

China in the Global Economy

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A Preview

- ◆ The Chinese Economy Today
- ◆ How Reliable Are Chinese Economic Data?
- ◆ Comparison with Developed and Developing Economies
- ◆ China without the World and the World without China
- ◆ Prospects for Future Economic Growth
 - ◆ Sources of East Asian Economic Growth
 - ◆ The Three Paradigms of Economic Growth
 - ◆ The Development of the “Great West”

The Chinese Economy Today

The Chinese Economy Today (1)

- ◆ East Asia is the fastest-growing region in the world over the past two decades, the East Asian currency crisis of 1997-98 notwithstanding
- ◆ China is the fastest growing country in East Asia—nearly 10% p.a. since beginning of economic reform (1979)
- ◆ Between 1979 and 2001, Chinese real GDP grew from \$177 billion to \$1.16 trillion (2001 prices) and real GDP per capita grew from \$183 to \$920. The U.S. GDP (\$10.19 trillion) and GDP per capita (\$36,840) are respectively 9 and 40 times the comparable Chinese figures.
- ◆ China survived the East Asian currency crisis relatively unscathed.
- ◆ China is one of the very few socialist countries that have made a successful transition from a centrally planned to a market economy—the 10th Five-Year Plan is only indicative and not mandatory; the rate of interest (the price of money) and the exchange rate are the only prices that are still administratively determined on the margin.
- ◆ The private (non-state) sector accounts for more than 65% of GDP and an even greater percentage of employment in 2001—non-state-owned firms face hard budget constraints and ordinary citizens can make a good living without being beholden to the state.
- ◆ China is the 6th largest trading country in the world (exports of US\$266.2 billion and imports of US\$245 billion, totaling US\$511.2 billion in 2001)
- ◆ China is no longer a “shortage” economy—insufficient aggregate demand is a real possibility

The Chinese Economy Today (2)

	1979	2001
	US\$ (2001 prices)	
Real GDP	177 bill.	1.16 trill.
Real GDP per capita	183	920

The Chinese Economy Today (3)

	U.S.	China
	US\$ (current prices)	
2001 GDP	10.19 trill.	1.16 trill.
2001 GDP per capita	36,840	920

Rates of Growth of Real GDP and Inflation

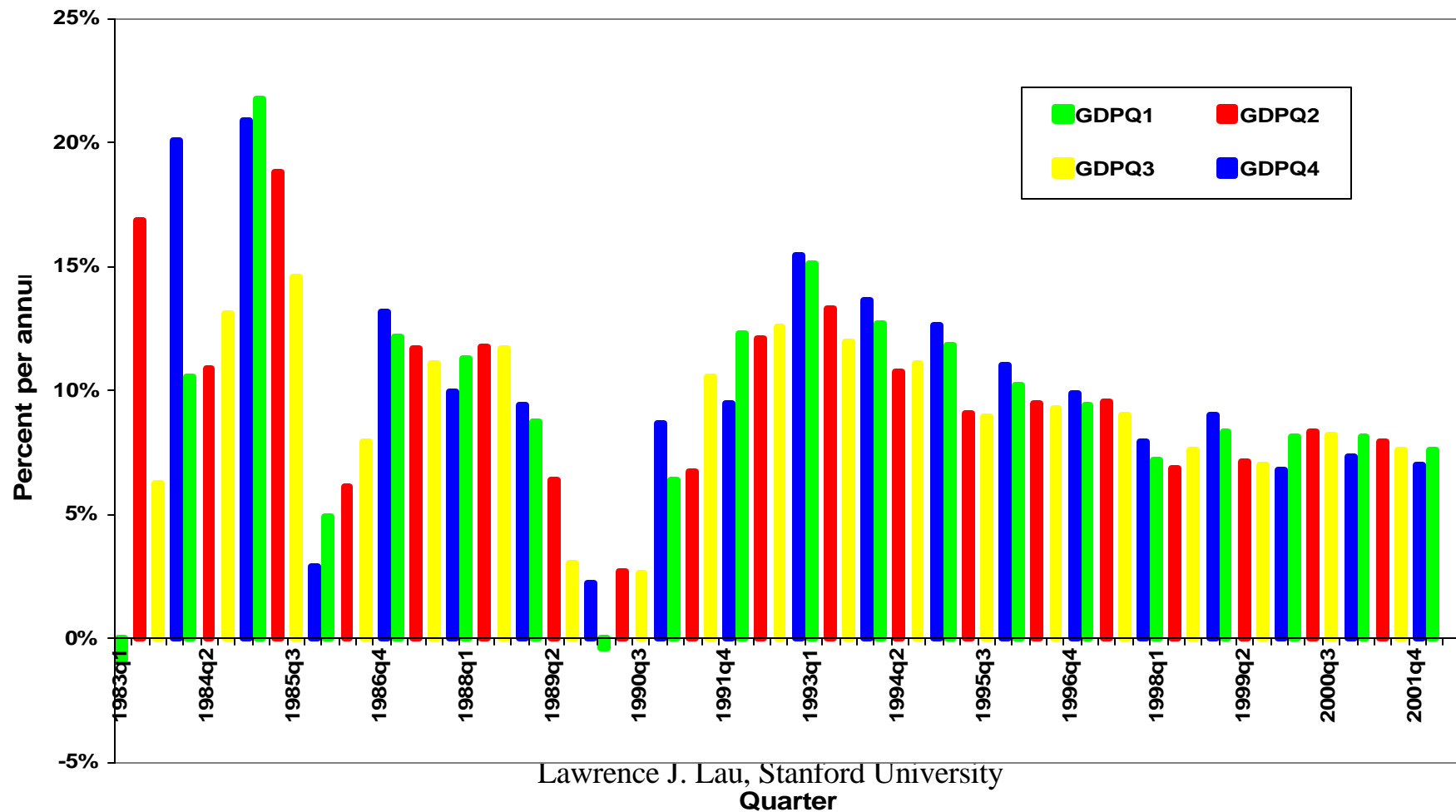
(% p.a.)

