To Fix or Not to Fix?

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The Theory:

- Money demand:
  \[ M/P = L(Y,I) \]
- Interest rate parity (IRP):
  \[ i - i^* = E(\%\Delta s) \]
- Purchasing power parity (PPP):
  \[ P = S P^* \]

\[ S = \frac{P}{P^*} = \frac{M}{M^* \cdot [L(Y,i)] \cdot [L(Y^*,i^*)]} \]
Fixing the Exchange Rate:

• Take the extreme case:
  – flexible prices
  – open capital markets so IRP holds
  – foreign price is given

• Then $S$ is just a residual;

\[
S = \frac{P}{P^*} = \frac{M}{M^*} / \left[ \frac{L(Y,i)}{L(Y^*,i^*)} \right]
\]

• If $S$ is fixed, there is only one $M$ that is consistent with $S$, $P^*$ and $Y$
  – no discretion in monetary policy
How does a peg work?

- Commitment by the central bank (or currency board) to convert foreign currency to domestic currency at a given price
- Automatically adjusts domestic money supply to fluctuations in money demand
- Monetary policy is passive
The gray area...is there wiggle room for independent monetary policy?

- Goods and financial markets may not be completely integrated
  - IRP and PPP don’t always hold
  - partial capital controls
- Expectations matter
A continuum of choices:

- Float
- Dirty float
- Crawling peg
- Basked peg
- Fixed peg
- Currency board
- Dollarization
The “Impossible Trinity”

• National sovereignty
  ...set independent monetary and fiscal policy
• Financial market regulation, stable markets,
  … stable (fixed) exchange rates
• Capital mobility

Problem: Can only get two of the three...
The Case for Flexible Exchange Rates:

- autonomy of Central Bank (but is it really?)
- symmetry among countries
- spot rate provides a clear market signal; automatically adjusts to “clear markets”
- market is the best mechanism for restoring equilibrium
- speculators provide stability
- free flow of capital between markets
The Case against Flexible Exchange Rates/
The Case for Managed Exchange Rates

• fixed rates impose discipline on monetary policy
• reduce volatility in prices; uncertainty
• avoid costly hedging of exchange rate risk
• destabilizing speculation held in check?
• avoid exchange rate “overshooting”
• inflation stabilization
• **Alternative Exchange Rate Regimes:**

  * Exchange rate peg or target, *if credible*, can help curb inflation; eliminates exchange rate uncertainty. If not credible, can create even bigger problems (threat of speculative attack)

  * Does reducing inflation necessarily reduce exchange rate volatility?

  * Does exchange rate variability matter? Does (moderate) inflation matter? Is monetary policy an effective policy instrument?

I. Fix official gold price; free convertibility between domestic currency and gold.
II. No restrictions on the import or export of gold or on use of gold in international transactions.
III. National currency fully “backed” by gold; growth in bank deposits linked to availability of gold reserves.
IV. During liquidity crises due to gold outflows, Central Bank can lend to banks at high interest rates.
V. If Rule I is suspended, return to parity as soon as possible.
VI. World prices determined by supply and demand for gold.
“Price-Specie Flow” Mechanism

- Automatic stabilizer: Example:
  - Home country runs trade balance deficit.
  - Exports gold to finance excess imports.
  - As home gold stock falls, must reduce stock of currency in circulation, $M$ falls, $P$ falls.
  - As $P$ falls, home goods become “cheap” relative to foreign goods.
  - Foreign demand for home goods increases, Home demand for foreign goods falls.
  - Trade imbalance eliminated.
The Gold Standard: Costs and Benefits

- **Benefits:**
  - price and exchange rate stability; PPP holds
  - no uncertainty
  - automatic, symmetric adjustment to trade imbalances
    - “price-specie flow mechanism”
  - no discretion in monetary policy

- **Costs:**
  - domestic policy subservient to maintaining external balance
  - price levels arbitrarily set by supply and demand for gold
    - unfair advantage for some countries
The Gold Standard: Did it work?

- level of inflation lower but variability of inflation higher under gold standard
- limited growth in income; higher unemployment
- Why tie domestic policy to an arbitrary commodity standard?
- Evidence that gold standard earlier suffered smaller declines in output during the Great Depression
  - countries that left the gold standard earlier suffered smaller declines in output
Change in output relative to change in prices:

<table>
<thead>
<tr>
<th>Change in output (1929-35)</th>
<th>Change in price level (1929-35)</th>
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<tbody>
<tr>
<td>* UK</td>
<td>* Australia</td>
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<td>* France</td>
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<td>* Switzerland</td>
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Rules of the Game:
Bretton Woods Agreement, 1945

I. Fix official par value for domestic currency in gold or in a currency tied to gold.

II. Keep exchange rate pegged within 1 percent of its par value; option to adjust par value with approval of IMF.

III. Free convertibility of currencies to finance trade; capital controls to limit speculation.

IV. Offset short-run balance of payments imbalances using official reserves and IMF credits; sterilize the impact of interventions on the domestic money supply.

