

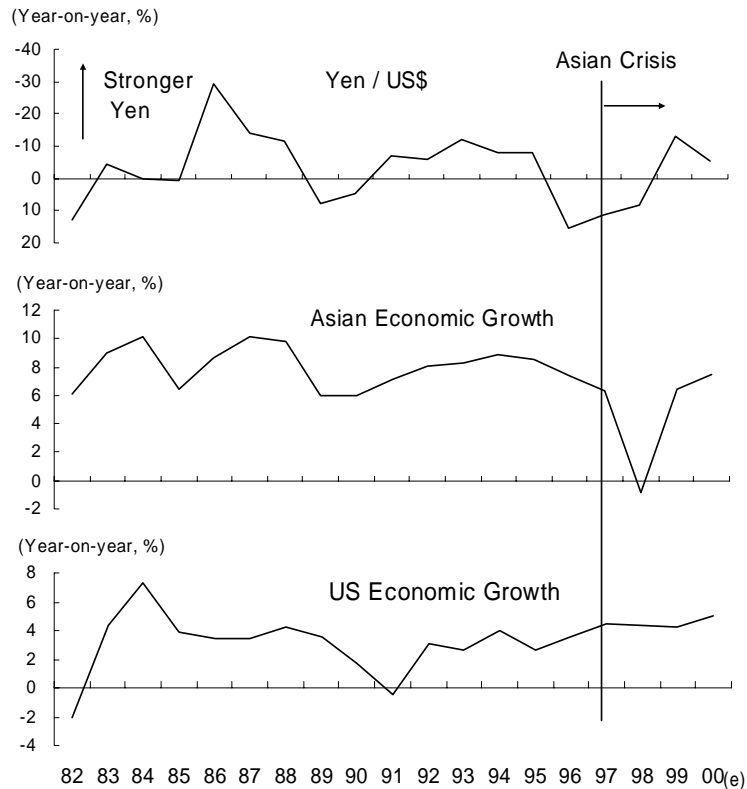
Yen and Yuan

The Impact of Exchange Rate Fluctuations on the Asian Economies

**C. H. Kwan
RIETI**

November 2001

The Yen-dollar Rate as the Major Determinant of Asian Economic Growth



Note: Asia = NIEs + ASEAN + China

Source: Compiled by RIETI based on official statistics.

External Factors Affecting Asia's Economic Growth

	Effect on Asia's Growth
1% Increase in Japan's Growth	0.1% ↑
1% Yen Appreciation	0.1% ↑
1% Increase in US Growth	0.3% ↑

The Impact of a Stronger Yen on Asian Economic Growth

Positive Effects

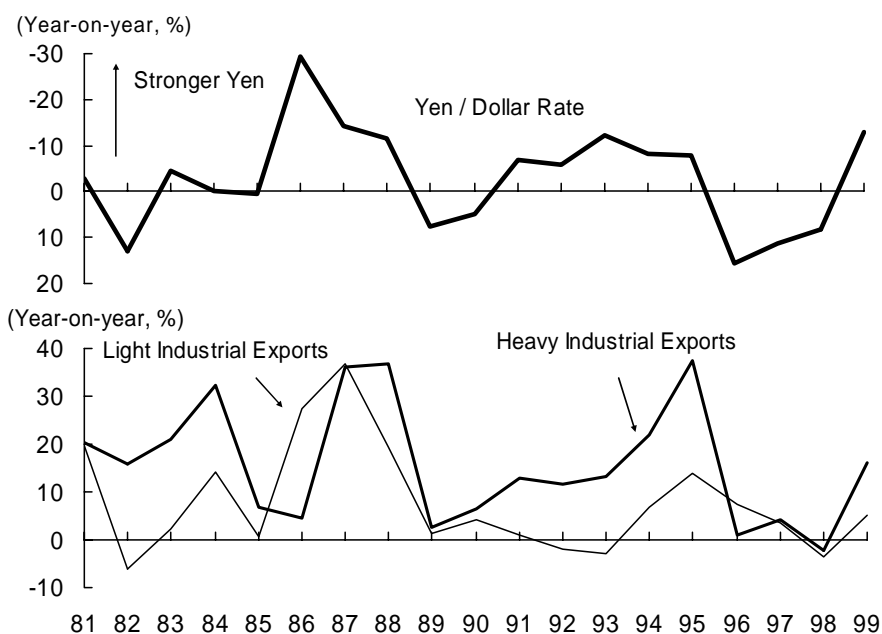
- Increase in direct investment from Japan
- Improvement in export competitiveness against Japanese products

Negative Effects

- Higher prices of imports from Japan
- Higher burden of Yen-denominated debt

Countries with trade structures competitive with Japan (e.g., South Korea) should benefit more than ones with trade structures complementary to that of Japan (e.g., China) .