- | Actual | Real GDP | RPI | CPI |
|--------|----------|------|------|
| 1997 | 8.8 | 0.8 | 2.8 |
| 1998 | 7.8 | -2.6 | -0.8 |
| 1999 | 7.1 | -2.9 | -1.3 |
| 2000 | 8.0 | -1.5 | 0.4 |
| 2001 | 7.3 | -0.8 | 0.7 |
| 2002Q1 | 7.6 | | -0.6 |
- ◆ Projections

2002	>7.0	(NBS)
	7.0	(ADB)
	7.5	1.0 (Lau)
	6.9	(Lehman)
 - ◆ Despite fluctuations in exports and imports, the rate of growth of real GDP has remained remarkably stable at 7-8%. Exports are approximately 20% of GDP, but the value-added component is only approximately 30%, resulting in an export-generated value-added to GDP ratio of 6%. Chinese exports to the U.S. is approximately 7.3% of Chinese GDP (according to adjusted U.S. data), with a value-added content of 20%, resulting in a value-added to GDP ratio of 1.5%.
 - ◆ The Development Research Center of the State Council has estimated that accession to WTO will increase the rate of growth of the Chinese economy by 0.5% per annum; the U.S. International Trade Commission has estimated that real GDP would be 4% higher in 2010 than otherwise.
 - ◆ The National Bureau of Statistics (NBS) projected that the award of the 2008 Summer Olympic Games to Beijing should add 0.3-0.4% to the average annual growth rate
 - ◆ The long-term core inflation rate--inflation rate net of changes in the prices of energy and food--may be estimated at 1 percent--there is no deflation

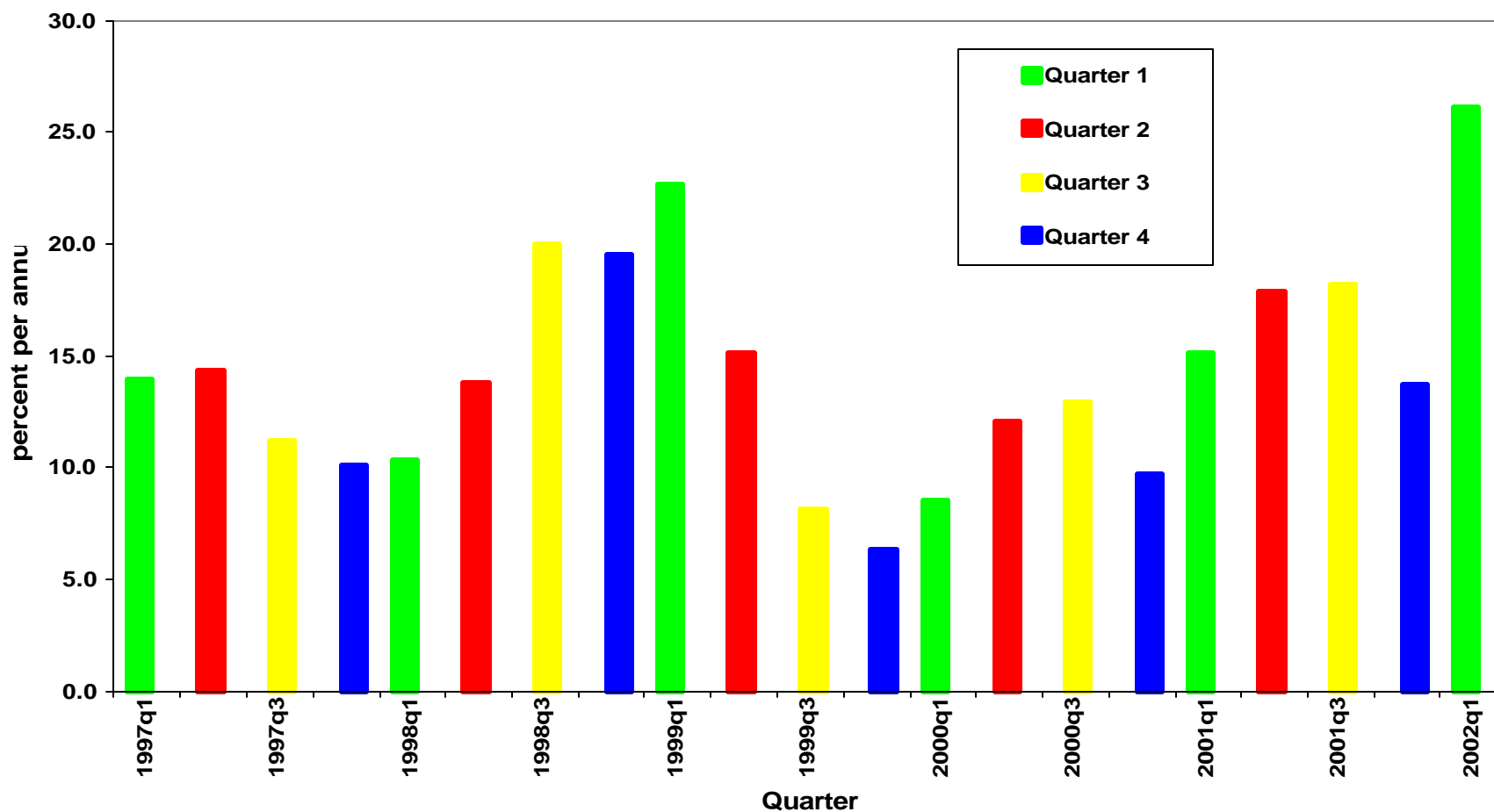
Quarterly Rates of Growth of the Real GDP of the Chinese Economy, Y-o-Y

