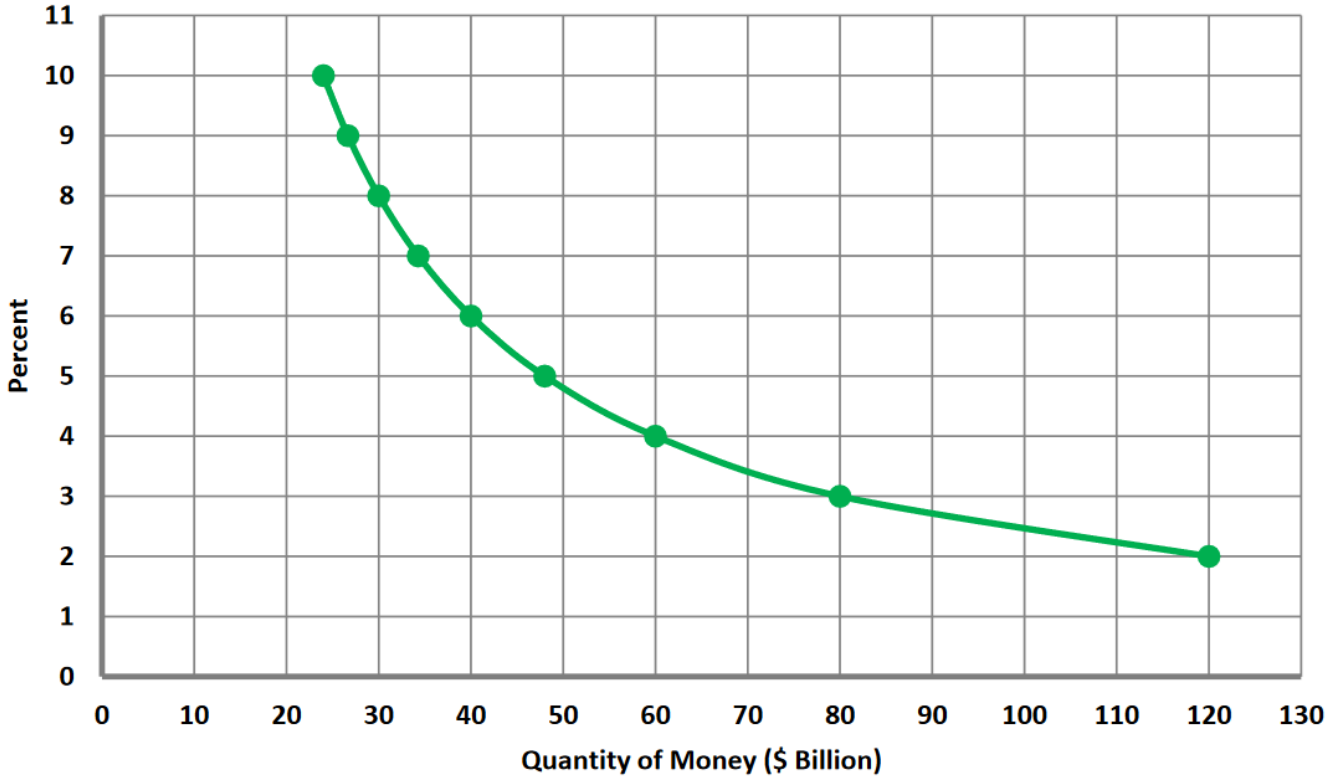
Problem 1. *True or False.* Demand for money is the fraction of their total wealth people want to hold in currency and bank deposits. Supply of money is the fraction of their total wealth people actually hold in currency and bank deposits.

Hint 1. These definitions are stated explicitly in the book.

