International Economics
Lecture 11
History of International Monetary System

Paul Deng
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Historical Timeline of IMS

Gold Standard	1870-1914
Gold Exchange Standard	1925-1933
Anchored Dollar Standard	1934-1943
Dollar Standard (Bretton Woods System)	1944-1973
Flexible Exchange Rates	1973-1998
Currency Areas	1999 - ?

History of IMS

- Before 1870s, there were long periods of bimetallism (gold and sliver), and gold standard, which are all parts of the fixed exchange rate regime.
- Fixed change rate regime was the norm during most of human history. Flexible exchange rate only came into being after 1973.
- The first fiat money (paper money, or bank notes) was invented in China, around 950 AD, in Song dynasty.

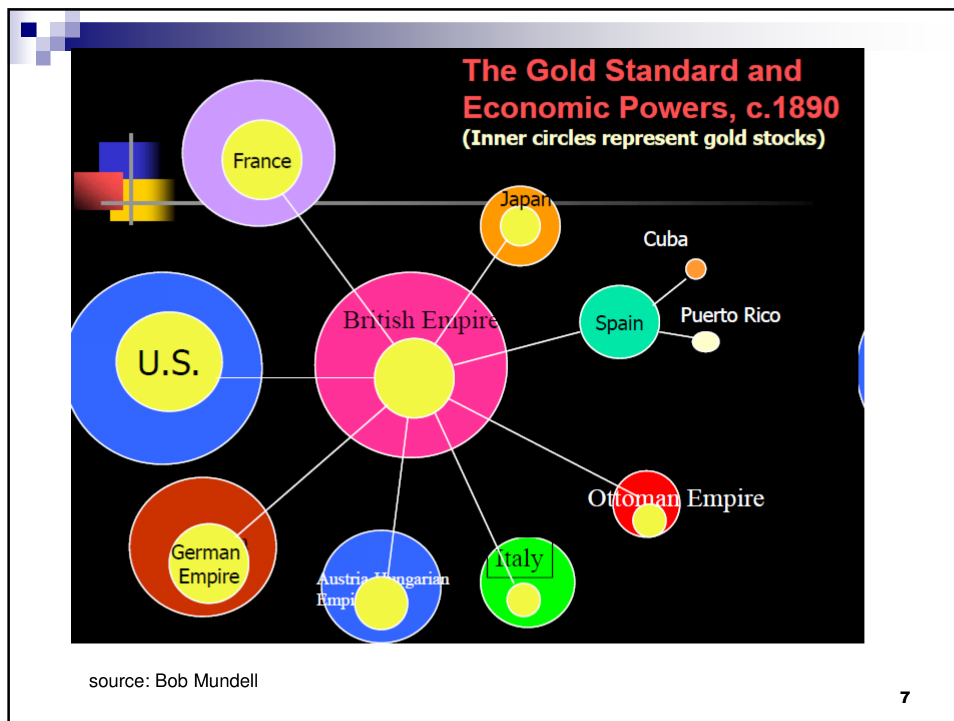
Gold Standard, 1870-1914

- The gold standard is a monetary system in which each participating country defines its monetary unit in terms of a certain amount of gold.
- Under the gold standard from 1870–1914 (and after 1918 for some countries), each central bank fixed the value of its currency relative to a quantity of gold, in ounces or grams (1 ounce roughly equals 28 grams)
- Only gold can be used as official reserves. This means if a country's trade deficit cannot be met by international borrowing (or capital inflow), then it has to ship gold physically to the surplus country.

Gold Standard

Gold Standard

- Since countries under gold standard all have fixed conversion rates with gold, the exchange rates between any two countries must always be fixed.
- For example, if the price of gold was fixed at $35 per ounce by the US while the price of gold was fixed at £14.58 per ounce by the UK, then that implies the $/£ exchange rate must be fixed at $2.40 per pound (2.4=35/14.58).
- Similarly, if French Franc was fixed at 98 FF per ounce of gold, then the exchange rate between FF and $ must be 2.8 FF/$, and the exchange rate between FF and £ must be 6.72 FF/£.



source: Bob Mundell

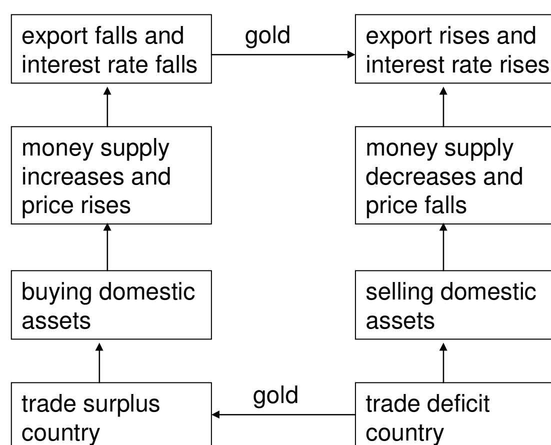
Gold Standard

- The gold standard did not give any country special status in the world, unlike the dollar standard during the post-war period, or today's exchange rate system, where US dollar is being used as an international reserve currency.
- **The biggest advantage** of gold standard - It acts as an automatic restraint on increasing money supplies too quickly, preventing inflationary monetary policies from irresponsible governments.

Price Specie Flow Mechanism

- **Price specie flow mechanism** is the adjustment of prices as gold ("specie") flows into or out of a country, causing an adjustment in the flow of goods.
- Since countries under the gold standard have to maintain the fixed rate between their currency and gold,
  - An inflow of gold causes money supply to rise, and tends to inflate prices.
  - An outflow of gold causes money supply to fall, and tends to deflate prices.
  - If a domestic country has a current account surplus, gold earned from exports flows into the country—raising prices in that country and lowering prices in foreign countries.
  - Goods from the domestic country become more expensive and goods from foreign countries become cheaper, reducing the current account surplus of the domestic country and the deficits of the foreign countries.
- Thus, price specie flow mechanism of the gold standard could automatically reduce current account surpluses and deficits, achieving a measure of external balance for all countries.

Price Specie Flow Mechanism



Gold Standard: Rules of the Game

- The "**Rules of the Game**" refers to the adjustment process that was *supposed to be* carried out by central banks under gold standard:
  - The selling of domestic assets to acquire money when you have an outflow of gold (such as trade deficit). The sale decreases the money supply and increases domestic interest rates, attracting gold inflows to match a current account deficit.
  - The buying of domestic assets when you have an inflow of gold (such as trade surplus). This increases money supply and decreases domestic interest rates, reversing gold inflows so to keep current account balanced.
- If everybody followed the rules, this would be the self-correcting mechanism in the gold standard.

Problems of "Rules of the Game"

- Mismatched incentives:
  - Central banks with decreasing gold reserves had a **strong incentive** to practice the rules of the game:
    - They are obliged to sell domestic assets and shrinks money supply. Otherwise, people won't believe central banks can maintain the currency-gold peg and they will redeem their paper currency for gold.
  - Central banks with increasing gold reserves however had a **weak incentive** to practice the rules:
    - the only incentive for central banks to buy domestic assets and sell gold is the interest rate that they can earn from owning domestic assets.
    - but central banks probably care less about making a small profit. They care more about accumulating enough good so stand ready at all time to meet gold-redemption demand.

Problems of “Rules of the Game”

- In practice, central banks with increasing gold reserves **seldom** followed the rules. They hoard gold for precautionary purpose, just like today’s trade surplus countries – they hoard international reserves (US dollar) to fend off potential financial crisis.

- And central banks also often sterilized gold flows, trying to prevent the impact of gold flow on money supply and prices.

- With gold hoarding of trade surplus countries, trade deficit countries need to offer a much higher interest rate to attract capital inflows (meaning a sharp fall of money supply) so to increase their gold reserves.

Sterilization during Gold Standard

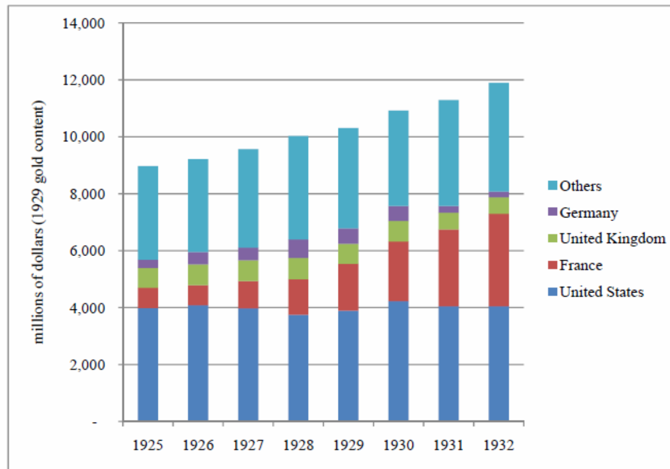
- During 1921-29, when the world used gold for monetary reserves, the US' gold stock grew by about 50%, reflecting its trade surplus. Initially Washington was content to allow the money supply to rise. But from 1923 on, the US enaged in sterilization and caused the level of high-powered money to remain stable, and wholesale prices fell 8% from 1925-29.

- Between 1927 and 1932, France increased its share of world gold reserves from 7% to 27´% and effectively sterilized most of this accumulation.

- The “gold hoarding” by both countries, especially France, created an artificial shortage of gold reserves and put other countries under enormous deflationary pressure.

- The sterilizations wreaked havoc on countries trying to stay on or rejoin the gold standard, especially Britain, which was hemorrhaging gold. It was forced into a period of deflation and couldn't compete with the American export juggernaut. London then responded with protectionism.

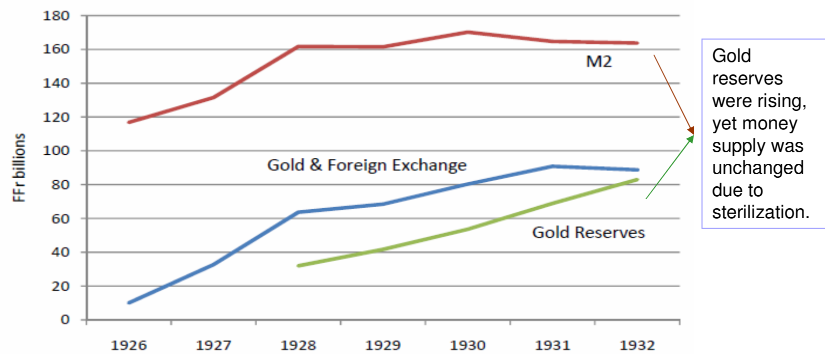
World Gold Reserves, 1925-1932



Source: Hardy (1936, 92).

French Sterilization during Gold Standard

France's Monetary Indicators, 1926-1932



Source: Patat and Lutfalla (1990, Table A2) and Mouré (1991, 55-56).

Other Problems of Gold Standard

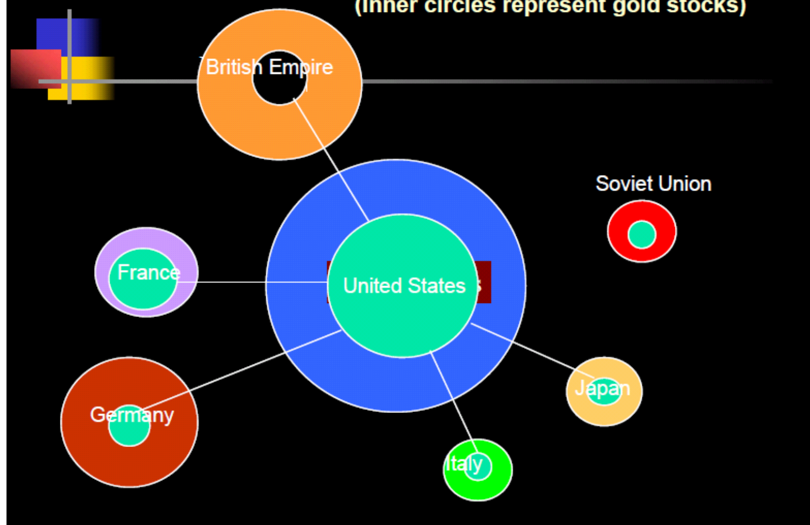
- The price of gold relative to other goods and services can vary, depending on the supply and demand of gold.
  - Increase of gold supply:
    - A new supply of gold, such as a new discovery, could make gold more abundant (or cheaper), and prices rose for other goods and services because the currency price of gold was fixed → a positive money supply shock → inflation
  - Increase of gold demand:
    - Strong demand for gold jewelry (country like India) could make gold scarce (expensive), and prices of other goods and services fell because the currency price of gold was fixed → deflation
  - ➔ Problematic for price stability
    - although gold standard prevented irresponsible government or central bank from printing money thus causing inflation, the supply and demand of gold itself nonetheless tends to move prices a lot.

