

I. Multiple Choice

- Which of the following best describes fiscal policy
 - The Federal Reserve's use of interest rates to influence aggregate demand
 - The government's use of spending and taxation to influence economic activity
 - The automatic adjustment of the money supply in response to changes in GD
 - The central bank's management of exchange rates to stabilize the price level
- Which of the following is an example of expansionary fiscal policy?
 - The Federal Reserve purchases Treasury securities on the open market
 - Congress passes legislation increasing income tax rates
 - The government increases spending on infrastructure without raising taxes
 - The central bank raises the discount rate to reduce bank lending
- The spending multiplier is equal to:
 - MPC / MPS
 - $1 / MPS$
 - $1 / MPC$
 - MPS / MPC
- If the marginal propensity to consume is 0.8, what is the spending multiplier?
 - 2
 - 4
 - 5
 - 8
- If the MPC is 0.75, what is the tax multiplier?
 - 4
 - 3
 - 3
 - 4
- A government increases spending by \$200 billion. If the MPC is 0.8, what is the total maximum change in GDP, assuming no crowding out?
 - \$200 billion
 - \$400 billion
 - \$800 billion
 - \$1,000 billion
- Which of the following correctly explains why the tax multiplier is smaller in absolute value than the spending multiplier?
 - Taxes reduce both consumption and saving, while spending increases only consumption
 - A portion of any tax cut is saved rather than spent, so the initial injection into the economy is less than the full tax change

- C) The government is more efficient than households at spending money
 - D) Tax changes affect aggregate supply more than aggregate demand
8. The balanced budget multiplier states that if government spending and taxes both increase by the same amount, GDP will:
- A) Remain unchanged, because the two effects cancel out exactly
 - B) Fall by an amount equal to the tax increase
 - C) Rise by an amount equal to the change in government spending
 - D) Rise by an amount determined by the spending multiplier minus the tax multiplier
9. Which of the following is the best example of an automatic stabilizer?
- A) Congress passes a \$500 billion stimulus package in response to a recession
 - B) The Federal Reserve lowers the federal funds rate target
 - C) Unemployment insurance payments rise automatically as more workers lose their jobs
 - D) The President signs an executive order freezing government hiring
10. Which of the following is a key advantage of automatic stabilizers over discretionary fiscal policy?
- A) They are larger in magnitude than discretionary policy
 - B) They operate without legislative action, eliminating the implementation lag
 - C) They always prevent recessions from occurring
 - D) They are more effective than monetary policy at controlling inflation
11. Which of the following correctly describes the implementation lag in fiscal policy?
- A) The time between when a problem emerges and when policymakers become aware of it
 - B) The time between when policy is enacted and when it actually affects the economy
 - C) The time required for Congress to debate, pass, and enact legislation
 - D) The time it takes for the Fed to respond to changes in economic conditions
12. Which of the following is the most likely result when an expansionary fiscal policy takes effect after the economy has already begun to recover?
- A) The policy effectively closes the recessionary gap by exactly the right amount
 - B) The policy becomes contractionary because the economy is already growing
 - C) The policy may worsen inflation by further stimulating an already-recovering economy
 - D) The policy has no effect because the private sector has already restored full employment
13. In the loanable funds market, deficit-financed government spending shifts:
- A) The supply of loanable funds rightward, reducing the real interest rate
 - B) The demand for loanable funds rightward, raising the real interest rate
 - C) The supply of loanable funds leftward, raising the real interest rate
 - D) The demand for loanable funds leftward, reducing the real interest rate
14. Complete crowding out occurs when:
- A) The government increases both spending and taxes by the same amount
 - B) Every dollar of government spending is exactly offset by a reduction in private investment

- C) The central bank raises interest rates to prevent inflation from fiscal expansion
 - D) Imports increase by the same amount as government spending, leaving GDP unchanged
15. Which of the following conditions makes crowding out least likely to be severe?
- A) The economy is near full employment with strong private investment demand
 - B) The economy is in a deep recession with low interest rates and weak private investment
 - C) The central bank is pursuing contractionary monetary policy simultaneously
 - D) The financial sector is highly sensitive to changes in real interest rates
16. In an open economy, the net export effect amplifies crowding out through which of the following sequence of events?
- A) Higher deficits → lower interest rates → capital outflow → currency depreciates → exports rise → AD increases
 - B) Higher deficits → higher interest rates → capital inflow → currency appreciates → exports fall → AD decreases
 - C) Higher deficits → higher taxes → lower consumption → lower imports → currency depreciates → AD decreases
 - D) Higher deficits → more government spending → higher incomes → more imports → currency appreciates → AD increases
17. Which of the following best describes the interest rate channel of monetary policy transmission?
- A) Lower interest rates raise asset prices, increasing household wealth and consumption
 - B) Lower interest rates reduce borrowing costs, stimulating investment and aggregate demand
 - C) Lower interest rates depreciate the currency, improving net exports and aggregate demand
 - D) Lower interest rates ease credit conditions, allowing excluded borrowers to access loans
18. Which of the following best describes the exchange rate channel of monetary policy transmission?
- A) Lower domestic interest rates cause capital to flow out, depreciating the currency and improving net exports
 - B) Lower domestic interest rates attract foreign capital, appreciating currency and raising exports
 - C) Lower domestic interest rates reduce import prices, lowering inflation and raising real incomes
 - D) Lower domestic interest rates raise bond prices, increasing wealth and promoting consumption
19. A liquidity trap occurs when:
- A) Banks refuse to lend because they hold too many non-performing loans
 - B) Interest rates are so high that households and firms cannot afford to borrow
 - C) Interest rates are near zero and further monetary easing cannot stimulate the economy
 - D) The money supply grows so rapidly that the banking system runs out of reserves
20. Which of the following best explains why monetary policy may be ineffective even when interest rates are lowered?
- A) Lower interest rates always cause inflation, which offsets the output gains
 - B) Firms may not invest at lower rates if business confidence is low or excess capacity is large
 - C) Lower interest rates reduce bank profitability, causing them to lend less
 - D) The money multiplier always falls when interest rates decline, offsetting the expansion

21. According to the adaptive expectations model, if policymakers use expansionary policy to push unemployment below the NRU, what happens in the long run?
- A) Unemployment remains permanently below the NRU as firms hire more workers
 - B) Inflation falls as the economy adjusts to higher output
 - C) The SRPC shifts upward as workers demand higher wages, returning unemployment to the NRU at a higher inflation rate
 - D) The LRPC shifts rightward, permanently raising the NRU
22. Which of the following best describes the rational expectations view of anticipated fiscal policy?
- A) Anticipated policy is more effective than unanticipated policy because people can plan for it
 - B) Anticipated policy changes behavior preemptively, causing wages and prices to adjust before the policy takes effect, neutralizing its real impact
 - C) Anticipated policy causes hyperinflation because people immediately raise price expectations
 - D) Anticipated policy is ineffective only if the central bank also tightens monetary policy
23. According to rational expectations theory, only which type of policy can affect real output?
- A) Anticipated expansionary fiscal policy
 - B) Anticipated contractionary monetary policy
 - C) Unanticipated policy surprises
 - D) Long-run structural policies targeting the NRU
24. Which of the following best explains why central bank credibility matters in the rational expectations framework?
- A) A credible central bank can set the money supply at exactly the right level every period
 - B) If the central bank credibly commits to low inflation, workers and firms adjust expectations downward, making disinflation less costly
 - C) A credible central bank can reduce NRU by anchoring unemployment expectations
 - D) Credibility allows the central bank to avoid the zero lower bound problem
25. A negative supply shock, such as a sharp rise in oil prices, causes the SRPC to:
- A) Shift downward, reducing inflation at every unemployment rate
 - B) Shift upward, producing higher inflation and higher unemployment simultaneously
 - C) Become steeper, making monetary policy more effective at reducing unemployment
 - D) Shift rightward along the horizontal axis, permanently raising the NRU
26. Which of the following correctly distinguishes a cyclical deficit from a structural deficit?
- A) A cyclical deficit is caused by permanent spending commitments; a structural deficit disappears during recessions
 - B) A cyclical deficit disappears when the economy recovers; a structural deficit persists even at full employment
 - C) A cyclical deficit increases the national debt; a structural deficit does not
 - D) A cyclical deficit results from tax cuts; a structural deficit results from spending increases
27. Which of the following correctly distinguishes the national debt from the budget deficit?
- A) The deficit is a stock variable measuring accumulated borrowing; the debt is a flow measuring

annual shortfalls

- B) The debt is a stock variable representing accumulated past deficits; the deficit is a flow measuring the annual shortfall
- C) The deficit and the debt measure the same thing, expressed in different units
- D) The national debt only includes money owed to foreign creditors; the deficit includes all government borrowing

28. Which of the following is most likely to result from a rapidly growing national debt as a share of GDP?

- A) A permanent reduction in inflation rate as the government borrows less from the central bank
- B) A rise in real interest rates as government borrowing crowds out private investment over time
- C) A depreciation of the currency that boosts exports and reduces the trade deficit
- D) An automatic increase in tax revenues due to higher economic activity

29. The debt-to-GDP ratio can fall even without a balanced budget if:

- A) The government increases transfer payments to stimulate household spending
- B) The central bank purchases government bonds, reducing the interest burden
- C) The economy grows at a faster rate than the national debt
- D) Congress passes a constitutional amendment requiring future balanced budgets

30. Which of the following best describes a structural deficit?

- A) A deficit caused by cyclical downturns automatically disappears when the economy recovers
- B) A deficit that exists at full employment, reflecting imbalance between spending and revenue
- C) A deficit caused entirely by increased interest payments on the national debt
- D) A deficit that results from automatic stabilizers responding to a recession

31. Which of the following represents economic growth in macroeconomic models?

- A) A movement from a point inside the PPC to a point on the PPC
- B) A movement along the PPC from one combination of goods to another
- C) An outward shift of the PPC or a rightward shift of the LRAS curve
- D) An inward shift of the PPC caused by resource depletion

32. Which of the following is the most important long-run driver of improvements in living standards?

- A) Expansionary fiscal policy that keeps unemployment below the NRU
- B) Productivity growth driven by technological progress and human capital accumulation
- C) Maintaining a balanced government budget to prevent crowding out
- D) A depreciating currency that boosts exports and aggregate demand

33. Which of the following would most directly increase labor productivity in an economy?

- A) An increase in government transfer payments to unemployed workers
- B) A depreciation of the domestic currency that makes exports more competitive
- C) Increased investment in education, worker training, and physical capital
- D) Expansionary monetary policy that lowers short-term interest rates