YoY Quarterly Rates of Growth of Real GDP



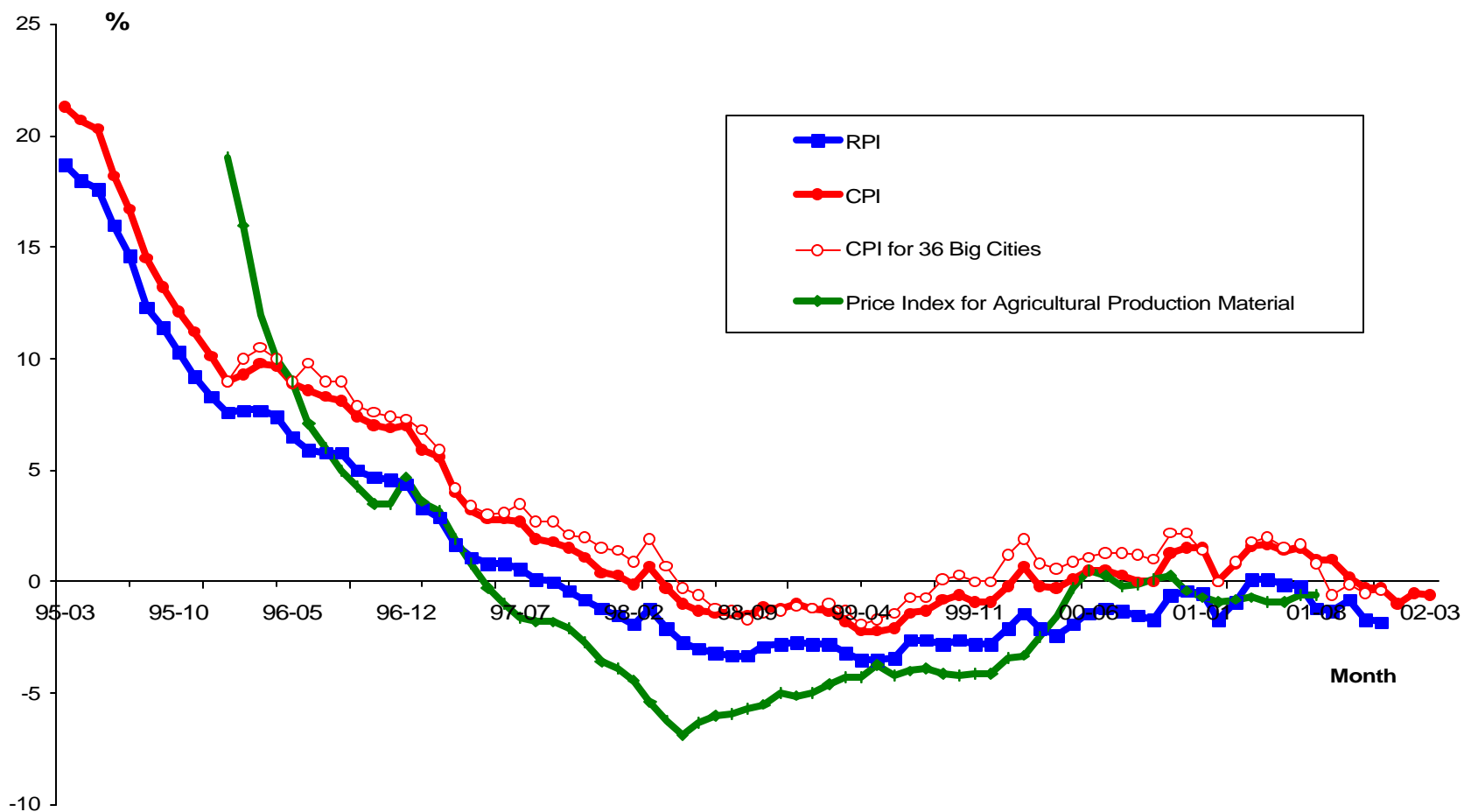
Quarterly Rates of Growth of the Real Gross Fixed Investment of the Chinese Economy, Y-o-Y

YoY Quarterly Rates of Growth of Real Gross Fixed Investment



The Consumer and Retail Price Indices

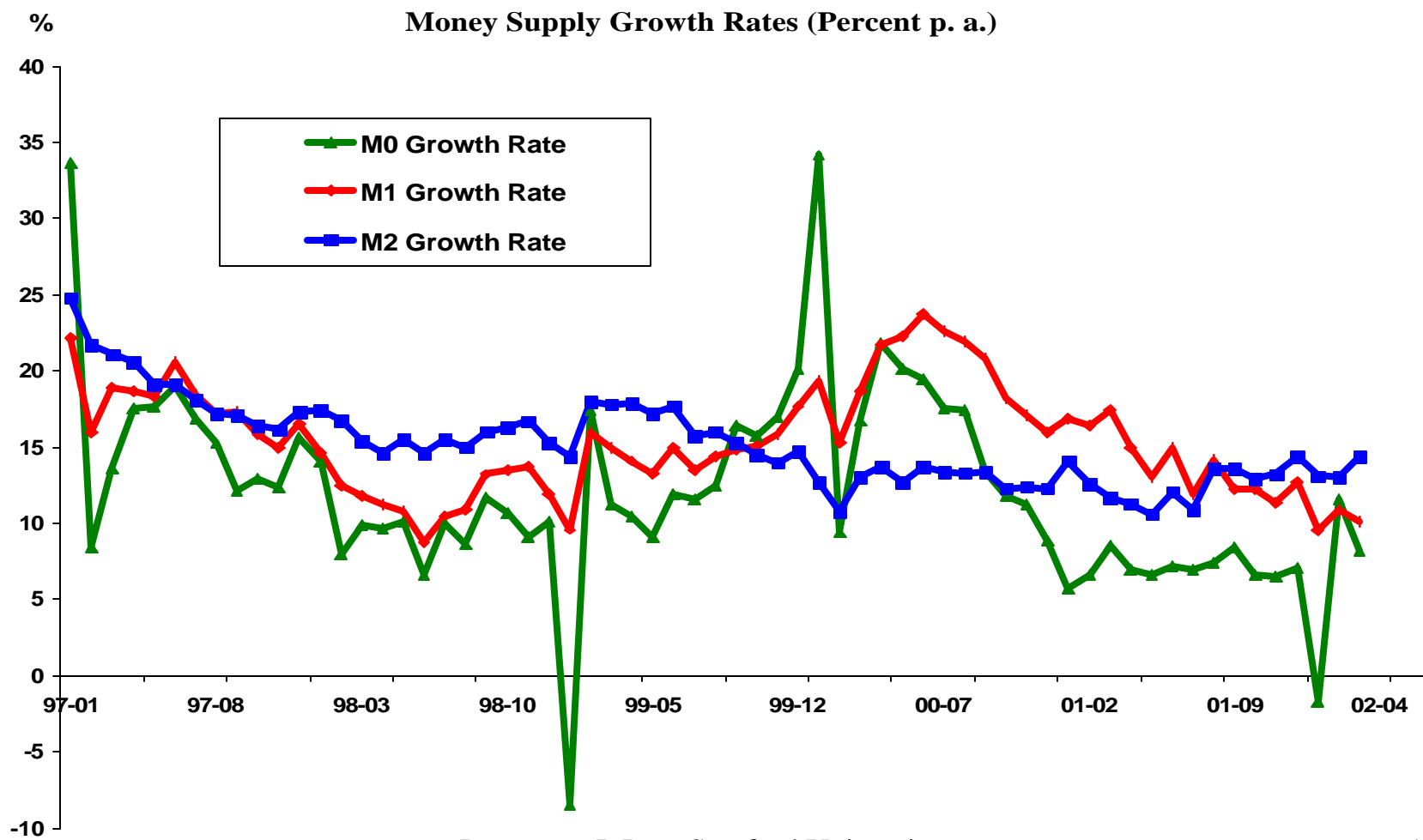
Monthly Rates of Change of Price Indices Since 1995 (Y-o-Y)



