

ECON 3010 Intermediate Macroeconomics
Exam #2

Multiple Choice Questions. (25 points; 2.5 pts each)

- #1. In the classical model, according to the quantity theory and the Fisher equation, an increase in money growth increases:
- A) output.
 - B) velocity.
 - C) the nominal interest rate.
 - D) the real interest rate.
- #2. If inflation is 6 percent and a worker receives a 4 percent wage increase, then the worker's real wage:
- A) increased 4 percent.
 - B) increased 2 percent.
 - C) decreased 2 percent.
 - D) decreased 6 percent.
- #3. If domestic spending exceeds output, we _____ the difference—net exports are _____.
- A) import; negative
 - B) export; positive
 - C) import; positive
 - D) export; negative
- #4. The nominal exchange rate between the U.S. dollar and the Japanese yen is the:
- A) number of yen you can get for lending one dollar in Japan for one year.
 - B) number of yen you can get for one dollar.
 - C) price of U.S. goods divided by the price of Japanese goods.
 - D) price of Japanese goods divided by the price of U.S. goods.
- #5. In a small open economy, if the government adopts a policy that lowers imports, then that policy:
- A) raises the real exchange rate and increases net exports.
 - B) raises the real exchange rate and does not change net exports.
 - C) raises the real exchange rate and decreases net exports.
 - D) lowers the real exchange rate.

#6. The nominal interest rate is equal to the

- A) inflation rate.
- B) real interest rate.
- C) real interest rate minus the inflation rate.
- D) real interest rate plus the inflation rate.

#7. If the velocity of money remains constant while the quantity of money and real GDP doubles, the

- A) price level will double.
- B) price level will remain constant.
- C) price level will fall.
- D) inflation rate will double.

#8. One of the primary social costs of long-term inflation is

- A) to reduce the purchasing power of personal income.
- B) to adversely impact saving decisions.
- C) to distort relative prices when firms are faced with menu costs.
- D) all the above.

#9. Minimum wage laws cause

- A) frictional unemployment.
- B) structural unemployment.
- C) deflation.
- D) budget deficits.

#10. One of Donald Trump's primary macroeconomic campaign pledges is to

- A) reduce taxes and regulation to create 3.5% growth in real GDP.
- B) increase inflation.
- C) increase the minimum wage.
- D) repeal Okun's law.

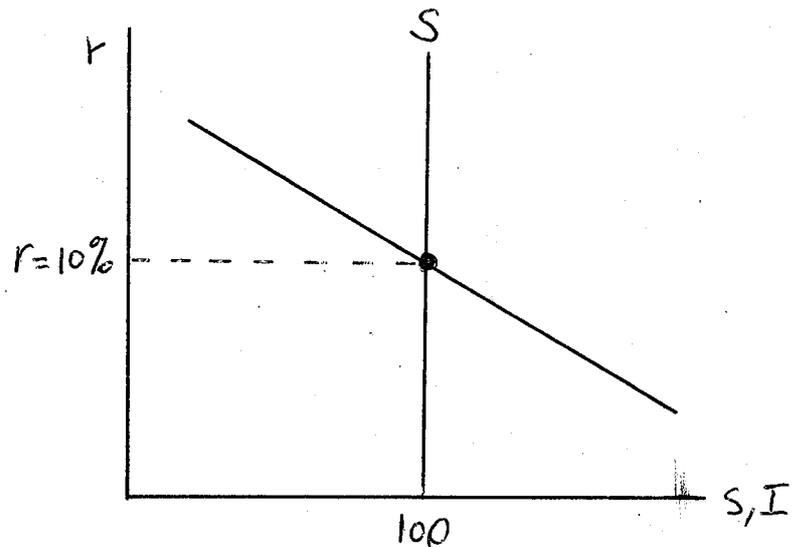
Problem Solving / Essay Questions. (75 points)

#11. (30 pts) Consider the following Neoclassical model of the economy, where the domestic interest rate r and the world interest rate r_* are in percentage terms. Show all your work.

