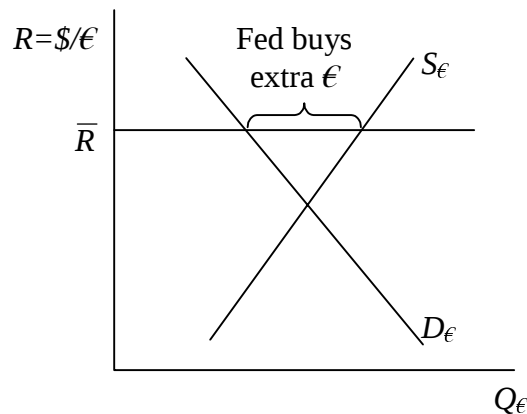


Notes on Lecture, Monday Mar 11: (by AVD)

How it is Done

- What it means
 - To “fix” the exchange rate by intervening in the exchange markets, buying or selling foreign currency in exchange for domestic currency as necessary to keep the rate at the announced level, $\bar{R}$, called the “par value.”
 - NOT just to fix the rate by law or edict, making transactions at other rates illegal, which would give rise to a “black market” in foreign currency.
 - Rather, the central bank makes up the difference between what supply and demand for foreign currency would otherwise be at the official exchange rate, as follows:



- Exchange rate bands: Rates are not actually pegged to a single exact number. Rather, the rate is permitted to move up and down around the official rate by a small amount, called a “band.”
- Hybrids of pegged and floating
 - Managed Float
 - Central bank intervenes to influence the rate, but
 - It does not announce an official rate.
 - Dirty Float: Same as managed float, but with negative connotation
 - Leaning Against the Wind
 - This is sometimes the announced intention for the intervention in a managed float
 - The idea is *not* to permanently change the *level* of the exchange rate from what the market would determine
 - Rather, the idea is to reduce the speed with which the rate changes and to dampen exchange rate fluctuations.
 - Crawling Peg
 - This is an officially declared system in which the exchange rate is pegged, but the value of the peg is changed over time
 - Slowly
 - Predictably (so that the public knows where it is going)

- In response to market conditions, intending to follow what the market would have done, but more slowly and smoothly.
- o Note: All of these options do involve intervention in the exchange market, just like a simple pegged exchange rate.

Who Pegs?

- US?
 - o No
 - o But we did until 1973
- European countries
 - o Until the euro was created, many of them pegged their currencies to each other.
 - o Now, those countries that have adopted the euro let it float. Thus they do not peg.
- Other developed countries? Mostly no
- Developing countries? Many do. Examples of both:
 - o Argentina: pegged to the U.S. dollar until quite recently. Now they float
 - o Brazil: Not for the last few years. They have a managed float
 - o Bulgaria: Yes. They pegged to the DM, and now presumably to the euro
 - o Romania: No. They have a managed float
 - o Nepal: Yes. They peg to the India rupee
 - o India: No. They have a managed float
 - o China: Yes, although they do not officially peg, it is clear from the behavior of their exchange rate that they peg (to the US dollar)

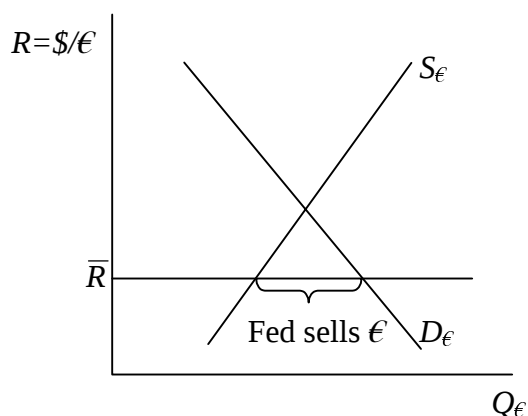
Mechanics of Intervention

- Intervention always involves the central bank (or other agent of the government, such as a currency board) buying or selling foreign currency in exchange for domestic currency.
- There are two important effects of this intervention, in addition to what it does to the exchange rate:
 - o It changes the central bank's level of reserves of foreign currency
 - When it buys foreign currency, this adds to its reserves
 - When it sells foreign currency, this subtracts from its reserves
 - o It changes the country's domestic money supply
 - When it buys foreign currency, the domestic currency that it pays for it goes *into* circulation and therefore expands the money supply
 - When it sells foreign currency, just the opposite: the domestic currency it gets in return was previously in circulation and now it's not, so the domestic money supply gets smaller.
- Sterilization:
 - o These effects on the money supply can be prevented if the central bank chooses to engage in "sterilization operations"
 - o This means to use offsetting open market operations (OMO, of the sort you studied in Econ 102) to change the money supply back to what it was.

- If the central bank is sterilizing, then it does the following:
 - Every time it buys foreign exchange (paying dollars) it also sells an equal amount of bonds (getting back the same amount of dollars), thus leaving the money supply unchanged.
 - Every time it sells foreign exchange (receiving dollars) it also buys an equal amount of bonds (paying the same amount of dollars), thus leaving the money supply unchanged.
- It is usually up to the central bank whether it sterilizes or not.

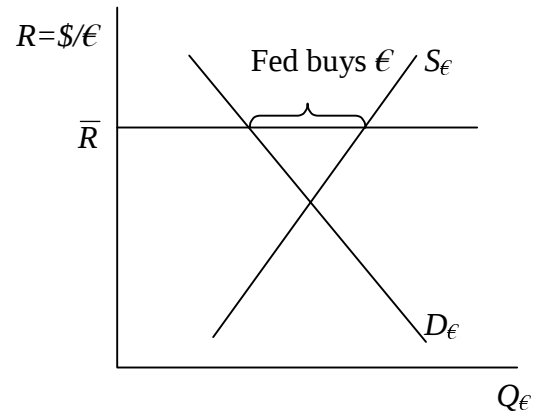
Effects of Pegging

- Overvalued currency
 - If the dollar is “overvalued” then this means that it is being maintained by the pegging at a higher value, in terms of foreign currency, than would clear the exchange market (equate supply and demand) without intervention. That is, with the euro as the foreign currency, the $\text{€}/\text{\$}$ exchange rate is too high, or equivalently (and in our diagrams) the $\text{\$/€}$ exchange rate is too low:



- Effects
 - Fed sells €, buys \$
 - The domestic (US) money supply shrinks, unless the Fed also sterilizes. If it does not sterilize, this could cause a recession.
 - The Fed’s reserves of euros decline
 - If the reserves run out, then there is a CRISIS. Fed will have to
 - Either devalue the dollar (raise $\bar{R}$)
 - Or abandon the peg altogether, letting R float
- Undervalued currency
 - If the dollar is “undervalued” then this means that it is being maintained by the pegging at a lower value, in terms of foreign currency, than would clear the exchange market without intervention. That is, with the euro as the foreign currency, the $\text{€}/\text{\$}$ exchange rate is too low, or equivalently (and in our diagrams) the $\text{\$/€}$ exchange rate is too high:
 - Effects
 - Fed buys €, sells \$

- The domestic (US) money supply expands, unless the Fed also sterilizes. If it does not sterilize, this could cause inflation.
- The Fed's reserves of euros increase
- There is no limit to how large reserves can become, so there is NO CRISIS



- Note the asymmetry between the two cases. An overvalued currency will eventually (when reserves run out) have a crisis, but an undervalued currency will not.