Has “Deflation” Stopped?

- ◆ Deflation has slowed/stopped:
 - ◆ In 1999 the RPI declined 2.9%; in 2000 the RPI declined only 1.5%
 - ◆ In 1999 the CPI declined 1.3%; in 2000 the CPI rose 0.4%
 - ◆ In 2001, the CPI rose 0.7%, the RPI declined 0.8% and the PPI declined 3.7%
 - ◆ In 2002Q1, the CPI declined 0.6%
 - ◆ In April 2002, the PPI declined 3.1% Y-o-Y; in January-April, 2002, the PPI declined 3.8% Y-o-Y
- ◆ The “core” rate of inflation is positive
 - ◆ The decline in prices over the past two years was due in part to the fall in the prices of energy and in particular oil and food because of the good harvest
 - ◆ The long-term core inflation rate--inflation rate net of changes in the prices of energy and food--may be estimated at 1 percent--there is no deflation

Growth Rates of the Money Supply



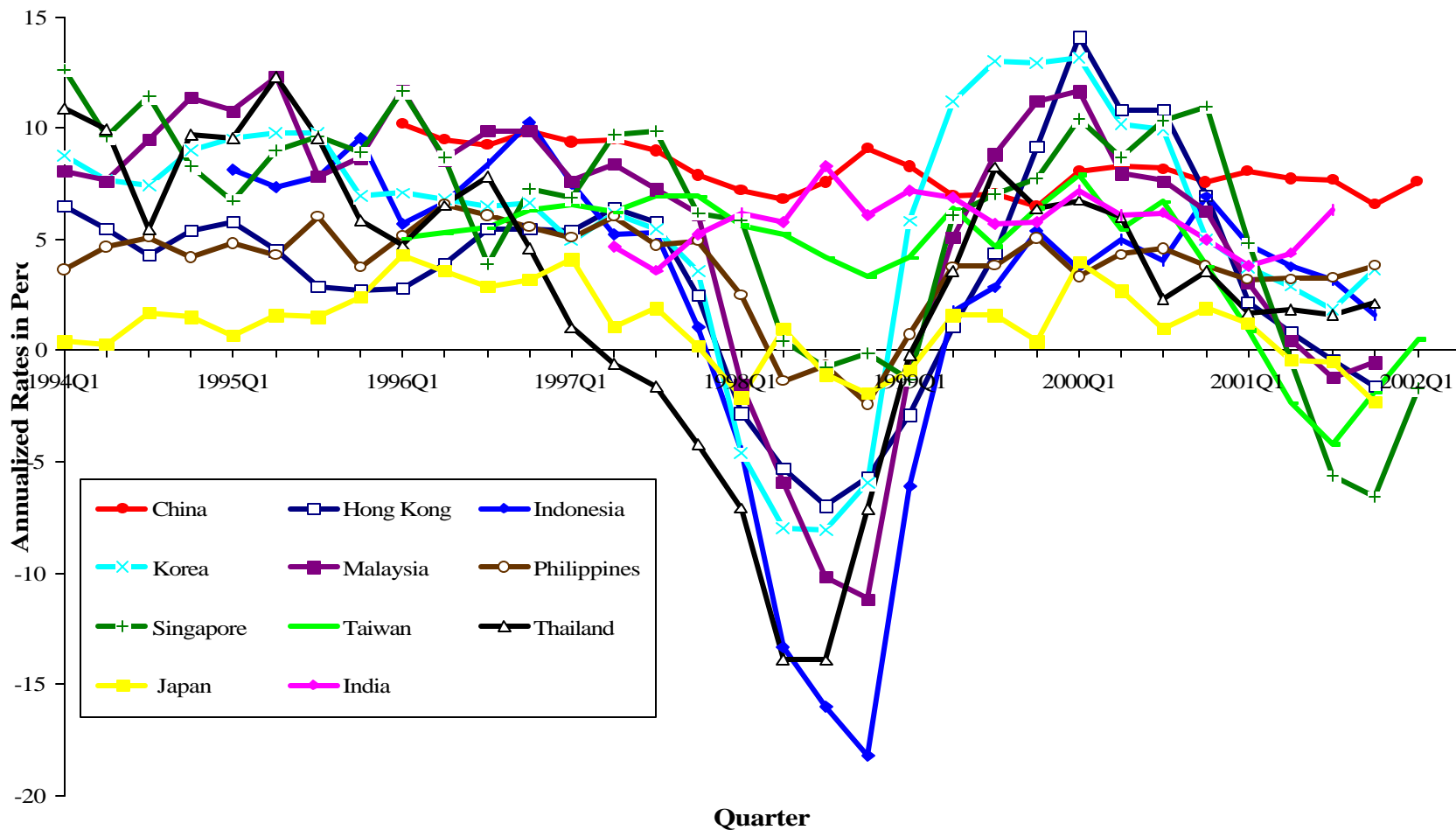
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China's Gross Domestic Investment as a Percent of GDP