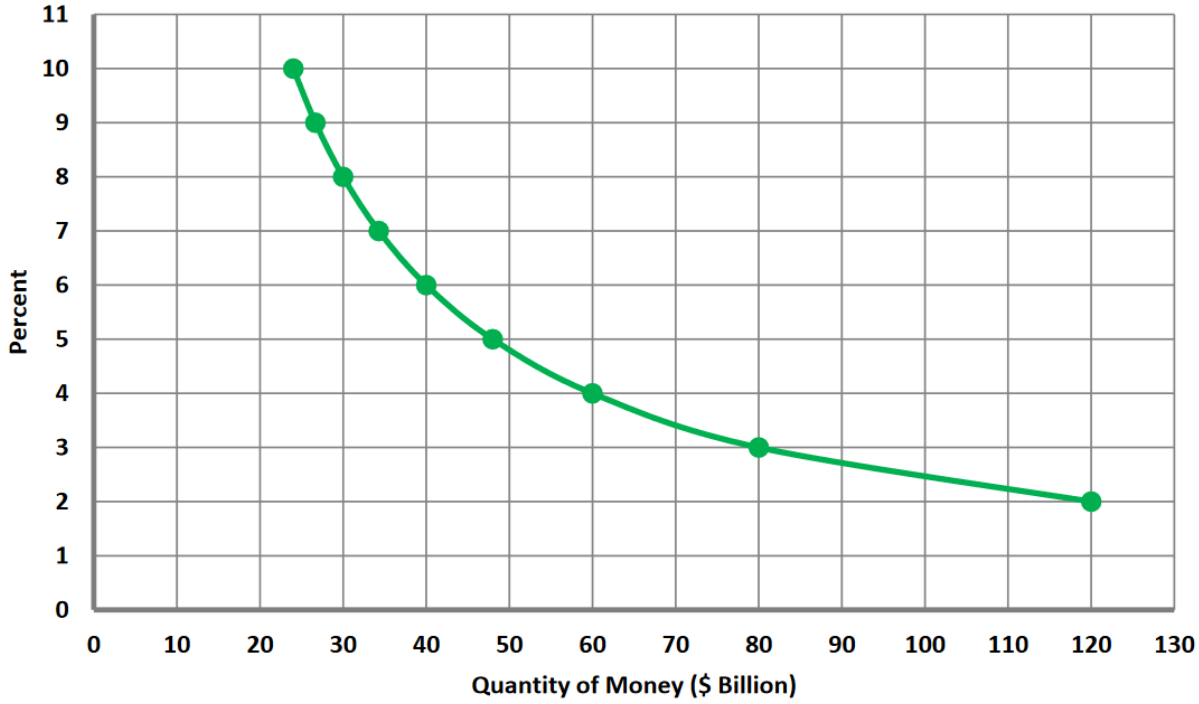
Problem 2.



Consider the hypothetical money-demand graph in the attached file. Currently the supply of money is \$60 billion and so the equilibrium nominal interest rate is _____ percent.

Hint 2. Draw the (vertical) money supply at \$60 million and see where the intersection is.

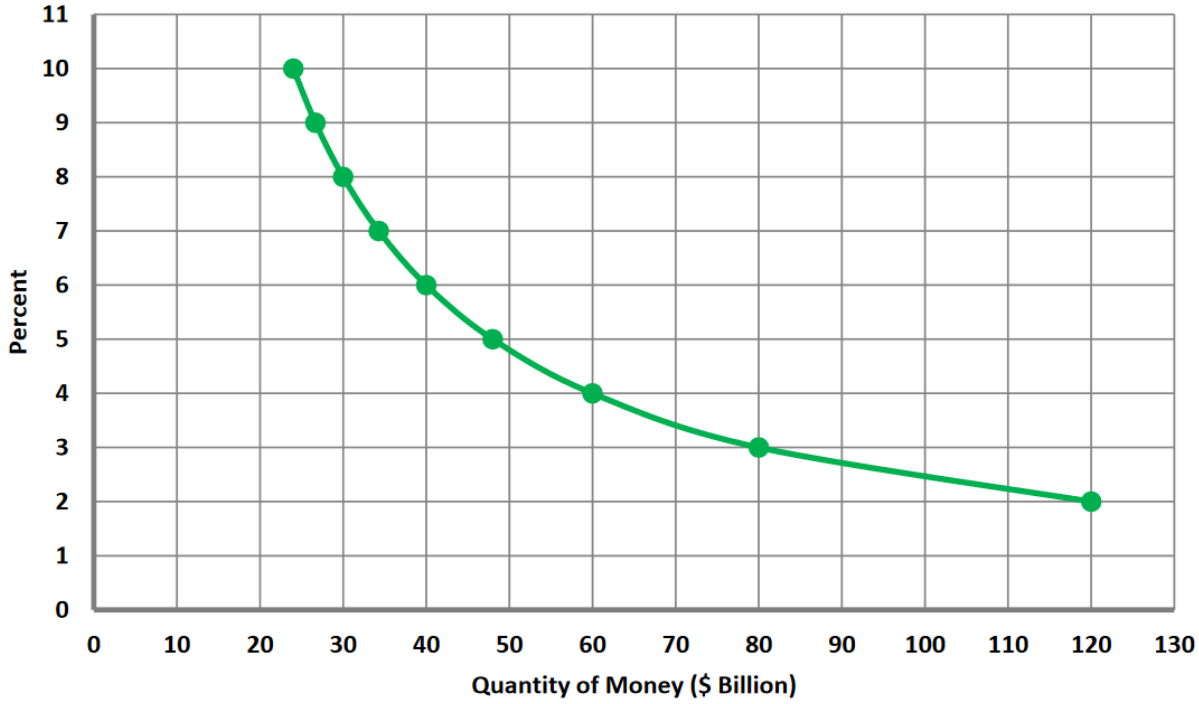
Problem 3.



