Whitman College
Econ 102
Exam 3
November 17, 2011

Write your answers in your blue book. **Show all of your work.** The exam ends at 11:55.

1. (10pts) What three policy goals has Congress charged the Federal Reserve to achieve?

2. (10pts) What tools does the Federal Reserve have for conducting monetary policy?

3. (a) (5pts) Define the Federal Funds Rate.

(b) (15pts) What procedure does the Federal Reserve use to raise the Federal Funds Rate? Explain how this procedure raises the Federal Funds Rate.

4. Suppose that in a particular economy banks are required to hold 10% of their checking deposits in reserve. They are not required to hold any reserves against their savings deposits. Consider the balance sheet for Bank A, which operates in this economy.

Bank A's Balance Sheet			
Assets		Liabilities	
Required Reserves	$80 million	Checking Deposits	
Excess Reserves	$40 million	Savings Deposits	$1260 million
Treasury bills	$180 million	Debt	$240 million
Loans	$2120 million	Bank capital (owners' equity)	

(a) (5pts) Fill in the blanks on Bank A's balance sheet.

(b) (5pts) Suppose that some of the people who borrowed from Bank A default on their loans, so that Bank A's loans are now worth only $2020 million. How much is its bank capital now?

(c) (5pts) Why is it important that banks maintain a fairly large amount of bank capital relative to their assets?

5. Use the following information to answer parts (a) - (c). Suppose that the reserve ratio in a particular economy is 16%. In this economy, the public uses checking deposits and holds no currency. Checking deposits are the only kind of deposits in this economy.

(a) (5pts) What is the money multiplier in this economy?

(b) (10pts) If the Central Bank in this economy wanted the money supply to grow by $400 million, what exactly would the Central Bank do?

(c) (5pts) What items are money in this economy?

6. For parts (a)-(g) below, consider the information about Countries A, B, C and D in the following table. Suppose the table covers a period of twenty years, during which the Quantity Theory of Money holds and the velocity of money stays constant.

Country	Average annual change in the money supply	Average annual nominal interest rate	Average annual change in real Gross Domestic Product
A	12 %	10 %	3 %
B	2 %	3 %	4 %
C	6 %	7 %	2 %
D	9 %	11 %	1 %

(a) (5pts) What was the average annual inflation rate in Country A during this period?

(b) (5pts) What was the average annual inflation rate in Country B during this period?

(c) (5pts) What was the average annual real interest rate in Country C during this period?

Suppose that Don made a one-year $100 loan in Country D during a typical year in the period covered in the table.

(d) (2pts) How many dollars did Don get repaid at the end of the year?

(e) (2pts) Suppose nominal interest income is taxed in Country D at a rate of 20%. How many dollars did Don pay in tax on the interest from his loan?

(f) (2pts) Did Don's loan provide him with any after-tax increase in his purchasing power, versus what he could have bought with $100 at the point when he made the loan? Explain your work.

(g) (4pts) Suppose that Bob made a one-year $100 loan in Country B during a typical year in the period covered in the table. Country B taxes nominal interest income at a rate of 20%. How much after-tax increase in his purchasing power did Bob's loan provide? What accounts for the difference between Don's and Bob's results?