Economics 103 — Spring 2004

International Monetary Relations

Problem Set 1

April 1, 2004

Due: **Tue, April 20, 9:30am**
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1 Finance and Trade Perspectives on the Current Account

Current account imbalances can be interpreted with a perspective on commodity trade or on financial transactions. For our purposes, $CA = EX - IM$. Using the result that $S = S^P + S^G = I + CA$, show that $CA = S^P - I + (T - G)$ is also true.

- Currently, Switzerland has both a fiscal surplus and a current account surplus. Use suitable interpretations of the current account to explain how one could give rise to the other.
- Japan, on the other hand, is running a trade surplus and a large fiscal deficit. Use a suitable interpretation of the current account to infer where Japanese savers invest.
- During the 1990s, private household debt in the US has been growing at a faster rate than US economic output, while the ratio of household debt to equity rose from 84% to 105% between 1990 and 2000. At the same time, government deficits prevailed except for a short period in the late 1990s. Do you think raising tariffs would have reduced the value of US net imports? Would tariffs have reduced the volume of net imports?

2 An N-country World

Think of a world with N countries, each with its own currency. How many bilateral exchange rates are there? (You may try working your way up from $n = 1, 2, ...$ to $n = N$.) How many current accounts can clear independently? So, how many independent exchange rates can there be?

In this light, how would you characterize the dollar under the Bretton Woods system? Does this characterization help explain the external balance problem of the US and the Triffin Dilemma? Why or why not?

3 Spread of the Great Depression

About a third of all US banks failed during the onset of the Great Depression between 1929 and 1933, wiping out around a quarter of the US money in circulation (M1). Most major economies were back on a gold standard by that

time. If the central banks in those countries adhered to the rules of the game, how would the monetary contraction in one country spread to other countries? If central banks did not adhere to the rules of the game, what would be the current account response under the price-specie-flow mechanism?

4 The Transfer Problem

Think of a world with two countries D and R under a fixed exchange rate regime. (You may consider an international gold standard, for instance, where the price-specie-flow mechanism is at work.) Country D (donor) surprisingly transfers income (not gold) to country R (recipient). Examples of such transfers are sharp increases in oil prices and subsequent income transfers to oil exporters, foreign aid, or war reparations.

What is the likely current account response after the transfer? There are two cases that caused much controversy: (i) As Keynes stressed, R may try to use the transfer to demand domestic goods. (ii) As Ohlin countered, R may try to use the transfer to demand imports from D. Does the distinction matter for the value of the current account response? Does the distinction matter for the volume of the current account response?

5 Uncovered Interest Parity

State the uncovered interest parity condition.

1. Why is the condition called uncovered? Does it have to hold? What assumptions are needed?

2. The USD interest rate and the EUR interest rate are both 5.0%. What is the relationship between the current equilibrium USD/EUR exchange rate and its expected future level? Assume the expected future USD/EUR exchange rate remains constant at USD 1.00 per EUR. But the EUR interest rate doubles to 10.0%. What is the new spot USD/EUR exchange rate in equilibrium?

6 Money Supply and the Exchange Rate

The Federal Reserve System increases aggregate money supply permanently. Use diagrams showing the exchange rate, the expected currency returns and money holdings to analyze the *short-term* and the *long-term* effects on the USD interest rate, the US price level and the nominal exchange rate.

7 Output Fluctuations and the Exchange Rate

Domestic real GNP increases temporarily but expectations of future exchange rates are unchanged. Use diagrams showing the exchange rate, the expected currency returns and money holdings to analyze the *short-term* and the *long-term* effects on the USD interest rate, the US price level and the nominal exchange rate.

8 Short-term Output Effects

Suppose that a *permanent* increase in money supply boosts domestic real GNP *temporarily*. What effect does this have on aggregate real money demand in the short term? How does the exchange rate respond at the moment of the increase in money supply? Use diagrams showing the exchange rate, the expected currency returns and money holdings to analyze the possibility of exchange rate undershooting. Do you consider undershooting realistic?