

The Ever-Appreciating Yen Syndrome

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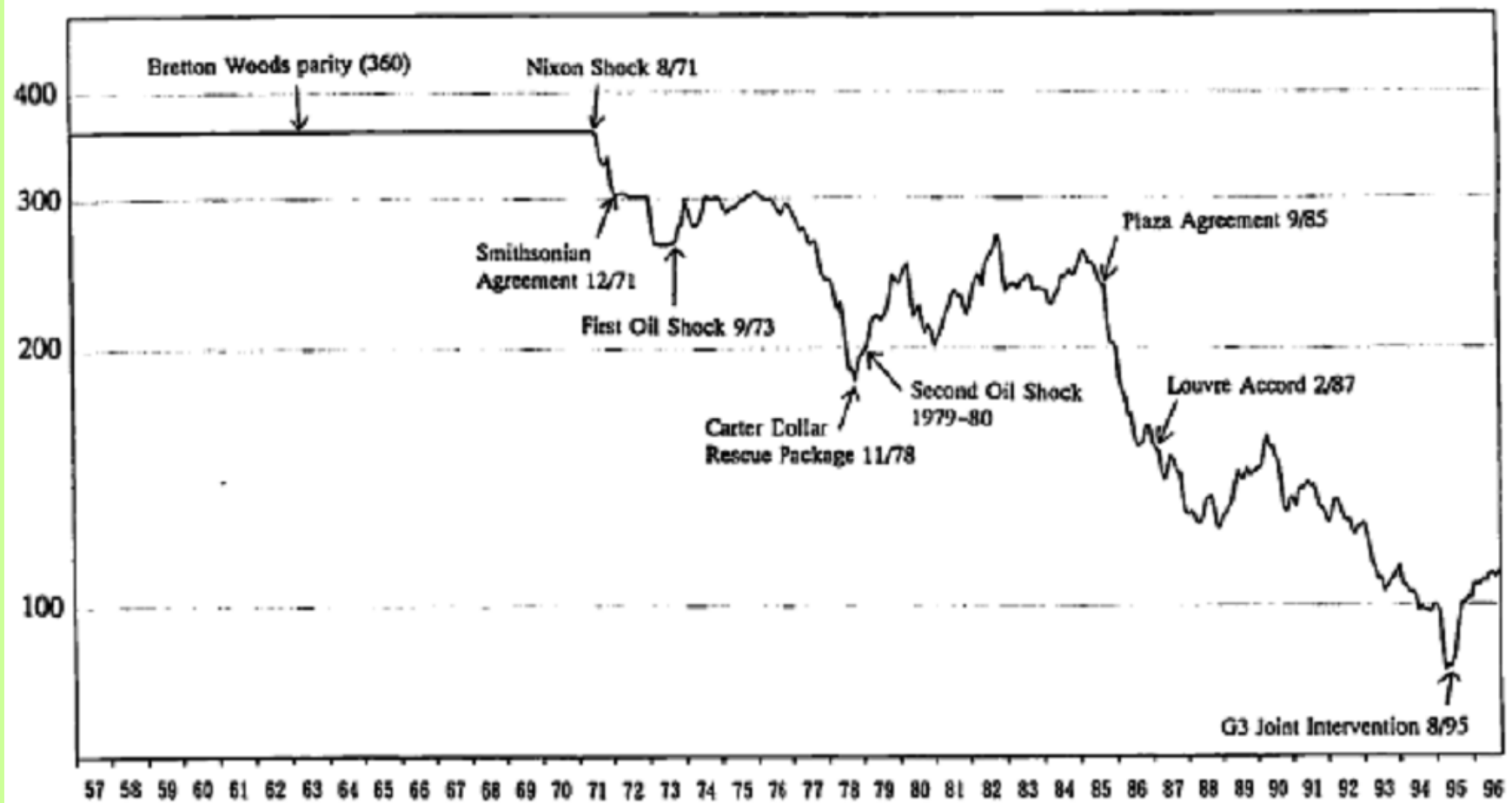


Figure 1.1
 Nominal yen-dollar exchange rate, semilog scale. Source: IMF, *International Financial Statistics*, CD-ROM, December 1996.

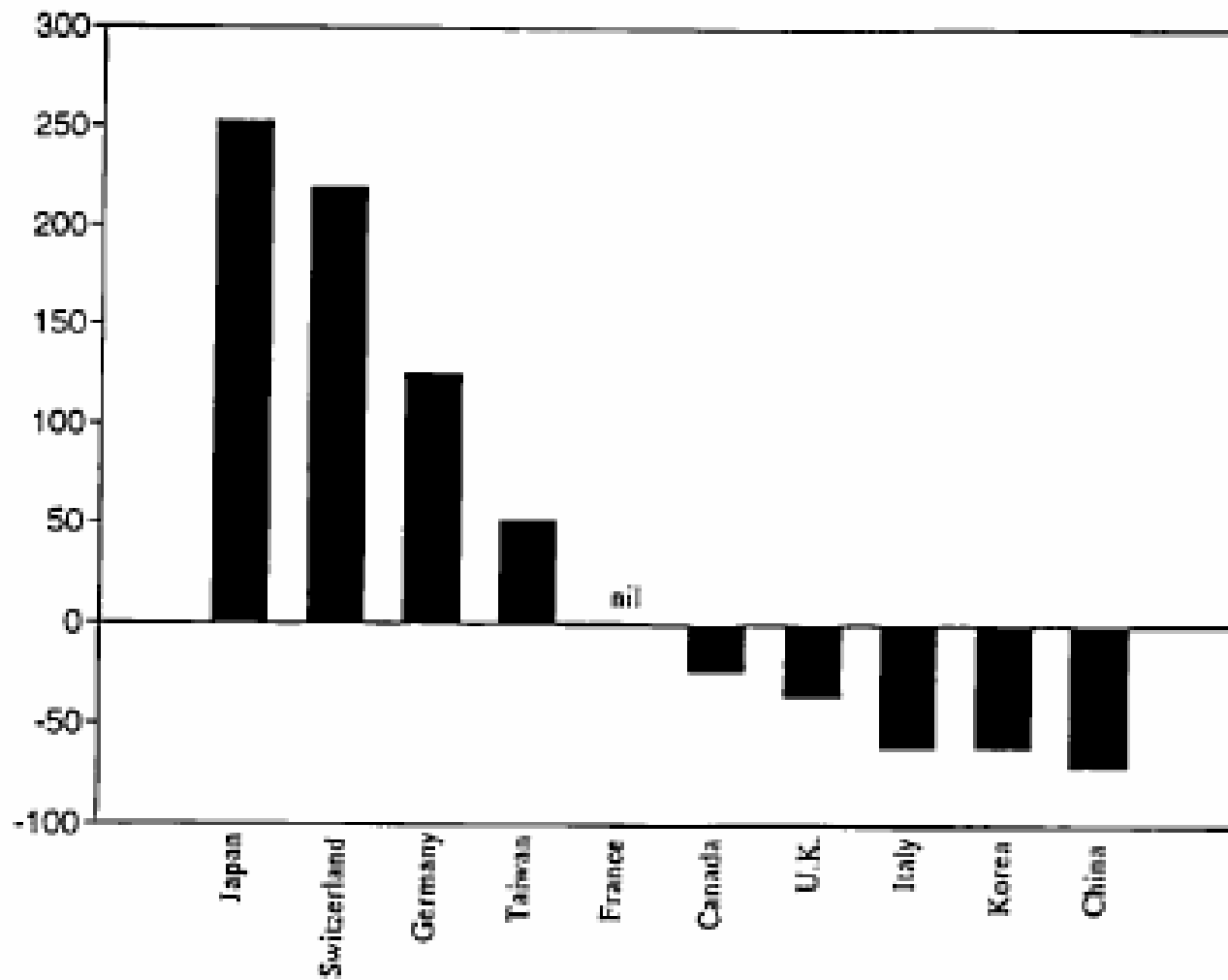


Figure 1.2

Nominal appreciation against the dollar, cumulative percent change in 1970-94. Sources: IMF, *International Financial Statistics*, and Bank of Japan, *Economic Statistics Monthly*, various issues.

