

Past-paper walk-through

Fiscal and Monetary Policy Actions in the Short Run ■ 5.1

eXercise

Questions in this set

- 2024 Set 2 Q1
- 2023 Set 2 Q3
- 2021 Set 2 Q3

Reading the mark scheme

- **B1** a mark that stands on its own – the point is either made or not.
- **M1** a *method* mark: the right approach, even if the number is wrong.
- **A1** an *answer* mark, and it usually needs its M mark first.
- **C1** a working mark on the way to the answer.
- **//** separates answers the examiner accepts equally.
- **ecf** = error carried forward: a later part is marked on your own earlier answer.
- **owtte** = “or words to that effect” – the wording need not match.

Question 1

2024 Set 2 ■ Q1

Assume that the economy of Moneyland is in equilibrium with an actual unemployment rate equal to the natural rate of unemployment.

(a) Draw a correctly labeled graph of the aggregate demand, short-run aggregate supply, and long-run aggregate supply curves, and show each of the following.

(a)(i) The current equilibrium real output and price level, labeled Y_1 and PL_1 , respectively

(a)(ii) The full employment output, labeled Y_F

Question 1

2024 Set 2 ■ Q1

Assume that the economy of Moneyland is in equilibrium with an actual unemployment rate equal to the natural rate of unemployment.

(b) Assume that consumer spending in Moneyland decreases from \$110,000 to \$100,000 as a result of a decrease in disposable income in Moneyland from \$135,000 to \$110,000.

(b)(i) Calculate the marginal propensity to consume in Moneyland. Show your work.

(b)(ii) Show the short-run effect of the decrease in consumer spending in Moneyland on your graph in part (a), labeling the new equilibrium real output and price level Y_2 and PL_2 , respectively.

Question 1

2024 Set 2 ■ Q1

Assume that the economy of Moneyland is in equilibrium with an actual unemployment rate equal to the natural rate of unemployment.

(c) Following the decrease in consumer spending, explain how the economy would adjust in the long run in the absence of any policy actions.

Question 1

2024 Set 2 ■ Q1

Assume that the economy of Moneyland is in equilibrium with an actual unemployment rate equal to the natural rate of unemployment.

(d) The central bank of Moneyland is concerned about the short-run effects of the decrease in consumer spending on the broader economy and is considering taking action rather than waiting for the long-run adjustment process. Assuming the banking system in Moneyland has ample reserves, identify a specific monetary policy action the central bank of Moneyland would take to increase consumer spending.

Question 1

2024 Set 2 ■ Q1

Assume that the economy of Moneyland is in equilibrium with an actual unemployment rate equal to the natural rate of unemployment.

(e) Draw a correctly labeled graph of the reserve market in Moneyland, and show the effect of the monetary policy action identified in part (d) on the policy rate.

Question 1

2024 Set 2 ■ Q1

Assume that the economy of Moneyland is in equilibrium with an actual unemployment rate equal to the natural rate of unemployment.

(f) How would the change in the policy rate shown on your graph in part (e) affect each of the following in Moneyland in the short run?

(f)(i) The quantity of national savings

(f)(ii) Unemployment. Explain.

Solution 1

(a)

Mark scheme

- Setup instruction only (no independent points) — draw one AD–SRAS–LRAS diagram with Price Level on the vertical axis and Real GDP on the horizontal axis, showing a downward-sloping AD_1 curve and an upward-sloping $SRAS_1$ curve. The two scored elements are given in (a)(i) and (a)(ii).

Solution 1

(a)(i)

Mark scheme

- Label the intersection of AD_1 and $SRAS_1$: drop dashed lines to the axes to show equilibrium price level PL_1 (vertical axis) and equilibrium real output Y_1 (horizontal axis) at that intersection.

(a)(ii)

Mark scheme

- Add a vertical long-run aggregate supply curve (LRAS) positioned exactly at the $AD_1/SRAS_1$ intersection — i.e., at Y_1 — and label it Y_F , showing $Y_1 = Y_F$ (the economy begins at full-employment/potential output).

Solution 1

(b)

Mark scheme

- Stem/data only — consumer spending in Moneyland falls from \$110,000 to \$100,000 as disposable income falls from \$135,000 to \$110,000. Scored in (b)(i) and (b)(ii) below.