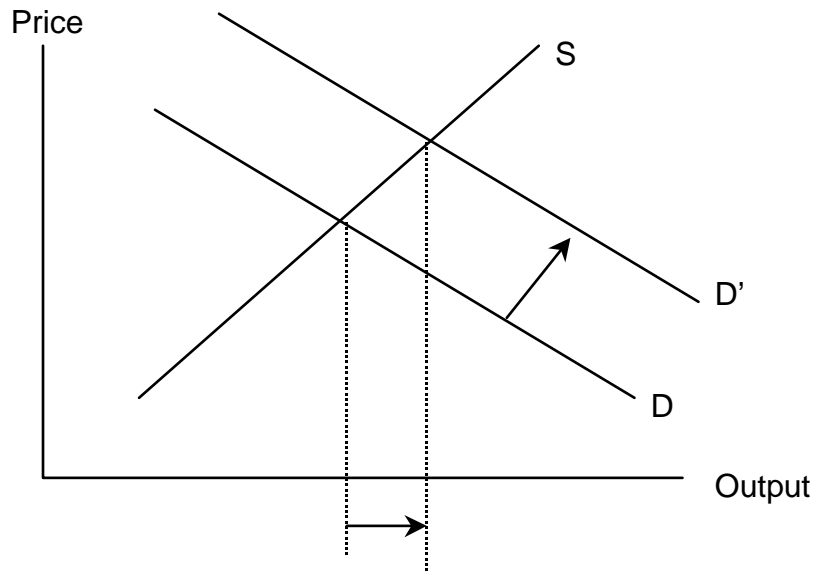
Korean Export Performance Hinges on the Yen-Dollar Rate



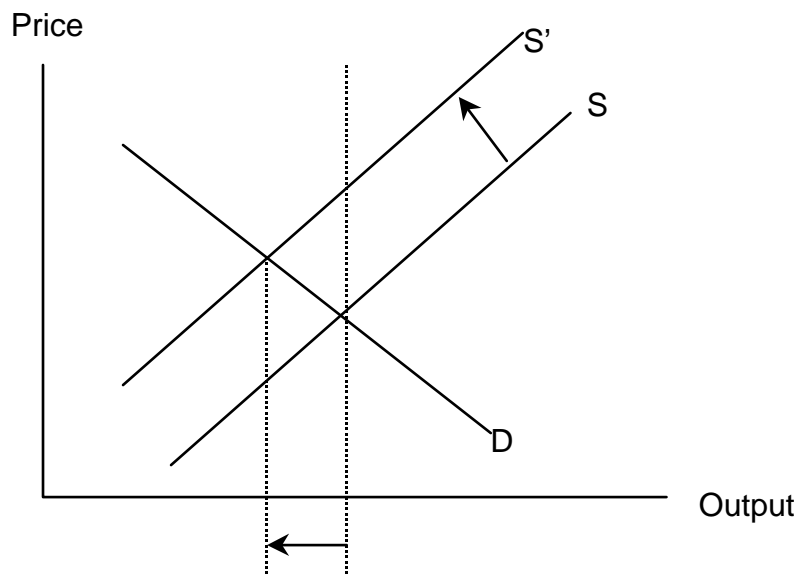
Source: Compiled by RIETI based on Korean trade statistics.

The Impact of a Stronger Yen on Asia

a) Gain in Export Competitiveness



b) Higher Import Prices



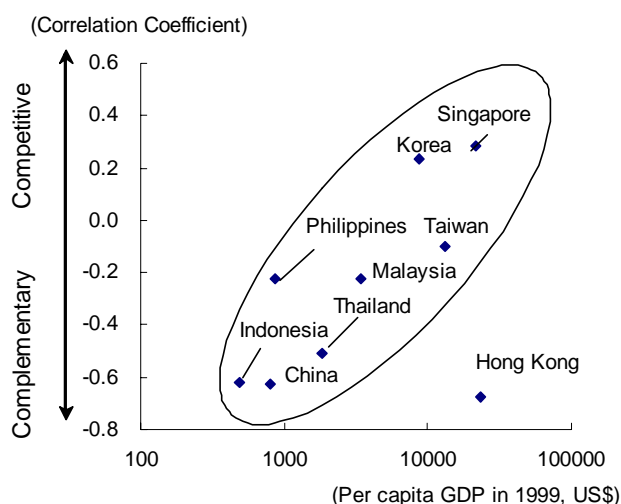
Source: RIETI

Specialization Indexes for Major Categories of Manufactured Goods (1999)

	Chemicals and Related Products	Manufactured Goods Chiefly Classified by Material	Machinery and Transportation Equipment	Miscellaneous Manufactured Articles
China	-0.40	-0.02	-0.08	0.76
Korea	-0.03	0.30	0.28	0.23
Taiwan	-0.28	0.31	0.11	0.22
Hong Kong	-0.11	-0.10	-0.07	0.17
Singapore	0.15	-0.28	0.06	-0.09
Indonesia	-0.31	0.52	-0.04	0.84
Thailand	-0.36	-0.08	0.05	0.69
Malaysia	-0.29	-0.09	0.13	0.34
Philippines	-0.80	-0.54	-0.06	0.33
Japan	0.15	0.19	0.54	-0.13

Source: Compiled by RIETI based on ADB, *Key Indicators of Developing Asian and Pacific Countries, 2000*.

