

Economics 182-INTERNATIONAL MONETARY ECONOMICS
Problem Set V

Due in class on Thursday, April 28
To be handed directly to your GSI.

1. (*debt monetization*) When a government cannot control spending and borrows from its own central bank, the government is in effect quite literally “printing money” to pay for its activities. The central bank purchases bonds issued by the government and issues currency to pay for the bonds. (The government bonds become part of the central bank's domestic assets.) One would then say the central bank is “monetizing government debt.”

Suppose the central bank is pegging the exchange rate, output is fixed, and the world interest rate is fixed. Consequently, the money supply is fixed at M_0 . If the government is monetizing its debt, let the central bank's domestic holdings of government securities be $D = D_0(1 + \mu)^t$, i.e., the central bank's holdings of government debt are growing at a rate μ per period. If reserves are equal to R , write the money supply, M_0 , as an expression in terms of D_0 , μ , t , and R . Solving for R , how many periods does it take for reserves to be fully exhausted if the government continues to monetize its debt? If investors observe this, explain how they might view and react to this situation. Will the government be able to reach the point where its reserves equal zero, if investors understand what the government is up to? (Hint: See a Chapter 17 appendix.)

2. (*exchange-rate-based stabilization*) Suppose a country is suffering from an inflation rate, π , of 40%, and wants to peg its currency in order to get the situation under control. The central bank decides to fix the country's currency to the dollar, where $\pi_{US} = 1\%$. Assume $r = r_{US} = 2\%$, and that after the central bank fixes the exchange rate, inflation drops to 15% (because of the fall in inflationary expectations, let's say) and uncovered interest parity applies now. What is the new real interest rate after the stabilization? By how much will the real exchange rate appreciate? What happens to the current account balance? Explain why we will observe robust growth shortly after the stabilization, but then a recession later on. How might investors react to worsening economic conditions?

3. (*asymmetric adjustment pressures*) "Governments with economies in deficit usually face more intense pressures to restore external balance than do surplus countries. As a result, the external balance problem of a deficit country is more severe than that of a surplus country." Do you agree?

4. (*inflow attacks on fixed parities*) In 1961, Germany faced the dilemma of an external surplus and a booming economy. As a result, speculative capital flowed *into* Germany and the Germans felt obliged to revalue their currency (rather than devalue it). Can you describe how such a "revaluation crisis" or "inflow attack" might operate when the government (like Germany's at the time) is highly fearful of inflation? The reasoning is

different from that underlying the devaluation crisis discussed in Chapter 17, because interest rates are pushed down by speculators and there is no danger of running out of foreign reserves. (Such inflow attacks are not totally out of date: Hungary had one in January 2003.)

5. (*internal and external balance*) How would you analyze in a diagram the use of monetary and fiscal policy to maintain internal and external balance (for a single country) under a *floating* exchange rate? (In Chapter 18 we developed such a diagram for the Bretton Woods system, but focused on exchange-rate and fiscal policy.) Hint: On the two axes you have monetary ease and fiscal ease. Then there are two schedules along which internal and external balance, respectively, hold.

Add in the "Four Zones of Economic Discomfort." Suppose the country is suffering from an excessive deficit and underemployment. Will fiscal expansion ever be appropriate? What does the optimal policy response do to the exchange rate?

6. (*Britain and the euro*) Britain belongs to the European Union but it has not yet adopted the euro. Within the country, fierce debate rages over this question.

- (a) Find macroeconomic data on the British economy since 1998 (inflation, unemployment, real GDP growth) and compare those to numbers for the euro zone. (One convenient source is Global Financial Data, <http://www.globalfindata.com/cal.php3>.)
- (b) What were nominal interest rates in Britain and the euro zone after 1998? How would Britain have done, in your opinion, if the ECB had been setting Britain's nominal interest rate at the historical euro-zone level and if sterling's euro exchange rate had been fixed?