Economic Growth and Adjustments

- Until 1970, under the fixed exchange rate system (or the Bretton-Woods Regime), the domestic price level had been adjusted in order to reflect the fundamental change along the Japan's rapid economic growth.
- Since 1970, on the contrary, the flexible exchange rate of Yen has been fluctuating to reflect the change.
- Which one is better?
 - Fluctuating price levels and stable exchange rates? Or,
 - Fluctuating exchange rates and stable price levels?

Why do we need the adjustment?

- Under free trade, any tradable goods must be valued at the same price across countries. A CD player is a typical tradable good.
- Therefore, in the long-run, the foreign exchange rate converges to the **PPP** (*Purchasing Power Parity*) based on the tradable goods, which is $\$1 = \100 for this example.

PPP

- Consider a portable CD player, which is made at 10,000 yen in Japan, and at 100 dollar in the US.
- Assume that the productivity rises at 3% in Japan, and at 2% in the US.
- Then the production cost of a portable CD player is now 9,700 yen in Japan, and 98 dollar in the US.
- The PPP is now $9700/98=99\text{¥}/\text{\$}$, which means 1% appreciation of the Yen.

Adjustment by Inflation

- Alternatively, if the foreign exchange rate is fixed at 100¥/\$, then the rate of inflation in the US must be one percent higher than that in Japan.
- For example, if the inflation rate is 5% in Japan and 4% in the US, then the production cost of a CD player is $9700 \times 1.05 = 10185$ yen in Japan, $98 \times 1.04 = 101.92$ dollar in the US, and we can restore $\$1 = ¥100$ as the PPP.
- In other words, in order to sustain the fixed exchange rate, the central bank must commit such a monetary policy to accommodate the rate of inflation to the fixed exchange rate.

The Exchange Rate System and the Adjustment

- *Under the fixed exchange rate system, the productivity growth gap between countries must be reflected by the proportional gap of inflation rates. That is, the central bank has no independence.*
- *Under the flexible exchange rate system, the productivity growth gap between countries must be reflected by the proportional change of foreign exchange rates. That is, the central bank can take the independent monetary policy.*

Major View (Friedman, Krugman, other major economists)

- The adjustment should be done through the flexible foreign exchange rates.
- Consider the summer time. Which scheme costs less?
 - Everyone goes to his/her job place one hour earlier than winter?
 - Everyone sets the watch one hour earlier than winter?
- It is obvious that the latter costs less.

Minor View (McKinnon-Ohno)

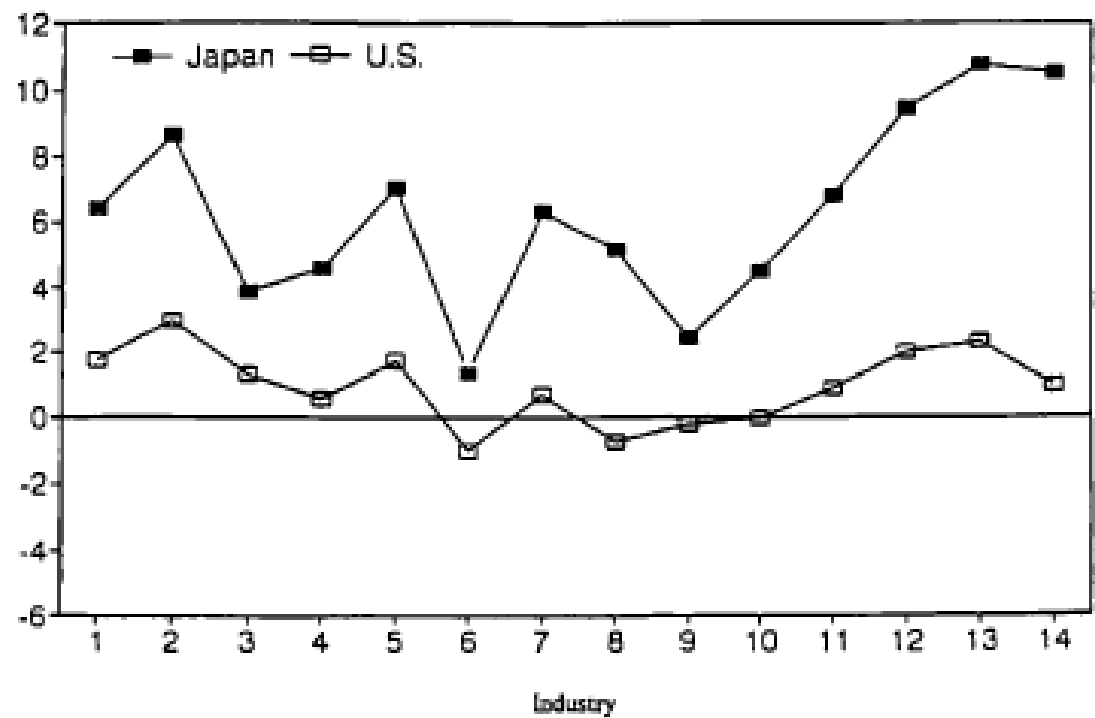
- The adjustment should be done through the change of the price level under the monetary policy to maintain the stable exchange rate.
- The foreign exchange rate sometimes shows self-realizing movements based on the market participants' unstable expectation about the future.
- The foreign exchange rate may be overshoot, - overvalued or undervalued in the market.
- The instability of foreign exchanges results in some large real costs on the economy.

McKinnon and Ohno

- The mainstream economists do not take the nominal exchange rate as the *forcing* variable but as the adjusting variable.
- That is, each country takes independent actions in fiscal and monetary policies, which cause the dispersed rates of inflation, and result in the accommodating change in the foreign exchange rates.
- However, this is not what happens in the real world.

The Real World (McKinnon and Ohno)

- First, there is an agreement on the nominal exchange rates between the leading nations such as the G7.
- Second, each nation's authority takes fiscal and monetary policies to enforce the agreement.
- For example, in 1985, the G7 agreed on the Plaza Accord, which announced that the G7 nations would cooperate to reduce the current account imbalances through the depreciation of the US dollar.

