Problem sets 3: Foreign exchange market

EE312: Intermediate macroeconomics

Semester 1/2019

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Due on Sept 27th , 2019 in class (before 11.15 am)

Part 1: Use the exchange rate theorem and analyze the impact of the following developments on the market exchange rate. Use the diagram that we discussed in class, and provide some economic intuitions that support your narrative answer.

1.1) What would happen to the value of Yen/USD if financial investors expect the dollar to depreciate against the yen over the coming year.

With an expected appreciation in dollar, investors find the investment in Japan more attractive. Other than getting return from the investment in Japanese assets, investors can also enjoy the gain from the movement of exchange rate. When they convert the Japanese Yen to the US dollar, they get more USD as the dollar is expected to depreciate. As a result, we should expect more capital inflow to the Japanese market (more supply of USD), and hence causing an appreciation in Japanese Yen.

1.2) What would happen to the value of Thai baht/USD if market expects that FED will aggressively cut the FED fund rate.

With the anticipation that Fed will cut the interest rate, market then believes that there should be a huge capital inflow to Thai financial markets. This should create a more demand for Thai baht, or equivalently a more supply in USD. With this, Thai baht should be appreciating.

1.3) What would happen to the value EURO/USD if productivity growth in European has increased rapidly.

There are several ways that you can think about this problem.

First, the increase in European productivity should imply a cheaper price in European market. This should generate more demand on European's product, and hence an appreciation in Euro. This follows the long-term PPP theorem.

Second, the increase in European productivity should imply a strong growth, and hence an increase in European's import. This would result in a depreciation in Euro.

The effect is ambiguous. In the long-term when prices change quickly, the former effect should dominate the latter. On the other hand, in the short-term when prices slowly adjust, the latter should be more pronounced.

1.4) What would happen to the value of Mexican peso/USD if S&P has upgraded the credit rating of Mexico.

~~This should increase the risk of the financial investment in Mexico. Given everything else fixed, investors would likely move the money out of Mexico. There should be a huge capital outflow (more demand for USD). This would likely bring about a depreciation in the Mexican peso.~~

Note: Upgrade = better credit rating! ➔ Lower default risk!.

My bad! I was thinking about asking the case for downgrade, but I typed "upgrade". So, given the question asking about upgrade, the answer must be revised. Please check below.

This should lower the risk of the financial investment in Mexico. Given everything else fixed, investors would likely move the money in to Mexico. There should be a huge capital inflow (more supply for USD). This would likely bring about an appreciation in the Mexican peso.

Part 2: Use the answer given to question "1.4" of part 1, analyze the appropriate actions required by the Mexican central bank if it were to resist the movement of the exchange rate. Also, discuss what would happen to the balance of payments and the level of foreign reserve. What are the sided effects of exchange rate intervention on domestic financial markets of Mexico? How to prevent the sided effects? Discuss about the cost and benefit of the policy actions.

~~Without the intervention, Mexican peso would depreciate because of more demand for USD, i.e. capital outflows. A sudden depreciation might affect those who borrow in foreign currency; they face an increase in the value of Mexican-peso denominated debt. This might be an incentive for the central bank's intervention. To keep the Mexican peso as stable as before, central bank would need to sell the US dollar, so that the can be~~

~~closing excess demand for the USD. Of course, this would technical cause a balance of payment deficits. In the short-run, the sided effect is a decrease in money supply, resulting an increase in market interest rate and thus the contraction in economic activities. In the long-term, the intervention could not last forever as central bank has limited stock of official foreign reserve. Sooner or later, the central bank would have to stop the intervention.~~

Without the intervention, Mexican peso would appreciate because of more supply for USD, i.e. capital inflows. A sudden appreciation might hurt the exporters; they lose the competitiveness. This might be an incentive for the central bank's intervention. To keep the Mexican peso as stable as before, central bank would need to buy the US dollar, so that the can be closing excess supply for the USD. Of course, this would technical cause a balance of payment surplus. The sided effect is an increase in money supply, resulting a lower in market interest rate and thus the expansion in economic activities, which could bring about inflation.