Comparison of the Trade Structures of Japan and Asian Countries (1999)



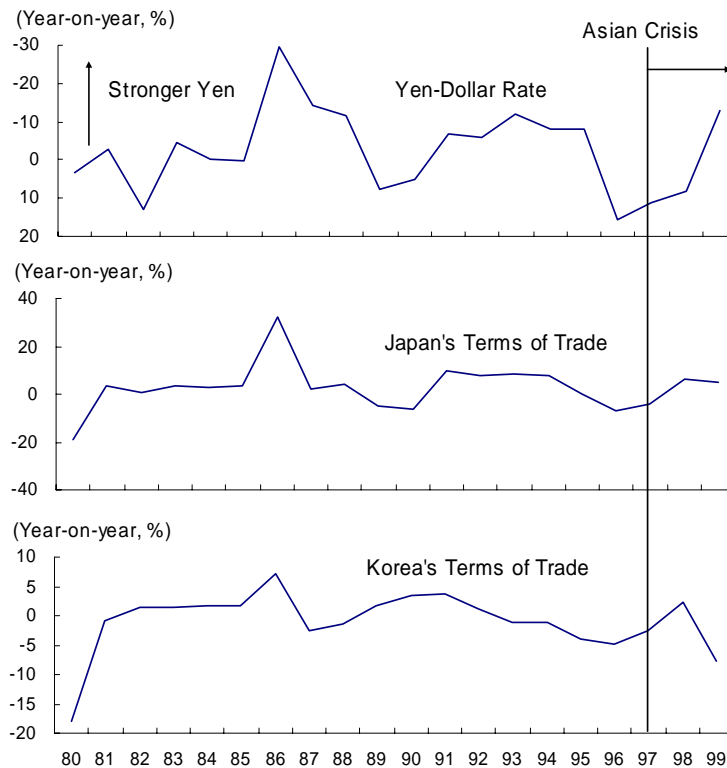
Notes

1) The degree of competition between an Asian country and Japan is calculated as the correlation coefficient between their respective vectors showing the specialization indexes $(\frac{\text{exports} - \text{imports}}{\text{exports} + \text{imports}})$ of major categories of manufactured goods. To focus on competition in the manufacturing sector, a four-category classification comprising chemicals and related products (SITC Section 5), manufactured goods classified chiefly by material (SITC Section 6), machinery and transport equipment (SITC Section 7), and miscellaneous manufactured articles (SITC Section 8) is used.

2) The specialization indexes for Hong Kong, and thus its degree of competition with Japan, have been distorted by the presence of re-export trade.

Sources: Compiled by RIETI based on ADB, *Key Indicators of Developing Asia and Pacific Countries*, supplemented by trade statistics of individual countries.

Synchronization between the Yen-dollar Rate and Korea's Terms of Trade



Note: Terms of trade = $\frac{\text{Export prices}}{\text{Import prices}} = \frac{\text{Output prices}}{\text{Input prices}}$

Sources: Compiled by RIETI based on official statistics.

Pegging Closer to the Yen

- Stabilizing yen-dollar rate.
- Pegging to a currency basket in which the yen carries substantial weight.
- Assuming that the Korean won is pegged to a basket of currencies in which the yen carries a weight of 70%, The Korean won is allowed to appreciate (depreciate) by 0.7% when the yen appreciates (depreciates) by 1%, both against the U.S. dollar.
- "Optimal weight" of the yen reflects extent of competition with Japan.

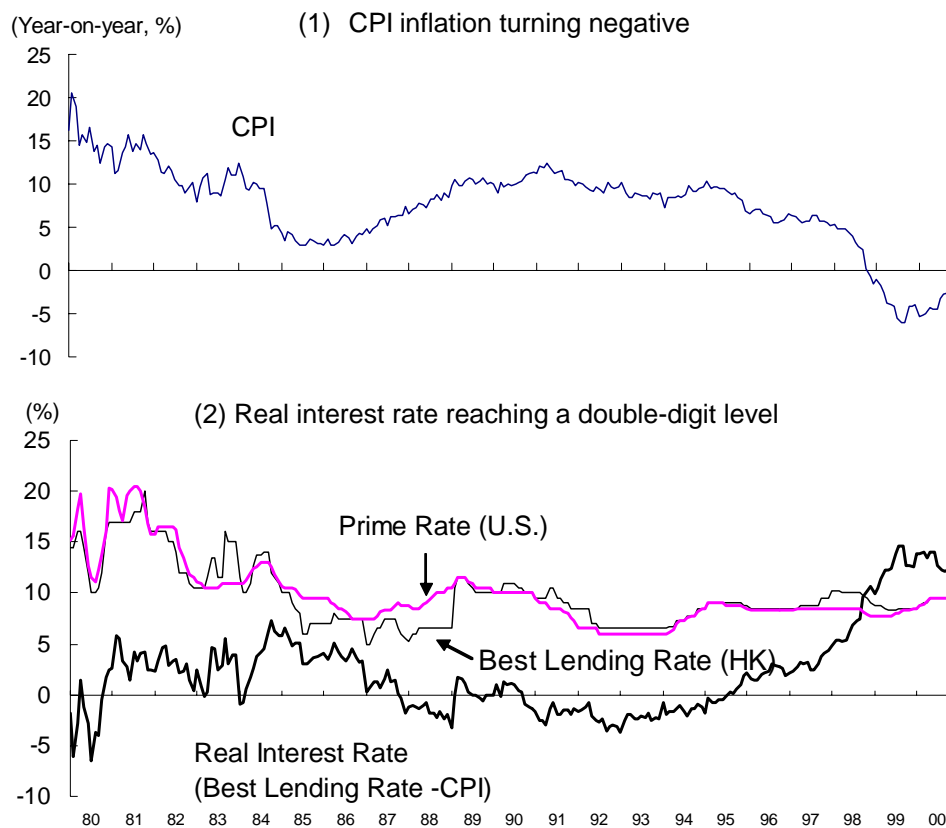
Correlation between Asian and U.S. Economic Growth Rates

