Practice questions and learning objectives
Econ 3020, Spring 2016

On midterm exam

1. Determine the impact on the money supply from the following scenarios. Determine which facts (rr, cr, etc.) facilitate the change and show the money stock change using our model of money multiplication. Does the money multiplier change?

    (a) Debit card fees get lowered because of better technologies for processing the transactions

    (b) Bankers become worried about potential bank runs

    (c) The ECB buys more bonds

2. True or false: without financial intermediaries, capital would be allocated more efficiently, because the "middle man" always "takes a cut".

3. True or false: people care a lot about the stock market because it is so much bigger than the debt market

4. Why does the interest rate spread between government and corporate bonds increase so much during a recession?

5. Define adverse selection and moral hazard and give an example of each

6. Are assymetric information problems worse in debt or equity markets?

7. How do financial market regulations deal with assymetric information problems?

8. What is the main benefit of financial intermediaries?

9. What is the yield to maturity on an asset that has a price of \$100 and makes two payments: \$110 in one year and \$121 in two years?

10. Explain the idea of term risk

11. Suppose you and your friend agree that 10% is a reasonable rate of interest on a loan you will give him. You expect inflation to be 3%.

(a) What nominal interest rate will you choose?

(b) If inflation ends up being 5%, what will be the ex post real interest rate?

(c) If inflation ends up being 5%, who loses?

12. Why (and how) does a government deficit change the supply of bonds?

13. show using the demand and supply of bonds what will happen to interest rates and the quantity of loans (bonds) in each of these scenarios

    - The Fed *announces* that they will increase the rate of inflation
    - The US government decides to upgrade all its ships (at a cost of $1.3 trillion) but does not raise taxes
    - Technological advances generate the internet economy and lead to a huge economic boom in the late 1990s
    - Walmart starts accepting US Treasury bills as payment
    - People start expecting a recession
    - More buyers and sellers start participating in the bond market because the trading technology improves

14. True or false: empirically, interest rates tend to fall during recessions

15. Why are yield curves (usually) positively-sloped?

16. Explain how a large financial firm buying and selling assets provides positive externalities to other market participants. What does this tell us about the efficient level of information creation in these markets?

17. Explain this quote: As information about firms becomes easier to acquire, the role of banks should decrease

18. How does collateral help with assymetric information problems?

19. True or false: when the net worth of a firm rises, moral hazard decreases in its relationships with its creditors

20. There are multiple layers of adverse selection and moral hazard. The lenders are concerned about the behavior of the owners, the owners are concerned about the behavior of the managers, the managers are concerned about the behavior of their employees and agents. Explain the assymetric problems in these relationships.

21. Explain why no one will audit a large firm if all shareholders in the firm hold only $1 in stock

22. How do banks and venture capital firms deal with the free rider problem in financial market information creation?

23. Why are firms more likely to use debt finance than equity finance?

24. True or false: if you have a car loan and your car with worth more than you owe on the loan, then the bank does not care whether you can repay the loan

25. Why are financial markets so small in less-developed nations?

26. Explain each of these facts:

    (a) Stocks are not the most important source of external financing for business

    (b) Issuing marketable debt and equity securities is not the primary method of businesses finance

    (c) Indirect finance is more important than direct finance

    (d) Financial intermediaries are the most important source of external funds for business

    (e) Financial markets are heavily regulated

    (f) Only large, established corporations have easy access to securities markets to finance their activities

27. Explain three ways that financial intermediaries provide benefits to people.

28. True or false: banks help solve asymmetric information problems because they can invest in a more diverse portfolio of stocks than individual depositors could.

29. For this exercise, you will use the FRED site (the Federal Reserve Bank of St Louis Economic Data site) at `https://research.stlouisfed.org/fred2/`. This site will let you search for economic data and graph them over time. Here are the names of some of the relevant series for this exercise:

    - "M2 Money Stock"
    - "M1 Money Stock"
    - "St Louis Adjusted Monetary Base"
    - "Currency in Circulation"
    - "Total Checkable Deposits"
        - Use the monthly data, because they go back further in time
        - Could also use "Demand Deposits: Total", but this series is shorter
    - "Total Reserves of Depository Institutions"

Put all of these on one graph and include it in your solutions (include graphs of any other series you need to answer the questions, of course). Use the search bar in the middle of the page for the first series. In order to add series after plotting the first one, you will need to go to "ADD DATA SERIES" under the "Graph" tab. In order to read the graph with all of these series on it, you will need to change the vertical axis, so when you have a graph in front of you, select the "graph" tab, select "graph settings", and then make sure the box for "Left" is checked beside "Log scale". It does not really matter whether the series are "seasonally adjusted". Choose monthly data where possible. Make sure all series have the same units (billions of dollars, probably). The best option is "Monthly, Billions of Dollars, Not Seasonally Adjusted". Note that if you hover your pointer over the graph, it will show you values in that year.