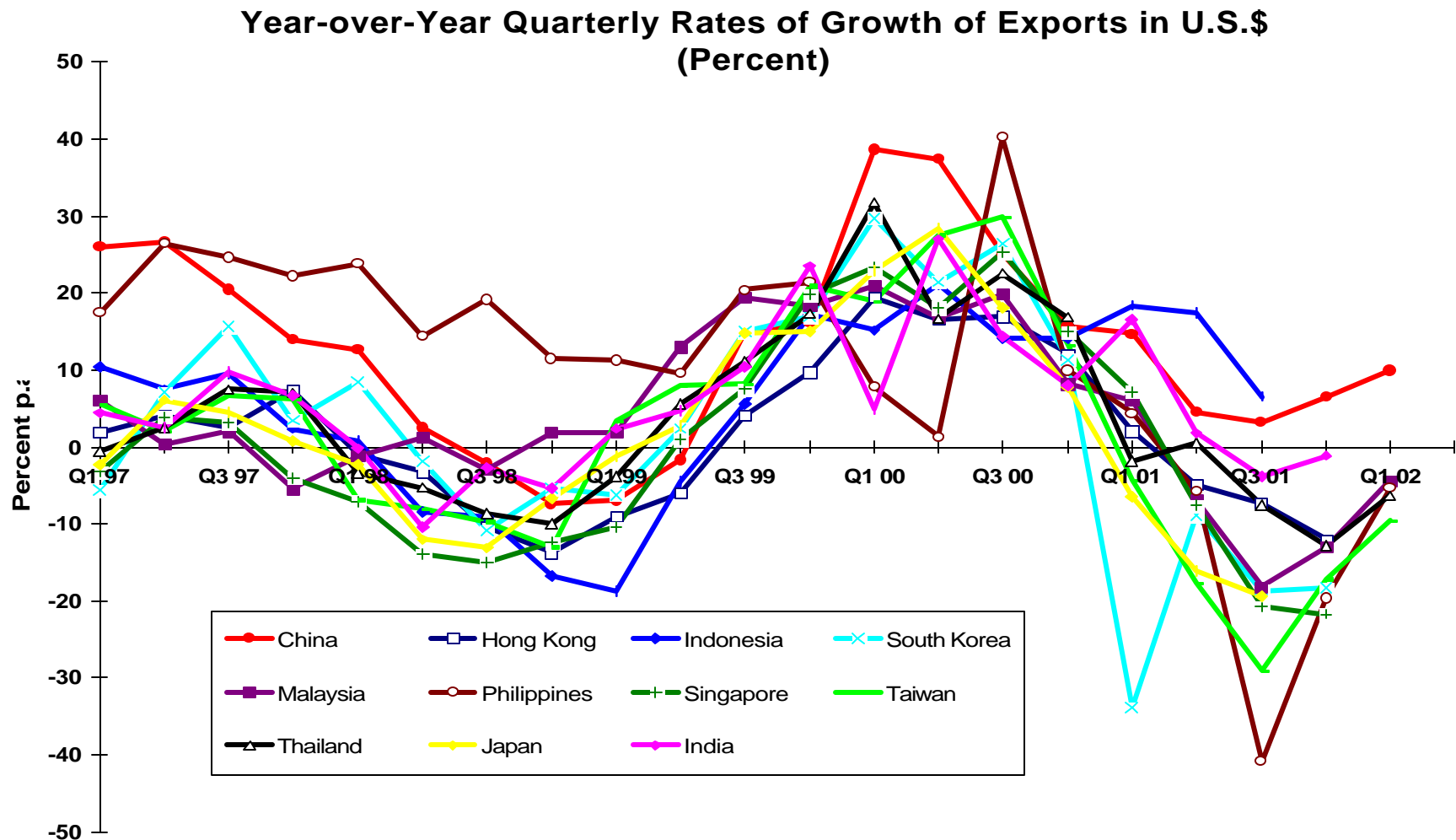


Quarterly Rates of Growth of Real GDP: Selected East Asian Economies

Quarterly Rates of Growth of Real GDP, Year-over-Year, Selected East Asian Economies

