

PROBLEM SET FIVE SOLUTIONS

Question 1

Expectations unambiguously magnify the bite of the liquidity trap. Recall that the effectiveness of monetary policy when the IS curve is very steep depends crucially on the existence of a rightward shift in the IS curve. This shift occurs because firms and consumers actually believe monetary policy will be effective, leading to lower future interest rates which stimulates higher future output, consequently increasing permanent income and the PDV of expected profits. On the other hand, as nominal interest rates approach zero, not only do open market operations have smaller effects on the initial shifts in the LM curve, but it also seems reasonable that agents will have less faith in monetary policy, implying smaller shifts in the IS curve. This is because as nominal interest rates approach zero, there will be a smaller fall in future interest rates and consequently smaller increases in future output. At the limit of zero, there are no longer shifts in either the IS or LM curve in response to open market operations.

Question 2

Wonderland Balance of Payments, 1996

Current Account

Exports	80	
Imports	130	
<i>Trade Balance (1)</i>		-50
Investment income received	3	
Investment income paid	3	
<i>Net investment income (2)</i>		0
Transfer payments received	25	
Transfer payments paid	5	
<i>Net transfers received (3)</i>		20
<i>Current account balance (1)+(2) +(3)</i>		-30

Capital Account

Increase in foreign holdings of Wonderland assets	70	
Increase in Wonderland holdings of foreign assets	40	
<i>Net increase in foreign holdings (net capital inflow)</i>		30

Wonderland financed its trade balance deficit through the net transfers it received and through net capital inflows: borrowing abroad and foreign investment in Wonderland.

Note that spending by Wonderland tourists abroad is an import of services by Wonderland and is therefore included in the imports line of the trade balance. Spending by foreign tourists in Wonderland is an export of services by Wonderland.

In the above table services are included in the trade balance. However, the trade balance is sometimes defined as the net exports of goods only (i.e. not including services). By this definition Wonderland's trade balance is $(30+40) - (90+15) = -35$. The balance on services is then $10-25 = -15$. Both answers are acceptable.

Question 3

When the US dollar depreciates, its value relative to other currencies goes down. A depreciated dollar buys fewer Yens, or equivalently, we have to pay more dollars to buy a Yen. If the price of an import good is quoted in Yens, then the depreciation of the dollar means that the dollar price of the good goes up. A depreciated dollar thus makes imported goods more expensive for the American consumer.

A Japanese car will therefore cost more to the American consumer who pays for it in dollars. Similarly, your vacation in Europe is going to be more expensive: you'll have to pay more dollars for the same amount of European currency, which you'll be spending on hotels, restaurants etc. in Europe. Europe becomes more expensive for the American tourists.

If you were working in Japan and received your salary in dollars the depreciation would reduce your purchasing power there. The depreciation means you'll get fewer Yens for your dollars and would therefore be able to buy less in Japan.

Question 4

GNP is the total value added generated by factors of production owned by the country's residents (regardless of where these factors are located).

GDP is the total value added generated by factors of production located in the country (regardless of who owns them).

The profits of the foreign owned factories are included in the GDP of the country in which they are located, but not in its GNP. The profits of an American plant in Canada are part of US GNP, but part of Canadian GDP.

Foreign ownership of a large number of a country's plants increases its GDP relative to its GNP.