Economic Performance under Gold Standard

- The gold standard's record for internal balance was mixed:
  - The U.S. suffered from deflation, recessions and financial instability during the 1870s, 1880s, and 1890s while trying to adhere to a gold standard.
  - The U.S. unemployment rate 6.8% on average from 1890–1913, but it was less than 5.7% on average from 1946–1992.

Interwar Years: 1918–1939

- The gold standard was suspended in 1914 due to WWI, but after 1918 was reinstated again.
  - The Great Britain was among the first to return to the gold standard, in 1925, and fixed the British pound to the gold at prewar price. By 1929, the great majority of the world's nations had done so.
  - The U.S. reinstated the gold standard in 1919, and from 1919-1933 fixed to gold at $20.67 per ounce.
  - Great Britain left the gold standard again in 1931, and the US abandoned gold in 1933.
  - The US again return to the gold standard in 1934, and from 1934–1944 fixed to gold at $35.00 ounce (a devaluation the US dollar).
- This period was characterized by lack of effective international leadership
  - Great Britain was economically and financially depleted, trying hard to keep itself within the gold standard.
  - The US was in ascendance, but unlike Bank of England, the newly created Federal Reserve (in 1913) had no experience managing international monetary system.

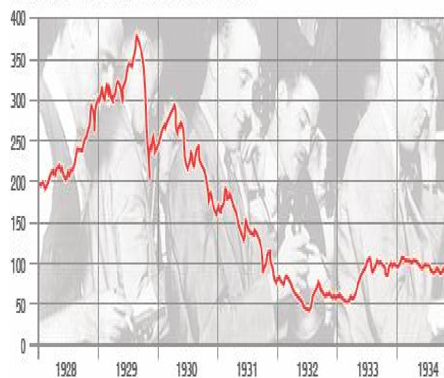


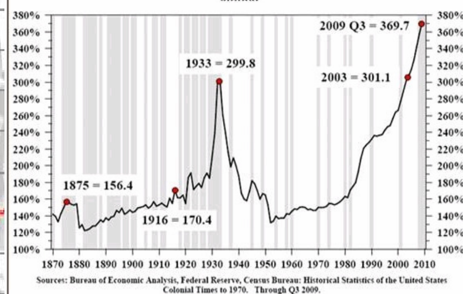
source: Bob Mundell

Gold and the Great Depression

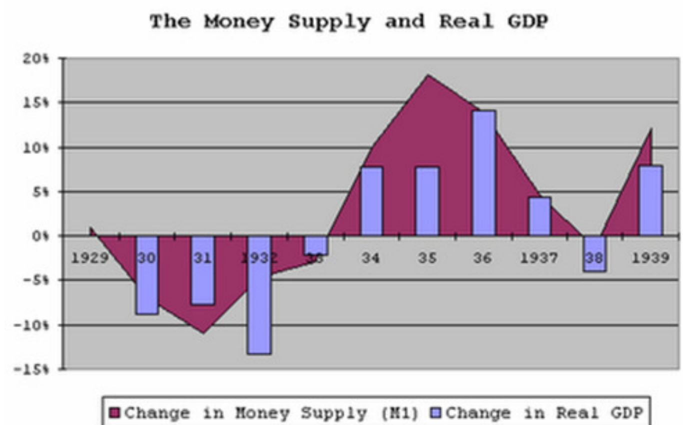
- In 1928, before the US stock market crashed (in October 1929), the Fed raised interest rates to fight stock market speculation.
- Under gold standard, when the US raised interest rate, other countries had to follow. Otherwise, they faced danger of losing gold reserves as financial investors tranferred their funds to countries when interest rates were higher. Essentially, every country raised interest rate, competing for the gold.
- The Fed's action inadvertently forced tightening of montary policy in many other countries, and the tighening of money supply had huge contractionary effect on output, prices and employment.

