

Name: _____

FREE PRACTICE EXAM · EXAMTEX.COM/FREE-EXAMS

AP Macroeconomics — Practice Exam

Instructions: Section I style multiple choice (20 questions, five answer choices each, 1 point each) followed by one free-response question (10 points), 35 minutes in total. No calculator is needed. Wrong multiple-choice answers are not penalized. On the free-response question, show your work for every calculation and draw graphs large, labeling all axes, curves and equilibrium points.

Time Limit: 35 minutes

Multiple Choice (20 questions)

- [1 point] 1. A corporation in Corvel raises funds in two ways: it sells bonds, and it issues new shares of stock. Which of the following correctly compares the two assets from the buyer's point of view?
- A. The bond makes its buyer a part-owner of the corporation, while the stock is a loan to the corporation
 - B. The stock pays a fixed amount every year, while the bond's payments rise and fall with the corporation's profits
 - C. The bond is a loan with promised interest payments; the stock is an ownership share with no promised return
 - D. Both are more liquid than currency, because both can be sold on financial markets within a day or two
 - E. The stock is the less risky of the two, so it offers a lower expected rate of return than the bond
- [1 point] 2. An investor buys one share of stock for 40 dollars, receives a dividend of 2 dollars during the year and sells the share at the end of the year for 44 dollars. Her rate of return on the share for the year is:
- A. 5 percent
 - B. 10 percent
 - C. 110 percent
 - D. about 13.6 percent
 - E. 15 percent

- [1 point]** 3. A government bond issued by Saldria several years ago has a face value of 1,000 dollars and pays fixed interest of 40 dollars per year. Market interest rates have since risen, and the bond now sells for 800 dollars. For a buyer who pays 800 dollars, the annual interest payment as a percentage of the price paid (the current yield) is:
- A. 4 percent
 - B. 5 percent
 - C. 20 percent
 - D. 25 percent
 - E. 3.2 percent
- [1 point]** 4. In Morvane, one-year government bonds pay a nominal interest rate of 6.5 percent, and lenders require a real interest rate of 2 percent. According to the Fisher relationship, the inflation rate that lenders expect over the year is:
- A. 4.5 percent
 - B. 8.5 percent
 - C. 3.25 percent
 - D. 2 percent
 - E. 6.5 percent
- [1 point]** 5. A household in Brenmark keeps 10,000 dollars for one year in a savings account that pays a nominal interest rate of 1 percent. Over the year the inflation rate is 4 percent. Which of the following best describes the household's real interest rate and the purchasing power of its savings at the end of the year?
- A. The real interest rate is 5 percent, so the savings buy about 5 percent more
 - B. The real interest rate is 1 percent, because the balance has grown to 10,100 dollars
 - C. The real interest rate is 3 percent, so the savings buy about 3 percent more
 - D. The real interest rate is about -3 percent, so the savings buy about 3 percent less
 - E. The real interest rate is about -4 percent, so the savings buy about 4 percent less
- [1 point]** 6. In Quellen the loanable funds market sets an equilibrium real interest rate of 3 percent. Lenders and borrowers expect inflation of 2 percent, so new loans carry a nominal interest rate of 5 percent. Expected inflation then rises to 4 percent, while the supply of and demand for loanable funds in real terms do not change. The nominal interest rate on new loans will now be closest to:
- A. 5 percent
 - B. 3 percent
 - C. 1 percent
 - D. 9 percent
 - E. 7 percent

[1 point] 7. Which of the following is the best example of money serving as a store of value?

- A. A student keeps 150 dollars of summer earnings in a drawer to buy textbooks in the autumn
- B. A student pays 150 dollars for textbooks at the campus bookstore
- C. A website lists two used laptops at 300 dollars and 450 dollars so that buyers can compare them
- D. A farmer trades a sack of grain directly for a pair of boots
- E. A diner pays for a meal with a credit card and settles the card bill a month later

[1 point] 8. The table shows selected financial assets held by the public in Ostelia (billions of dollars). Ostelia's M1 and M2 are, respectively:

Asset	Amount
Currency in circulation	300
Checkable (demand) deposits	500
Small-denomination time deposits	250
Retail money market mutual funds	150
Government bonds held by the public	600
Unused credit card limits	400

- A. 300 billion dollars and 800 billion dollars
- B. 800 billion dollars and 400 billion dollars
- C. 800 billion dollars and 1,200 billion dollars
- D. 1,050 billion dollars and 1,200 billion dollars
- E. 800 billion dollars and 2,200 billion dollars