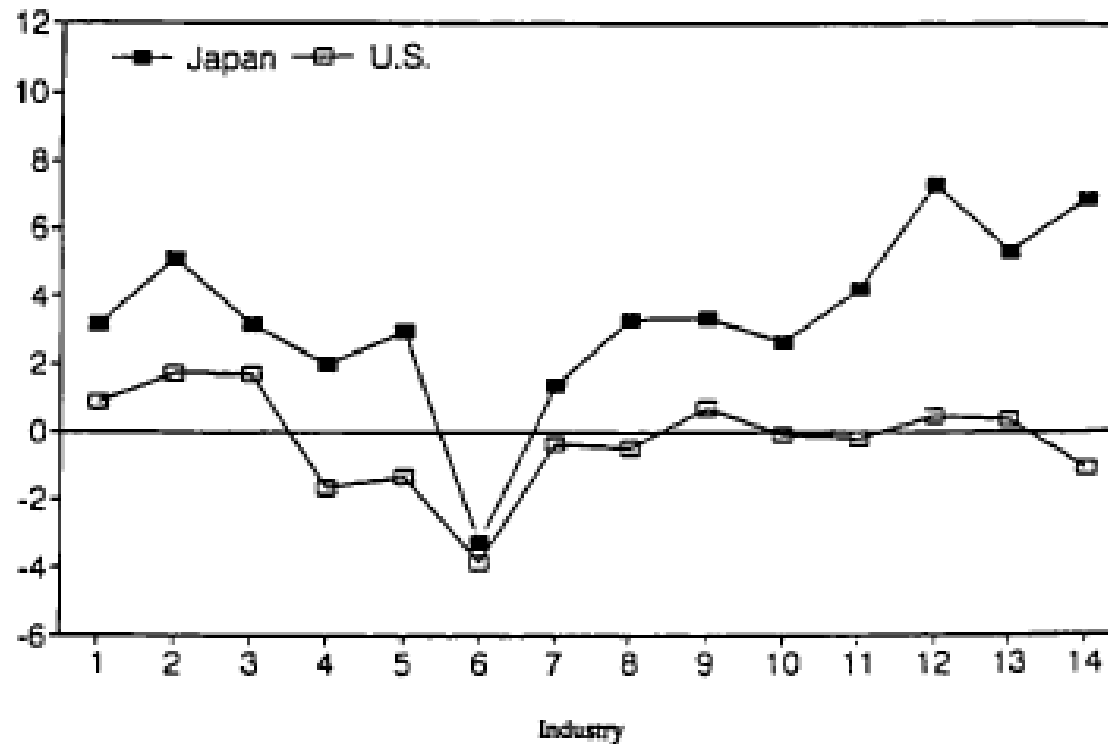


Industry index:

- | | |
|------------------|-------------------------|
| 1 Food | 8 Iron and steel |
| 2 Textiles | 9 Nonferrous metals |
| 3 Wood products | 10 Metal products |
| 4 Paper and pulp | 11 General machinery |
| 5 Chemicals | 12 Electrical machinery |
| 6 Oil and gas | 13 Transport machinery |
| 7 Ceramics etc. | 14 Precision machinery |

Figure 2.1a
Productivity growth: 1954-73, percent per year.

出所: マッキ.



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- | | |
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Figure 2.1b
Productivity growth: 1974-90, percent per year.

The Ever-Appreciating Yen

- The productivity growth rates are higher in Japan than in the US after the WWII.
- Therefore, the Yen must always appreciate against the US dollar.
- Otherwise, Japanese firms would drive out the US firms out of the global market, and the current account imbalance between Japan and the US would explode, which is not sustainable.
- Consequently, the Yen/Dollar rate must converge to its PPP based on the tradable goods.
- The actual rate has been moving around the PPP, reflecting the trade war between Japan and the US.

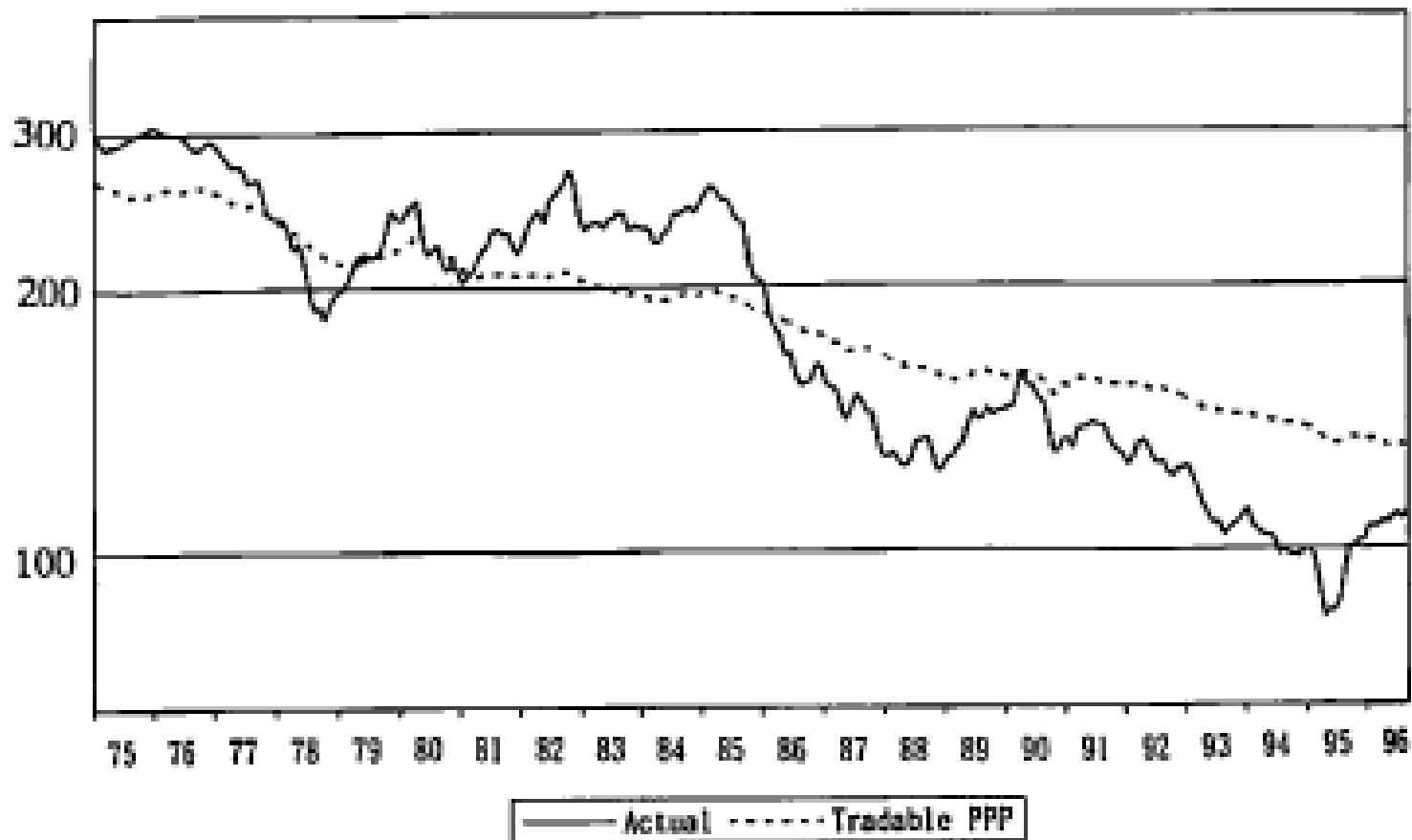


Figure 9.1

Actual and PPP yen-dollar exchange rate (semilog scale). Note: Tradable purchasing power parity is based on the price survey of manufactured goods conducted by the Research Institute for International Price Mechanism (1993). For the fourth quarter of 1992, its estimate of the tradable PPP yen-dollar exchange rate was 150.5. This benchmark has been updated and backdated using the Japanese overall wholesale price index and the U.S. producer price index.

The Ever-Appreciating Yen Syndrome

- Since the Plaza Accord in 1985, the Yen has been overvalued, that is, valued higher than its PPP based on the tradables, which is a permanent deflationary pressure on the Japanese economy.
- The overvalued yen forces Japanese firms to exert some unsustainable efforts to reduce the production costs, which makes them even more competitive in the global market.
- However, the competitive Japanese firms are taken as the “threats” to the US firms. The political pressure in the US toward the Yen appreciation becomes more fierce.
- Eventually, the Japanese manufacturing firms reach the limit to cost reduction, and they abandon the domestic plants and fire their employees.
- This consequence is the Ever-Appreciating Yen Syndrome.

