

Econ 340
Lecture 14
Pegging the Exchange Rate

Announcements

- Exams are in my office. If you haven't picked yours up, stop by.

Lecture 14: Pegging 2

Outline: Pegging the Exchange Rate

- How It's Done
 - Market Intervention
 - Bands of Fluctuation
 - Hybrids of Pegged and Floating
- Who Pegs?
- Mechanics of Intervention
 - Reserves
 - Money Supply
 - Sterilization
- Effects of Pegging

Lecture 14: Pegging 3

How It's Done

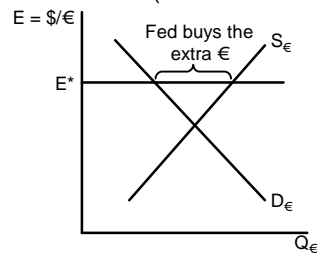
- What "Pegging" Means
 - To "fix" the exchange rate by intervening in the market
 - It does not mean just fixing it by law – making it illegal to exchange the currency at other than the official rate
 - Countries do that too, but that is not pegging, and it does not entirely work: gives rise to "black market"
 - "Intervention" means
 - Buying or selling foreign currency, so as to
 - Make up the difference between the market's supply and demand

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4

How It's Done

- Example: If the Fed were to peg the \$ to the € at rate E^* (it doesn't do this)



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5

How It's Done

- What "Pegging" Means
 - In practice, pegs are never exact
 - Central banks
 - Set a "par value" (= "central value")
 - Intervene only if rate gets some distance (e.g., 1%) above or below this par value
 - This range of movement is called an "exchange rate band"
 - We will ignore this complication in drawing the market, and pretend that they peg the rate exactly

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6

How It's Done

- Hybrids of Pegged and Freely Floating Exchange Rates
 - Managed Float
 - Intervene to influence the rate
 - But do not announce a target rate or par value
 - And do not necessarily keep the rate constant
 - “Dirty Float” = Managed Float

How It's Done

- Hybrids of Pegged and Freely Floating Exchange Rates
 - “Leaning Against the Wind”
 - Particular form of managed float that
 - Does not try to alter the level of the exchange rate, but
 - Does try to reduce its rate of change
 - Purpose: to dampen fluctuations

How It's Done

- Hybrids of Pegged and Freely Floating Exchange Rates
 - Crawling Peg
 - A pegged rate with a par value that moves
 - Slowly, and
 - Predictably
 - Example: Country might announce that the par value will appreciate by 0.01% each week as long as central bank is buying foreign exchange, and vice versa

Note: All of these hybrids still require intervention in the exchange market

Who Pegs?

- US?
 - No
 - But we did have a pegged exchange rate until 1973
 - (Strictly speaking, it was other countries that pegged to us, not us to them)
 - In fact, from the late 1940s until 1973, virtually all countries pegged to the US dollar (exceptions were Canada, which sometimes floated, and several former colonies that pegged to the British pound or French franc)

Who Pegs?

- Europe?
 - No: the euro floats freely
 - Before the euro,
 - They did not peg to currencies outside Europe
 - But they often did try to peg to each other
 - Denmark pegs to the euro
 - Other countries outside the euro (UK, Sweden) and countries outside the EU (Switzerland, Norway) all have floating exchange rates

Who Pegs?

- Other Developed Countries?
 - No: Canada, Japan, Australia, New Zealand, Korea all have floating rates

Who Pegs?

- Developing Countries?
 - They are mixed
 - A sample (from IMF, July 31, 2006):
 - Argentina: managed float
 - Brazil: float
 - Bulgaria: pegged (currency board)
 - China pegged to dollar until summer 2005
now pegged to basket of currencies
 - Costa Rica: crawling peg
 - India: managed float
 - Egypt: pegged
 - Nepal: pegged (to India's rupee)

Mechanics of Intervention

- Always: Buy or sell foreign currency in exchange for domestic currency
- This has two effects, if nothing else is done:
 1. Changes the level of reserves of foreign currency
 2. Changes the level of the country's own domestic money supply

Mechanics of Intervention

- Change in Central Bank's Reserves of Foreign Currency
 - What they buy is added to reserves
 - What they sell is subtracted from reserves

Mechanics of Intervention

- Change in Country's Domestic Money Supply
 - When CB buys € with \$, those \$ go into circulation
 - This adds to the money supply
 - (Actually, it adds even more, due to “money multiplier” you learned in Econ 102)
 - When CB sells € for \$, those \$ come out of circulation
 - Reducing the money supply