	1971-84	1985-98	(1985-96)
Asia	0.731	-0.193	0.175
China	0.139	0.161	0.262
Korea	0.584	-0.298	-0.087
Taiwan	0.857	-0.013	0.090
Hong Kong	0.705	-0.102	0.097
Singapore	0.461	-0.156	-0.074
Indonesia	0.436	-0.321	-0.282
Thailand	0.545	-0.334	-0.068
Malaysia	0.537	-0.343	-0.281
Philippines	-0.189	0.204	0.243
Japan	0.616	-0.163	0.066

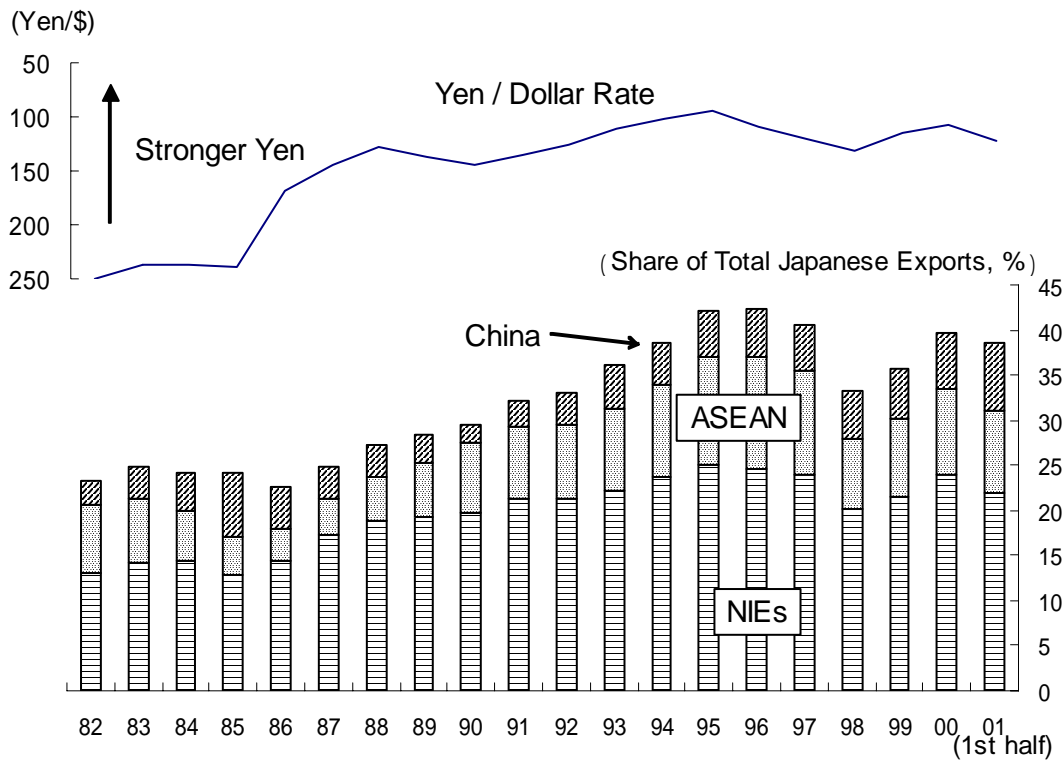
Note: Asia = NIEs + ASEAN + China

Sources: Compiled by RIETI based on official statistics of countries concerned.

Counter-cyclical Movement of Real Interest Rates in Hong Kong



The Yen/Dollar Rate and Japanese Exports to Asia



Source: IMF, *International Financial Statistics* and Japanese trade statistics.

The Yen-Dollar Rate as a Major Determinant of the BIS Ratio of Japanese Banks

BIS Capital Adequacy Ratio

$$\frac{\text{Capital}}{\text{Risk Assets}} > 8\%$$

For Japanese Banks :

Capital (¥)

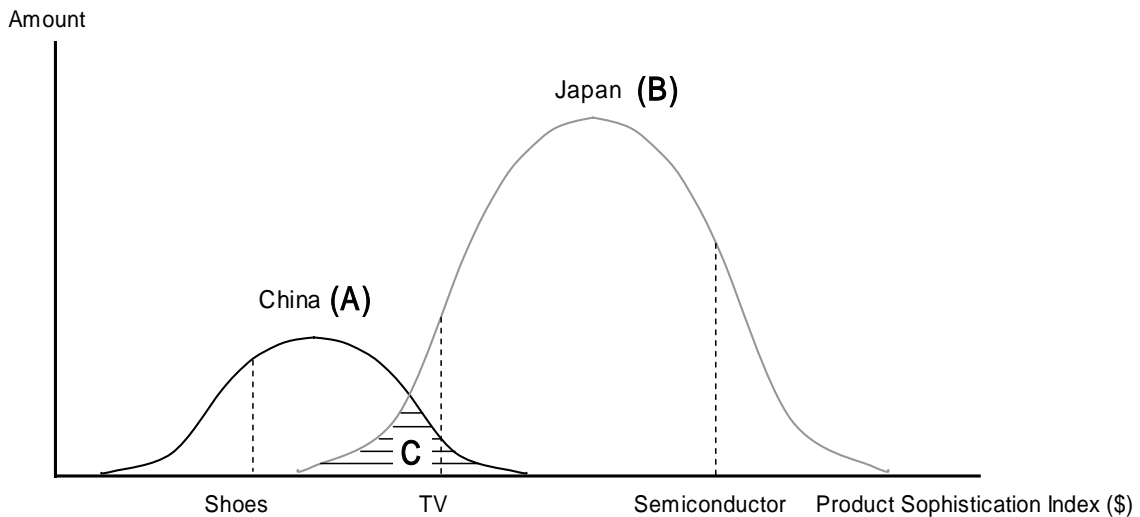
Risk Assets = Domestic Lending (¥) + Overseas Lending (\$)