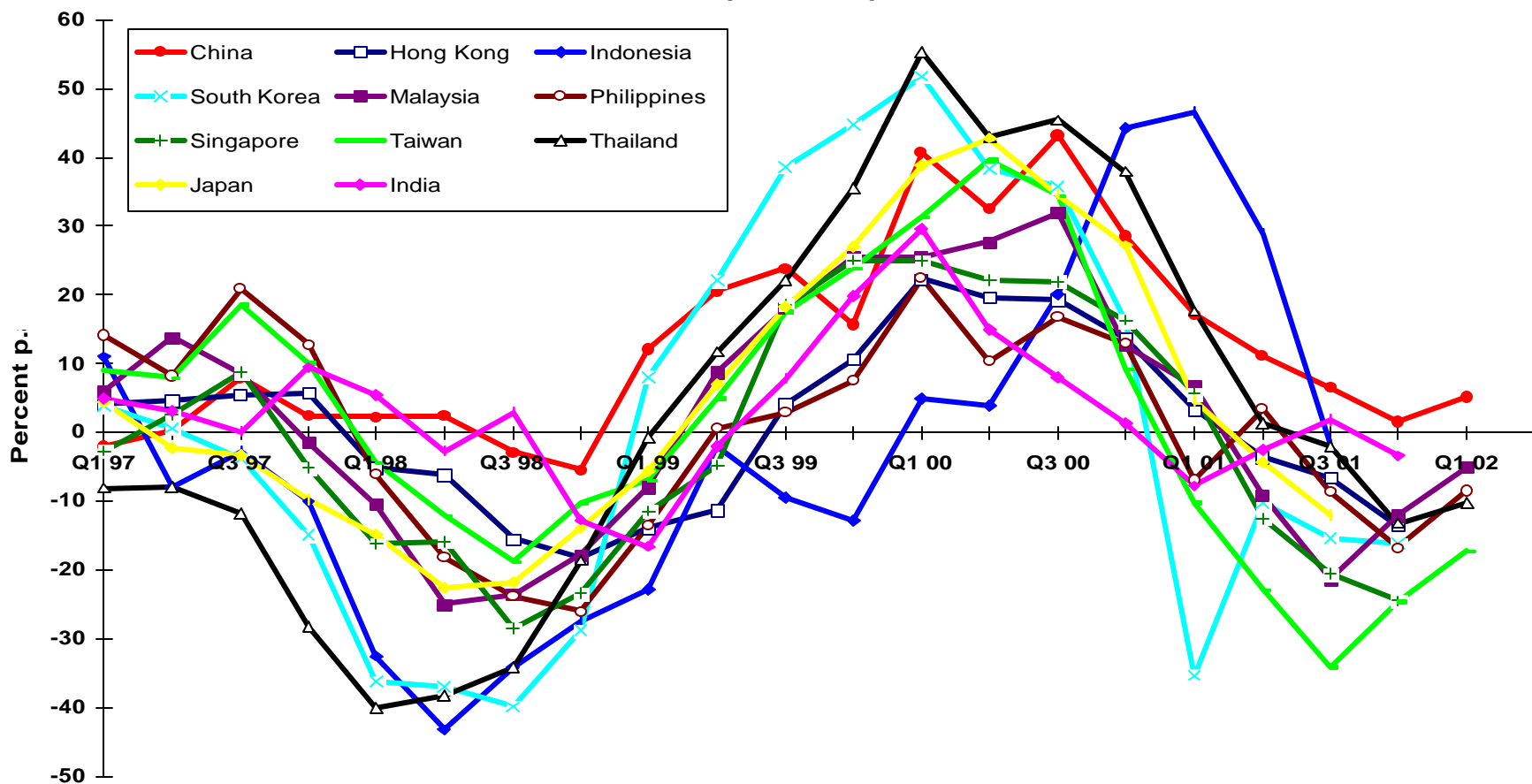


Quarterly Rates of Growth of Exports: Selected East Asian Economies

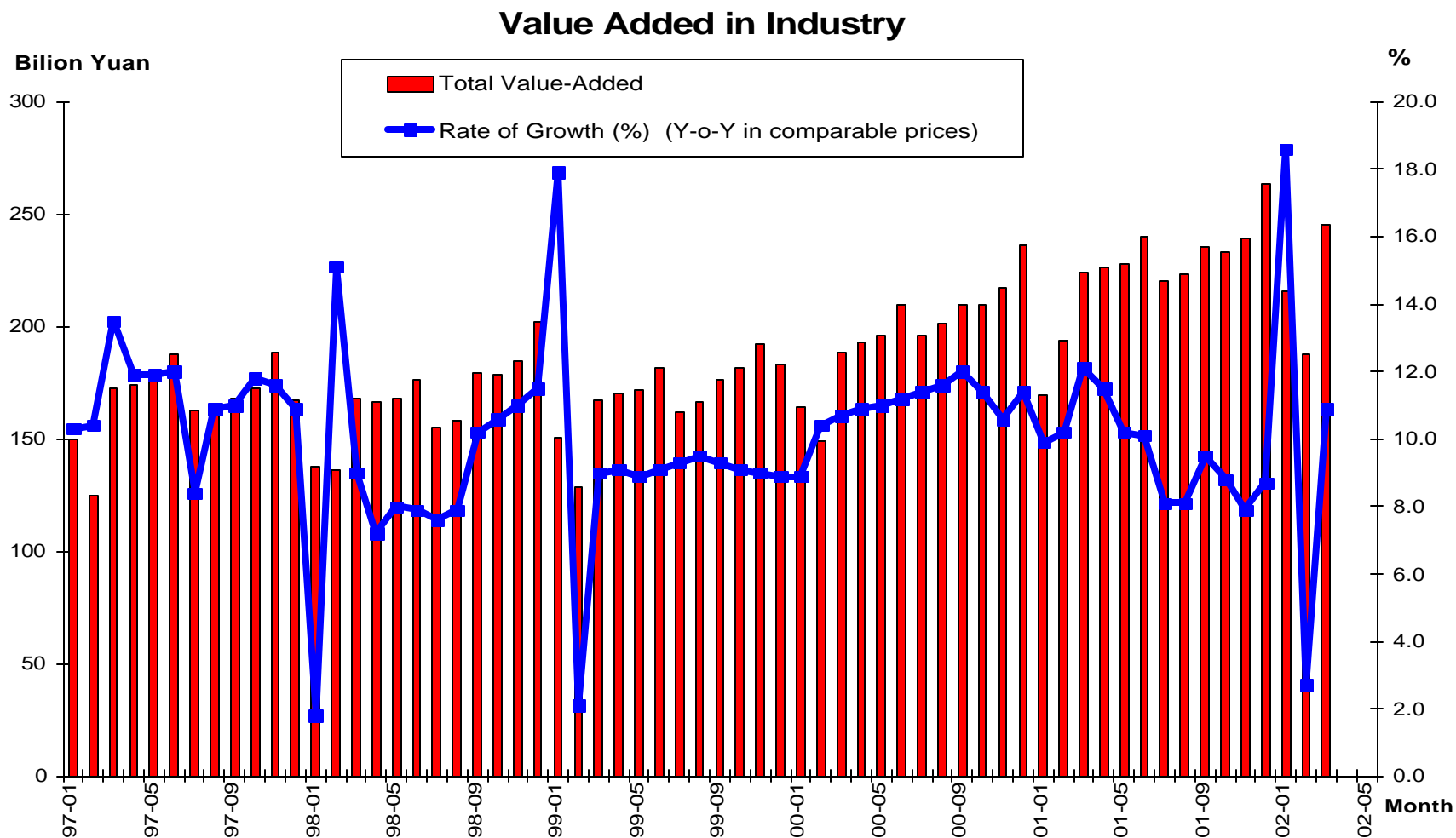


Quarterly Rates of Growth of Imports : Selected East Asian Economies

Year-over-Year Quarterly Rates of Growth of Imports in U.S.\$
(Percent)