[1 point] 9. Ridgeway Bank in Halvor has the balance sheet shown (dollars), and the required reserve ratio is 15 percent. The maximum amount of new loans that Ridgeway Bank alone can safely make is:

Assets		Liabilities and equity	
Reserves	75,000	Demand deposits	400,000
Loans	285,000	Owners' equity	50,000
Securities	90,000		

- A. 75,000 dollars
- B. 60,000 dollars
- C. 100,000 dollars
- D. 15,000 dollars
- E. 63,750 dollars

[1 point] 10. A household in Pellán withdraws 4,000 dollars in currency from its checking account and keeps the cash at home. The required reserve ratio is 5 percent. Before the withdrawal banks held no excess reserves, and they restore their required reserves by reducing their loans. Assuming no other change in the public's currency holdings, the maximum change in Pellán's money supply is:

- A. a decrease of 80,000 dollars
- B. a decrease of 76,000 dollars
- C. no change, because the withdrawal only changes the form in which money is held
- D. a decrease of 3,800 dollars
- E. a decrease of 4,000 dollars

- [1 point]** 11. The central bank of Zandor wants to increase the money supply by 25 billion dollars. The required reserve ratio is 8 percent, banks hold no excess reserves and lend out any new excess reserves, and all loans are redeposited in the banking system. If the central bank deals only with commercial banks, which open-market operation would achieve its goal?
- A. A purchase of 312.5 billion dollars of government bonds
 - B. A purchase of 25 billion dollars of government bonds
 - C. A sale of 2 billion dollars of government bonds
 - D. A purchase of 3.125 billion dollars of government bonds
 - E. A purchase of 2 billion dollars of government bonds
- [1 point]** 12. Banks in Rivenna hold reserves of 50 billion dollars against checkable deposits of 250 billion dollars, and the required reserve ratio is 20 percent. The central bank then lowers the required reserve ratio to 10 percent. If banks lend out all of their excess reserves, all loans are redeposited in the banking system and the public holds no additional currency, the maximum increase in the money supply is:
- A. 25 billion dollars
 - B. 125 billion dollars
 - C. 250 billion dollars
 - D. 500 billion dollars
 - E. zero, because the change adds no reserves to the banking system
- [1 point]** 13. In Dravia the banking system has limited reserves and the central bank holds the money supply constant. Contactless payments and instant transfers from interest-bearing accounts become widespread, so households and firms need to hold smaller money balances for their transactions at every interest rate. In the money market, the most likely result is that:
- A. money demand shifts to the left and the nominal interest rate falls
 - B. money demand shifts to the right and the nominal interest rate rises
 - C. money supply shifts to the left and the nominal interest rate rises
 - D. there is a movement down along the money demand curve, with no shift of either curve
 - E. money demand shifts to the left and the quantity of money falls, with no change in the nominal interest rate

- [1 point]** 14. The table shows the demand for money in Teralia (billions of dollars). The banking system has limited reserves, and the central bank sets the money supply at 400 billion dollars. Rising real incomes then increase the quantity of money demanded by 100 billion dollars at every nominal interest rate. Which of the following gives the new equilibrium nominal interest rate if the central bank takes no action, and the change in the money supply that would instead keep the interest rate at its original level?

Nominal interest rate (percent)	Quantity of money demanded
2	500
3	450
4	400
5	350
6	300

- A. 5 percent; increase the money supply by 50 billion dollars
B. 6 percent; decrease the money supply by 100 billion dollars
C. 4 percent; no change is needed, because the money supply curve is vertical
D. 6 percent; increase the money supply by 100 billion dollars
E. 2 percent; decrease the money supply by 100 billion dollars
- [1 point]** 15. The central bank of Ambria operates with ample reserves: the supply of reserves crosses the demand for reserves on its flat section, where the policy rate (the overnight rate at which banks lend reserves to one another) is held in place by the interest rate the central bank pays on reserves. The central bank sells a small quantity of government bonds, which reduces reserves, but reserves remain ample. What happens to the policy rate, and how could the central bank raise it?
- A. The policy rate rises, because any fall in the supply of reserves raises their price; no other step is needed
B. The policy rate does not change; to raise it, the central bank should raise the interest rate it pays on reserves
C. The policy rate falls, because selling bonds lowers interest rates; to raise it, the central bank should buy bonds
D. The policy rate does not change; to raise it, the central bank should lower the interest rate it pays on reserves
E. The policy rate does not change; to raise it, the central bank should lower the required reserve ratio
- [1 point]** 16. In Sundria the banking system has limited reserves. Which of the following combinations of central bank actions (open-market operation; discount rate; required reserve ratio) would increase the money supply?
- A. Sell bonds; lower the discount rate; lower the required reserve ratio
B. Buy bonds; raise the discount rate; lower the required reserve ratio
C. Sell bonds; raise the discount rate; raise the required reserve ratio
D. Buy bonds; lower the discount rate; lower the required reserve ratio
E. Buy bonds; lower the discount rate; raise the required reserve ratio

[1 point] 17. Kaldera is in a recession, with real GDP below full-employment output. Its central bank operates with ample reserves and lowers the interest rate it pays on reserves. Which of the following best describes the short-run effects?