Comparison between Major Development Indicators of China and Japan

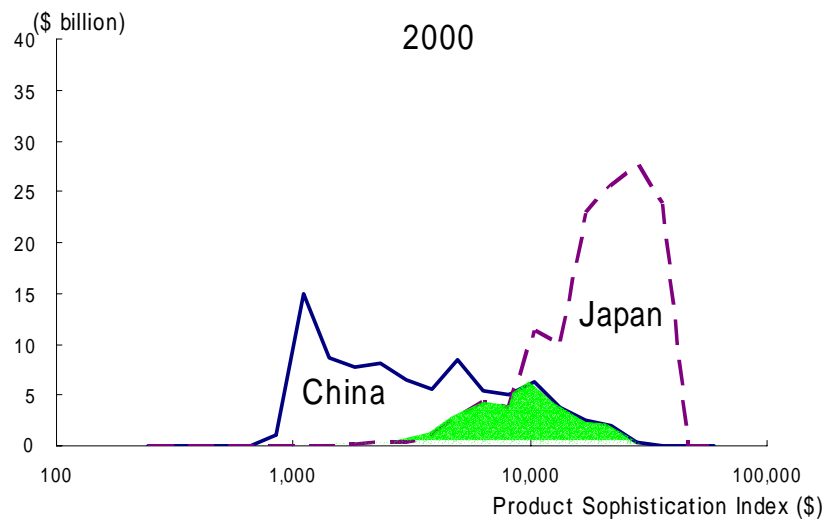
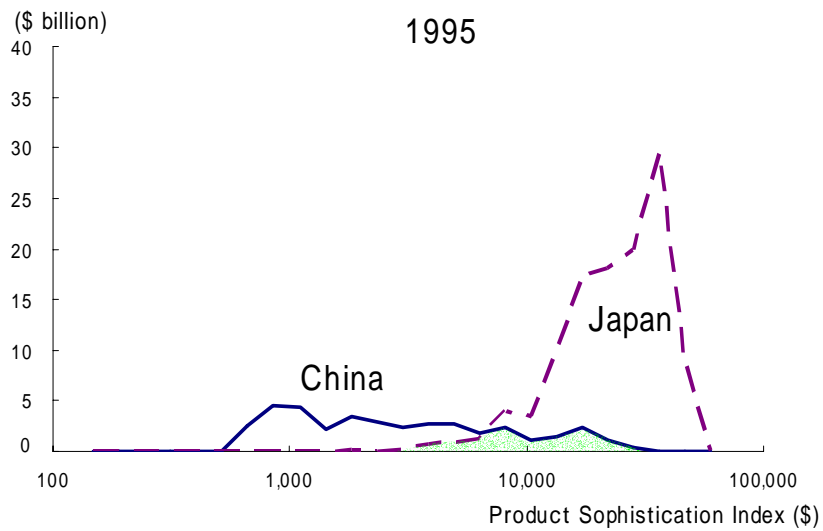
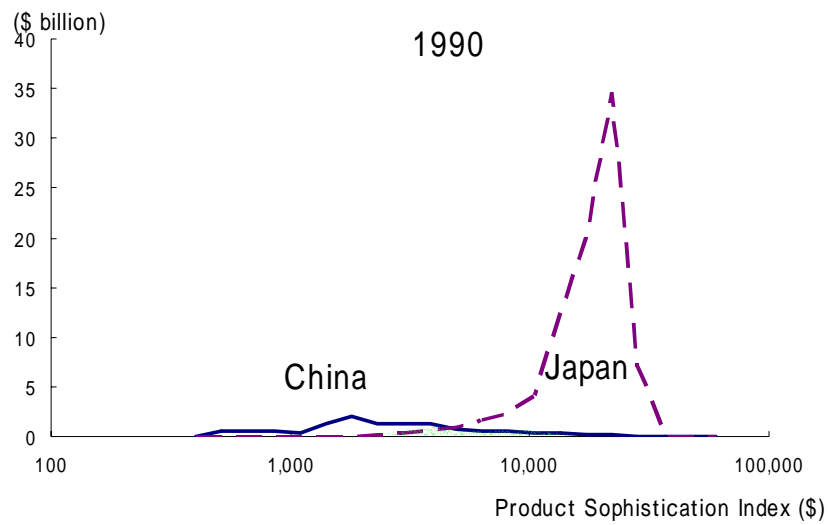
	China (Latest)		Japan (Around 1960)	
	Female	Male	Female	Male
Life Expectancy (years)	72 (1998)	68	72.92 (1965)	67.74
Infant Mortality Rate (per thousand)	31 (1999)		30.7 (1960)	
Primary Sector as a Share of GDP(%)	15.9 (2000)		16.7 (1959)	
Engel's Coefficient (%)	39.2 (2000)		38.8 (1960)	
Per Capita Electricity Consumption (kwh)	1,071 (2000)		1,236 (1960)	

Sources: *China Statistics Abstract 2001*, *Japan's 100 Years* (Kokuseisha).

