

## **Lecture 7: International Experience with Exchange Rate Regimes**

1) Evaluating Exchange Rate Regimes: Here are some criteria we will use to evaluate particular exchange rate regimes used in the past.

a) General costs and benefits of fixed exchange rate regimes:

In the previous lecture we saw that certain costs and benefits apply whenever a country commits itself to fixed exchange rate regimes.

Main benefit: it lowers uncertainty about cross-border trade and investment.

Example: if you are an electronics store, it is risky to order shipments of Japanese TVs if you are not sure what the \$ price will be when they are delivered. One way to get around this is to use forward exchange contracts.

This type of uncertainty is even worse if you are making long-term decisions about investing abroad. If you do not know the exchange rate 5 years from now, it is hard to compute the value of profits generated by buying an electronics factory in Japan. Forward exchange contracts are not generally available for such long time horizons.

Main cost: the country loses the ability to use monetary policy.

As we saw in the last lecture, monetary policy is tied down by the need to maintain the fixed exchange rate. Any attempt to increase money supply would tend to make the value of your currency depreciate away from the official pegged value. If a country wishes to increase money supply, it must devalue its currency, that is, lower its official pegged exchange rate.

b) Some additional definitions for later reference

1) External Balance: Keeping the current account deficit near a “sustainable” level, that is, where any net imports on the current account side are fully financed by willing private capital inflows on the capital account side.

Recall from the Balance of Payments accounts, that one category of the capital account was “official reserve assets.” Recall that if foreigners are not buying US goods or US assets with the dollars we are paying them to buy foreign goods, then the US central bank must be selling off some of its foreign reserve assets to make up the shortfall in the balance of payments. This situation is not sustainable over a long time, because eventually the central bank will deplete its reserves of foreign assets, and is referred to as external imbalance.

2) Internal Balance: Keeping output near the full-employment level and keeping prices levels stable (low inflation). This is a matter of preventing the economy from going into recession, where people suffer because of unemployment, or from overheating, which can produce excessive inflation.

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## 2) Gold Standard

### a) Mechanics

The gold standard is one particular form of fixed exchange rate regime. The U.S. and most other developed countries followed this from 1870 to WWI.

#### Defining features:

- Peg domestic currency to gold instead of another currency.  
So if gold costs \$35 per ounce at the Federal Reserve and it costs 100 DM per ounce at the German central bank, then the exchange rate is  $35\$ \text{ per ounce} / 100 \text{ marks per ounce} = 0.35 \$/\text{DM}$ .
- Central bank pegs price of gold by being willing to trade domestic currency for gold or vice versa with anyone at that official price. It must allow people to ship gold in and out of the country as they wish.
- The central bank's foreign reserve assets are in the form of gold.

### b) Price-Specie-flow mechanism

One unique benefit of the gold standard, is that it has an automatic mechanism that helps to maintain external balance.

#### Price-Specie-flow mechanism

- Suppose the U.S. sets the value of the dollar at a high level inconsistent with external balance. This means that the U.S. has a large current account deficit because domestic goods are too expensive for foreigners, and private capital inflows are not enough to pay for it.
- Foreigners end up holding dollars from net exports to the U.S.
  - They go to the U.S. central bank and demand gold in exchange for these dollars, so that they can get some other currency they need to buy the goods they do want from some other country.
  - As the central bank sells gold in exchange for dollars, this means that U.S. gold reserves drop and the number of dollars in circulation falls.
  - In long run, where we assume goods prices are flexible, the fall in U.S. money supply will mean the overall U.S. price level will drop.
  - So at the given nominal exchange rate, the real exchange rate will move so that home goods are relatively cheaper compared to foreign goods.
  - This will help improve the current account and restores external balance.

c) History:

Started in United Kingdom in early 1800s (1819). The UK was the predominant economic power at the time, so other countries adopted the gold standard later in the century to emulate the UK.

By 1870, many other countries were on the gold standard. The U.S. joined this group in 1879.

World War I: During the war many of these countries abandoned the gold standard, because it prevented them from increasing the money supply. They wished to print money as a means of paying the expenses of the war. This printing of money naturally led to higher rates of inflation during and immediately following the war. Germany is a famous example, as it printed great quantities of money to pay its war reparations. In 1923 in Germany inflation was 50 billion percent!

Inter-war period: Many countries rejoined the gold standard after the war was over, because they remembered the relative prosperity and price stability of the time. But in early 1930s many of these countries abandoned the standard again, because it tended to amplify the effects of the Great Depression. (See below.)