Supply	Demand
$Y = 1000$	$C = 100 + 0.8(Y - T)$
$NX = 100 - 100\epsilon$	$I = 200 - 10r$
$r_* = 5\%$	$G = 0, T = 0$

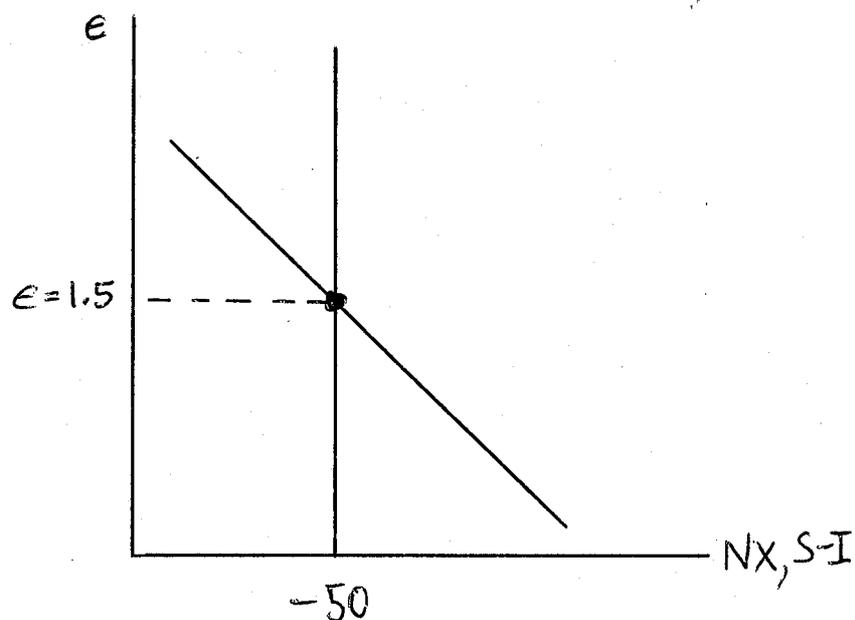
(a) (10 pts) Find the equilibrium real interest rate, national saving, and investment in a closed economy with no public sector. Show the equilibrium real interest rate on a saving-investment diagram with r measured on the vertical axis.

To find r , set $Y = C + I$ and solve:
 $1000 = 100 + 0.8(1000) + 200 - 10r$. This gives $r = 10\%$. Since the economy is closed, $S = I$. Using the investment function, we have $S = I = 200 - 10(10) = 100$.



(b) (10 pts) Now assume the small economy opens up to trade. Calculate the real exchange rate, trade balance and net capital outflow. Show the trade balance on a saving-investment diagram with ϵ measured on the vertical axis.

To find ϵ , set $NX = S - I$ and solve:
 $100 - 100\epsilon = 100 - (200 - 10(5))$.
 This gives $\epsilon = 1.5$. Substituting ϵ into the net export function gives
 $NX(\epsilon) = S - I = -50$.



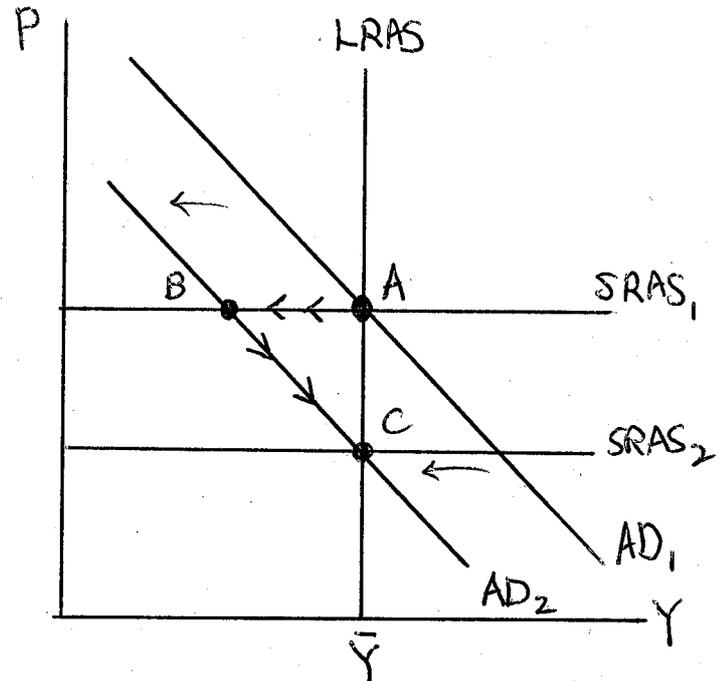
- (c) (10 pts) The price level in the domestic and foreign countries is initially equal to $P = P_* = 100$. The foreign country is experiencing rapid growth in real GDP of 8% and targets a 2% inflation rate. The domestic country is experiencing no growth in real GDP or the price level. What does the central bank in the foreign country need to do to hit the inflation target and what will be the resulting *nominal* exchange rate? Defend your answer.