Competition between China and Japan



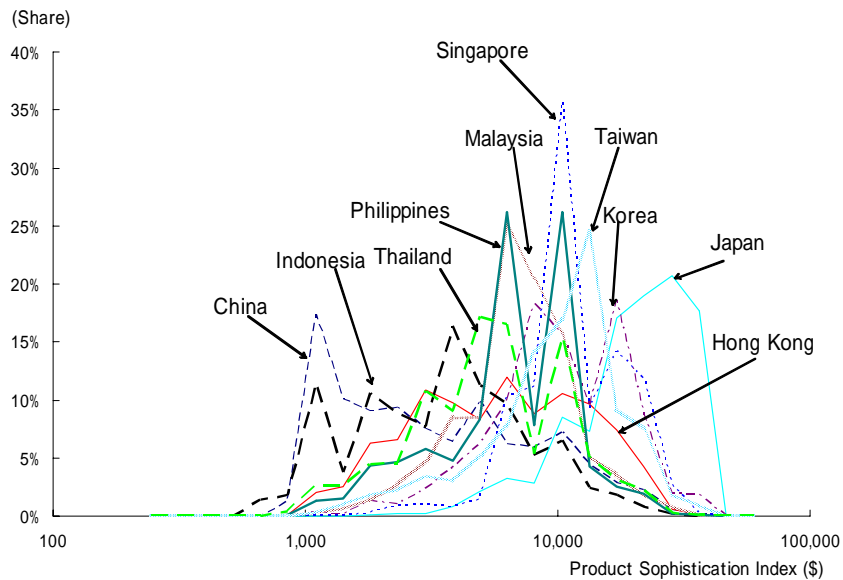
Competition between China and Japan in the U.S. Market



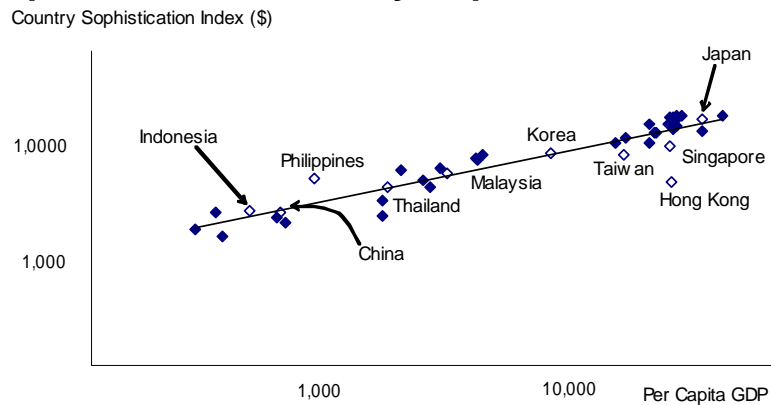
Competition between Chinese and Japanese Products in the U.S. Market

	1990	1995	2000
(A) China's Manufactured Exports to U.S. (\$, billion)	12.0	38.2	86.5
(B) Japan's Manufactured Exports to U.S. (\$, billion)	84.0	114.1	134.3
(C) Overlapped Amount (\$, billion)	3.8	11.9	27.9
(C/B) China as a Competitor of Japan	4.6%	10.5%	20.7%
(C/A) Japan as a Competitor of China	32.1%	31.3%	32.2%

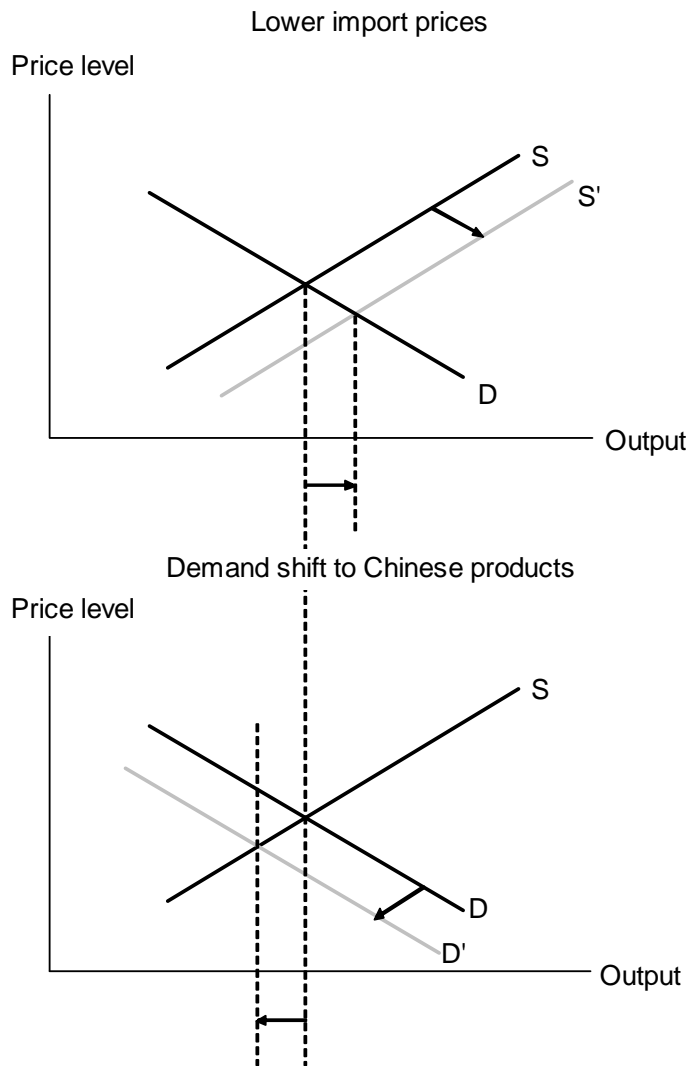
The Flying Geese Pattern of Asian Countries Exports (In Terms of Exports to the United States)