V. Countries permitted to pursue independent macroeconomic policies.
The Bretton Woods Agreement: Costs and Benefits

• **Benefits:**
  - “stable yet adjustable” exchange rates
  - independent macro policies

• **Costs:**
  - capital controls
  - system quickly converted to a dollar standard (currencies pegged to $, $ pegged to gold)

Industrial countries excl. US:

I. Fix official par value for domestic currency in $US; keep exchange rate pegged within 1 percent of its par value.

II. Free convertibility of currencies to finance trade; capital controls to limit speculation; begin capital market liberalization.

III. Use the $US as intervention currency; official reserves in US Treasury bonds.

IV. Domestic macro policy subservient to maintaining peg; effectively ties prices of traded goods to US prices.

V. Use fiscal policy to maintain current account balance.

United States:
I. Remain passive in FOREX market; free trade with no current account or exchange rate target.
II. Keep US capital markets open.
III. Maintain an international creditor position in dollar-denominated assets (provide liquidity in $) and limit fiscal deficits.
IV. Pursue independent monetary policy that preserves stable prices.
The Fixed-Rate Dollar Standard: Costs and Benefits

• **Benefits:**
  
  – price stability as long as US maintained price stability and countries agreed to have a passive monetary policy
  
  – US could pursue independent monetary policy

• **Costs:**
  
  – fundamental asymmetry
  
  • N-1 redundancy problem
The “N-1” currency problem:

- other countries peg to dollar; will accommodate their monetary policy to preserve the peg
- if others accommodate, Nth country has an independent monetary policy
- Pro: US monetary policy can be flexible
- Con: in the long run, US monetary policy must be consistent with objectives of all other countries.
The Fixed-Rate Dollar Standard: Did it work?

- During the 1950s, Japan and Europe recovering from WWII; followed passive and stable monetary policies
- **Triffin dilemma:** $-denominated assets held by rest of world exceeded US gold reserves; trigger a speculative attack on the dollar?
  - more restrictive capital controls
  - creation of Special Drawing Rights ("paper gold")
- US inflation to finance Viet Nam War; inflation "exported" to rest of world.
The end of fixed exchange rates...

- August 1971: US devalued $ relative to gold; “closed the gold window”
- 1971-72: attempts to set new parity levels; countries moved off of pegs to a free float

**Bottom line:**
Pegged exchange rate system is inconsistent with N independent monetary policies and capital mobility.
Rules of the Game:
The Floating-Rate Dollar Standard, 1973-84

Industrial countries excl. US:
I. Smooth short-term variability in exchange rate; no commitment to an official par value.
II. Free convertibility of currencies to finance trade; eliminate all restrictions on capital flows.
III. Use the $US as intervention currency (except within Europe); official reserves in US Treasury bonds.
IV. Modify domestic monetary policy to support exchange rate interventions.
V. Exchange rate as the “residual;” pursue independent policies.

United States:
I. Remain passive in FOREX market; free trade with no current account or exchange rate target.
II. Keep US capital markets open.
III. Pursue independent monetary policy; no commitment to preserve stable prices.
Floating Exchange Rates in the 1980s

- Tight US monetary policy resulted in large appreciation of the dollar; “cheap” foreign imports; large US current account deficit
- Plaza-Louvre Intervention Accords (1985) - agreement to pursue coordinated interventions among the G-3 (US, Germany, Japan)
- maintain “target zones” between major currencies
- attempt to sterilize interventions
Balance of Payments/Currency Crises in the 1990s

• ERM Crises, 1992-93
• Mexican peso crisis, 1994
• Asian financial meltdowns, 1997 -
• Russian financial crisis and global spillovers
• The impossible trinity revisited
  – … is there still room for discretion?
• Currency Unions
• Currency Boards
• Dollarization
Currency Boards

• Domestic currency backed by foreign currency (and sometimes gold)

• Disadvantages:
  – no ability to adjust monetary policy
  – no means of helping banks during crises

• Advantages
  – stable prices
  – no uncertainty
  – low inflation fosters economic growth?