34. Total factor productivity (TFP) is best described as:
- A) The total output produced by all workers in the economy in a given year
 - B) The portion of output growth attributable to increases in the size of the labor force
 - C) The portion of output growth not explained by increases in labor or capital, reflecting technology and efficiency
 - D) The ratio of capital investment to labor input in the production process
35. On a PPC diagram, a country that devotes more resources to capital goods production today will experience which of the following in the future?
- A) A movement from inside the PPC to a point on the PPC, reflecting more efficient resource use
 - B) A larger outward shift of the PPC, reflecting expanded productive capacity
 - C) A rotation of the PPC that improves production of capital goods but reduces production of consumer goods permanently
 - D) No change in the PPC, because capital goods do not contribute to long-run growth
36. Which of the following government policies would most likely promote long-run economic growth?
- A) Increasing transfer payments to households to stimulate consumption spending
 - B) Raising tariffs on imported goods to protect domestic industries from foreign competition
 - C) Subsidizing research and development and strengthening intellectual property protections
 - D) Pursuing contractionary fiscal policy to reduce the budget deficit in the short run
37. Which of the following correctly describes the relationship between economic growth and stabilization policy?
- A) Stabilization policy permanently expands the economy's productive capacity
 - B) Growth policy manages the gap between actual and potential GDP in the short run
 - C) Stabilization policy addresses short-run output gaps; growth policy expands potential GDP itself over the long run
 - D) The two types of policy are identical in their mechanisms and effects
38. According to the long-run growth decomposition, real GDP growth approximately equals:
- A) Capital accumulation plus technology growth
 - B) Labor force growth plus labor productivity growth
 - C) TFP growth plus the inflation rate
 - D) Investment growth minus depreciation of the capital stock
39. Which of the following best describes disinflation and why it is typically costly?
- A) A fall in the price level that causes debt deflation and banking sector instability
 - B) A reduction in the rate of inflation achieved by contractionary policy that temporarily raises unemployment above the NRU
 - C) A rise in inflation caused by supply shocks forces the central bank to raise interest rates
 - D) A process of reducing the money supply that causes permanent output losses with no benefit to price stability
40. A country's central bank has a history of allowing inflation to exceed its stated targets. According to rational expectations theory, which of the following is most likely?

- A) Households and firms will believe future inflation targets, since past behavior does not predict future policy
- B) Inflation expectations will remain anchored at the official target regardless of past behavior
- C) Workers and firms will set wages and prices based on expectations of higher inflation, making low-inflation policy more costly to achieve
- D) The central bank will find it easier to reduce inflation because expectations are already high

II. True or False

1. Fiscal policy is conducted by the Federal Reserve through changes in the money supply and interest rates.
2. The spending multiplier is larger in absolute value than the tax multiplier because a portion of any tax change is saved rather than spent.
3. Automatic stabilizers require new congressional legislation to take effect during a recession.
4. The implementation lag refers to the time between when a problem emerges and when policymakers first recognize it.
5. Complete crowding out means that every dollar of government spending is offset by an equal reduction in private investment, leaving aggregate demand unchanged.
6. In an open economy, deficit spending can reduce net exports by causing the domestic currency to appreciate.
7. The liquidity trap describes a situation where interest rates are near zero and further monetary easing cannot meaningfully stimulate the economy.
8. According to adaptive expectations, people form expectations about future inflation using all available information, including knowledge of how policy works.
9. Rational expectations theory implies that only unanticipated policy changes can affect real output.
10. A budget deficit is a stock variable representing the cumulative total of all past government borrowing.
11. A structural deficit disappears automatically when the economy returns to full employment.
12. The debt-to-GDP ratio can decline even without a balanced budget if the economy grows faster than the national debt.
13. Economic growth is best represented on an AD/AS diagram as a rightward shift of LRAS.
14. Disinflation refers to a decrease in the price level, while deflation refers to a slowdown in the rate of inflation.

15. Total factor productivity captures the portion of output growth not explained by increases in labor or capital alone.

III. Fill in the Blank

1. The spending multiplier formula is: Multiplier = _____, and the tax multiplier formula is: Tax Multiplier = _____.

2. If the MPC is 0.9, the spending multiplier is _____ and the tax multiplier is _____. A \$100 billion increase in government spending would change GDP by a maximum of \$ billion.

3. _____ stabilizers automatically reduce the severity of recessions and expansions without requiring new legislation. Two examples are _____ and _____.

4. The three types of lags that reduce the effectiveness of fiscal policy are the _____ lag, the _____ lag, and the _____ lag.

5. When the government runs a budget deficit, it _____ the demand for loanable funds, which _____ the real interest rate, which _____ private investment. This is called _____.