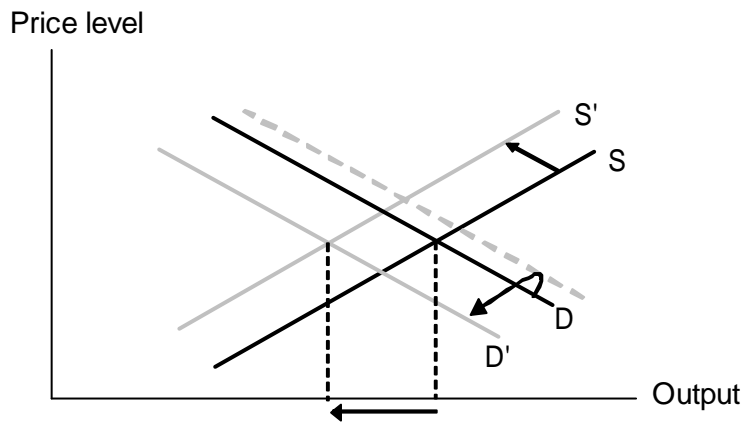
Per Capita GDP and Country Sophistication Index (2000)



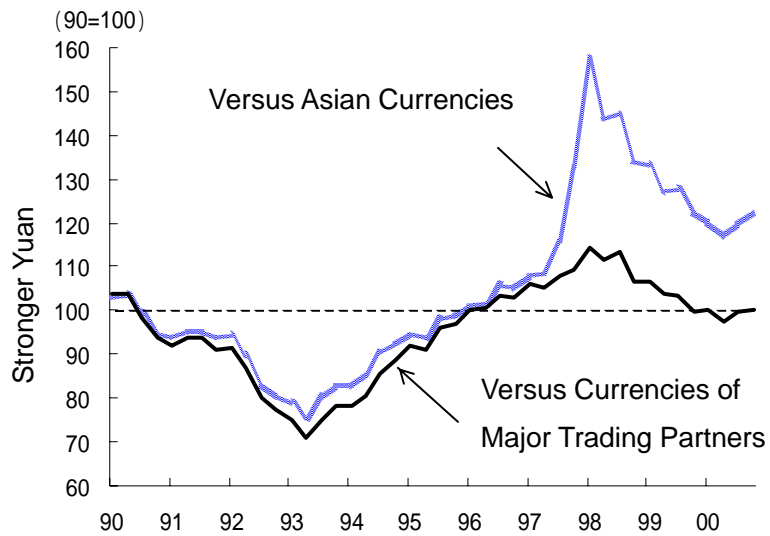
The China Factor in Japan's Deflation



The Impact of Yuan Appreciation on Japan



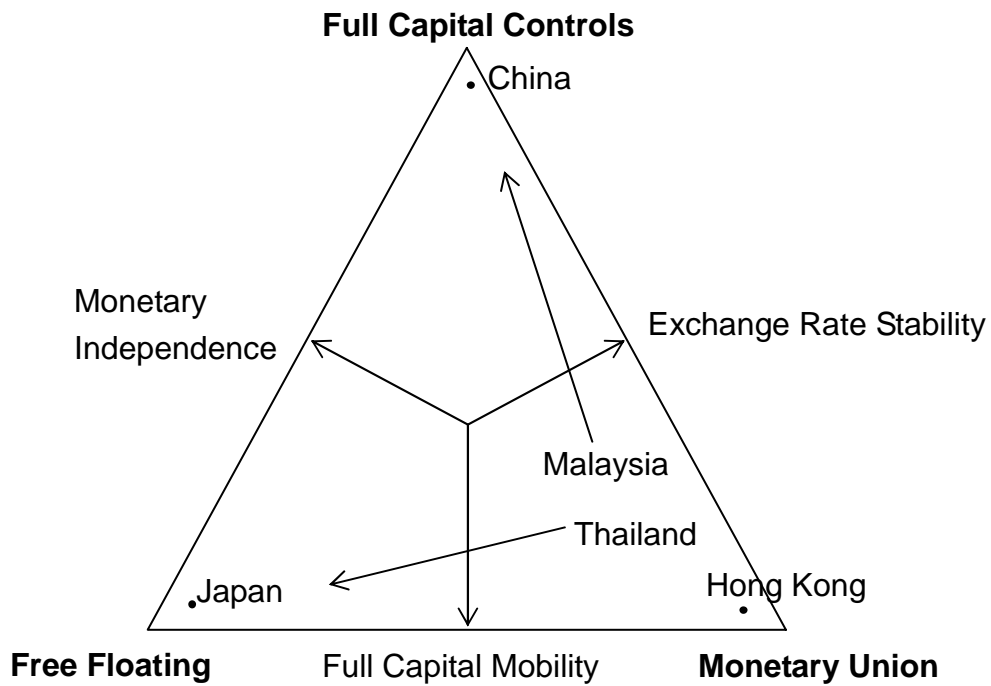
Real Effective Rate of the Yuan



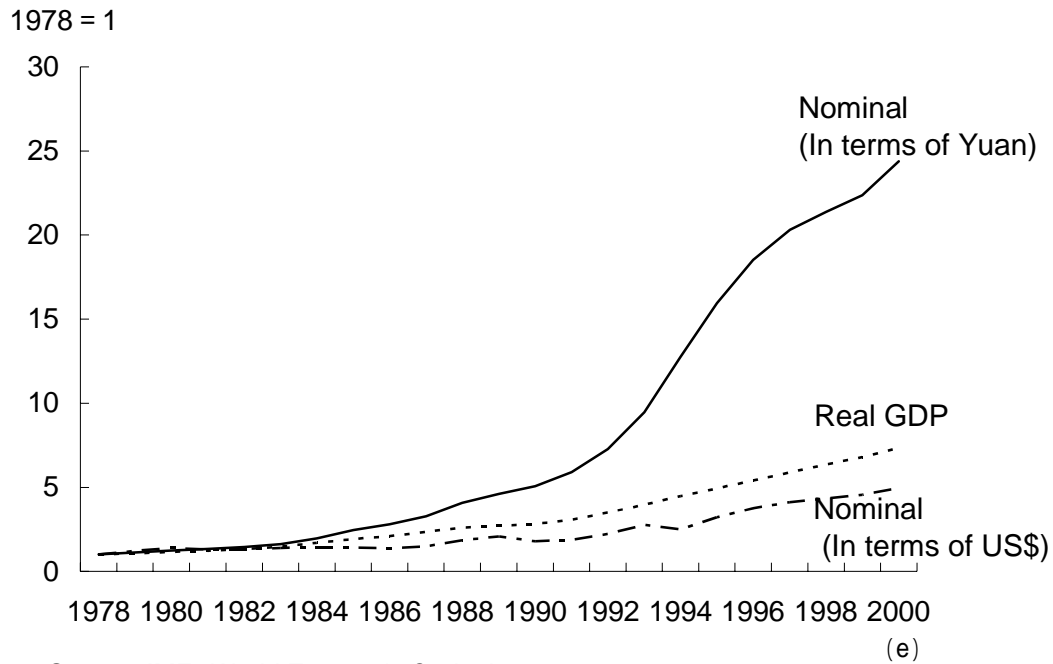