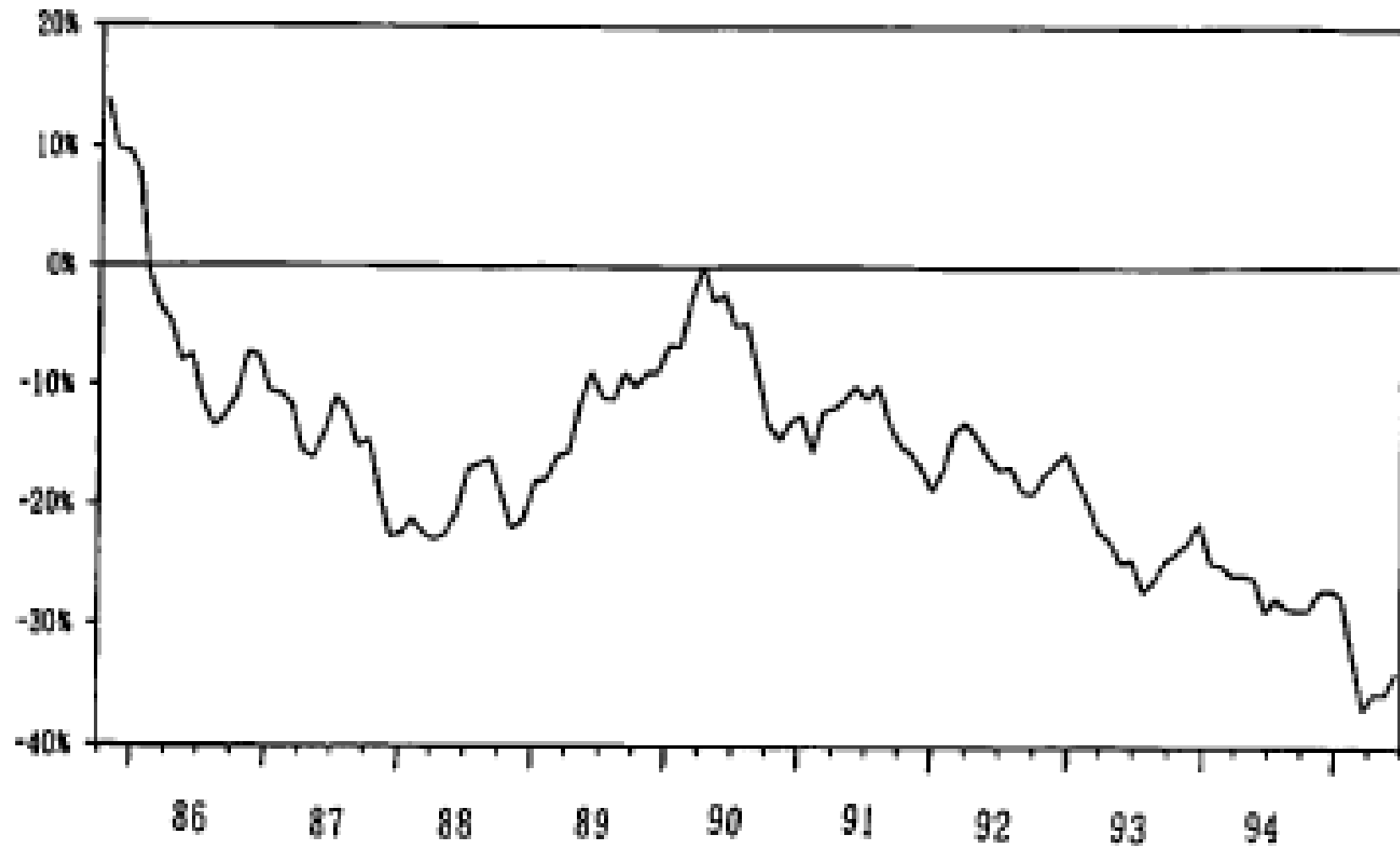


Figure 9.5
Real exchange rate (deviation of the yen-dollar rate from tradable PPP).

Is the BOJ really smart?

- The gap between the PPP and the actual exchange rate represents the size of deflationary pressure on the Japanese economy.
- The Bank of Japan (BOJ) has been considered to be smart enough to stabilize the price level, which is misleading.
- On the contrary, the BOJ simply has been accommodating the monetary policy to the deflationary pressure caused by the Yen appreciation.

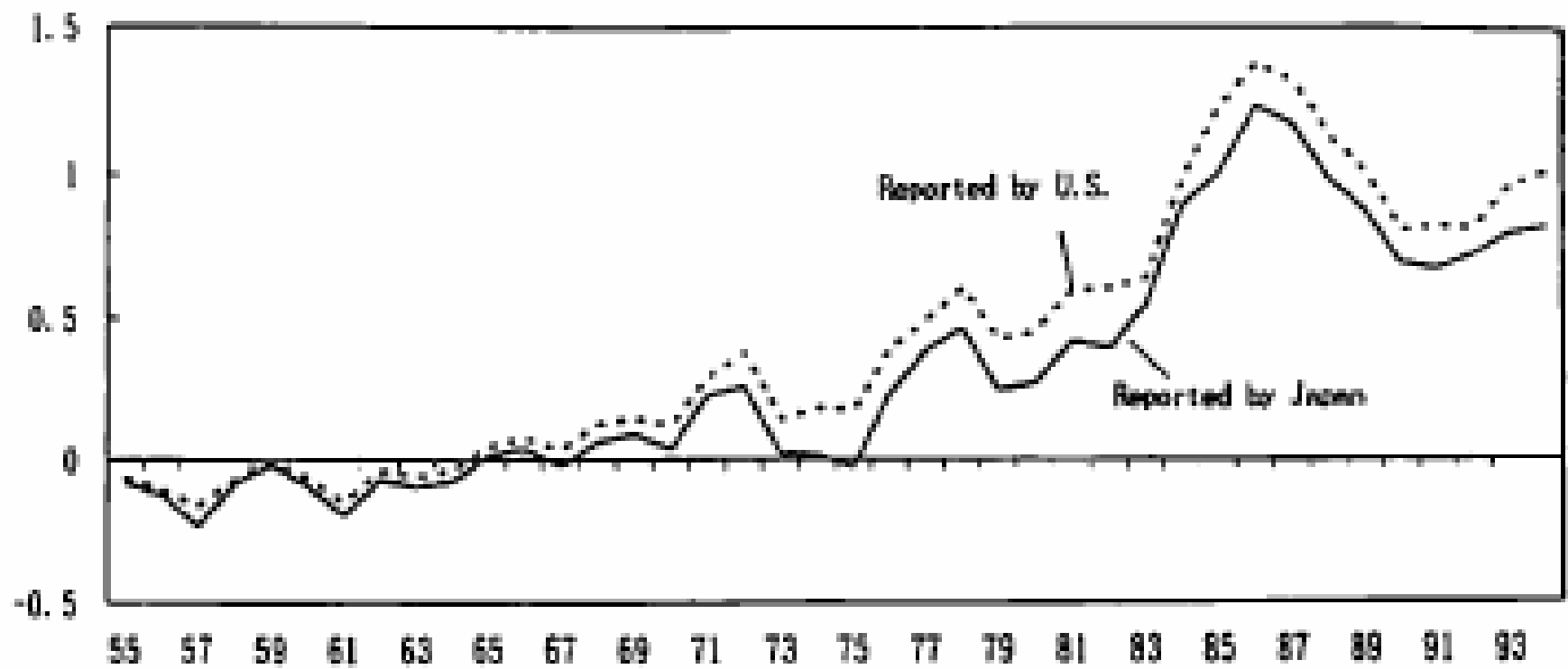


Figure 2.7
Japan-U.S. trade balance in percent of U.S. GDP.

Does the flexible exchange rate eliminate the current account imbalance?