The Great Crash





Money Supply during Great Depression



Gold and the Great Depression

- A group of countries were forced to leave the Gold Standard early, around 1931. These countries included Great Britain, Japan and Scandinavian countries, including Denmark.
- The US and Italy abondonded the Gold Standard around 1932-33.
- The last group of countries, the few ”diehards” of the gold standard, incluing France, Poland, Netherland, Belgium and Switzerland, remained on gold into 1935-36.
- The gold standard essentially collapsed after the France-led Gold Bloc countries abadoned their currency linkage to gold.

Gold and the Great Depression

→ How the timing of leaving the gold standard is connected to country's servity of depression and its later recovery.

Price index

	1932	1933	1934	1935
Gold standard countries	-.13	-.07	-.04	-.05
Non-gold countries	-.01	.00	.03	.04

Long mired in deflation

Growth of Industrial Production

	1932	1933	1934	1935
Gold standard countries	-.18	.09	.03	.01
Non-gold countries	-.06	.08	.12	.09

Much slower growth

Bretton Woods System: 1944–1973

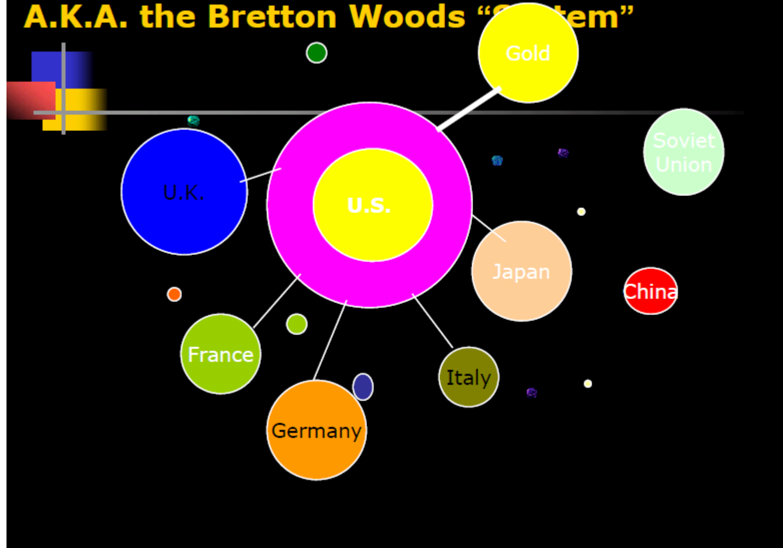
- In July 1944, 44 countries met in Bretton Woods, NH, to design the Bretton Woods system:
  - a fixed exchange rates against the U.S. dollar and a fixed dollar price of gold ($35 per ounce).

- They also established the three pillars for the post-war new global economic and financial architecture :
  - The International Monetary Fund, or IMF
  - The World Bank
  - General Agreement on Trade and Tariffs (GATT), the predecessor of World Trade Organization (WTO).

Bretton Woods, New Hampshire

Mt. Washington Hotel, Bretton Woods, NH

IMF was born...



source: Bob Mundell

International Monetary Fund (IMF)

- The IMF was constructed to lend to countries with persistent balance of payments deficits (or current account deficits), and to approve devaluations.
  - Loans were made from a fund paid for by members in gold and currencies. Each country had a quota, which determined its contribution to the fund and the maximum amount it could borrow.
  - Large loans were made conditional on the supervision of domestic policies by the IMF, the so-called IMF conditionality.
  - Devaluations could occur if the IMF determined that the economy was experiencing a "fundamental disequilibrium".