Consider the hypothetical money-demand graph in the attached file. Currently the supply of money is \$60 billion. Suppose that, ceteris paribus, the price level increases by 75%. What will be the new equilibrium interest rate?

Hint 3. People will demand more money to buy the additional, or more expensive, goods and services. This means demand will shift to the right. For every interest rate, take the quantity and multiply it by 1.75. That'll give you the demand new curve. Then see where the new intersection is. (Your graph might not be super precise; note that the answer is an integer.)

Problem 4.



Consider the hypothetical money-demand graph. Currently the supply of money is \$60 billion. Suppose that, ceteris paribus, the real GDP decreases by 25%. What will be the new equilibrium interest rate?

Hint 4. People have less income and therefore will demand to hold less cash. This means demand will shift to the left. For every interest rate, take the quantity and multiply it by 0.75. That'll give you the new demand curve. Then see where the new intersection is. (Your graph might not be super precise; note that the answer is an integer.)

Problem 5. Consider the hypothetical money-demand graph. Currently the supply of money is \$60 billion. Suppose that, ceteris paribus, the real GDP decreases by 25% and at the same time the price level increases by 75% (kind of like a stagflation). What will be the new equilibrium interest rate? (Use the approximation rule that the rate of change of a product is the sum of the rates of change of the factors).

Hint 5. Use the hint: for each interest rate, take the initial quantity, subtract 25% of it, and then add back 75%. For instance,

$$80 \implies 80 - (80 \times 0.25) + (80 \times 0.75) = 120.$$

Problem 6. Consider the hypothetical money-demand graph. Currently the supply of money is \$60 billion. Suppose that the Fed conducts an expansionary monetary policy and injects \$2 billion of reserves into the banking system. The required reserve ratio is RRR = 10%. Households do not hoard any money and banks do not want to hold any excess reserves (so that the maximum amount of money will be created). What will be the new equilibrium interest rate?

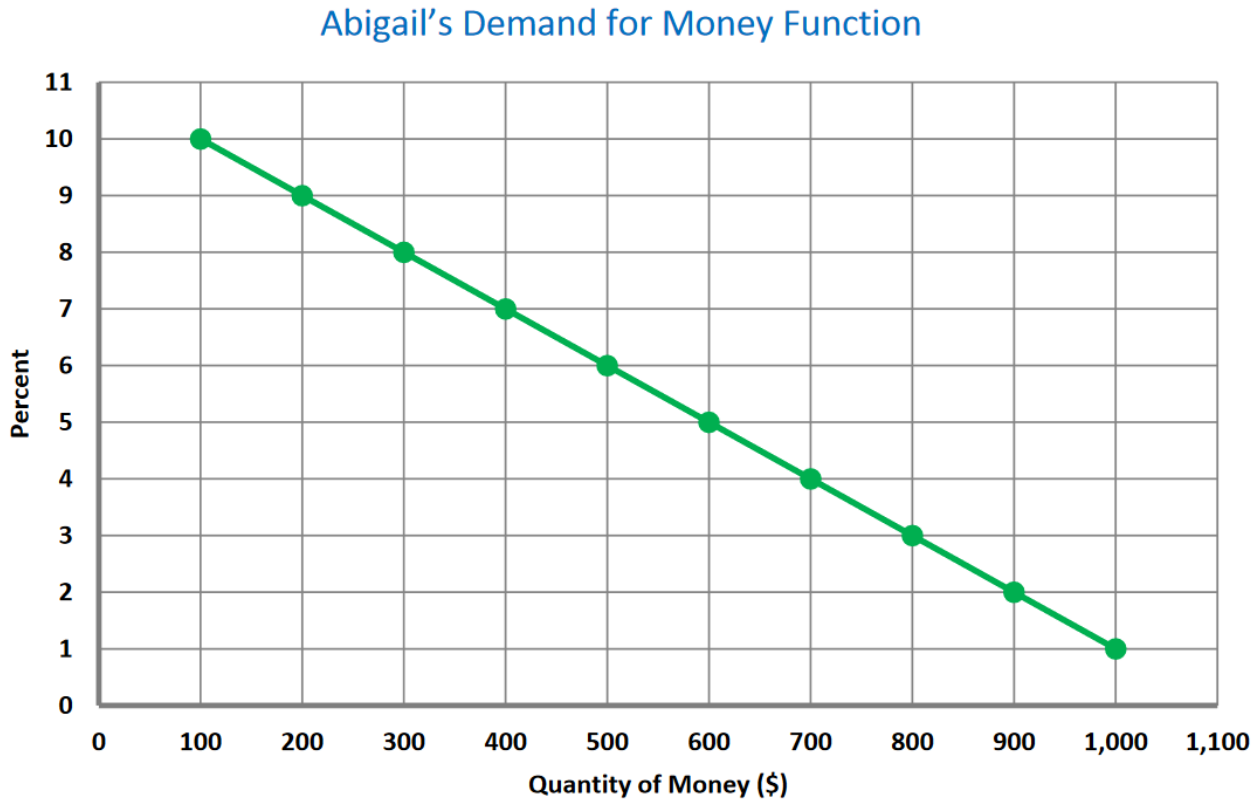
Hint 6. Use the money multiplier to shift the (vertical) M curve.

