Whitman College
Econ 102
Final Exam
December 12, 2011

Write all answers in your blue book. Show all of your work. The exam ends at 12:00.

Read all the parts of Question 1 before you answer any of them.

1. For parts (a)-(d) below consider a hypothetical market for unskilled labor in which, absent government intervention, the equilibrium wage is $6 per hour.

(a) (10pts) Draw a graph of the supply and demand for labor in this market. Draw your graph to scale, with each line in your blue book indicating one more dollar of wage. On your graph, indicate the equilibrium quantity of labor hired. Label that quantity L_1. On your graph, indicate the equilibrium wage. Label that wage $6.

(b) (20pts) Suppose that the government intervenes in this market by offering $3 per hour of unemployment compensation to any worker who does not work. Show on your graph from part (a) the effect of the government intervention. Indicate the new equilibrium quantity of labor hired (label it L_2) and indicate the new equilibrium wage (label it W_2). Explain why the government's offer of unemployment compensation changes the wage and quantity of labor hired.

(c) (15pts) Suppose now that the government does not offer unemployment compensation but instead sets a minimum wage of $9 per hour. On the same graph that you used for parts (a) and (b), indicate what is now the wage (label it W_3) and the quantity of labor hired (label it L_3). Why does the minimum wage affect the quantity of labor hired?

(d) (5pts) Which program, the $3 per hour of unemployment compensation or the $9 per hour minimum wage, would create more unemployment in this unskilled market?

2. Consider excerpts from the November 23, 2011 *Wall Street Journal* article by Sara Murray entitled "Fate of 2012 Unemployment Extension Gets Cloudier," which we discussed in class on November 28. In this article, Sara Murray writes that "the nonpartisan Congressional Budget Office estimates that $1 spent on increasing aid to the unemployed yields up to $1.50 in gross domestic product. Cutting workers' payroll taxes returns up to $0.60 for every dollar spent."

(10pts) Why is the Congressional Budget Office's estimated fiscal multiplier smaller for the payroll tax cut than for the extended unemployment compensation benefits?

3. Use the following information to answer parts (a) and (b) below. Over a period of twenty years in a hypothetical country, the Quantity Theory of Money held and the velocity of money stayed constant. During this period, real Gross Domestic Product grew by 2.5% per year, on average. The average annual inflation rate was 4.3%. The average annual nominal interest rate was 8.5%.

(a) (10pts) What was the average annual rate of growth of the money supply during this period?

(b) (10pts) What was the average annual real interest rate during this period?

Use the Keynesian fixed nominal wage contracts model to answer Questions 4, 5 and 6.

4. (a) (15pts) Consider an economy that is initially operating at potential Gross Domestic Product (GDP). Suppose the central bank unexpectedly decreases the money supply. On an aggregate demand – aggregate supply graph, show the short run effect of the central bank's action. Explain what is happening in your graph, and why.

(b) (15pts) On your graph from part (a), show the long-run effect of the central bank's unexpected decrease of the money supply. Explain what is happening in your graph, and why.

5. (20pts) Consider an economy that is initially operating at potential GDP. Suppose the central bank decreases the money supply in a way that the public expected well in advance of the central bank's action. On an aggregate demand – aggregate supply graph, show the effects of the central bank's action. Explain what is happening in your graph, and why.

6. (10pts) In the early 1980's, Federal Reserve Chairman Paul Volcker tightened monetary policy in the United States, with the goal of reducing the inflation rate. Does the situation you described in your answer to Question 4 or Question 5 best describe the results of Chairman Volcker's actions? Explain your reasoning.

7. Suppose that in a particular economy banks are required to hold reserves against their checking deposits, but 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	$40 million	Checking Deposits	$800 million
Excess Reserves	$70 million	Savings Deposits	$1010 million
Treasury bills	$120 million	Debt	$340 million
Loans	$2050 million	Bank capital (owners' equity)	

(a) (5pts) What is the required reserve ratio for checking deposits in this economy?

(b) (5pts) How much bank capital does Bank A have?

(c) (10pts) What is Bank A's leverage ratio?

8. Consider the conclusions in the Financial Crisis Inquiry Commission's January 2011 report, which we discussed in class on December 6 and 8.

(a) (10pts) What, according to the report, is the implication of the 40-to-1 leverage ratios the five major investment banks held in 2007?

(b) (20pts) What factors increased the danger of the investment banks' leverage, according to report?

(c) (10pts) According to the report, why was the government so ill-prepared for the 2008-2009 financial crisis?