-run improvement: over time volumes adjust, contracts are renegotiated and buyers switch to cheaper exports while import demand falls, so if Marshall-Lerner holds the current account improves **M1**

links the two phases into a coherent J-shaped path: initial deterioration followed by a later improvement **A1**

Answer: In the short run the current account can worsen because quantities respond slowly so more expensive imports raise import spending and export earnings do not rise sufficiently; over time volumes adjust, exports rise and imports fall and, if Marshall-Lerner holds, the current account improves, producing a J-shaped path.

Question 4

compute sum of elasticities: 0.4 + 0.8 **M1**

= 1.2, showing the sum exceeds 1 **A1**

apply Marshall-Lerner: since 1.2 > 1, the trade balance should improve in the long run **M1**

explicit conclusion that the current account is expected to improve eventually after the 20% depreciation **A1**

Answer: 0.4 + 0.8 = 1.2 > 1, so Marshall-Lerner is satisfied and the current account should improve in the long run.

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