(a) What has been the biggest component of the money base historically?

(b) What is the money multiplier today? How does it compare to historical values?

(c) How can you explain the trend in demand/checkable deposits and bank reserves from the mid-1990s until 2008? How does this trend make sense with what you know about innovations in financial services over this period?

30. True or false: the central bank controls the money supply. Explain.

31. Why might pennies still be good to have even though it costs more than $.01 to make each of them?

32. Why would avocados make poor money?

33. Which is bigger: M1 or M2? M1 or high-powered money?

34. True or false: if we had only stock brokers but no banks, then the money base would exactly equal the money stock.

35. True, false, or uncertain: if the Fed increased the required reserve ratio, then the money supply would fall.

36. Why do bank runs occur?

37. During the great depression, the money supply fell by 28%. Why?

38. True or false: bond prices and interest rates are positively correlated because they are both the prices of financial assets.

39. Rank these assets in order of decreasing liquidity (write "more liquid" at the top and "less liquid at the bottom so there is no confusion)

(a) Checking account balances

(b) Certificate of deposit

(c) A dollar coin

(d) Saving account balances

40. If people hold 20% of the value of their demand deposits as cash and banks loan out 70% of demand deposits, then what is the money multiplier?

41. True or false: the FDIC lowers the cost to the Fed of acting as a lender of last resort

42. True or false: the Federal Funds rate is the rate the Fed charges on loans to banks

43. During recent years, the money base grew substantially, but prices barely grew (and in some quarters even shrunk). How can this happen?

Possibly on midterm

1. Why does financial innovation make asymmetric information problems worse? Give at least one real world example.

2. How does a stock market crash lead to bank runs? (not an easy question)

3. Why did the Fed give/loan huge amounts of money to banks and other financial institutions during the Great Recession? Was it only to lower interest rates?

4. True or false: during a financial crisis banks sell off assets because reducing the price of the assets will help stabilize financial markets

5. Which make riskier decisions on average: big banks or small banks?

6. The Great Recession started in markets for financial products with less regulation than standard banking products

7. Why does the Fed pay interest on reserves?

8. Show how an increase in the interest rate paid on reserves affects reserves.

9. Show how an increase in the discount rate affects reserves.

10. Why does the FDIC impose minimum capital requirements on banks?

11. If credit-rating agencies have a conflict of interest, why don't investors just find different credit-rating agencies?

12. A bank failure has two major effects:

    (a) Destroys information

    (b) Cuts the value of financial firms' assets

13. True or false: becauses the *owners* of a bank are not compensated by deposit insurance, it does not affect their incentives
14. Why are banks traditionally not allowed to hold stocks (or not many stocks)?

After midterm

1. If we want to see if wages have been stagnating in the US in the last few decades, what measure of the price level should we use (e.g. CPI, GDP deflator, PPI)?
2. Why is it hard to compare GDP figures between countries? How would you do it?
3. Know historic trends in US inflation
4. Calculate inflation from prices indexes.
5. Use the quantity theory of money to show that long-run inflation is due to changes in the money supply.
6. Explain the quantity theory of money.
7. What is the opportunity cost of holding money?
8. What is the opportunity cost of investment?
9. Suppose that we discover a new technology that increases the marginal product of capital.
   (a) Show using the investment market model how this will affect the real interest rate.
   (b) Show using the effect in the bond market.
   (c) Show what this interest rate change looks like in the money market. How will this affect the velocity of money?
   (d) How will the technology affect income levels? What does your answer tell us about the shifts in investment demand and money demand?
10. Explain *two* reasons the central bank might want to keep inflation above 0%.
11. Why is inflation "good"?
12. True or false: inflation is bad because higher prices mean that our incomes and wages cannot buy as much. Explain.
13. True or false: shoeleather costs are now negligible because people no longer walk to the bank