Solution 1

(b)(i)

Mark scheme

$$\blacksquare \text{ MPC} = \frac{\Delta \text{Consumer Spending}}{\Delta \text{Disposable Income}} = \frac{\$100,000 - \$110,000}{\$110,000 - \$135,000} = \frac{-\$10,000}{-\$25,000} = 0.4.$$

Award the point for showing this calculation and arriving at $\text{MPC} = 0.4$.

Solution 1

(b)(ii)

Mark scheme

- On the graph from part (a), shift the AD curve leftward from AD_1 to AD_2 (a fall in consumer spending is a fall in aggregate demand). The new AD_2 curve intersects $SRAS_1$ at a lower price level, labeled PL_2 (with $PL_2 < PL_1$), and lower real output, labeled Y_2 (with $Y_2 < Y_1 = Y_F$).

Solution 1

(c)

Mark scheme

- Because Y_2 is below full-employment output Y_F , the economy has a recessionary (negative) output gap with higher-than-natural unemployment. This puts downward pressure on input prices (e.g., nominal wages) and/or lowers inflationary expectations, so short-run aggregate supply increases (SRAS shifts rightward) over time. SRAS keeps shifting right until it re-intersects AD_2 at Y_F , restoring full-employment equilibrium at a lower price level — the economy self-corrects without policy action.

Solution 1

(d)

Mark scheme

- The central bank should use expansionary monetary policy. Since the banking system has ample reserves, an open-market purchase would not move the policy rate; instead the central bank should decrease an administered rate — e.g., decrease the interest rate paid on reserve balances (interest on reserves), or decrease the discount rate — to pull the policy/floor rate down and lower the cost of borrowing, increasing consumer spending.

Solution 1

(e) Mark scheme

- Draw a reserve-market graph with Policy Rate on the vertical axis and Quantity of Reserves on the horizontal axis: a vertical reserve supply curve S_R in the ample-reserves range intersects the kinked demand curve D_R (downward-sloping then flat) on its flat segment, at quantity Q_1 and initial policy rate PR_1 (1 point). For the second point, show the effect of the monetary action from part (d): shift the flat (administered-rate) segment of D_R downward, so the new intersection with S_R occurs at the same quantity Q_1 but a lower policy rate $PR_2 < PR_1$ (a decrease in the lower bound of the demand curve for reserves, or equivalently a downward shift of the administered rate, lowers the policy rate).

Solution 1

(f)

Mark scheme

- Stem only — asks for the short-run effect of the lower policy rate from part (e) on (i) the quantity of national savings and (ii) unemployment. Scored in (f)(i) and (f)(ii) below.

Solution 1

(f)(i)

Mark scheme

- The quantity of national savings would decrease. A lower policy/interest rate reduces the return to saving, so households and firms choose to save less (equivalently, in the loanable funds market a lower interest rate corresponds to a lower quantity of national savings supplied).

Solution 1

(f)(ii)

Mark scheme

- Unemployment would decrease. Explanation: the decrease in the policy rate lowers nominal (and real) interest rates, which increases interest-sensitive spending — consumption (e.g., durable goods bought on credit), investment (business borrowing for capital), and/or net exports (via currency depreciation). This raises aggregate demand and real output, moving the economy back toward/beyond full employment and lowering the unemployment rate.

Question 3

2023 Set 2 ■ Q3

Assume that the economy of country Zen is in long-run macroeconomic equilibrium.

(a)(i) Draw a correctly labeled graph of the aggregate demand, short-run aggregate supply, and long-run aggregate supply curves, and show each of the following.

The current equilibrium real output and price level, labeled Y_1 and PL_1 , respectively

(a)(ii) Draw a correctly labeled graph of the aggregate demand, short-run aggregate supply, and long-run aggregate supply curves, and show each of the following.

The full-employment output, labeled Y_F

Question 3

2023 Set 2 ■ Q3

Assume that the economy of country Zen is in long-run macroeconomic equilibrium.

(b) On your graph in part (a), show the short-run effect of an increase in consumer confidence. Label the new equilibrium real output Y_2 and the new equilibrium price level PL_2 .

Question 3

2023 Set 2 ■ Q3

Assume that the economy of country Zen is in long-run macroeconomic equilibrium.

(c) Assume that the banking system in Zen has ample reserves. Suppose that the central bank's goal is to maintain a stable price level at PL_1 . Based on the change in the price level shown in part (b), identify one specific monetary policy action the central bank would take to achieve its goal.