6. In an open economy, deficit spending can amplify crowding out through the net export effect: higher interest rates attract _____, causing the domestic currency to _____, making exports _____ and imports _____, thus _____ net exports.

7. The _____ channel of monetary policy transmission works through changes in the interest rate's effect on borrowing costs. The _____ channel works through changes in asset prices and household wealth. The _____ channel works through changes in the exchange rate and net exports.

8. A liquidity trap occurs when interest rates are near the _____ and the Fed cannot lower them further. In this situation, _____ policy may become relatively more effective than monetary policy.

9. Under _____ expectations, people form inflation forecasts based on past inflation. Under _____ expectations, people use all available information, including knowledge of policy, and do not make systematic errors.

10. A _____ deficit is caused by automatic stabilizers during a downturn and disappears when the economy recovers. A _____ deficit persists even at full employment and reflects a fundamental imbalance in the government's finances.

11. The national _____ is a flow variable measuring the annual shortfall between G and T. The national _____ is a stock variable representing the cumulative total of all past deficits minus surpluses.

12. The debt-to-GDP ratio formula is: _____. This ratio can fall even without a balanced budget if _____ grows faster than _____.

13. Economic growth is represented on a PPC diagram as an _____ shift of the PPC, and on an AD/AS diagram as a _____ shift of _____.

14. The long-run growth decomposition states: Real GDP Growth \approx _____ + _____.

15. _____ is a reduction in the rate of inflation, while _____ is an actual fall in the price level. Disinflation is typically achieved through _____ policy, which temporarily raises _____ above the NRU.

IV. Matching

Terms	Definiton
1. Automatic stabilizer	A. The accumulated total of all past government budget deficits minus surpluses
2. Structural deficit	B. A budget shortfall that exists even when the economy is at full employment
3. Crowding out	C. The fraction of each additional dollar of income that households choose to spend
4. National debt	D. A program that automatically stabilizes the economy without new legislative action
5. Disinflation	E. The idea that people use all available information to form expectations without systematic error
6. Marginal propensity to consume	F. A reduction in the rate of inflation, not the price level itself
7. Rational expectations	G. The rise in real interest rates caused by government borrowing that reduces private investment
8. Liquidity trap	H. Output per worker or per hour worked
9. Labor productivity	I. A situation where interest rates are near zero and monetary policy loses its effectiveness

10. Total factor productivity	J. The portion of output growth not explained by increases in labor or capital alone
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V. Short Answer

1. Explain the difference between the spending multiplier and the tax multiplier. Why is the tax multiplier smaller in absolute value, and why is it negative?
2. Describe the three types of lags associated with fiscal policy. How do automatic stabilizers partially address the lag problem?
3. Explain the net export effect as an additional channel through which crowding out operates in an open economy. Trace the full sequence of events from deficit spending to reduced net exports.
4. Describe the long-run adjustment process on the Phillips Curve diagram following expansionary policy that pushes unemployment below the NRU. What is the long-run consequence for inflation?
5. Distinguish between adaptive and rational expectations. What does each theory predict about the effectiveness of anticipated fiscal or monetary policy?
6. Explain the difference between a cyclical deficit and a structural deficit. Why is a structural deficit considered more concerning from a long-run fiscal perspective?
7. Identify and explain three sources of long-run economic growth. For each, explain the mechanism through which it expands the economy's productive capacity.
8. Explain the liquidity trap. Why does it limit the effectiveness of monetary policy, and what policy alternatives might be available when the zero lower bound is binding?

VI. Calculations

Show all work clearly. Include units where appropriate.

1. An economy is operating \$400 billion below potential GDP. The MPC is 0.8.
 - A) Calculate the spending multiplier and the tax multiplier.
 - B) By how much would government spending need to increase to close the output gap, assuming no crowding out?
 - C) By how much would taxes need to be cut to close the same output gap? Why is this different from your answer in part B?
 - D) If the government instead uses a combination of a \$100 billion spending increase and a tax cut, what size tax cut would be needed to close the remaining gap? Show your work.
2. A government simultaneously increases spending by \$300 billion and raises taxes by \$300 billion. The MPC is 0.75.