- A. The policy rate rises, investment falls, aggregate demand shifts left, and the price level and real GDP fall
- B. The policy rate falls, investment rises, and short-run aggregate supply shifts right, so the price level falls and real GDP rises
- C. The policy rate falls, investment rises, aggregate demand shifts right, and the price level and real GDP rise
- D. The policy rate falls, saving rises, aggregate demand shifts left, and the price level and real GDP fall
- E. The policy rate is unchanged, because with ample reserves only open-market operations can move interest rates

[1 point] 18. In Velmora, each 1 percentage point fall in the interest rate raises investment spending by 15 billion dollars. The central bank lowers the interest rate from 5 percent to 3 percent, and the marginal propensity to consume is 0.8. Assuming a constant price level, the maximum increase in real GDP is:

- A. 30 billion dollars
- B. 24 billion dollars
- C. 75 billion dollars
- D. 120 billion dollars
- E. 150 billion dollars

[1 point] 19. The table shows the loanable funds market in Estravia (billions of dollars), where the government's budget is initially balanced. The government then runs a budget deficit of 40 billion dollars, which it finances by borrowing 40 billion dollars at every real interest rate. The new equilibrium real interest rate and the change in private investment are:

Real interest rate (percent)	Quantity supplied	Quantity demanded by private borrowers
2	120	200
3	140	180
4	160	160
5	180	140
6	200	120

- A. 5 percent; private investment falls by 40 billion dollars
- B. 5 percent; private investment falls by 20 billion dollars
- C. 6 percent; private investment falls by 40 billion dollars
- D. 4 percent; private investment does not change
- E. 5 percent; private investment rises by 20 billion dollars

- [1 point]** 20. The government of Varnet cuts its purchases of goods and services and so reduces its budget deficit, borrowing less in the loanable funds market. According to the loanable funds model, the most likely effects on the real interest rate, private investment and long-run economic growth are:
- A. the real interest rate falls and private investment rises, so the capital stock and long-run growth increase
 - B. the real interest rate rises and private investment falls, slowing the growth of the capital stock and of output
 - C. the real interest rate falls, but private investment also falls because the government is buying less output
 - D. the real interest rate does not change, because the central bank has not changed the money supply
 - E. the real interest rate rises, because the government sells fewer bonds and so bond prices fall

Short Answer (1 question)

- [10 points]** 21. Money creation and monetary policy. The banking system of Calvoria operates with limited reserves. The required reserve ratio is 25 percent. When calculating maximum changes, assume that banks lend out all new excess reserves and that the public holds no additional currency, so every loan is redeposited in the banking system. The table shows the simplified balance sheet of Granite Bank, a commercial bank in Calvoria (dollars).

Assets		Liabilities and equity	
Reserves	92,000	Demand deposits	320,000
Government bonds	90,000	Owners' equity	60,000
Loans	198,000		

- [2 points]** (a) (i) Calculate Granite Bank's required reserves. Show your work. (ii) Calculate Granite Bank's excess reserves, and state the maximum amount of new loans that Granite Bank alone can safely make.

- [3 points]** (b) The central bank of Calvoria buys 25,000 dollars of government bonds from Granite Bank. (i) Calculate Granite Bank's excess reserves immediately after the purchase. Show your work. (ii) Calculate the money multiplier. (iii) Calculate the maximum change in the money supply in the banking system that can result from the purchase. Show your work.

- [3 points]** (c) (i) Draw a correctly labeled graph of the money market in Calvoria. Label the initial equilibrium nominal interest rate i_1 , and show the effect of the central bank's purchase in part (b), labeling the new equilibrium nominal interest rate i_2 . (ii) Explain how the change in the interest rate that you showed in (i) affects aggregate demand in Calvoria.

[2 points]

- (d) Expected inflation in Calvoria is 2 percent and does not change. After the central bank's purchase in part (b), the nominal interest rate in Calvoria is 4.5 percent. (i) Calculate the real interest rate after the purchase. Show your work. (ii) Given the change in the nominal interest rate that you showed in part (c), will the market price of a government bond that was issued before the purchase increase, decrease or stay the same? Explain.