Question 3

2023 Set 2 ■ Q3

Assume that the economy of country Zen is in long-run macroeconomic equilibrium.

(d) Based on the monetary policy action identified in part (c), will real output increase, decrease, or stay the same in the short run? Explain.

Solution 3

(a)(i)

Mark scheme

- Graph with Price Level on the vertical axis and Real GDP on the horizontal axis, showing a downward-sloping aggregate demand curve (AD_1) and an upward-sloping short-run aggregate supply curve ($SRAS_1$) intersecting at the current equilibrium, with the equilibrium price level labeled PL_1 and the equilibrium real output labeled Y_1 ; all curves and axes correctly labeled.

Solution 3

(a)(ii)

Mark scheme

- A vertical long-run aggregate supply curve (LRAS) is added to the same graph directly above the equilibrium real output, so that $Y_1 = Y_F$, showing the economy is currently producing at full-employment output.

Solution 3

(b)

Mark scheme

- On the AD–SRAS–LRAS graph from part (a), shift the aggregate demand curve rightward ($AD_1 \rightarrow AD_2$) to reflect the increase in consumer confidence (higher consumption spending). The new short-run equilibrium has a higher real output, labeled Y_2 (with $Y_2 > Y_1 = Y_F$), and a higher price level, labeled PL_2 (with $PL_2 > PL_1$).

Solution 3

(c)

Mark scheme

- The central bank would take a contractionary (tight) monetary policy action to pull the price level back down to PL_1 : increase its administered interest rate (e.g., raise the policy/discount rate) or increase the interest rate paid on reserves (equivalently, sell government bonds on the open market to reduce the money supply and raise interest rates).

Solution 3

(d)

Mark scheme

- Real output will decrease. Explanation: the increase in interest rates raises the cost of borrowing, which decreases interest-sensitive spending (consumption, investment, and/or net exports); this decreases aggregate demand and lowers real output back toward $Y_1 = Y_F$.

Question 3

2021 Set 2 ■ Q3

The government budget of the country of Geeland is currently balanced. The government budget is composed of tax revenues (T), transfer payments (TR), and government spending (G).

(a)(i) Assume the economy moves into a recession and there is no discretionary policy action.

Will the government budget move into a deficit or a surplus in the short run? Explain using the appropriate components of the government budget identified above.

(a)(ii) Assume the economy moves into a recession and there is no discretionary policy action.

Based on your answer to part (a)(i), what will happen to the government debt?

(b) Based on your answer to part (a)(i), identify one specific fiscal policy action that will balance the budget.

Question 3

(c) How will the fiscal policy action from part (b) affect the actual unemployment rate in the short run? Explain.

(d) Did the government efforts to maintain a balanced budget make Geeland's recession more severe or less severe in the short run? Explain.

Solution 3

(a)(i)

Mark scheme

- The government budget will move into DEFICIT in the short run.
Explanation: during the recession, tax revenues (T) will DECREASE (lower incomes and spending mean less tax collected) while transfer payments (TR) will INCREASE (more unemployment/welfare benefits paid out as automatic stabilizers kick in); both push the budget toward deficit. 1 point for stating deficit AND explaining via T decreasing and TR increasing.

Solution 3

(a)(ii)

Mark scheme

- Government debt will INCREASE, since the government must borrow to finance the budget deficit identified in part (a)(i) — debt is the accumulated stock of past (and current) deficits. 1 point.

Solution 3

(b)

Mark scheme

- Identify one specific fiscal policy action that would balance the budget during the recession: an INCREASE in taxes, or a DECREASE in government spending. 1 point for correctly identifying either action.

Solution 3

(c)

Mark scheme

- The actual unemployment rate will INCREASE in the short run. Explanation: the contractionary fiscal policy from part (b) (a tax increase or spending cut) will DECREASE aggregate demand, which decreases real output — and lower real output is associated with higher (actual) unemployment. 1 point for stating increase AND giving this AD/real-output explanation.

Solution 3

(d)

Mark scheme

- The government's efforts to maintain a balanced budget made Geeland's recession MORE SEVERE in the short run. Explanation: to keep the budget balanced during a recession, the government had to implement contractionary fiscal policy (raise taxes or cut spending), which further decreased aggregate demand (and real output), worsening the downturn instead of letting automatic stabilizers run a deficit. (Equivalently acceptable: explaining that the balanced-budget effort decreased real output/aggregate demand and increased unemployment.) 1 point.