- A) Calculate the change in GDP from the spending increase alone.
 B) Calculate the change in GDP from the tax increase alone.
 C) Calculate the net change in GDP. Does this confirm the balanced budget multiplier theorem?
 D) Now suppose the MPC is 0.6 instead. Recalculate parts A, B, and C. Does the balanced budget multiplier still equal 1? What does this tell you about the balanced budget multiplier?
3. The government increases its deficit by \$150 billion. As a result, the real interest rate rises from 3% to 5%. Private investment falls from \$400 billion to \$340 billion.
- A) By how much did private investment fall?
 B) What fraction of the government's \$150 billion in new spending was offset by the decline in private investment?
 C) Is this complete or partial crowding out? Explain.
 D) If, in addition to the investment decline, net exports fall by \$30 billion due to currency appreciation, what is the total offset to the government's \$150 billion spending increase? What does this illustrate?
4. An economy has an MPC of 0.75. The government increases spending by \$200 billion. Due to crowding out, private investment falls by \$80 billion and net exports fall by \$40 billion.
- A) What is the spending multiplier without crowding out?
 B) What is the initial net stimulus to aggregate demand after accounting for crowding out and the net export effect?
 C) Apply the multiplier to the net stimulus from part B to find the total change in GDP.
 D) Compare this to the change in GDP without any crowding out. What does this illustrate about the real-world effectiveness of fiscal policy?
5. An economy has real GDP of \$20 trillion and a population of 400 million.
- A) Calculate real GDP per capita.
 B) If real GDP grows at 3% per year and population grows at 1% per year, what is the approximate growth rate of real GDP per capita?
 C) If labor productivity grows at 2% per year and the labor force grows at 1.5% per year, what is the approximate growth rate of real GDP?
 D) After 10 years of 3% annual real GDP growth, what will real GDP be? (Use the approximation: $\text{Future Value} \approx \text{Present Value} \times (1 + \text{growth rate})^n$)

VII. Graphing

Draw each graph neatly. Label all axes, curves, equilibrium points, and shifts clearly.

1. Draw a Phillips Curve diagram showing the long-run adjustment following expansionary policy.
 - Label the vertical axis "Inflation Rate (%)" and the horizontal axis "Unemployment Rate (%)"
 - Draw SRPC_1 and the vertical LRPC at the NRU
 - Mark point A on SRPC_1 at the NRU as the starting equilibrium
 - Show the short-run effect of expansionary policy: mark point B up and to the left of A on SRPC_1

- Show the long-run adjustment: draw $SRPC_2$ above $SRPC_1$ and mark point C on the LRPC at a higher inflation rate
 - Annotate the diagram explaining why the SRPC shifted and why the economy returned to the NRU
2. Draw a separate Phillips Curve diagram showing the effect of a negative supply shock.
- Draw $SRPC_1$ and the LRPC
 - Mark the initial equilibrium at point A on the LRPC
 - Show the upward shift of the SRPC to $SRPC_2$ caused by the supply shock
 - Mark point B on $SRPC_2$ showing the new short-run equilibrium with both higher inflation and higher unemployment
 - Label this condition "stagflation"
 - Annotate briefly explaining the policy dilemma this creates
3. Draw a fully labeled loanable funds market diagram.
- Label the vertical axis "Real Interest Rate (%)" and the horizontal axis "Quantity of Loanable Funds (\$)"
 - Draw SLF and DLF_1 with initial equilibrium at r_1 and Q_1
 - Show the effect of increased government borrowing: shift DLF to DLF_2
 - Label the new equilibrium at r_2 and Q_2
 - Show and label the crowding out effect by marking the reduction in private borrowing between Q_1 and Q_2
 - Add a brief annotation explaining the mechanism
4. Draw two side-by-side PPC diagrams.
- In the first diagram, show two countries — Country A allocating more resources to capital goods, Country B allocating more to consumer goods — as two different points on the same PPC
 - In the second diagram, show the future PPC for each country: Country A's PPC shifts outward more than Country B's
 - Label both diagrams clearly and write a one-sentence explanation below connecting the trade-off to long-run growth
5. Draw a fully labeled AD/AS diagram.
- Draw LRAS, $SRAS_1$, and AD_1 with initial equilibrium at potential GDP (Y^*) and price level P_1
 - Show an expansionary fiscal policy: shift AD to AD_2 and label the short-run equilibrium at Y_2 and P_2
 - Show the long-run self-correction: shift SRAS to $SRAS_2$ and label the long-run equilibrium back at Y^* with a higher price level P_3
 - Annotate the diagram explaining why SRAS shifts leftward in the long run