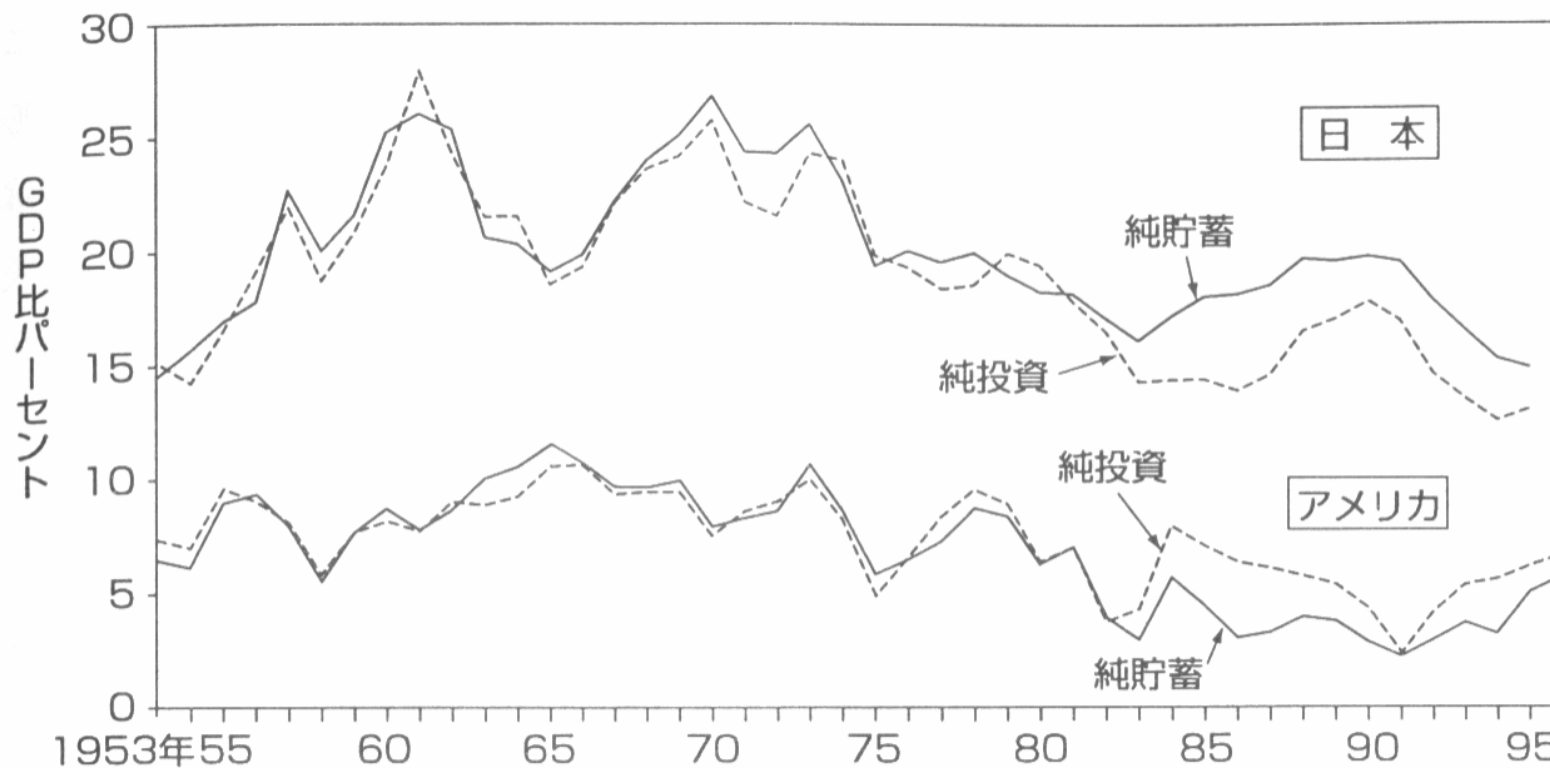
- There is a vague idea that the current account converges to zero under the flexible exchange rate system.
- However, there is no theory to justify that statement.
- The current account is always equal to the excess domestic saving.

$$\underbrace{S - I}_{\text{excess saving in private sectors}} + \underbrace{T - G}_{\text{excess saving in government}} = \underbrace{EX - IM}_{\text{current account surplus}}$$

S : saving; I : investment; T : tax; G : government expenditure

EX : imports; IM : exports

図2-10 純貯蓄・投資バランス



出所：OECD, *National Accounts: Main Aggregates*, vol.1,1960-91 and 1952-81. ただし1991年以降は経済企画庁および Department of Commerce による。

出所：マッキノン・大野健一「ドルと円」(日本経済新聞社)

Capital Flow from Japan to US

- Until 1980 when the capital account regulation was almost abolished, there had been only a negligible gap between saving and investment in both US and Japan.
- Since 1980, the large amount of capital has been flowing between US and Japan.
- Basically, the US almost permanently finance its domestic investments by borrowing money from Japan.
- In fact, Japan is now the world's largest lender, while the US is the world's largest borrower.

What does the nominal interest gap imply?

- Although the nominal interest rates may diverge across countries, the real interest rate should be equalized.
- There are two important principles.
- The Fisher Equation
 - $\text{real interest rate} = \text{nominal interest rate} - \text{rate of inflation}$
- The nominal interest rate parity
 - $\text{nominal interest rate in country A} + \text{appreciation of currency A} = \text{nominal interest rate in country B}$.

Inflation and Foreign Exchange

- Combining the two equations, we have
 - real interest rate in country A + inflation rate in country A + appreciation of currency A = real interest rate in country B + inflation rate in country B
- If the real interest rate is equal between countries A and B, and if the inflation rate is higher in country B than in country A, then the currency of country A appreciates permanently.