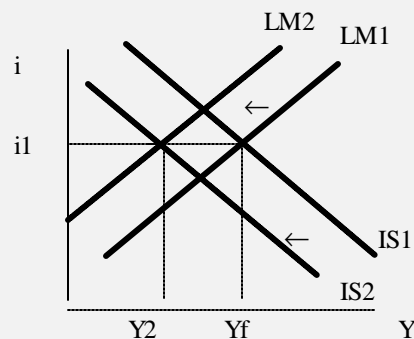
d) The great Depression and Internal balance

Consider the Keynesian story of the Great Depression in the early 1930s.

Keynes thought the main cause was a fall in investment demand in the economy. Due to the fall in overall demand, production fell. This fall in output was worst in those countries that hung on longest to Gold standard.

We can see the reason by looking at the IS-LM curves. The fall in investment demand can be represented as a leftward shift in the IS curve. Fixed exchange rates mean that the money supply must be contracting to keep the interest rate at the original level, consistent with the pegged value of gold. This is a leftward shift in the LM curve. As a result, output fell even more below the full employment level,  $Y_f$ .

Graph:



1) Fall in investment shifted IS left

2) Fixed exchange rate means money supply must adjust to keep interest rate at the original level. This required fall in money supply, which shifted LM left.

The implication is that the gold standard makes it hard for countries to maintain internal balance. Demand shocks that lower output below the full employment level are amplified by the fact that the gold standard implies that money supplies must be allowed to fall at the same time. This cost of the gold standard was not fully appreciated at this time in history, because Keynesian theory had not been created before this.

There are some additional reasons why the Gold standard is bad at maintaining internal balance:

- New gold discoveries can lead to price instability. If there is an increase in the supply of gold, there would be pressure for the price of gold to fall. People would take the gold to central banks and demand currency. This would increase the supply of money in the world, which would lead to inflation.
- Conversely, as economies grow, there is no way to increase their money supplies if the supply of gold in the world is not growing at that time.
- Further, the gold standard gives the countries that produce gold significant power over other countries (Russia, and South Africa were big suppliers.)

So our overall evaluation of the gold standard would be as follows:

It is very good at helping a country maintain external balance (because of the price-specie flow mechanism), but it is bad for maintaining internal balance.

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### 3) Reserve Currency Standard: Bretton Woods System

#### a) Mechanics

Set up after WWII, last until 1973. Named after place in New Hampshire where agreement was hammered out and signed. Architects wished to re-establish fixed exchange rates. But they had an appreciation for Keynesian theory, and wished to build a system that would allow more flexibility for governments to pursue policies to promote “internal balance” – full employment and low inflation.

The system would be classified as a Reserve Currency Standard: another form of exchange rate regime.

How works: Currencies pegged to U.S. dollar, and dollar alone pegged to gold (gold cost \$35). Dollar was the reserve currency.

Central banks hold dollars as foreign reserve, to trade in the foreign exchange market to control their exchange rate.

Dollar has special position in system. If are N countries, then are N-1 bilateral exchange rates to be pegged. U.S. dollar was the “Nth currency”.

Included Features to allow more flexibility in the system than was present under the Gold Standard:

- 1) International Monetary Fund (IMF): lend currencies to country with a temporary current account deficit. Helps country to finance a current account deficit without depleting the country’s foreign exchange reserves. Each country contributes a quota to IMF funds; a country can borrow from these funds based on the quota it contributed. If it needs to borrow more than this, the IMF imposes conditions on the borrowing, such as changes in domestic macroeconomic policies. This is referred to as IMF Conditionality.
- 2) Adjustable parities: If the IMF agrees the exchange rate is in fundamental disequilibrium, fixed at a level too far away from equilibrium, it may allow the country to change the level at which the exchange rate is fixed.

The IMF also required currency convertibility for current account transactions. Convertibility means that people can freely exchange a currency for other national currencies. This was intended to promote international trade. For example, if DM were not convertible, a German would be unable to acquire the French francs needed to purchase goods from a French supplier he wanted. This would limit international trade to barter, which is less efficient.

The IMF did not require convertibility for capital account transactions. That is, governments were permitted to restrict the sale of domestic assets to foreigners. This was to help prevent currency speculators from destabilizing the system, as we will see shortly. Only in the 1960s did countries dismantle their capital controls.

### b) Collapse of Bretton Woods

U.S. policy in 1960s made the Bretton-Woods system unsustainable.

US attempted to use expansionary monetary policy to stimulate output and help pay for the war in Vietnam.

In terms of the diagram, this would shift the LM curve right. This would tend to lower the interest rate and hence lower the value of the dollar relative to gold.

But because of the fixed exchange rate commitment, the US was constantly being asked to yield up its reserves.

Over time the supply of reserves became smaller and smaller, and people began to fear the US would run out of gold reserve. At that point, the US could no longer live up to its fixed exchange rate commitment, and it would have to let the value of the dollar fall.

Graph:

