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Department of Economics

Econ 182  
International Monetary Economics

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PROBLEM SET 2 - Solutions

Questions 1-3. Answer True, False, or Uncertain. Briefly explain your answer. No credit without explanation (10 points each).

1. UNCERTAIN. It depends on whether domestic and foreign assets are perfect substitutes, so that only expected rates of return matter. If there is a risk premium, then monetary policy may retain some effectiveness, even with fixed exchange rates. Foreign exchange market intervention under fixed exchange rates changes the currency composition of the Central Bank's balance sheet (and therefore has the opposite effect on the balance sheets of the private sector). If people care about the currency composition of their portfolios (e.g., with risk aversion they desire a diversified portfolio) then intervention can influence interest rates and output, even if the exchange rate does not change.
2. FALSE. There is no reason why Uncovered Interest Parity cannot hold under fixed exchange rates. However, because changes in the exchange rate take place at discrete intervals, it can be difficult to test UIP when there are fixed exchange rates. You need a long enough sample of observations so that the infrequent adjustments investors are betting on do show up in the data. (Of course, UIP may fail to hold for other reasons, like risk premia or capital controls, but these factors are not specific to fixed exchange rate systems).
3. In general, this is UNCERTAIN, although in the context of our simple DD-AA model it is true. If the devaluation does not lead to expectations of future devaluations, and firms do not have large unhedged fx liabilities, then a devaluation will make domestic goods more competitive, and therefore it will increase net exports and output (assuming the Marshall-Lerner condition holds!). However, an important real world consideration is how a devaluation affects the market's beliefs about the probability of *future* devaluations. If a devaluation makes people think that another devaluation is likely to occur, then interest rates will rise, and this could prove to be contractionary.  
The following questions are short answer. 20 points each.
4. With flexible exchange rates, both monetary and fiscal policies can be used to influence output. However, they have opposite effects on the exchange rate and the output of the external sector. With fixed exchange rates, monetary policy becomes ineffective, unless sterilization can be used to affect the risk premium. Fiscal policy, on the other hand, becomes quite potent, because it produces reinforcing changes in monetary policy (e.g., expansionary fiscal policies lead to expansionary monetary policies).

5. To examine whether China is sterilizing, we would need to look at the Bank of China's balance sheet. In particular, we would need to look for offsetting changes in domestic and foreign assets. China's current account surplus, combined with a relatively rigid exchange rate, has led to massive accumulation of dollar reserves by the Bank of China. If it is sterilizing these reserve inflows, then we would expect to see its holdings of domestic government bonds *decline*. (Equivalently, we could check whether the domestic monetary base has risen less than one-for-one with its holdings of foreign reserves).

One reason why China might want to do this is concern for domestic inflation. If it doesn't sterilize, and the domestic money supply is allowed to increase, then this could become quite inflationary. On the other hand, as it continues to sterilize, and therefore as it sells more and more yuan bonds on the market, China's interest rate will get higher and higher relative to the U.S. rate. On net, the Chinese govt will end up paying high interest rates, and in return will receive the relatively low return on U.S. assets.

6. First-generation models of currency crises assume government policy is *exogenous*. They simply *assume* that the government embarks on an inconsistent macroeconomic policy, e.g., by attempting to fix the exchange rate, while at the same time engaging in overly expansionary monetary policy. As a result, the question becomes not if a crisis will occur, but when. In contrast, second-generation models assume that government policy is *endogenous*. That is, it *reacts* to the state of the economy. This is a crucial difference, because it opens the door to the possibility of multiple equilibria. This can occur when expectations of a devaluation make it more costly for the government to maintain a pegged exchange rate, perhaps due to higher interest rates and unemployment. When this is the case, loss of confidence in a pegged exchange rate can become *self-fulfilling*.

The reason this distinction matters is that it influences the appropriate policy response to a crisis. If crises reflect domestic macroeconomic imbalances (i.e., first-generation), then it is probably not a good idea to bail out the afflicted countries. Doing so will simply encourage future crises (moral hazard). On the other hand, if crises reflect sudden (exogenous) shifts in expectations (second-generation), then bailing out countries by providing emergency lines of credit, might be an effective policy response, as it will restore confidence to the market, and short-circuit the panic.