Problem 7. Consider the hypothetical money-demand graph. Currently the supply of money is \$60 billion. Suppose that the general price level increases by 50% and the Fed wants to conduct an open market operation in order to keep the rate of interest constant at the current level. The required reserve ratio is RRR = 10%. Households do not hoard any money and banks do not want to hold any excess reserves (so that the maximum amount of money will be created). How much reserves should the Fed inject into the banking system?

Hint 7. When the price level increases by 50%, the demand curve will shift to the right. Find the new demand curve.

To keep the interest rate the same, the Fed needs to increase the money supply. By how much? Given the money multiplier, how much does the Fed need to inject to achieve that total increase?

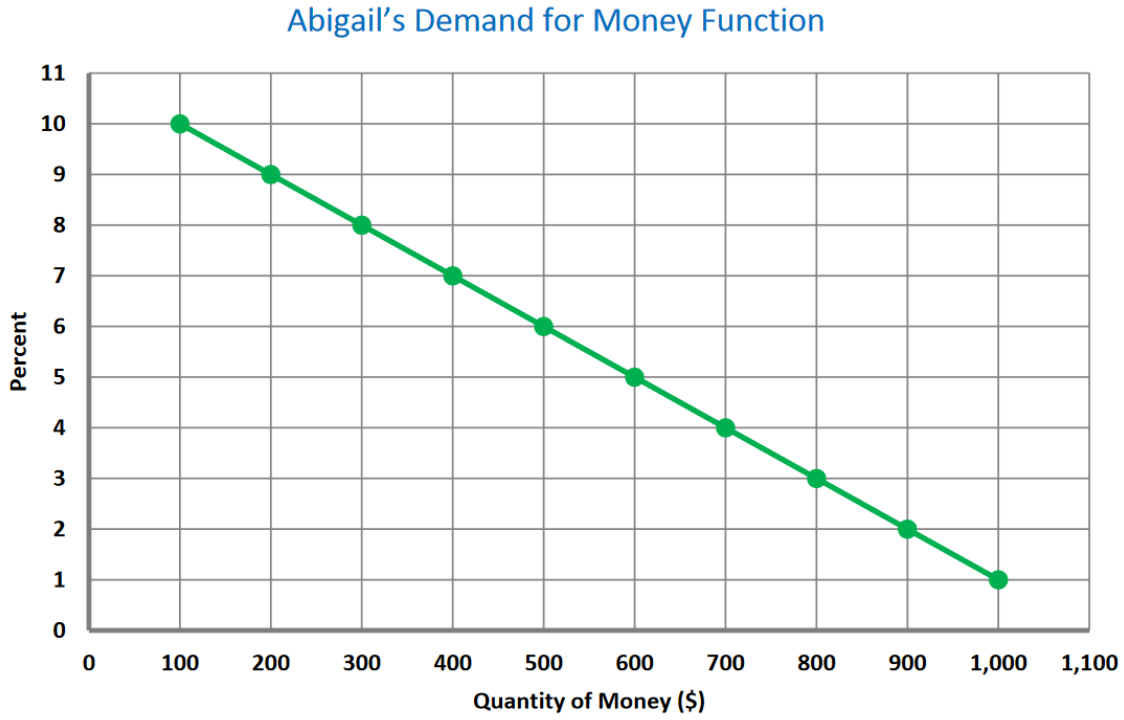
Problem 8



This graph shows the demand for money function for Abigail. It shows how much money she desires to hold at different interest rates offered by bonds. Her total nominal wealth is worth \$2,000, which she wants to allocate between money and bonds. Currently the interest rate is 6%. What is the value of Abigail's bond holdings?

Hint 8. See what quantity of money goes with 6%. The remainder is the bond holdings.

Problem 9.



Her total nominal wealth is worth \$2,000, which she wants to allocate between money and bonds. Currently the interest rate is 6%. Suppose that the economy experiences an inflation rate of 100% (prices double) and at the same time the interest rate increases to 8%. As a result Abigail will want to hold _____ dollars of her total wealth in bonds.

Hint 9. If prices double, then people want to hold twice as much money at every interest rate. Shift the demand curve accordingly. Then at 8%, find cash demanded. Bonds is whatever is left over.

Problem 10. *True or False.* If the interest rate falls into the liquidity trap, monetary policy becomes very powerful in changing the nominal rate of interest.

Hint 10. There's an illustration in the ebook.