Econ 371 Spring 2006
Answer Key for Problem Set 5
(Chapter 17-18)

Instructor: Kanda Naknoi

April 18, 2005

Part I: True or false? (0.5 point each)

1. A central bank can change interest rate without changing money supply by using sterilized interventions.
   ANSWER: False
   REASON: As long as there are no shifts in money demand and supply, interest rate remains the same.

2. In theory, the gold exchange standard has the price-specie-flow mechanism and does not have the N-1 problem.
   ANSWER: True
   REASON: Although the gold exchange standard allows countries to back its money supply by bonds issued by the reserve country, the reserve country is still required to back its money supply 100 percent by gold, and therefore subject to the price-specie-flow mechanism.

3. With the gold standard, a discovery of new gold supply causes gold price to fall and then creates inflation.
   ANSWER: True
   REASON: Positive supply shocks reduce the price of good, which is gold in this context. This means the value of gold relative to other commodities drops. So, the purchasing power of currencies that are pegged with gold also drops. That is precisely the same as having inflation that reduces purchasing power of currencies.

4. President Nixon shut down gold-dollar exchanges in 1971 in order to sustain the value of gold.
   ANSWER: False
   REASON: President Nixon shut down gold-dollar exchange in 1971 to stop gold
losses in the midst of speculative sales of dollars for gold. He did so to prevent the
dollar from depreciation.

5. The optimal external balance is achieved when current account is balanced.
   ANSWER: False
   REASON: Current account does not need to be zero to maintain external balance. It can be a small number of deficits or surplus.

6. The optimal internal balance is full employment.
   ANSWER: True
   REASON: The goal of macroeconomic policy (monetary and fiscal policy) is to stabilize output so that factors of production are fully employed.

7. For a small economy, external balance is more important than internal balance, because its output is heavily influenced by demand from other economies.
   ANSWER: False
   REASON: Both external and internal balances are important, although small countries may have different optimal external balance from large economies.

8. With fixed exchange rate, fiscal policy cannot achieve both internal and external balance.
   ANSWER: False
   REASON: Fiscal policy can achieve both balances in the long run, although it cannot do so in the short run.
Part 2 (2 points each)

1. to prevent appreciation of the Thai baht, the Bank of Thailand (BOT) has to intervene in the foreign exchange markets by selling domestic bonds in exchange for foreign assets. On the central bank’s balance sheet,

\[ \bar{M}^* = B \downarrow + FA \uparrow \]

\( \bar{M}^* \): money supply
\( B \): domestic govt. bonds
\( FA \): foreign assets (foreign exchange reserves)

The sterilized intervention assures that money supply is not affected by the intervention.

As a result of the intervention, private holdings of the domestic government bond increases and that raises the risk premium of the bond. With risk premium, foreign exchange market equilibrium is characterized by the following interest parity

\[ R_B = R_S^* + \frac{E_{B/S,t}^{e}}{E_{B/S,t}} + \rho \]

\( R_B \): Baht Interest Rate
\( R_S^* \): Dollar Interest Rate
\( E_{B/S,t} \): Baht-Dollar exchange rate
\( \rho \): Risk premium of the Thai govt. bond

The rise in the risk premium implies that the expected depreciation has to fall in order to equalize the return on the 2 assets. This means that the $E_{B/S,t}$ today has to increase, given expected future exchange rate $E_{B/S,t+1}^e$. Figure 1 illustrates the effects of the intervention on foreign exchange market.
In figure 1, the increase in risk premium following the sale of govt. bonds raises the expected return on foreign assets for any given domestic interest rate. The Thai baht depreciates from E1 to E2.

2. Price-specie-flow mechanism states that price adjusts upward following gold inflows and downward following gold outflows. Before the Great Depression, the major industrialized countries including the U.S. returned to the gold standard from 1919. This implies that money supply of these countries has to be backed by the same amount of gold. Many countries expanded money supply when they left the gold standard during WWI. So returning to the gold standard means a large amount of monetary contraction. Plus, some countries such as Britain had lost a lot of gold during the war. This resulted in a falling price level in the U.K., the U.S. and other countries attempting to return to gold. The money contraction also raised interest rates sharply and that led to major bank failures in the U.S.

3. The U.S. current account deficits have been driven by both private and public savings-investment gap. The current account deficit in 2005 is about 6.5% of the GDP and the budget deficit is about 3.7% of GDP. The budget deficit is more than 50% if the CA deficit. So the CA can be reduced by expenditure switching policy which reduces fiscal deficit. In general it is hard to say which policy – expenditure switching or expenditure changing – is more effective. In the US case, many trading partners such as China, Singapore or oil exporting countries maintain quite rigid exchange rates with the US dollar. Revaluations of the currencies will play a role in reducing the CA imbalance too.