

**Prep Questions for Exam #1**  
 ECON 4673  
 Dr. Keen

1. Briefly define: 1) money; 2) financial institutions; and 3) financial markets.
2. Briefly describe the difference between *direct finance* and *indirect finance*. Do federal, state, and local governments primarily use direct finance or indirect finance when selling government securities and municipal bonds? What type of companies tend to use direct finance, and what type of companies tend to use indirect finance?
3. What is asymmetric information? Which channel of finance, direct or indirect, tries to minimize the impact of asymmetric information? Briefly name and describe the two types of asymmetric information.
4. Name and briefly explain the three characteristics of money. Does Bitcoin satisfy those three characteristics? Briefly explain.
5. Use the information below to calculate the answers to parts a – c.

Currency outside banks	\$285	Retail money market mutual funds	\$410
Demand deposits	\$360	Savings deposits	\$390
Institutional money market mutual funds	\$170	Small time deposits	\$550
Other checkable deposits	\$440	Traveler's checks	\$5

- a. M1.
  - b. M2.
  - c. MZM.
6. Suppose someone takes out a simple \$4,000 loan payable in 5 years. If the payoff amount for that loan is \$4,866.61, what is the interest rate on the loan?
  7. Calculate the loan value of a 3-year fixed payment loan where the borrower must make an annual payment of \$10,000 and the interest rate is 6%.
  8. Consider a coupon bond maturing in 2 years with a face value of \$1,000 and an annual payment of \$50. If the interest rate is 4%, what is the present value of the coupon bond?
  9. Consider the following two bonds: a 1-year discount bond with a \$1,000 face value that sells for \$950 and a perpetuity that pays an annual coupon of \$25 for a cost of \$500. Which bond has a higher interest rate? Show your work.
  10. Suppose the rate of return on a coupon bond is 4%, the annual coupon payment is \$25, and the current price of the coupon bond is \$500. Given that information, calculate the expected price of the coupon bond next period.

11. Briefly explain the interest rate risk to bonds? Is that risk higher with short-term bonds or long-term bonds? Briefly explain.
12. Explain how each of the following impacts the price, quantity, and interest rate of government bonds. Use a graph of the government bonds market to support each answer.
  - a. The Federal Reserve unexpectedly announces that it believes the economy will experience deflation over the next year (the price level was previously expected to rise).
  - b. The default risk on corporate bonds declines.
  - c. The government implements an austerity program to reduce its budget deficit.
  - d. Technological advances increase the liquidity of government bonds.
  - e. Steadily rising asset prices increases household wealth.
13. Use a graph of the money market to support each answer.
  - a. What is the impact of an increase in output on the interest rate?
  - b. What can the central bank do to prevent the interest rate from changing in part a?
14. What is meant by a default risk on a bond? Give an example of a type of bond that is considered to have no default risk? If the risk premium for a corporate bond rises, what happens to the price and interest rate for both that corporate bond and the default-free bond? Use a graph to support your answer.
15. What type of government bonds are exempt from federal income tax? If income taxes rise, how does the price and interest rate of tax exempt government bonds change? Use a graph to support your answer.
16. Suppose the interest rate on a one-year U.S. Treasury bond is expected to be 1.0% in 2021, 1.5% in 2022, 2.0% in 2023, and 2.5% in 2024 and 2025. What should the interest rate on a five-year U.S. Treasury bond be in 2021 according to the expectations theory of the term structure. If instead, the U.S. Treasury bond markets followed the liquidity premium theory of the term structure, how would the interest rate on the five-year U.S. Treasury bond differ from its value according to the expectations theory. Briefly explain your answer.
17. Briefly discuss the segmented markets theory of the term structure. In your answer, mention how this theory views the substitutability of bonds across different maturities. Then, outline how well this theory does in explaining the three facts about the term structure that were discussed in class.
18. Suppose the ABC company is currently profitable but is expected to be out of business by the end of 2026 because it is in a dying industry. If the expected rate of return on equities is 7% and the ABC company is expected to pay a per share dividend of \$12 in 2022, \$10 in 2023, \$7 in 2024, \$4 in 2025, and \$1 in 2026, calculate the share price of ABC company's stock in 2021?

19. Consider a stock where the current dividend is \$5, the required rate of return on equity is 9%, and the constant growth rate of the dividend is expected to be 4%. Using that information, calculate the stock's current price according to the Gordon Growth model.
20. What is rational expectations and how does it relate to the Efficient Market Hypothesis? According to the Efficient Market Hypothesis, what is the role of "smart money" investors in the market? What are the three implications discussed in class of the Efficient Market Hypothesis for the average investor?