

NANYANG TECHNOLOGICAL UNIVERSITY
SCHOOL OF SOCIAL SCIENCES
SEMESTER 1 AY25-26
HE1002 MACROECONOMICS I
PROBLEM SET 9

9-1

Determine whether each of the following would fulfill the three functions of money. If the item does not fulfill all three, name at least one function of money that it violates.

- a. Salt.
- b. The barter system.
- c. Baseball cards.

9-2

Imagine you own a lawn-mowing business. Identify the main function of money exhibited in each situation below.

- a. You swipe your debit card to purchase gasoline for your lawn mower.
- b. You stuff your earnings from mowing lawns into a piggy bank.
- c. You pay your friend Cornelius \$5 to help you mow lawns.
- d. You calculate your net earnings for the year on your tax return.
- e. You determine how much value your new lawn mower has added to your business.

9-3

From 2004 to 2009, the country of Zimbabwe underwent hyperinflation, in which prices rise rapidly. The government began printing bills as large as 100 billion Zimbabwe dollars. Explain how this situation would have affected the characteristics of good money discussed in this chapter.

9-4

Suppose you live in a country perfect for growing tulips and governed by King Balthazar, who proposes that you use the tulips for your currency. After all, says Balthazar, they are widely accepted in the community, they've been valuable for years, and they are highly portable. If you were Balthazar's economic advisor, would you recommend using the tulips? If yes, list the traits of good money they satisfy. If no, list the trait(s) of good money they do not satisfy.

9-5

Say whether each of the following is a type of M1 or M2, or both.

- a. Checkable deposits.
- b. Dollar bills.
- c. Money in your checking account.
- d. Money in your savings account.
- e. Certificates of deposit under \$100,000.
- f. Traveler's checks.

9-6

Which of the following statements are true regarding the differences between M1 and M2? Check all that apply.

- a. M1 includes cash and reserves, whereas M2 does not.
- b. M2 represents a broader measure of the money supply compared to M1.
- c. Numerically, M1 is larger than M2.
- d. All items in M1 are more liquid than all items in M2.
- e. M2 includes savings deposits, whereas M1 does not.
- f. Checking account balances are part of M2 but not M1.

9-7

You decide to take \$500 out of your piggy bank at home and place it in the bank. If banks hold 5 percent of deposits as reserves, how much can your \$500 increase the amount of money in the economy?

9-8

Assume that \$1 million is deposited in a bank and banks hold 15 percent of deposits as reserves. What is the money supply as a result? What would change if the reserve ratio was instead 30 percent?

9-9

The following quotation comes from remarks given by Ben Bernanke, former chairman of the Federal Reserve. The Federal Reserve has a dual mandate. Which mandate does the quote below refer to?

“The substantial ongoing slack in the labour market and the relatively slow pace of improvement remain important reasons that the Committee continues to maintain a highly accommodative monetary policy.”

9-10

Look back to the POW camps described in the box on Cigarette Money. Who played the role of the central bank?

9-11

Which tool of monetary policy is most likely being described by each of the following statements?

- a. It's the major way the Federal Reserve System enacts monetary policy.
- b. This tool goes through the Federal Reserve's role as lender of last resort.
- c. This tool is best for everyday monetary policy.
- d. A major disadvantage of this tool is that it requires that banks want to borrow from the Fed.

9-12

Name the monetary policy tool being used in each of the following examples.

- a. The central bank buys government securities from banks.
- b. The central bank raises the cost of borrowing money.
- c. The central bank raises the return that banks earn from holding reserves at the Fed.

9-13

The economy is in recession and the Federal Reserve wants to increase the money supply. Should it increase or decrease the following?

- a. Interest on reserve balances.
- b. The discount rate.
- c. Purchases of bonds in the open market.

9-14

Consider this scenario: The federal funds rate is equal to the interest on reserve balances since the demand curve for federal funds is flat where it intersects with the supply of reserves. If the Fed wants to raise the federal funds rate, which of the following policies would work?

- a. Lower the discount rate.
- b. Purchase bonds in the open market.
- c. Raise the interest on reserve balances.
- d. Perform quantitative easing.

9-15

Suppose that the interest rate on a 3-month government bond increases from 1 to 2 percent. According to the expectations hypothesis, what does this imply about the overnight interest rates between now and three months from now?

- a. The overnight interest rates are expected to rise
- b. The overnight interest rates are expected to fall.
- c. The overnight interest rates would be unaffected.

9-16

Suppose that interest rates are at the effective lower bound, but the Fed wants to reduce long-term interest rates even further. Explain why each of the tools would or would not enable the Fed to do so.

- a. Interest on reserve balances.
- b. Quantitative tightening.
- c. Forward guidance.
- d. The discount rate.
- e. Purchases of bonds in the open market.
- f. Quantitative easing.

9-17

For each of components of GDP below, describe the channels through which a rise in the interest rate affects expenditures.

- a. Consumption.
- b. Investment.
- c. Government expenditures.
- d. Net exports

9-18

What would happen to each of these components of the liquidity-preference model if the Federal Reserve decides to raise the reserve requirement?

- a. Money supply.
- b. Interest rates.
- c. Quantity of money in the economy.
- d. Money demand curve.

9-19

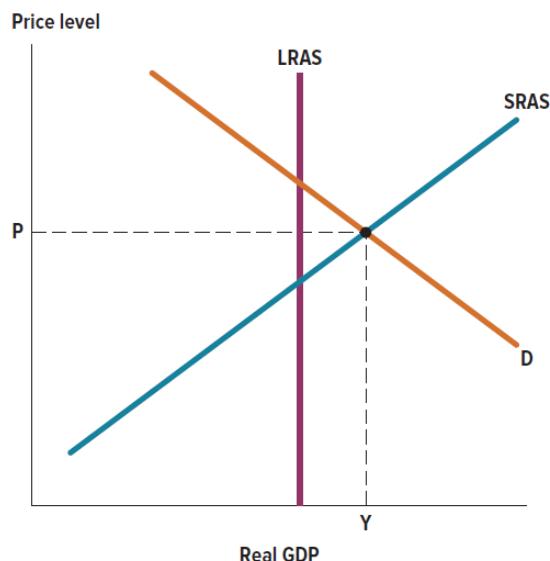
For each of the following situations, identify whether the Federal Reserve is likely to pursue an expansionary or a contractionary monetary policy.

- a. The unemployment rate is at 0.5 percent.
- b. The economy is experiencing record growth in GDP.
- c. The unemployment rate is at 15 percent.
- d. Inflation has reached 10 percent, a recent high.
- e. A hurricane recently demolished a major city, causing a major recession.

9-20

Using Figure 15P-1, answer the following questions.

Figure 15P-1



- a. Is this economy in recession, just right, or overheating?
- b. What is the correct monetary policy in this situation—expansionary or contractionary?
- c. What is the effect on prices of that policy—will they increase or decrease?