Using the quantity equation in percentage change form, if the foreign country wants to target a 2% inflation rate and the economy is growing at 8%, then the foreign central bank needs to increase the money supply by 10%. They do this through open-market operations and buying government securities. The resulting price level in the foreign country will be $P_* = 102$. This implies that the nominal exchange rate will be $e = \epsilon \times (P_*/P) = 1.5 \times (102/100) = 1.53$.

#12. (30 pts) AD-SRAS-LRAS model of the economy. Assume the SRAS curve is horizontal.

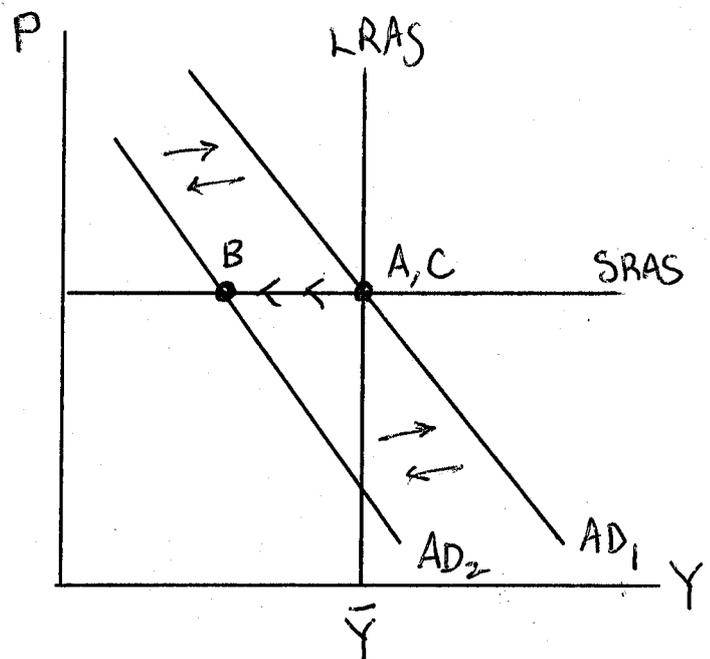
- (a) (15 pts) Assume the uncertainty associated with upcoming presidential and congressional elections is leading U.S. consumers to be cautious and reduce their confidence about the future path of the economy. As a result, they save more and consume less. Use the AD-SRAS-LRAS diagram to discuss the predicted short-run and long-run impacts on the price level, real GDP and unemployment.

If consumers reduce their consumption, AD will decline. The AD curve will shift to the left and down, leading to a short-run decrease in real GDP and an increase in the unemployment rate. There will be no change in the price level in the short run. The decline in GDP will lead firms to eventually reduce prices and workers to accept lower wages. This will cause the SRAS curve to shift down over time until the economy returns to its long-run equilibrium.



- (b) (15 pts) What are the policy options available to the Federal Reserve to address the fall in consumer confidence? What are the policy options available to fiscal policymakers? Use an AD-SRAS-LRAS diagram to support your discussion.

To avoid the economic downturn, the Federal Reserve could increase the money supply and decrease interest rates. This will shift the AD curve up and to the right, counteracting the decline in consumption from households. Alternatively, fiscal policy makers could reduce taxes and/or increase government spending to counteract the uncertainty effects from the election. A final option for policymakers is to wait for the macroeconomy to self-correct (see part (a)) or the uncertainty from the elections to subside.



#13. (15 pts) True or False. If “False”, correct the statement to make it true.

(a) (5 pts) “If inflation is zero in two countries, then purchasing power parity ($\epsilon = 1$) must exist between the two countries.”

False. Purchasing power parity exists between two countries if the price levels and nominal exchange rate are such that $\epsilon = e \times (P/P_*)$ is equal to one. Inflation equal to zero simply means that P and P_* are not changing.

(b) (5 pts) “Nominal GDP is less than M1 in the United States.”

False. M1 is less than nominal GDP in the U.S., implying that the velocity of money is greater than one.

(c) (5 pts) “Labor force participation rates in the U.S. have been falling in past years, primarily due to changing demographics and retirement of the ‘baby boomers’.”

True.