

Answer all questions on these sheets:

1. (4 points) When the Winter Semester ends on April 17th, all the Econ 102 students (there are 315 of them) are no longer full time students. Beginning on April 17th they are all on vacation, and plan on relaxing for the duration of the summer. Assume all the former students remain in Ann Arbor.

a) Using the definition of the unemployment rate, show whether or not the unemployment rate in Ann Arbor will change on April 17th. If it does change, does it go up or down?

The unemployment rate is unemployed / labor force. The labor force doesn't change because the students are not looking for work and are not employed. The number of unemployed doesn't change because the students are not even in the labor force. Thus U/L stays constant.

b) Now assume that instead of taking the summer off starting on April 17th, the Econ 102 students immediately begin looking for work. Assuming none of them immediately finds a job, show which portions of the unemployment rate will change, and in which direction.

The students enter the labor force, so L goes up. They also add to the number of unemployed, because they are looking for work but don't have jobs, so U goes up as well.

2. (4 points) Suppose that banks are required to hold reserves equal to exactly 20% of their deposits, and banks lend out the rest of their holdings, and that the public never holds cash (that is, they use only bank deposits as money).

a) Ben Bernanke, the Chairman of the Fed, wakes up tomorrow and decides to increase the money supply. Should he direct the Fed to buy or sell bonds? If the Fed (buys / sells) \$20,000 of bonds, by how much will the money supply increase?

*He should tell the Fed to buy bonds to increase the money supply. The money multiplier is $1/0.10 = 10$, so the money supply rises by $10 * 20,000 = \$200,000$.*

b) Now suppose Professor Deardorff calls Bernanke at 2:00 am and convinces him that the Fed should instead *decrease* the money supply. Since the New York Fed is closed at 2:00 am, Bernanke considers his other options for changing the money supply. What are the other two ways the Fed could decrease the money supply, and how would they need to be changed?

The reserve ratio could be increased, forcing banks to recall some of their loans to meet the higher reserve requirement, which would decrease deposits.

The rate the Fed charges for overnight loans to banks could be increased, making it more expensive for banks to borrow to cover their reserve ratio, and more reluctant to make extra loans.

3. (2 points) An article in the WSJ talked about why Venezuela is experiencing a high rate of inflation this year. Assume that the money demand curve has not shifted. Professor Deardorff calls President Chavez and tells him how to increase the value of the Bolivar (the Venezuelan currency). Use the quantity theory of money to figure out what Professor Deardorff told Chavez.

The quantity theory of money is $MV=PY$. Money demand is $M=PY/V = Y/(V(1/P))$. If money demand has not shifted, but prices are rising, then the money supply must be increasing. The value of the Bolivar is $(1/P)$. To increase the value of the Bolivar, Deardorff told Chavez to decrease the money supply, which would cause prices to fall and $(1/P)$ to increase.*