Professor Christiano
C-11, Winter 1997

Answers to Final Exam

1. Explain what the 'time inconsistency problem' is, using an example. A time inconsistency problem may arise in situations in which the right thing seems to be to choose x now and y later. If in the next period it again seems optimal to do x 'now' and y later, then the plan formulated today is said to be time inconsistent. An example is a person who announces that he/she will smoke one more day and then quit the next day. If when the next day comes around, the person does the same thing (smoke today, quit tomorrow) then this plan is time inconsistent.

2. (10) When inflation was high in the late 1970's, a debate occured about the costs of getting rid of it. Some argued that if the Fed had a lot of credibility, the cost might be essentially zero. Others argued that the cost was likely to be quite high, and that getting rid of inflation might require a big sacrifice in terms of high unemployment. Explain the two sides of this debate. In your discussion, be sure to indicate why credibility is so important, and how the lack of it can make fighting inflation costly.

   The debate can be described using the Phillips curve. If the monetary authority can induce the public to reduce its inflationary expectations, then the Phillips curve drops down and a low rate of inflation can be obtained with only a small rise in unemployment.

3. (18) The initial phase of the Great Depression was characterized by relatively little change in real money balances, a fall in prices, a very substantial (roughly ten-fold!) drop in investment, a relatively small drop in consumption, very little change in government purchases and a falling nominal rate of interest. Explain why each of the following is, or is not, a candidate for the impulse that triggered the Depression. In each case, show carefully (using the AD-AS graphical apparatus) what the expected consequence of the given impulse is, in order to show why, or why not, the implications are consistent with what happened.

   (a) Consumer pessimism.

(b) Investor pessimism.

(c) A cutback in government purchases.

(d) A rise in taxes.

(e) A monetary contraction implemented by the Fed.

4. (18) In 1968, Congress passed a one-year increase in taxes. The Fed calculated (using historical data to pin down parameters like the MPC, that it needed), that the tax hike would have a very depressive effect on the economy. So, they responded by implementing a substantial increase in the money supply in order to prevent these bad effects.

   (a) Explain carefully, using our graphical apparatus, how the Fed would have determined what increase in the money supply was required to neutralize the ill-effects of the tax hike. Explain the role of their estimate of the MPC in this calculation.

   (b) The Fed later learned that it had over-estimated by far the depressive effects of the tax hike on the economy. Many concluded that there was a basic flaw in the Fed's method for computing the impact of a tax change. Describe that flaw carefully.

5. (18) Several commentators have recently criticized the Fed for using its tools to slow the economy down when growth gets 'too' fast. In defending this policy, the Fed argues that it is central to its strategy for preventing a resurgence of inflation.

   (a) The people at the Fed fully understand that inflation cannot take off without increased money growth, which the Fed itself controls. Yet they defend their strategy as a way to prevent an inflation takeoff anyway. What is their defense?

   (b) What are the risks associated with the Fed's strategy for fighting inflation? Here, you should carefully describe a scenario (using the AD-AS graphical apparatus) in which the Fed's policy causes a problem.

   (c) Describe an alternative monetary strategy for fighting inflation that avoids the risks of the Fed's current strategy.

6. One ongoing debate about central bank policy concerns whether the central bank should target a particular level of interest rates ('peg the interest rate'), or whether it should simply endeavor to keep the money supply fixed ('peg the money supply'). People who engage in this debate typically don't worry about the international dimension of things (the debate is one that occurs in the U.S.). You may ignore this too, by assuming a closed economy. Answer the following questions *carefully,* illustrating your points with graphs.

   (a) Suppose fluctuations in output are generated by fluctuations in investor optimism. Which monetary policy will make the fluctuations in output and employment smaller, one which pegs the interest rate, or one which pegs the money supply?

   (b) Re-answer the above question under the assumption that fluctuations in output primarily reflect shifts in the demand for money.

7. It is said that a progressive tax system (i.e., one in which taxes rise automatically with an increase in income, and fall with a decrease) acts to reduce the magnitude of fluctuations in the business cycle. Explain carefully (i.e., using all relevant graphs) how this works, assuming business cycles are generated by shifts up and down in the investment function. Exlain carefully why a balanced budget ammendment would, under these circumstances, increase the magnitude of fluctuations of business cycles.

8. Describe, in detail, a recession triggered by an exogenous increase in the demand curve for money by households. Do the same for one triggered by a reduction in the money supply by the Fed. In your discussion use all relevant graphs (i.e., AD-AS, IS-LM, etc.). In looking at data on recessions, what would you have to look at to determine whether one or the other of these two scenarios was operative?