14. Explain the idea of "menu costs"
15. True or false: when there is unexpectedly high inflation, it helps people with fixed rate loans. Explain.
16. True or false: all contracts over future payments should be indexed to inflation. Explain.
17. True or false: there are menu costs from inflation even if the rate of inflation is perfectly stable
18. True or false: if people can perfectly predict future price levels, then inflation will never cause prices to differ from their equilibrium levels.
19. True or false: the government can always print more money to get more revenue.
20. True or false: when people want to hold more money, that decreases the velocity of money.
21. True or false: the velocity of money has been getting less volatile as improvements in economic theory and research have led to better monetary policies.
22. Describe an event that will change the velocity of money and how it will do so.
23. If the long-run real GDP growth rate is 2% and the ten-year average inflation rate is 3%, how fast is the money supply growing?
24. If nominal GDP grew by 5% this year and inflation was 3%, what was real GDP growth?
25. If the real GDP growth rate is 7% in China and they grow the money stock at 10% per year, how much inflation will they get?
26. Ex-chairperson of the Federal Reserve Alan Greenspan said that there is no chance that the United States would default on its debts because it can always just print more money to pay them. Do you agree?
27. Use the liquidity theory of money demand to show how an increase in the supply of real money balances changes the real interest rate. Do you agree that your answer suggests that countries with higher inflation will typically have lower nominal interest rates?
28. Why does the Fed pay interest on reserves?
29. True or false: congressional and presidential oversight of the Fed is all that keeps them from printing all the money they want and producing runaway hyperinflation like in Zimbabwe or inter-war Germany.

30. True or false: In a country where the inflation rate is 10,000% per year, people will pay their taxes as early as possible so that they do not have to hold the money to pay their taxes later.

31. What do you think of this claim from a news article source? "As long as inflation is not faster than GDP growth, we are fine, because we need more money to pay for the higher purchases that higher GDP brings."

32. Explain what it means when the Wall Street Journal says, "Fed to raise rates".

33. This quote is from The Economist, 7 January, 2015:

    > Prices in the euro zone are falling. Figures released on January 7th showed that consumer prices in the year to December fell by 0.2%, marking the return of deflation for the first time since 2009. Weak demand... and a lack of economic growth is dragging down prices.

    Draw a graph illustrating the quote. Does the last sentence of the quote make sense when applied to the long run (i.e. does economic growth lower long-run inflation?)?

34. Do we expect countries with high inflation to have flatter or steeper aggregate supply curves? What does this tell us about the severity and duration of recessions in poorer places?

35. Suppose I tell you at the end of January that GDP fell by 2% that month. True or false: this is evidence of a recession.

36. True or false: the Volcker recession of the early 1980s was a mistake named for the Fed chair Paul Volcker, who failed to anticipate it and respond appropriately

37. Which components of GDP are most volatile? Why?

38. True or false: the unemployment rate is negatively correlated with the GDP growth rate

39. True or false: the classical dichotomy tells us that the Fed cannot impact GDP

40. Name a leading economic indicator and describe why it works

41. True or false: when the interest rate on 3-month Treasury bills is similar to 10-year Treasury notes, this tells us that a contraction may be coming. Why?

42. Why are prices sticky in the short run?

43. Why does the AD curve slope down?

44. Why does the DAD curve slope down?

45. Why does the SRAS curve slope up?

46. How will an increase in the money supply shift curves in the AD-AS model? What will be the effect?

47. Suppose banks become more confident and decrease their reserve ratios. Show the effect on AD-AS.

48. Suppose that people lose confidence in banks and hide their money in their mattresses. Show the effect on AD-AS.

49. Show the effect on AD-AS of an oil price shock.

50. Use the model of aggregate demand and aggregate supply (where AD is determined by either of the simple forms $\frac{M}{P} = L(i, Y)$ or $\frac{M}{P} = kY$) to show what will happen in the short run and long run (including the transition from SR to LR) if the Federal reserve starts buying bonds.

51. Use the IS-LM model (a more sophisticated/complicated model of AD) to work through the following three scenarios:

    (a) An increase in T

    (b) A new tech that increases MPK

    (c) An increase in P

    Include starting and ending positions, transitions, and sizes of shifts. Use algebra where appropriate.

52. True or false: when the central bank increases the money supply, this causes people to buy more stuff because having more money makes them richer. This is why the Fed increases the growth rate of money during recessions.

53. True or false: monetary policy is better at responding to supply shocks than to demand shocks

54. How does the Fed increase interest rates?

55. True or false: we know that the Great Depression was severe as a result of poor monetary policy because the Fed decreased real money balances and increased interest rates during the depression.