Value-Added in Industry

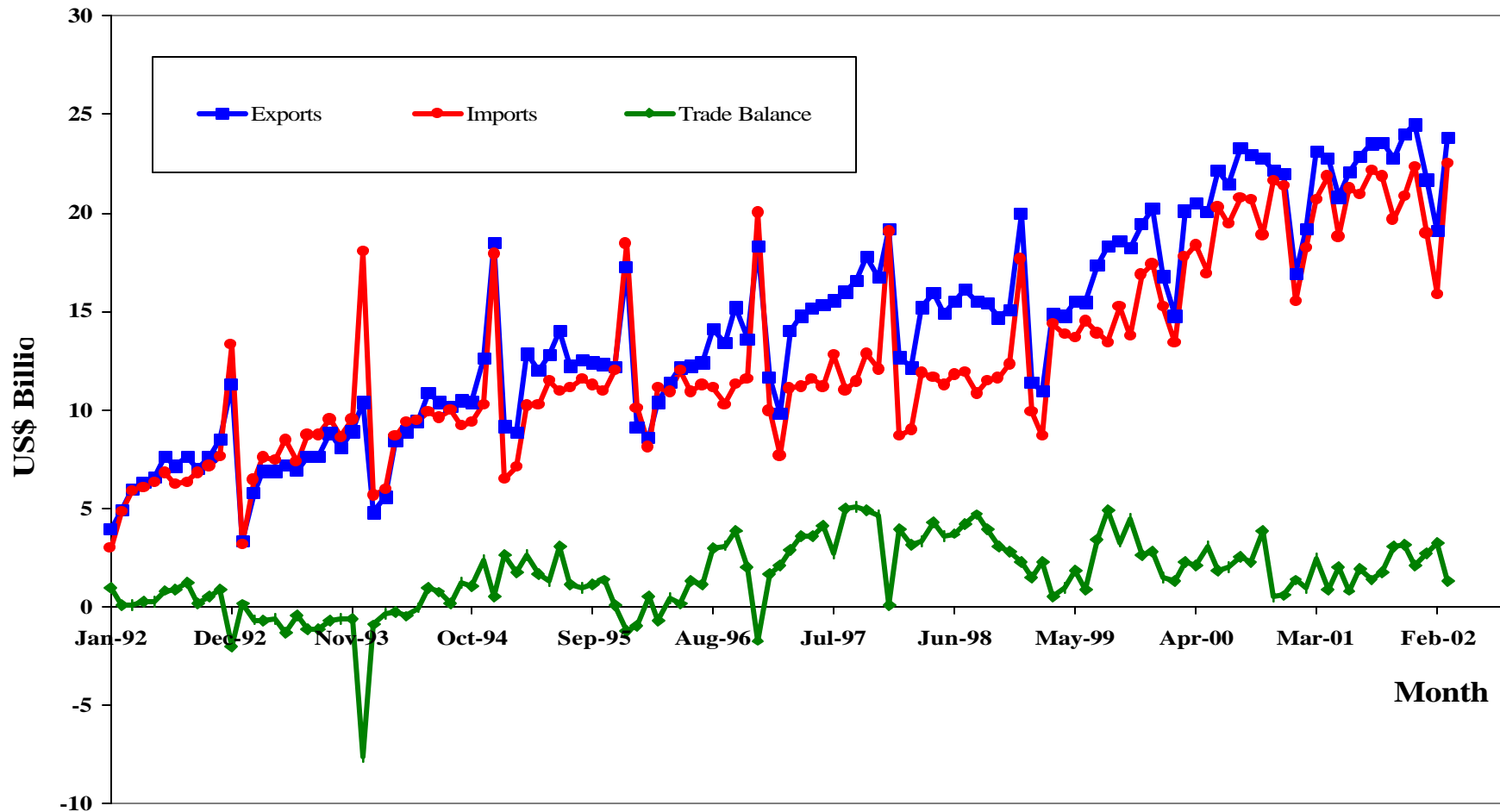


Exports, Imports and Foreign Exchange Reserves

- ◆ In 2000, exports rose 27.8% to US\$249.2 billion; imports rose 35.8% to US\$225.1 billion; with a trade surplus of US\$24.1 billion
- ◆ In 2001, exports rose 6.8% Y-o-Y to US\$266.2 billion and imports rose 8.2% to US\$243.6 billion with a trade surplus of US\$22.5 billion
- ◆ All these data confirm a slowdown in the growth of exports and a narrowing of the trade surplus—export growth is likely to be zero in the near term
- ◆ Chinese tourists traveling abroad exceeded 10 million in 2000; the tourism component of the balance of payments turned negative in 2000
- ◆ Official foreign reserves continued to rise, reaching US\$212.2 billion at year end 2001, an increase of US\$46.6 billion over year end 2000 (larger than the trade surplus of US\$22.5 billion), and surpassing total outstanding external loans by a wide margin
- ◆ The exchange rate of the Renminbi vis-à-vis the U.S. Dollar has remained stable since 1994 (in fact, there has been a slight appreciation from 8.7 Yuan/US\$ to 8.3 Yuan/US\$)

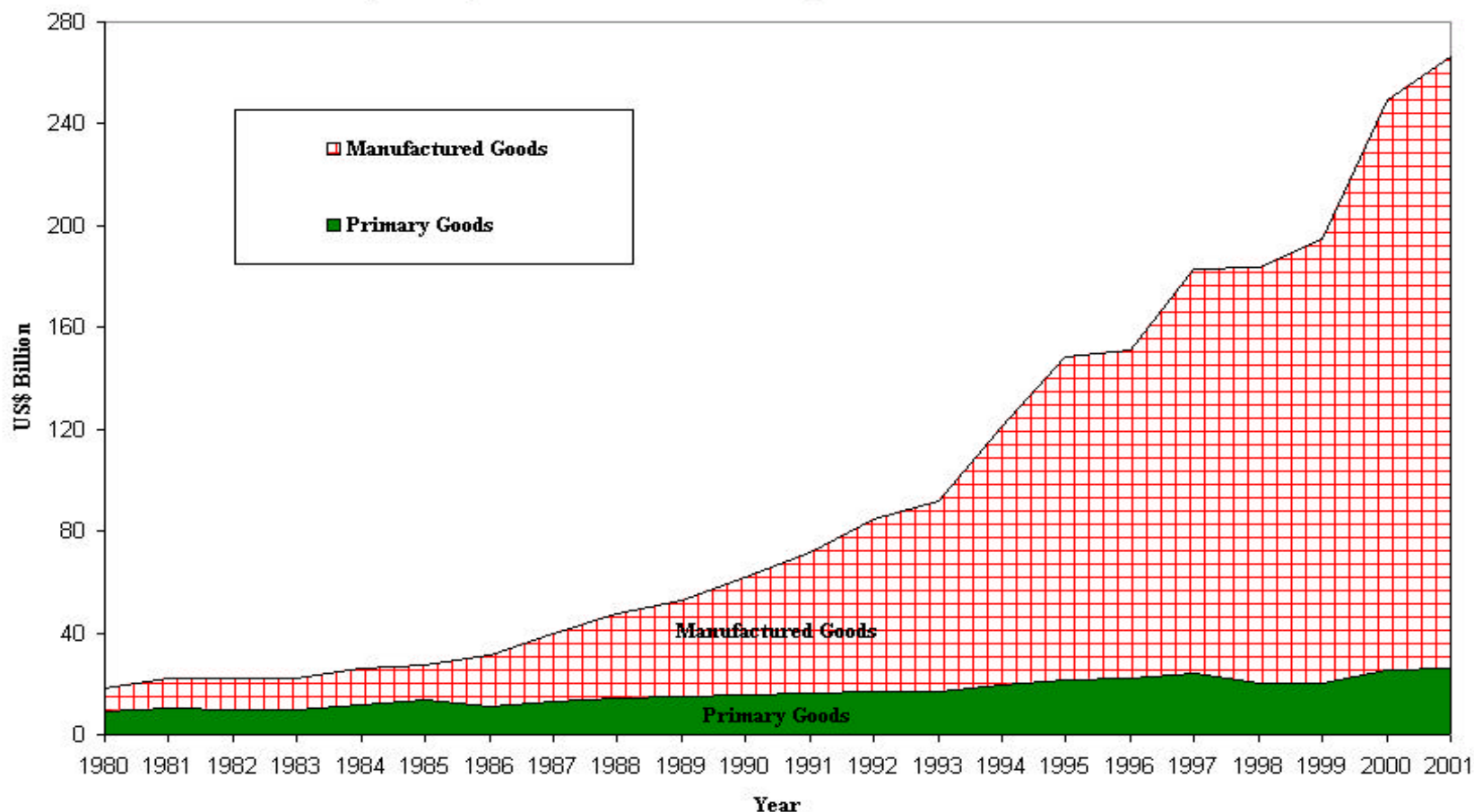
Monthly Exports, Imports and Trade Balance Official Chinese Data