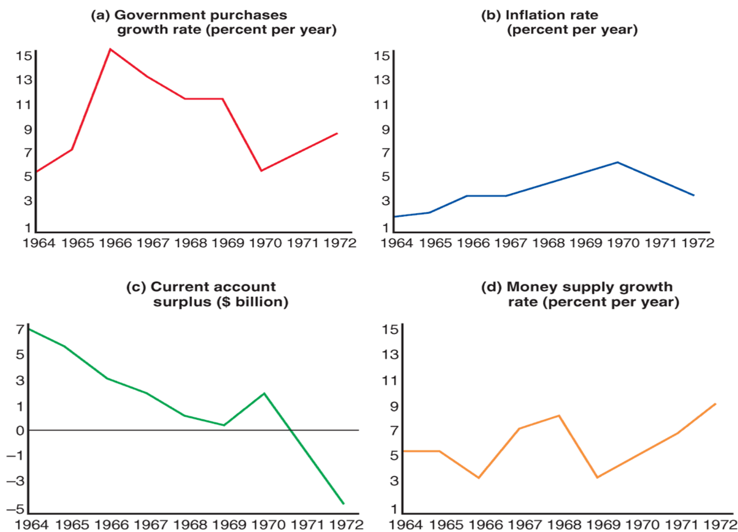
Bretton Woods System: 1944–1973

- Under a system of fixed exchange rates, **all countries but the U.S. had ineffective monetary policies** for internal balance.
- The principal tool for internal balance was fiscal policy (government purchases or taxes)
- The principal tools for external balance were borrowing from the IMF. There were also restrictions on financial asset flows and changes in exchange rates were infrequent.
- **The key** for this system to work is the confidence that countries and investors put onto the US government/economy - whether it can maintain its sound economic and financial system, i.e., balanced budget, low inflation and balanced current account (or small trade deficit).

Collapse of the Bretton Woods System

- The collapse of the Bretton Woods system was caused primarily by imbalances of the U.S. during the 1960s and 1970s.
  - The U.S. current account surplus became a deficit in 1971.
  - Rapidly increasing government purchases increased aggregate demand and output, as well as prices.
    - Vietnam war
    - President Johnson, “The Great Society”
  - Rising prices and a growing money supply caused the U.S. dollar to become overvalued in terms of gold and in terms of foreign currencies.

U.S. Macroeconomic Data, 1964–1972



Collapse of the Bretton Woods System

- The U.S. was not willing to reduce government purchases or increase taxes significantly, nor to reduce money supply growth.
- These policies would have reduced aggregate demand, output and inflation, and increased unemployment.
- A dollar devaluation, however, could have avoided the costs of low output and high unemployment and still have attained external balance (an increased current account and official international reserves).
- But this will tear the Bretton Woods System apart. A dollar devaluation against gold means a devaluation against every other currency in the system. Again, politicians only have incentives to respond to domestic constituencies.

Collapse of the Bretton Woods System

- The imbalances of the U.S. caused speculations about the value of the U.S. dollar.
- Speculation about a devaluation of the dollar caused investors to buy large quantities of gold.
  - The Federal Reserve sold large quantities of gold in March 1968, but closed markets afterwards.
  - Thereafter, individuals and private institutions were no longer allowed to redeem gold from the Fed or other central banks. And the Fed. would sell only to other central banks.
- Then on Aug. 15, 1971…

Nixon abadoned gold-dollar linkage, 1971

The US no longer sells gold for dollars

watch this video at http://www.youtube.com/watch?v=iRzr1QU6K1o

Collapse of the Bretton Woods System

- Speculation about a devaluation of the dollar in terms of other currencies caused investors to buy large quantities of foreign currency assets.
  - A coordinated devaluation of the dollar against foreign currencies of about 8% occurred in December 1971. And gold price was raised up to $38.
  - But speculations about another devaluation occurred: European central banks sold huge quantities of European currencies in early February 1973, but closed markets afterwards. Soon afterwards, the US dollar was devaluated for another 10%, but speculative attack against US dollar continued…
  - Central banks in Japan and Europe stopped selling their currencies and stopped purchasing of dollars in March 1973, and allowed demand and supply of currencies to push the value of the dollar downward.
  - Country's fixed exchange rate to $ came to an end and floating exchange rates emerged in $ crisis.

Development Since 1973

- Due to volatility of floating exchange rates, and the need to have more certainty in international trade, many fixed exchange rate systems have again developed since 1973.
  - European monetary system and euro zone since 1999 → increasing global influence but was shattered during the recent European financial crisis
  - Hong Kong and Argentina's currency board with the US, and the Chinese central bank has fixed the value of its currency to US $ since 1995
  - ASEAN countries have considered a fixed exchange rate regime, and Japan has even considered an Asian common currency