56. True or false: governments do not like to use expansionary monetary policy during recessions because their deficits are so high during recessions and inflation will make it harder to pay their debts

57. True or false: a central bank can eliminate any aggregate demand shock if it has sufficient data and works fast enough

58. True or false: the central bank can reduce unemployment rates by printing money

59. Can a central bank keep the unemployment rate permanently above the natural rate?

60. Why do we sometimes say that "the Phillips Curve is clockwise"?

61. What is a reasonable guess at the "sacrifice ratio" in the US?

62. Why is the sacrifice ratio lower in more severe recessions?

63. True or false: the natural rate of unemployment is 0%

64. True or false: the liberal European Central Banks (ECB) respond more to stabilize employment and output in recessions than the conservative American Fed

65. Some economists argue that unemployment is persistent (called "hysteresis"). Why is this? If this is true, does it imply that we would want shorter and deeper or longer and more shallow recessions to get disinflation?

66. How can we get pain-free disinflation?

67. True or false: the Taylor Rule is what the Fed uses to set monetary policy

68. The Fed seems to respond about as strongly to a 1% decrease in incomes as it does to a 1% decrease in inflation

69. What is the goal of decreasing interest rates in a recession?

70. During recent years, the money base grew substantially, but prices barely grew (and in some quarters even shrunk). How can this happen? What does your answer tell you about why some people are worried about future inflation?

71. If the Fed announces a plan to raise the rate of money growth (or lower interest rates), what will this *announcement* do to the DAD-DAS system?

72. True or false: the DAD theory tells us that the Fed raises its target inflation rate during recessions

73. Use the DAD-DAS framework to analyze the effect of a *temporary* fiscal "stimulus" spending package assuming that people's expectations about inflation are adaptive. Show what would happen in the short-run, after the tax cut disappears, and in the long-run. Graph time-series for output and inflation. How would your analysis change with rational expectations *about inflation*?

74. Explain how stabilization policy can be destabilizing

75. True or false: monetary policy has shorter inside lags than fiscal policy

76. Consider this scenario: congress is considering a temporary tax increase because the economy is "overheating". Explain what the theory of Ricardian Equivalence says about the impact of this policy.

77. True or false: Ricardian Equivalence is likely a better model of the effect of a tax increase during a boom than it is for the effect of a tax cut during a recession.

78. True or false: tax cuts facilitate parents stealing from their children

79. Explain why a central bank might be better able to achieve their long-run inflation and unemployment goals by giving up their freedom to make decisions (discretion) and instead constrain their selves with a rule.

80. How does a binding inflation target rule help a central bank deal with (short-run) supply shocks?

81. How does Milton Friedman's Permanent Income Hypothesis explain the short-run consumption functions observed by early empirical work?

82. Show how the empirical consumption function in the short-run around the great depression compared to Kuznets' long-run consumption function. Which is consistent with the Keynesian Cross model?

83. Is the Permanent Income Hypothesis consistent with evidence from the 2008 tax rebate?

84. What kind of evidence would support the permanent income hypothesis?

85. Do countries' saving rates increase as they get richer as Keynes predicted?

86. True or false: we could get pain-free disinflation if wages were indexed to inflation.

87. Show (with AD-AS or Phillips curves) what will happen if a central bank tries to target stable employment at the natural rate but underestimates what the natural rate is.

88. Name *two* problems with predictable inflation (not the same as "expected inflation") and *one* problem with unexpected inflation.

89. True, false, or uncertain: the government spending multiplier is greater than unity (1)

90. Why do most economists agree that monetary policy is a better response to business cycles than fiscal policy is?

91. True or false: hyperinflations are just accidents that cannot be predicted.

92. Use the IS-MP model (a more sophisticated/complicated model of AD) to work through the following three scenarios:

(a) An increase in T

(b) A new tech that increases MPK

(c) An increase in P

Show and explain what will happen in each of the five graphs in the model (including the AD-AS graph). Include starting and ending positions, transitions, and sizes of shifts. Use algebra where appropriate.

93. Imagine that you are the chair of the Fed and the inflation rate is 20%. If you want to bring the rate down to 2%, how costly will this be if you induce the disinflation over a year or over ten years? Make reasonable assumptions about the sacrifice ratio based on evidence from past recessions and disinflations, state and justify your assumptions clearly, and discuss the costs in terms of GDP and employment losses that are comparable between the two scenarios (e.g. total GDP loss rather than GDP per year lost).