VIII. Long Answer (IB Students Only)

1. The following question is about fiscal policy tools, multipliers, and their limitations.
 - A) Define the spending multiplier and the tax multiplier. Explain why the tax multiplier is smaller than the spending multiplier, using the concept of marginal propensity to consume.
 - B) An economy is \$600 billion below potential GDP. The MPC is 0.8. Calculate how much government spending would be needed to close the output gap, and how large a tax cut would be required to achieve the same result. Show all work.
 - C) Explain three limitations that reduce the real-world effectiveness of discretionary fiscal policy. In your answer, address the role of lags, crowding out, and the net export effect.
 - D) Using a loanable funds market diagram, show and explain the crowding out effect of deficit-financed fiscal expansion. Identify conditions under which crowding out would be large versus small.
 - E) Evaluate the following claim: "Automatic stabilizers are preferable to discretionary fiscal policy because they respond faster and more precisely to economic conditions." Do you agree? Justify your answer with reference to both the strengths of automatic stabilizers and situations where discretionary policy may still be necessary.

2. The following question is about monetary policy transmission and limitations.
 - A) Identify and explain three distinct channels through which monetary policy affects the real economy. For each channel, describe the mechanism linking the Fed's action to changes in aggregate demand.
 - B) Using a money market diagram, show the effect of a contractionary open market operation on the nominal interest rate. Then explain how this change in the interest rate affects investment spending and aggregate demand.
 - C) Define the liquidity trap and explain why it renders conventional monetary policy ineffective. What macroeconomic conditions are typically associated with a liquidity trap?
 - D) Explain two additional factors, beyond the liquidity trap, that can limit the effectiveness of expansionary monetary policy. Your answer should refer to the investment demand curve or the credit channel where relevant.
 - E) Some economists argue that fiscal policy should take the lead during deep recessions, while others maintain that monetary policy is always sufficient. Using your knowledge of transmission mechanisms, the zero lower bound, and crowding out, evaluate which policy tool is likely to be more effective in a severe recession with near-zero interest rates.

3. The following question is about expectations and policy effectiveness.
 - A) Distinguish between adaptive expectations and rational expectations. For each, explain how people form their inflation forecasts and what this implies for how quickly the economy adjusts to policy changes.
 - B) Using a Phillips Curve diagram, show the long-run adjustment following an expansionary policy that pushes unemployment below the NRU under the adaptive expectations model. Trace each step of the adjustment process.
 - C) Explain how rational expectations changes the prediction about the effectiveness of anticipated fiscal or monetary policy. Why does only an unanticipated policy surprise affect real output in the rational expectations framework?
 - D) Explain the role of central bank credibility in rational expectations. How does a lack of credibility make disinflation more costly, and what institutional features enhance credibility?

E) Evaluate the following statement: "If rational expectations theory is correct, macroeconomic stabilization policy is entirely useless." Is this an accurate characterization of the rational expectations view? Consider both the theoretical prediction and the practical limitations of the theory in your response.