Problem Set 9
Answer Key

November 27, 2017

Flexible Exchange Rates

1. Say that China appreciates it currency and in the quarter following this its current account improves. Is this inconsistent with the theory that an appreciation decreases a country's exports and increases it imports? Explain.
   This is NOT inconsistent. The current account may improve due to an initial improvement in the balance of trade. Balance of Trade for China = [yuan price of exports·quantity of exports] − [yuan price of imports·quantity of imports]. Export prices are unlikely to change significantly in the short term but the yuan price of imports decreases following the appreciation. The quantity of exports and imports may take time to adjust. Thus, in the immediate aftermath of the appreciation, decrease in the value of imports may be greater (in absolute terms) than any decrease in the value of exports and this would lead to an improvement of the balance of trade, which in turn, would improve the current account.

2. What are the first round effects on the domestic price level in a country if its currency is appreciated? Explain using the AS/AD model.
   An appreciation of currency in a country increases domestic demand for imports (because of the lower relative prices) and decreases the foreign demand for exports (because of the higher relative prices). This worsens the country's balance of trade (exports minus imports). This worsening in the balance of trade corresponds to a leftward shift of the AD curve, thereby decreasing the price level (i.e., causing deflation). Note that the effect on output depends on the shape of the AS curve.

3. If in a suprise announcement the Fed said it was lowering the interest rate, what effect is this likely to have on the value of the dollar vis a vis other countries' currencies and why?
   A surprise decrease in the U.S. interest rate will cause the dollar to depreciate. The surprise decrease in the U.S. interest rate will incentivize U.S. and foreign investors to sell more U.S. securities (because of the relatively lower interest rate) and buy more foreign securities (because of the relatively higher interest rate). Therefore, there will be a decrease in demand for U.S. dollars, thereby causing the dollar to depreciate, and an increase in demand for foreign currencies, thereby causing foreign currencies to appreciate. Combined, these two impacts will result in a relative depreciation in the dollar.

4. In what sense is fiscal policy possibly less effective under flexible exchange rates than under fixed exchange rates? What about monetary policy?
   In the AS/AD model, an increase in fiscal spending (G) causes the AD curve to shift right, which leads to an increase in the general price level (P), which, according to the Fed rule, will lead to an increase in the interest rate (r). The higher interest rate will likely lead to an appreciation of the currency under flexible exchange rate, which according to the theory will reduce exports and increase imports, making the effect of fiscal spending on output lower. Monetary policy on the other hand is more effective. Suppose there is high inflation and the Fed raises the interest rate. In the basic model, Investment decreases, Y decreases, which in turn leads to a decrease in C and a multiplied decrease in output. The decrease in AD lowers P. With flexible exchange rates, there is an additional effect. The value of the dollar relative to foreign currencies increases; exports become more expensive and imports become cheaper. As exports fall and imports rise, Y decreases further. As AD falls further, there is a greater drop in price. This makes monetary policy more effective.
   Note that the appreciation or depreciation of the currency occurs because of the Fed rule. If the Fed does not change the interest rate in response to the fiscal policy change, either because there is a zero lower bound or because it just doesn't want to, there is no appreciation or depreciation and thus no offset to what the fiscal authorities are trying to do from the existence of flexible exchange rates.

Financial Crises

1. There are a number of examples in the last 30 years where a country tried to keep its exchange rate fixed (usually relative to the U.S. dollar) that led to a crisis and

forced the country to abandon the fixed rate. Explain in general why this might happen and then briefly discuss one example in history where it actually happened. In your example, roughly how much did the value of the exchange rate change in the first two months when the country abandoned the fixed rate? How did the country do economically in the two years following the depreciation?

There are many examples: 1994 Mexico peso crisis, 1997 Asian financial crisis, 1998 Russian financial crisis, 1999-2002 Argentina crisis. All these crises involved devaluation of currency that followed fixed exchange rate regime. For example, the mexican peso depreciated by as much as 50%, from 3.4 to 7.2 pesos per US dollar. A general reason for such currency crises to happen was that a large inflow of foreign capital occurred prior to a sudden reverse of capital flows, usually due to foreign investors' loss of confidence in the economy. When the government ran out of reserves to defend its currency, it was forced to devalue its currency. The crisis usually lasted for quite a while before the economy was able to recover to the pre-crisis level. There are vast online resources to learn more details about these events.

2. There are a number of small countries in the world that fix their exchange rate to another currency (dollar, euro, etc.), thus giving up their monetary policy. Choose one of these countries and discuss how it is doing economically—real output, inflation, unemployment rate, government deficit, current account, etc.

   Hong Kong, Lithuania, Bulgaria, Brunei and Denmark are some examples of fixed exchange rate regime. You can argue either side by considering the advantages and disadvantages of fixed exchange rate regime and these economies' general performances. In general fixed exchange rates are not encouraged, especially after the series of currency crises took place. Small open economies that lack a sophisticated monetary system are some exceptions. They fix exchange rate to the central economies such as the US or UK in order to promote price and exchange rate stability.