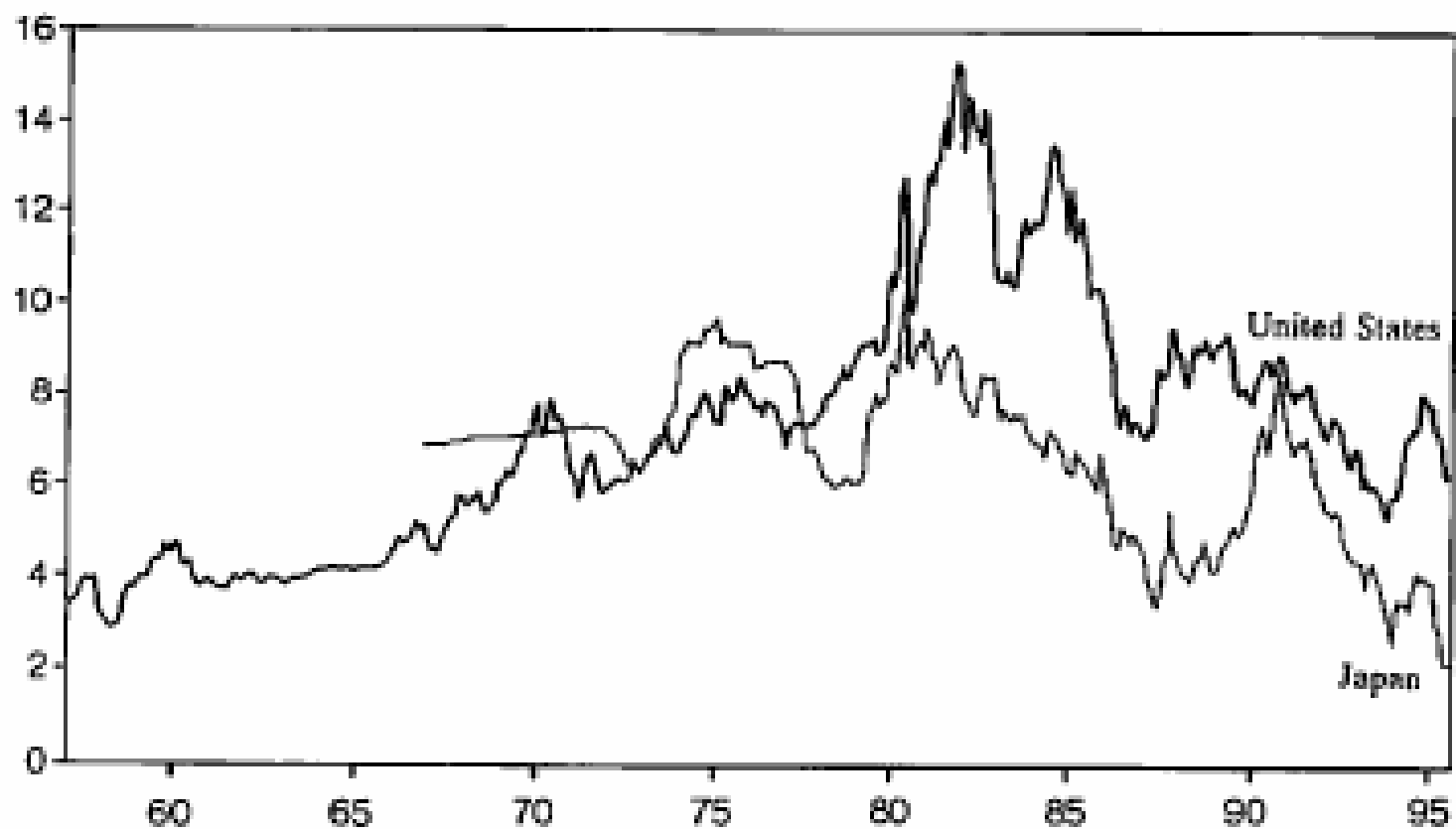


Figure 1.5

Long-term government bond rate, percent. *Source:* IMF, *International Financial Statistics*, CD-ROM, December 1995. *Note:* After World War II, the issuance of Japanese long-term government bonds only began in October 1966.

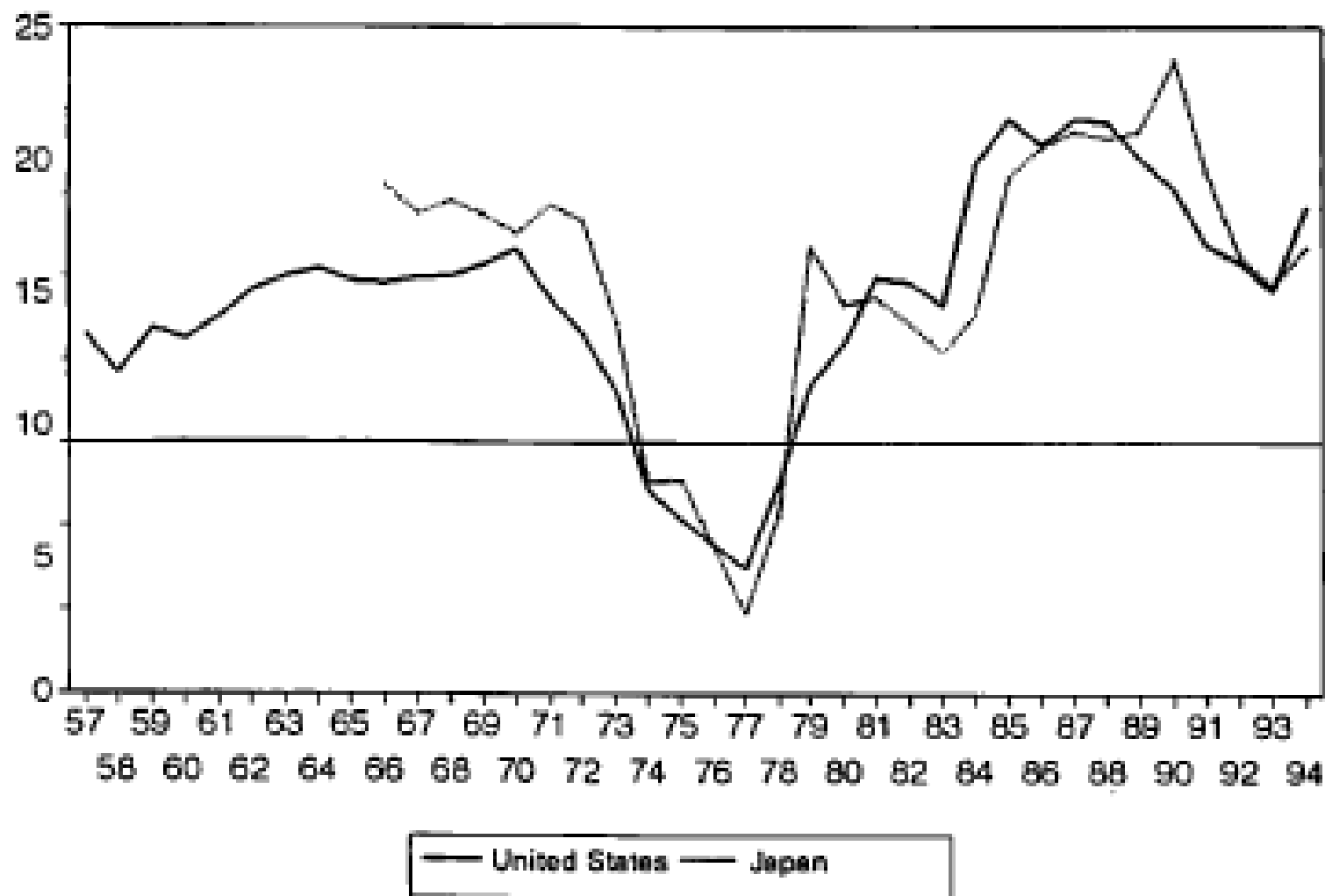


Figure 5.4
 Real long-term interest rates, deflated by five-year moving average WPI. *Source:* IMF, *International Financial Statistics*, CD-ROM, March 1995.

Low Inflation and Yen Appreciation

- However, the real interest rate deflated by the five year moving average of the wholesale price level has been almost the same, and moving into the same directions.
- That is, the free capital flow equates the real interest rates between the US and Japan.
- This fact implies that the Yen must continue to appreciate for ever, in order to compensate for the inflation rate gap between the two countries.

Does the Floating Exchange Rate Make Trade Surplus Zero?

- The equity of the long-term interest rate between Japan and USA implies that the capital market is integrated across the two countries.
- The trade surplus of Japan is consistent with the capital flow into USA.
- Any policy efforts to change this situation by manipulating the foreign exchange rates are not effective.

Growth and the Price Level

- After WWII, Japan's productivity growth has been higher than that of USA in most manufacturing industries.
- But in nontradable goods and services, the situation is opposite.
- In US, the ratio of retail to wholesale prices has been stable, reflecting a balanced productivity growth of tradables and nontradables.
- In Japan, however, the ratio has been growing, which suggest that the productivity growth in nontradables has been much slower than tradables.

