Gold Standard in International Finance

Econ 434 Lecture

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Introduction

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- Attempt to re-create the gold standard after WW1 did not work
  - Eventually Bretton Woods was created as alternative to interwar failure
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- asymmetry of debtor and surplus countries – this creates a *deflationary bias*
Interwar Period

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But didn’t this operate before the War as well?

- Yes, but then the center of the system was the Bank of England which was (then) privately owned.
Deflationary Bias

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  - Moreover, it meant that a small reduction in gold stock had a big effect on the money supply.
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- A higher gold price would have increased liquidity
Consumer Prices 1913-1924

After World War I was over, Germany and France chose inflation and devaluation, the United States and the UK chose deflation.
Example

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But,

Churchill on Montagu Norman: "The Governor (Montagu Norman) shows himself perfectly happy in the spectacle of Britain possessing the finest credit in the world simultaneously with a million and a quarter unemployed."
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- adjustment via $\Delta y$ rather than $\Delta G$
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- If \( y_f \downarrow \) we are no more competitive \( \implies \) further deflationary pressure.
Example: Figure 6

Graph showing the relationship between \( \frac{P_G}{P} \) and \( \frac{P_G}{P} \) with points A, B, and C, and the implication of a fall in imports due to a decrease in \( y \).
Implications

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- US expected to be repaid by UK, UK by France, France by Germany, nobody wants to reduce the gold value of the debt
Reparations and Debts

Figure 1. Inter-Allied debts at the end of the First World War (in millions of dollars).

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■ This is a key point: in the interwar years the willingness to sacrifice internal balance for external balance was weak
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Foreign Reserves: Figure 1

Figure: The Ratio of Foreign Exchange Reserves to Gold Reserves (source: Bordo and Eichengreen).
Foreign Reserves:

After the war, the United States acquired much of the world’s gold reserves.
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  - They took gold from the rest of the world instead of being passive.
Resumption

Number of Countries on the Interwar Gold Standard

[Graph showing the number of countries on the interwar gold standard from 1920 to 1940]
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Britain Resumes

- In Britain, politicians and bankers blamed exchange rate instability for depressing international trade and investment. Believed stable $e$ as a necessary prerequisite for the restoration of domestic prosperity.
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  - Eventually costs fell, but the Great Depression ensued before stabilization could take place in Britain.
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But neither the U.S. nor France was willing to tolerate the domestic inflation that would have restored balance,
Britain Resumes

While Britain had an overvalued currency, France and the United States had undervalued currencies.

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- hence, nothing removed the tendency for their two countries to continue to accumulate gold.
Eichengreen Doctrine

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  - there is nothing worse than attempting to establish the credibility of an incredible commitment.
- And indeed in 1931 the British government was to cast the gold standard over the side, well before the nadir of the Great Depression.
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- Hence, belief in rule 5 makes exchange rate expectations stabilizing – they exhibit negative feedback. This is all due to the credibility enhancing effect of rule 5.
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Internal Balance and Monetary Policy

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  - Monetary policy cannot be eased to further internal balance
  - Capital flows seem destabilizing as does exchange rate variability
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- At that moment, wholesale prices had fallen 24% below the 1929 level, unemployment was over 15% and 3000 banks had failed
Real Debt and Stock Prices

Figure 3
Real Debt and Stock Prices

![Graph showing Real Debt and Real Stock Price Index from 1920 to 1934. The graph plots Real Private Long-Term Debt and Real Stock Price Index over time. The years are labeled from 1920 to 1934 on the x-axis, and the values range from 0 to 2 on the y-axis. The graph illustrates the increase in real debt and the peak in real stock price index around 1928, followed by a decline.](image-url)
Money, Prices, and Production

Figure 1
Money, Prices, Production

- Log (Commercial Bank Deposits)
- Log (Real Bank Deposits)
- Log (Wholesale Price Index)
- Log (Industrial Prod. Index)

1925 1927 1929 1931 1933 1935 1937 1939
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Distribution of Gold

Gold Reserves of Key Currency Countries, 1913-35

1918–1945: Great Depression & WWII

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  - Eruption of beggar-thy-neighbor policies
Collapse in payments and trade turned Depression into Great Depression
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The Defining Moment Hypothesis: The Editors’ Introduction

5 Unemployment rate, 1900–1995
- Hatched area delineates the period of the Great Depression. Unemployment refers to people 16 years old or older prior to 1947 and 16 years old or older afterward.
**Kindleberger Diagram**

Countries that left Gold first recovered faster
In July 1944, delegates from 44 countries met in Bretton Woods, New Hampshire to set up a system of fixed exchange rates. All currencies had fixed exchange rates against the U.S. dollar and an unvarying dollar price of gold ($35 an ounce). At that time US had 75% of world's monetary gold. It intended to provide lending to countries with current account deficits. It called for movement toward currency convertibility on current account (not on capital account).
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  - The asymmetric position of the US
Logic

