

15.015, class #4: Exchange Rates for Industrialized Countries

The BBNN framework provides a succinct way to diagnose a country's macroeconomic situation. Does the country have (a) a current account deficit or surplus, and (b) unemployment or "overheating" (meaning a tendency for wages to increase and therefore pressure for inflation)?

If a country has a current account deficit, this is financed by net capital inflows from abroad. We must always ask: are these inflows sustainable, and what happens when they dry up?

A country can attempt to "fix" its exchange rate, by guaranteeing that local currency can be converted into foreign currency at a fixed price. When there is pressure on the exchange rate to depreciate, the central bank will need to sell some of its stock of foreign currency and buy local currency in order to keep the price fixed. If a central bank runs out of foreign currency reserves, it can no longer "defend" its fixed exchange rate and the country is forced to depreciate.

Under floating exchange rates, there is no "intervention" and the balance of private supply and demand between currencies determines the exchange rate. If capital floods into a country, its exchange rate will appreciate – tending to cause a current account deficit. If capital leaves a country suddenly, the exchange rate will depreciate and this can increase inflationary pressure.

To analyze the potential effects of macro policy, we use the ISLM framework. The IS curve shows the combinations of interest rates and income at which savings and investment are equal. If interest rates fall, investment goes up. In order to generate a matching amount of savings, income needs to rise. With interest rates and income on the axes, the IS curve slopes down. Sometimes this curve is called "equilibrium in the goods market."

The LM curve shows the combinations of interest rates and income at which money supply and money demand are equal. Think of the money supply as held constant by the central bank. Higher income means an increase in the demand for money; to keep equilibrium in the money market (money supply equal to money demand), this needs to be offset by an increase in interest rates. (At higher interest rates, people prefer to hold bonds rather than money.) LM slopes up.

The ISLM framework is a simple but robust way to think about the directional effects of various policies. For example, an expansionary fiscal policy will push out the IS curve, increasing income but also increasing interest rates. Higher interest rates cause some "crowding out" of private investment – but still the overall effect is to increase income.

In contrast, an expansionary monetary policy – an increase in the supply of money -- will push down interest rates and increase income. The "transmission mechanism" (i.e., how it works) is by encouraging private sector investment.

The primary danger behind using expansionary monetary policy (or expansionary fiscal policy) is that it will cause overheating – meaning that wages and prices will increase (to see this, go back to the BBNN framework). It can also increase the current account deficit; in the short-term this may be financed by capital inflows, but these may not prove to be sustainable.

Modern central banks focus on "anchoring" long-term inflation expectations, i.e., they want everyone to believe that inflation will tend to be between 1.5 and 2 percent per annum in 5 years or 10 years from now. This keeps down longer-term interest rates. Ideally, central banks can affect expectations through various kinds of statements but they may also need to raise interest rates to "establish their credibility" or just to prevent the economy from overheating.

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