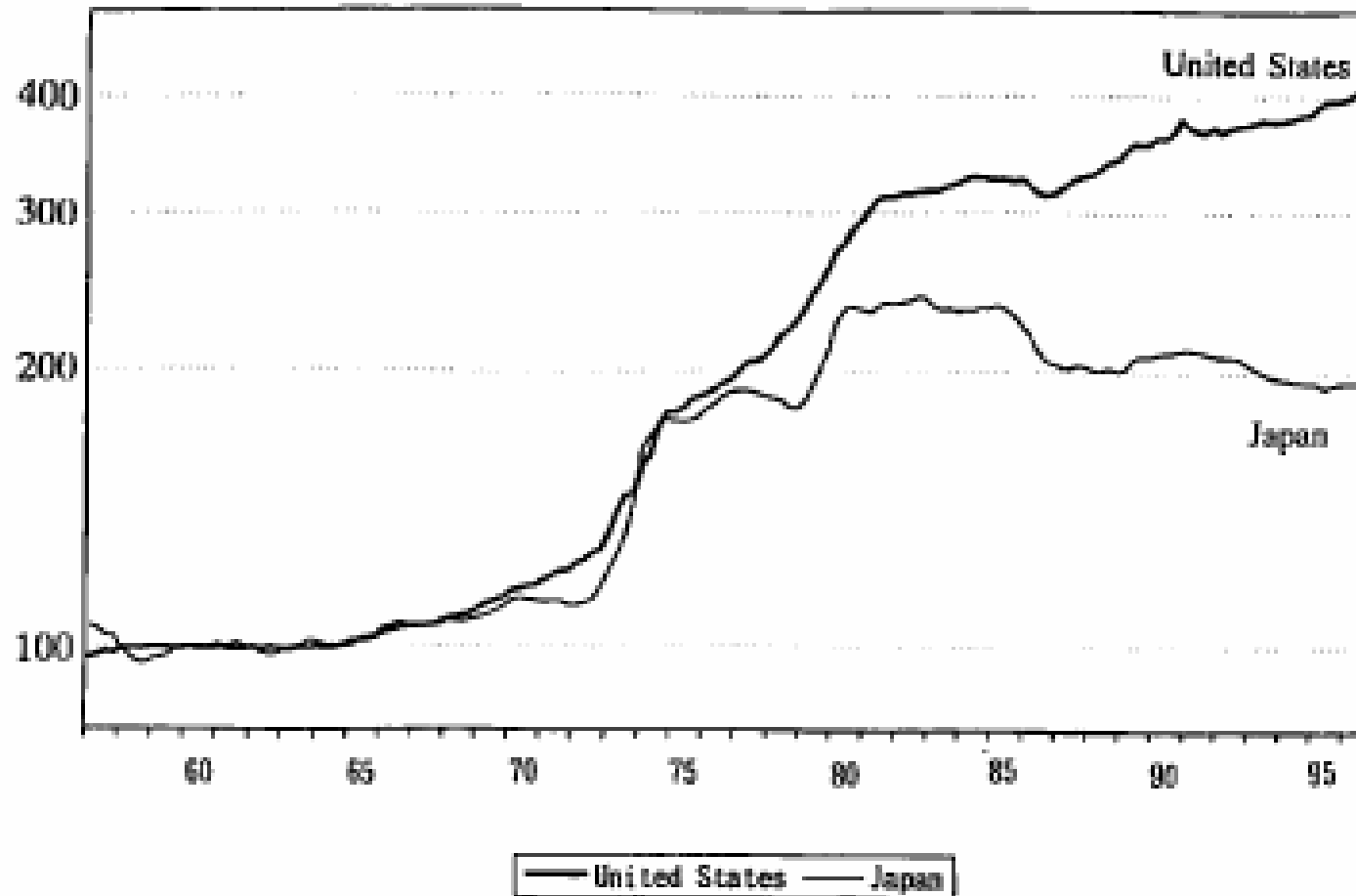


Figure 1.4

Price level of tradable goods (WPI), semilog scale, 1960:Q1 = 100. Note: Each graph is taken from line 63 of IMF, *International Financial Statistics*, CD-ROM, December 1996. In 1985, the U.S. WPI was merged into a series on the U.S. producer price index (PPI).

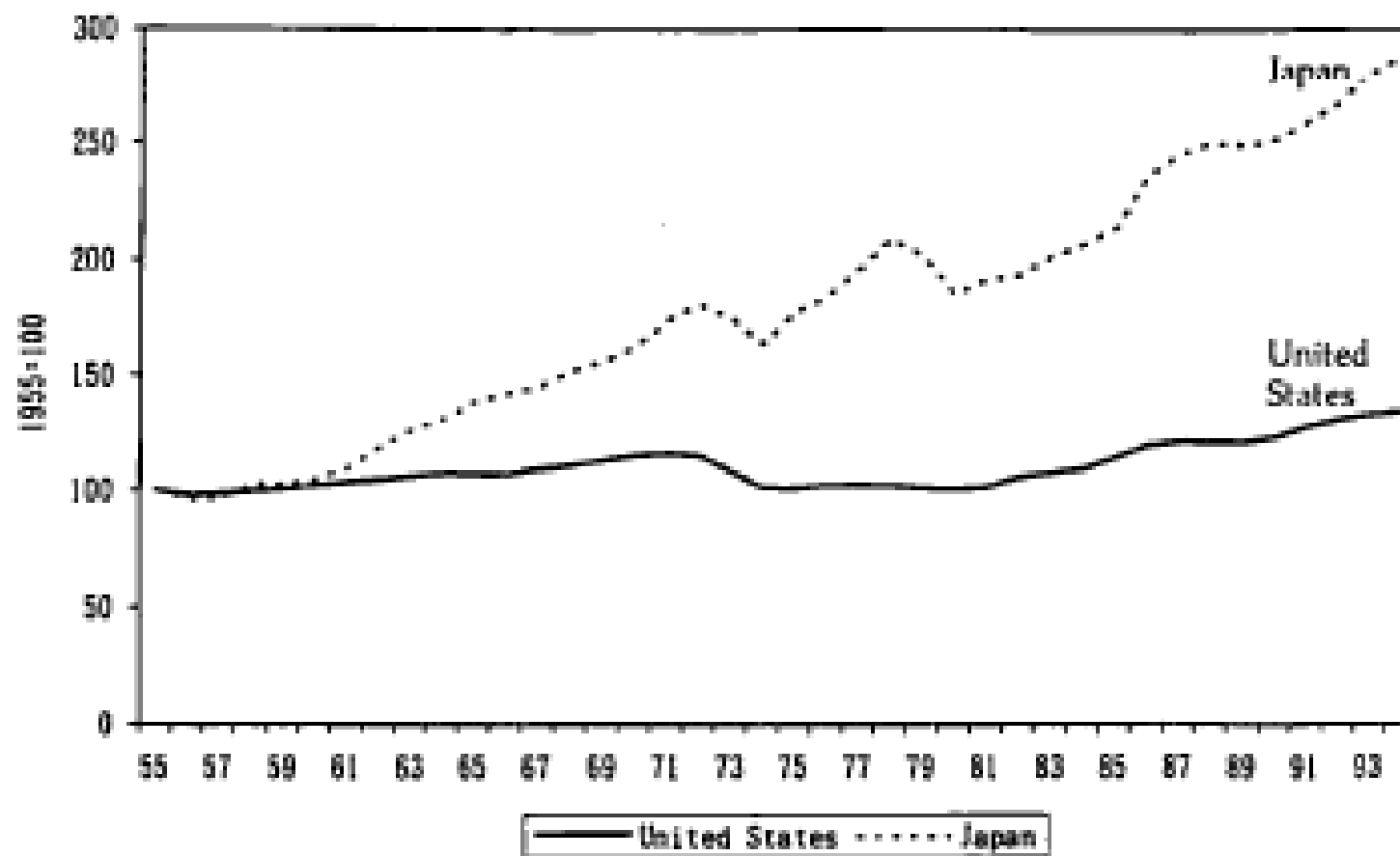


Figure 2.4

Internal price divergence, consumer prices/wholesale prices. Source: IMF, *International Financial Statistics*, CD-ROM, June 1995.

Why Growth Slowdowns?

- As an economy grows, two fundamental changes occur:
 - Growing productivity needs less workers.
 - Demand shifts from manufactured goods to services.
- Productivity growth is slower in services than in manufacturing.
- In developed countries, more value-added is produced in low-productivity-growth sectors, which results in slowdowns in GDP growth.