Mechanics of Intervention

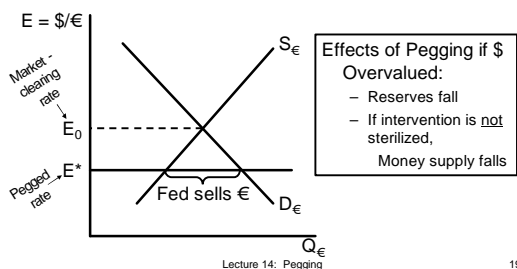
- Sterilization
 - However, Central Bank has the option of preventing this change in the money supply by “sterilization”
 - Sterilization = Use of offsetting open market operations to keep the money supply unchanged
 - Example: To sterilize a \$1 m. purchase of foreign currency, CB sells \$1 m. worth of bonds
 - This takes the \$1 m. back out of circulation
 - Sterilization is a policy choice
 - Central Bank can do it or not, as it sees fit
 - However, some central banks say they lack the tools to sterilize

Effects of Pegging

- Case I: Dollar Over-valued
 - In this case (unlike PPP), “overvalued” means the dollar is being pegged at a rate that is above (i.e., appreciated relative to) the market-clearing rate
 - Which means that E , the price of foreign currency, is below the market-clearing rate, E_0
 - At the overvalued rate, there is excess demand for foreign currency, which CB must provide by selling out of reserves
 - If it does not sterilize, then the money supply shrinks
 - If it does sterilize, then it buys bonds

Effects of Pegging

- Peg if \$ Overvalued



Effects of Pegging

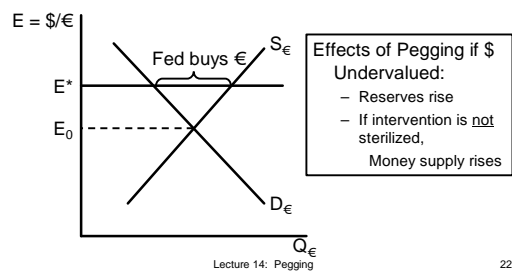
- Further implication of an overvalued peg
 - If it continues, central bank must eventually run out of reserves
 - This, as we'll see, causes a Crisis
 - Exchange-rate crisis, or
 - Financial crisis

Effects of Pegging

- Case II: Dollar Under-valued
 - In this case, "undervalued" means the dollar is being pegged at a rate that is below (i.e., depreciated relative to) the market-clearing rate
 - Which means that E , the price of foreign currency, is above the market-clearing rate, E_0
 - At undervalued rate, there is excess supply of foreign currency, which CB must take out by buying and adding to reserves
 - If it does not sterilize, then the money supply grows
 - If it does sterilize, then it sells bonds

Effects of Pegging

- Peg if \$ Undervalued



Effects of Pegging

- Further implication of an undervalued peg
 - Nothing very important
 - If it continues, Central Bank piles up more and more reserves, but there is no limit on its ability to do that
 - Result: No crisis

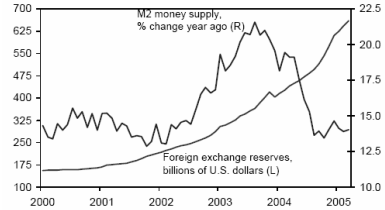
Effects of Pegging

- Note the asymmetry:
 - Overvalued peg leads to crisis
 - Undervalued peg does not

Effects of Pegging

- Example of Undervalued Peg: China

Global Imbalances Reflected In Growth Of Reserves



Source PNC Financial Services Group
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25

Effects of Pegging

- A Special Case: The US Dollar
 - Most countries that peg, peg to the US dollar
 - That means that their reserves are dollar-denominated assets, mostly US gov't bonds
 - If they keep their currencies undervalued, then that means the dollar is overvalued
 - But the overvalued dollar need not lead to crisis
 - Others want, and need, to hold our dollars

Lecture 14: Pegging

26

Effects of Pegging

- A Special Case: The US Dollar (see Ferguson)
 - Most of US foreign borrowing is being met by foreign central banks
 - That means they are holding reserves, a result of buying dollars to
 - Keep their currency down
 - Keep the US dollar up
 - We benefit from the high dollar: we can buy cheap goods and services
 - But we borrow in dollars in order to do it
 - If others stop lending, then the dollar falls and so does the value of our debt
 - Thus it is "their problem," not ours!

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27

Effects of Pegging

- A Special Case: The US Dollar vs Chinese Renminbi (see Levy)
 - Many US policymakers disagree: US pressures China to appreciate the yuan
 - Why? To make it easier to sell US goods
 - Congress threatens trade barriers against China
 - Might be legal under Section 421: special "China safeguard" negotiated with China's WTO accession

Effects of Pegging

- A Special Case: The US Dollar vs Chinese Renminbi (see Levy)
 - Levy argues
 - Tariffs against China won't work
 - We'll just switch to importing from other low-cost countries
 - US trade deficit (due to our low saving) will be unchanged
 - To really have an effect and send a message, we should: Reduce government spending!

Next Time

- International Macroeconomics
 - Macro Effects ON the Exchange Market
 - Macro Effects OF the Exchange Market
 - Macro Effects THROUGH the Exchange Market
