International Monetary System

Chapter 18
1. Gold standard 1870-1914

2. Inter-war years 1918-1939

3. Bretton Woods
1 Gold Standard 1870-1914

1.1 Major world currencies pegged to gold

- Countries buy and sell any amount of gold at fixed price

- Money supplies are backed by gold and government securities
1.2 Adjustment under gold standard

- Focus on current account

- Hume - price-specie-flow mechanism
  - flexible price model
  - prices deviate, specie flows
  - suppose M falls causing P to fall –prices deviate
  - domestic goods are relatively cheap, so NX increase
  - to pay for exports, specie flows
– foreigners exchange foreign currency for gold, ship gold to US and sell to Fed in exchange for M

– $M^*$ falls reducing $P^*$ and $M$ rises raising $P$

– gold flows until prices adjust ending the current account surplus
• Alternative begins with current account imbalance
  
  – Suppose England has CA surplus with US
  
  – US residents sell dollars for gold
  
  – Ship gold to England and buy pounds for gold from UK central bank
  
  – $M$ falls, requiring $P$ to fall
  
  – $M^*$ rises, requiring $P^*$ to rise
  
  – adjustment in relative prices ends the current account imbalance
• Countries could thwart the adjustment mechanism

  – Sterilize the effect of gold flows on the money supply using government bonds - could prevent inflation

  – Augment the effect of gold inflows (CA surplus) on the money supply to stem inflows of non-interest-bearing gold

  – Augment the effect of gold outflows (CA deficit) on the money supply to keep from running out of gold
1.3 Mercantilism

- A country’s wealth is measured by its gold.

- A mercantilist country wants a perpetual surplus to have perpetual gold inflows.

- Hume – a perpetual surplus is impossible due to the price-specie flow mechanism.
  - A surplus country accumulates gold.
  - When central bank purchases gold, money supply increases.
  - Money supply increasing raises price level ending surplus.
1.4 Economic Performance under the Gold Standard

- Gold determined the money supply
  - gold discoveries created inflation as miners sold gold for currency
  - rapid output growth created deflation as demand for money grew faster than supply

- No monetary policy for stabilization
2 Interwar Years 1918-1939

2.1 Inflationary war finance

- Pay for military purchases with currency only if sever link to gold
- Increased government spending financed with money created inflation
- Hyperinflation in Germany
2.2 Post-War Return to Gold in Britain

- Britain returned to the gold standard at the pre-war parity

- The price level in Britain was high relative to the £ price of gold, so foreign goods were relatively cheap

- British bought gold to buy foreign goods, shrinking the money supply

- Reduction in the money supply created a recession

- The recession would eventually have reduced the price level in Britain, but long and painful
2.3 **Great Depression**

- US stock market crash undermined confidence raising currency-deposit ratio, reducing money supply

- US recession and fall in price

- US goods were relatively cheap and US current account surplus and gold inflows

- US gold inflows were ROW gold outflows, reducing ROW money supplies creating ROW recessions
• Gold inflows into US tended to restore the money supply, but new US shocks kept US money falling

• US gold inflows and ROW gold outflows continued

• Countries that abandoned gold standard first were the first to recover from the depression
2.4 Beggar-thy-neighbor devaluations

- ROW countries sought to stop gold outflows with currency devaluation (through an increase in the price of gold) and trade barriers

- Other countries retaliated

- Large reduction in world trade and reduction in gains from trade exacerbated the depression
3 Bretton Woods and the IMF

3.1 Objectives

- Avoid beggar-thy-neighbor policies of the inter-war years

- Establish a stable system of fixed exchange rates
3.2 Fixed Exchange Rate System

- Dollar was pegged to gold and the US held gold reserves

- Other currencies were pegged to the dollar and held dollar reserves

- Countries could use reserves to finance a temporary current account deficit
3.3 International Monetary Fund

- Provide loans to countries in temporary "balance of payments" difficulties
  - perhaps for temporary increase in government spending
  - typically for countries with insufficient reserves to finance a temporary deficit
  - loan would allow the country to maintain its fixed exchange rate even though reserves were low
  - conditionality - IMF required that the government receiving the loan make changes to assure that the "balance of payments" difficulties were temporary as a condition for receiving the loan
• Allow changes in parity (usually devaluation) for "fundamental" disequilibrium
  
  – Consider a switch in world demand away from the country’s goods
  
  – Requires an increase in \( q \) to restore long-run equilibrium
  
  – With flexible exchange rates, the increase in \( q \) can come with an increase in \( E \)
  
  – However, with fixed exchange rates, must come with a fall in \( P \)
  
  – The fall in \( P \) will require a recession
• Convertible currencies

  – Agents should be allowed to freely buy and sell currencies for all current account transactions

  – Purchases or sales of currencies for capital account transactions could be restricted
• Capital controls

  – Eliminate interest rate parity

  – Interest rate determined in the money market as in a closed economy

  – No reason for $E^e$ up to cause an exchange rate crisis because not allowed to buy foreign exchange for the purpose of buying foreign assets
Justifications for capital controls

* Keep domestic interest rates low to stimulate investment and prevent savers from going abroad for higher rates

* Limit foreign direct investment to maintain local control and ownership

* Reduce the frequency of balance of payments crises
3.4 Policy for Internal and External Balance

- Internal balance = full employment

\[ Y^f = D = C \left( Y^f - T \right) + I + G + CA\left(\frac{EP^*}{P}, Y^f - T\right) \]

- External balance = set current account at a target \( X \)

\[ CA\left(\frac{EP^*}{P}, Y^f - T\right) \]
• Two policy tools to achieve the two goals
  – Fiscal policy, represented by \( T \) and/or \( G \)
  – Monetary or exchange rate policy, represented by \( E \)

• Internal balance
  – As \( G \) up, \( Y \) increases
  – As \( E \) up, \( Y \) increases
  – For internal balance, an increase in \( G \) must be accompanied by a fall in \( E \) (negative slope)
• External balance

  – As $G$ up, $Y$ increases, reducing $CA$

  – As $E$ up, $CA$ increases directly

  – For external balance, an increase in $G$ must be accompanied by an increase in $E$ (positive slope)
• Expenditure changing policy ($G$ or $T$)
  
  – Let economy be at a point along XX such that it has external balance but in a recession
  
  – Expansionary fiscal policy raises expenditure moving economy right
  
  – As $Y$ rises, $CA$ falls
  
  – Requires $E$ up to restore $CA$ to target (expenditure changing policy)
  
  – Expenditure changing policy to restore internal balance will destroy external balance
  
  – Therefore, expenditure changing policy needs to be accompanied by expenditure switching policy
– This is impossible with fixed exchange rates
3.5 Collapse of Bretton Woods

- Triffin and confidence
  - World economy grows and demand for dollar reserves grows
  - US supplies dollar reserves as use dollars to buy goods, services, and assets
  - However, US gold supply did not grow, reducing ratio of gold to base money
  - IMF created SDR’s so countries could have an alternative reserve asset
• Expansionary monetary and fiscal policy in the US

  – Increase in money supply in US tends to depreciate dollar and appreciate foreign currencies

  – Foreign central banks forced to buy dollars in exchange for foreign currencies to keep exchange rate fixed

  – US policy created world money growth and world inflation

  – US gold reserves did not grow

  – Speculators saw that US could not possibly sell all gold demanded as fixed price and rushed to buy gold before US ran out (1971)

  – US responded by closing gold window to all but central banks and other
countries agreed to revalue their currencies, allowing the dollar to be devalued

– However, US inflationary policy did not change

– Countries, led by Japan and Germany, refused to buy dollars and the system ended