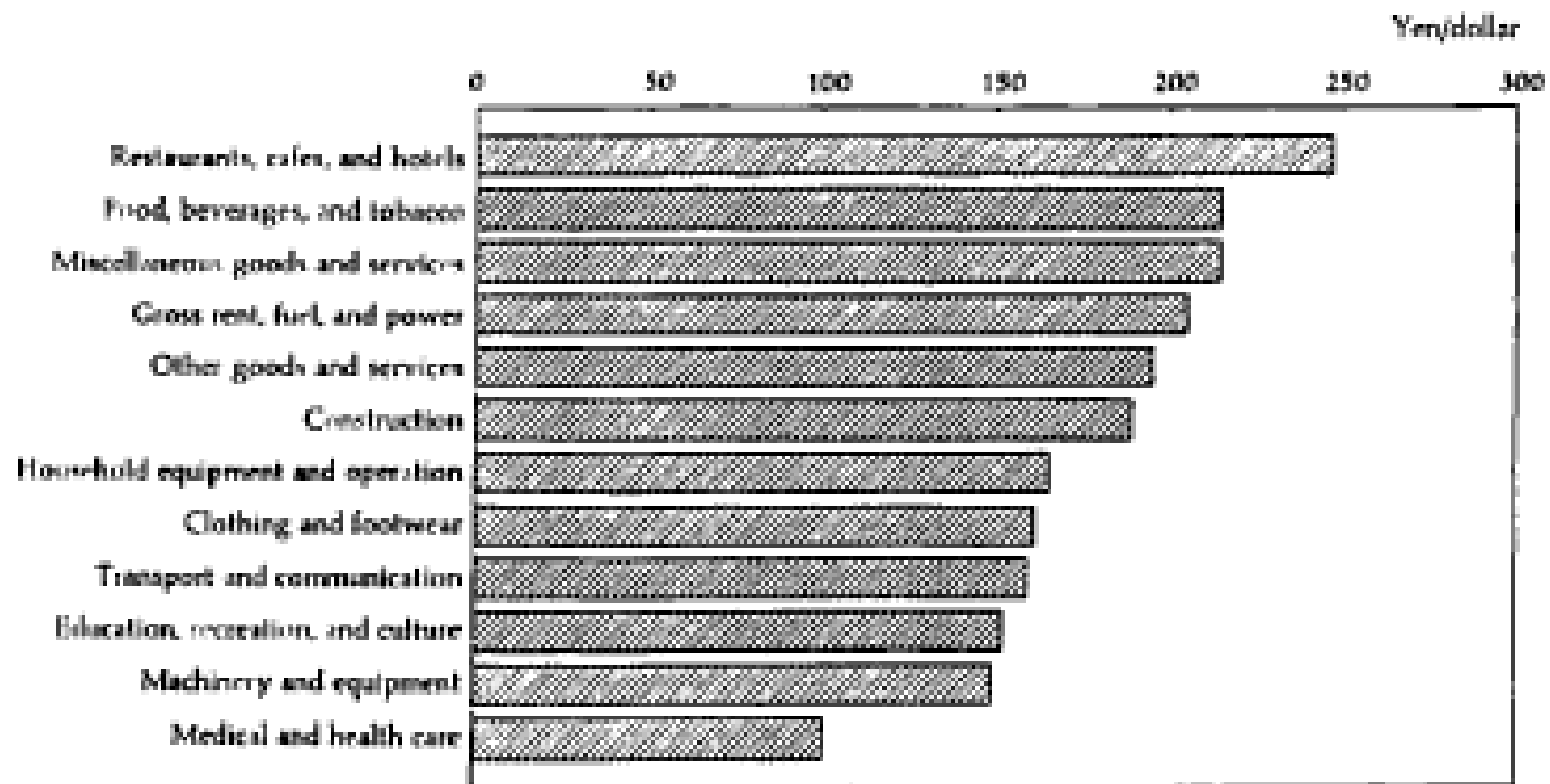


Figure 2.5

Purchasing power parity by expenditure: 1990, Japan against the rest of OECD. Source: OECD, *Purchasing Power Parities and Real Expenditures*, Paris 1992 (based on final expenditure on GDP and using the United National International Comparison Project categories).

Balassa-Samuelson Effect

- In the long-run, the foreign exchange rate is determined by PPP of tradable goods.
- (Balassa-Samuelson) If productivity growth is much faster in tradables than in nontradables, the price level of the country is higher than that of other countries.
- The high price level of Japan is a sign, not of a failure, but of a success of economic development.
- But Japan's economy has imbalance between tradable and non-tradable sectors.

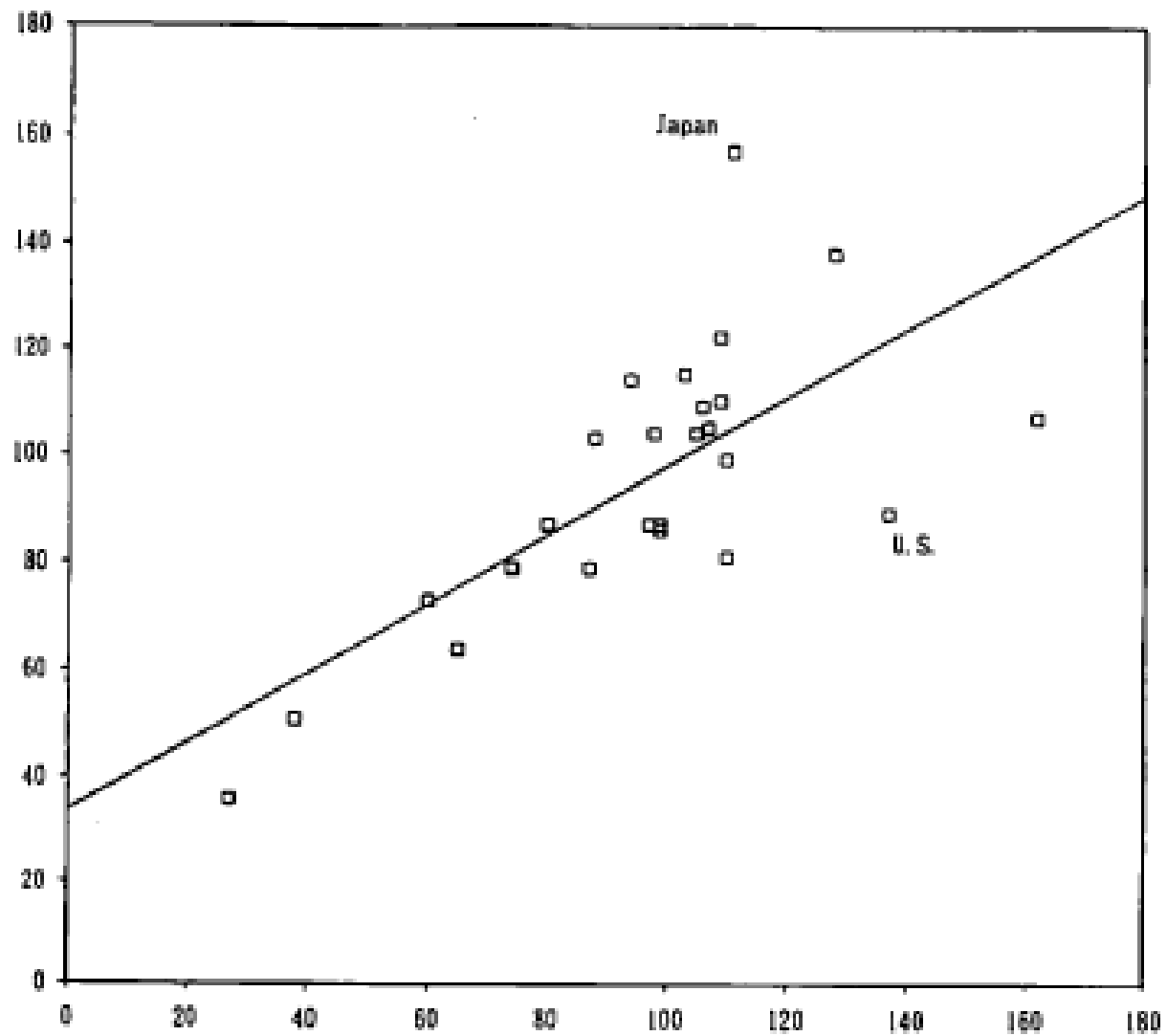


Figure 2.6
Per capita income and price levels: 1994, evaluated at PPP; OECD average = 100. Source: OECD, *Main Economic Indicators*, September 1995.