

180.101 Principles of Macroeconomics, Fall 2011

Second Term Exam : Practice Problems

1. Consider the Great Depression, which was a recession in which both output and prices fell. Using just those facts, can you make any conclusions as to whether a fall in aggregate demand or in aggregate supply was the primary cause of the recession? What about the recession and “stagflation” (low or negative output growth with rising prices) of the 1970s? Explain.
2. Suppose that Americans become angry with the Australians because they have funny accents and drive on the wrong side of the road. As such, America declares war on Australia and, in preparation for the invasion, begins buying a lot of military equipment. At the same time, Australia begins sinking oil tankers shipping oil to the US.
 - (a) Write down a model that will help you to analyze the effects of the war on output and prices in the US economy.
 - (b) Explicitly identify the variables in your model that will be affected and state whether they increase or decrease.
 - (c) Using the above, which curves shift, in what direction do they shift, and why? Remember to explain in intuitive/economic terms why the curves shift like they do (don’t just refer to the equations).
 - (d) Draw a graph depicting any shifts of the curves. Remember to label the graphs and label any equilibrium points. What can we say about the effects of the war on US output? On US prices? (i.e., do they increase, decrease, stay the same, or is their change ambiguous?)
3. Continue with the previous question. Being ignorant of geography, the US mistakenly bombs New Zealand rather than Australia, destroying a large number of factories. From the perspective of New Zealand’s economy:
 - (a) What variable is affected and how?
 - (b) In the context of the AD-AS model, which curve(s) shift and how? Remember to explain in intuitive/economic terms why the curves shift like they do (don’t just refer to the equations).
 - (c) Depict this in a relevant diagram and discuss the effects on NZ’s output and prices.
4. Suppose there is a closed economy operating under perfectly slack conditions; further suppose that autonomous consumption is 370 billion zorkmids, autonomous planned investment is 230 billion zorkmids, and the marginal propensity to consume from disposable income is 0.85. The government taxes income at a rate of 20%, imposes a per capita tax of 3000 zorkmids on each of its 25 million citizens, purchases 500 billion zorkmids worth of goods and services, and distributes 5000 zorkmids to each of the poorest one-fifth of its citizens.
 - (a) Write down a system of equations that will allow you to solve for the equilibrium level of output in the economy described above. Carefully explain what each equation represents.
 - (b) Find the equilibrium levels of income, expenditure, and consumption in this economy, and explain why these are equilibrium levels (NB: Don’t worry if your answers for this question aren’t “clean” numbers; a calculator will help).
 - (c) Draw a graph illustrating the model of equilibrium income determination, and briefly explain the concepts presented in it.

- (d) Everyone agrees that society would be better off if national income were higher, but the two major political parties disagree on how they should achieve this. The Flatheads argue that the per capita tax should be cut by 1000 zorkmids, while the Squareheads think that the government should build a new monument to national greatness at a cost of 25 billion zorkmids. Which of these two policies will better achieve the politicians' goals? Explain carefully, using any relevant graphs as necessary.
- (e) Suppose the government wants to achieve a national income of 4000 billion zorkmids, and wants to achieve this by increasing government purchases. How much more should the government purchase in order to achieve this goal? Explain carefully, using any graphs as necessary.
- (f) How would your answer to part (e) change if the economy were operating under ordinary supply conditions? Explain carefully and provide any relevant graphs that illustrate your answer.
5. Which of the following are considered part of the U.S. money supply using M1 measures?
- A \$10 bill you carry in your wallet.
 - A \$100 traveler's check you bought from Bank of America but did not use.
 - A \$100 bill in a bank's vault.
 - The +\$373.45 balance in your checking account.
 - A share of General Motors stock worth \$40.
6. Explain what is meant by a bank being "fully loaned up". Why do we believe it to be a reasonable assumption that banks strive to be fully loaned up?
7. Assume that banks fully loan up and there is no "cash drain". If the required reserve ratio is 20%, how will the money supply change (eventually) if Steve deposits \$500,000 into his checking account at Bank of America? Carefully explain your answer, using any diagrams as necessary.
8. Suppose for this question that all banks hold on to an additional 5% of deposits beyond the required level.
- Why would banks ever choose to act in this way, given your answer to question 6?
 - How would your answer to question 7 change in this situation? Explain carefully, using appropriate diagrams.
9. Suppose the money supply is \$3.2 trillion and the required reserve ratio is 10%. The Federal Reserve decides to use open market operations to increase the money supply by \$500 billion. What can the Fed do to carry out the planned increase? What if the required reserve ratio is 15%?