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  - Adjustment Problem, Liquidity Problem, Confidence Problem
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- Internal Balance:
  
  $$Y^f = C(Y - T) + I + G + CA\left(\frac{eP^*}{P}, Y^f - T\right)$$  
  \[(1)\]
Adjustment Options under BW

- Under fixed exchange rates (except US): $i = i^*$
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- If $e$ depreciates, economy can run larger budget deficit (small $G$),
  - so combinations of the two policies that maintain *internal balance* will be negatively sloped
Adjustment Options under BW

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Where \( X \) is the target value of the current account. A rise in \( Q \) improves \( CA \), but a rise in disposable income makes it worse. A decrease in taxes (or increase in government expenditures, which raises output, \( Y \)) will require a devaluation today.

Put these two together to get Figure 2: we want to be at point 1 (note \( XX \) should be flatter than \( IB \)).
Adjustment Options under BW

- Maintaining External Balance
- How do policy tools affect the economy’s external balance?

\[ CA \left( \frac{eP^*}{P}, Y - T \right) = X \]  \hspace{1cm} (2)
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Figure: Internal and External Balance
Expenditure-Changing and Expenditure-Switching Policies

Two types of policies available to achieve external and internal balance
Expenditure-Changing and Expenditure-Switching Policies

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- Expenditure-changing policy
Expenditure-Changing and Expenditure-Switching Policies

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- Both expenditure changing and expenditure switching are needed to reach internal and external balance.
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Expenditure-Changing and Expenditure-Switching Policies

Devaluation that results in internal and external balance

Fiscal expansion that results in internal and external balance

Fiscal ease (G↑ or T↓)
Adjustment Options

- How would this work under the gold standard?
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调整选项

- 如何在金本位下工作？
  - 交换率是固定的？什么是支出转移政策？
    - 价格灵活性
  - 如果我们在区域4中，具有当前账户赤字，通货紧缩将提高竞争力——具有与贬值相同的效果

在调整过程中，稳定资本流动将保持金本位制运行

在BW下，稳定资本流动是不存在的，这使得汇率政策更为重要，但仅限于基本失衡的预期贬值将导致资本外流。
Adjustment Options

- How would this work under the gold standard?
  - Exchange rate is fixed? What is the expenditure-switching policy?
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  - If we are in region 4, with current account deficit, deflation would improve competitiveness – has same effect as devaluation
  - During the adjustment process, stabilizing capital flows would keep gold standard operating
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■ Under BW, stabilizing capital flows limited to non-existent
  ■ makes exchange-rate policy more important, but this is limited to fundamental disequilibrium
  ■ anticipation of devaluation leads to destabilizing capital outflows
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Bretton Woods

Fundamental Problems

Adjustment Options under BW

Triffin Dilemma

Non-System
Expenditure-Changing and Expenditure-Switching Policies

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- **Asymmetric pressure**
  - surplus countries under less pressure to adjust — burden falls on debtor countries
Fundamental problem was the Triffin Dilemma
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- that is, other countries need more dollars
- so US has to run BoP deficits to export dollars to ROW
- but this raises question of convertibility into gold; will the
  anchor hold?
Triffin Dilemma

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  - fear of a run on US gold supplies
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Figure: The Triffin Dilemma
Figure: More on the Triffin Dilemma
Triffin Dilemma
Triffin Dilemma

- Solution, new reserve asset, Special Drawing Right

US unwilling or unable to adjust increased government spending and rapid money growth, Great Society and Vietnam, Guns and Butter.

The acceleration of American inflation in the late 1960s was a worldwide phenomenon.

When the reserve currency country speeds up its monetary growth, one effect is an automatic increase in monetary growth rates and inflation abroad.


SDRs are used in transactions between central banks but had little impact on the functioning of the international monetary system.

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US Macro Data

(a) Government purchases growth rate (percent per year)

US Macro Data

(c) Current account surplus ($ billion)

US Macro Data
Inflation Rates in European Economies

Inflation rates in European economies relative to that in the US

- US
- France
- Germany
- Italy
- Britain

Graph showing inflation rates from 1966 to 1972 for various countries compared to the US.
Importing Inflation

- Suppose $P^*$ increases
Importing Inflation

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  - with \( e \) fixed, world demand shifts to home country, causing us to be in zone of \( CA > 0 \), and overemployment
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- Flexibility of the exchange rate avoids importing inflation
- With fixed rates, other countries import inflation from the US
  - architects of BW assumed US would act in world interest, but when US acted in its own interest BW was doomed.
Importing Inflation

Exchange rate, $E$

Distance $= \frac{E\Delta P^*/P^*}{P^*}$

Fiscal ease $(G\uparrow$ or $T\downarrow)$

$XX^1$

$XX^2$

II$^1$

II$^2$
The End of Bretton Woods

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- How do floating rates work?
The End of Bretton Woods