Note: Export-weighted and based on WPI

Source: Nomura Research Institute

The Impossible Trinity

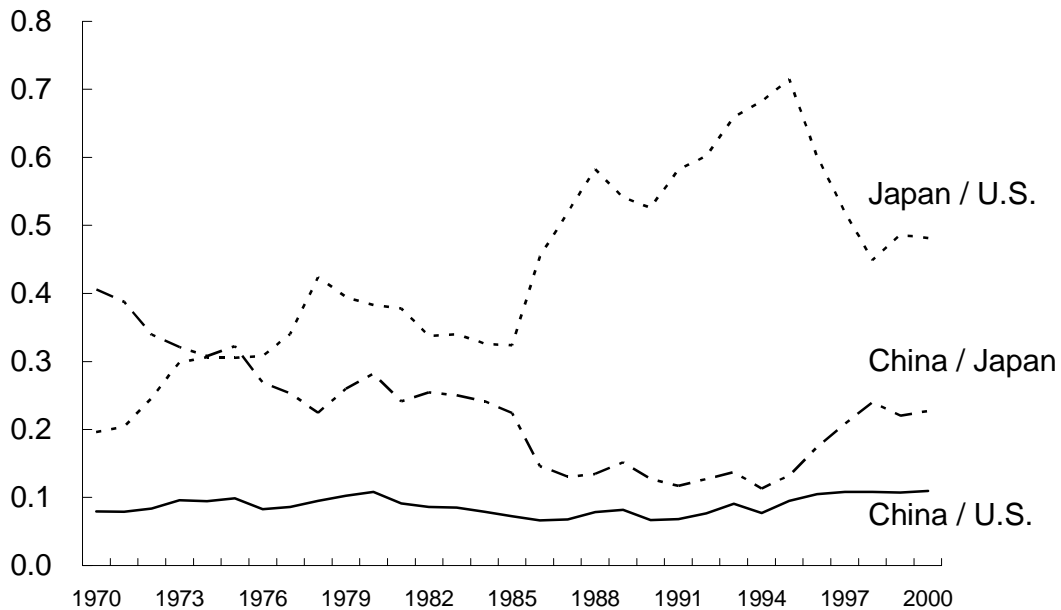


China's GDP since Opening Up



Source: IMF, *World Economic Outlook*

Relative Nominal GDP among China, the U.S. and Japan



Source: IMF, *World Economic Outlook*