Monthly Exports, Imports, and Trade Balance



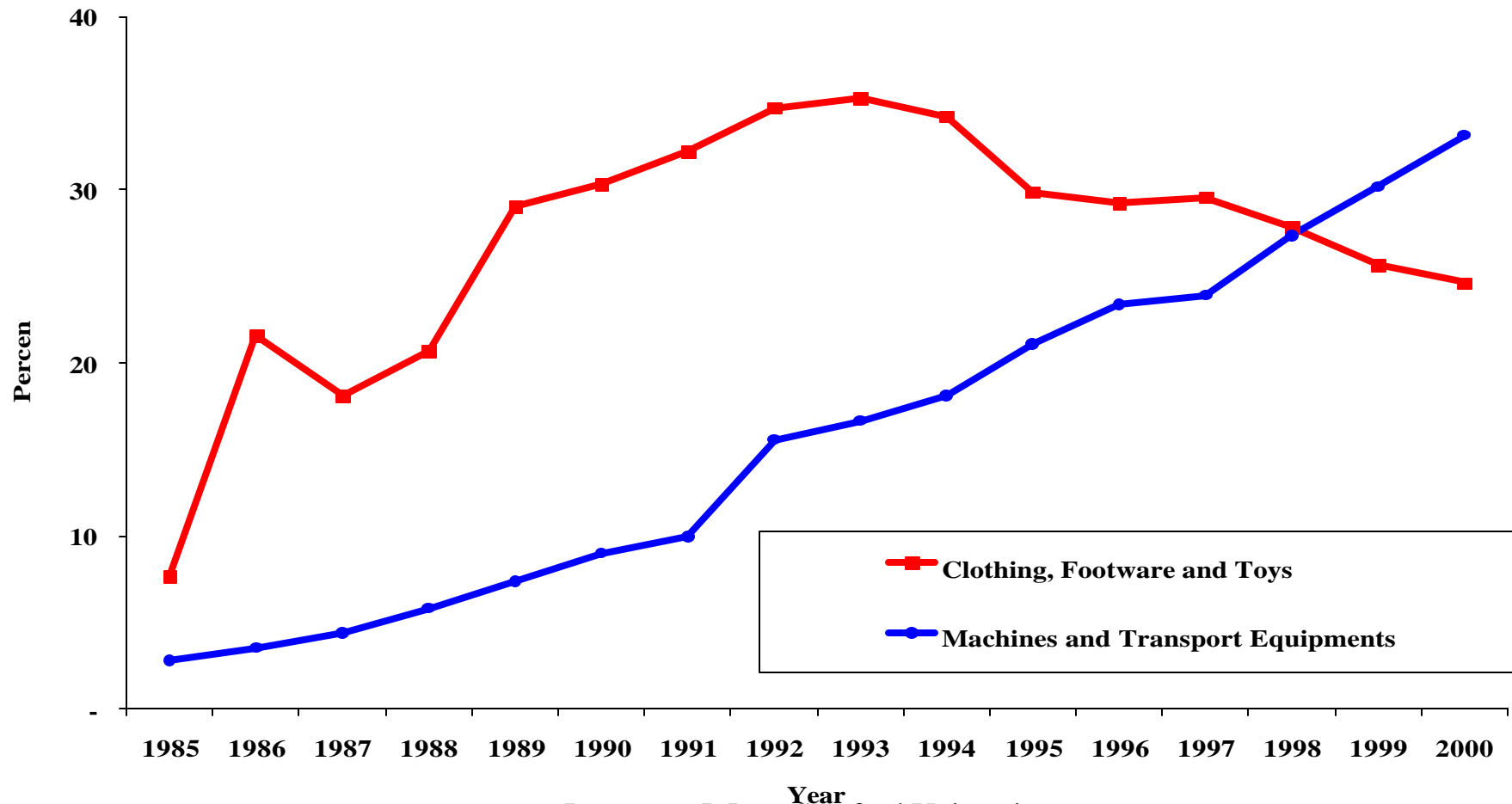
Composition of Chinese Exports by Primary Commodities versus Manufactured Goods

Chinese Exports by Commodities: Primary versus Manufactured Goods



Manufactured Exports as a Percent of Total Chinese Exports

Distribution of Chinese Manufactured Exports as Percent of Total Exports
1985-2000



Direct and Total Effects of Non-Competitive-Imports (NCI) Model (Value-Added)

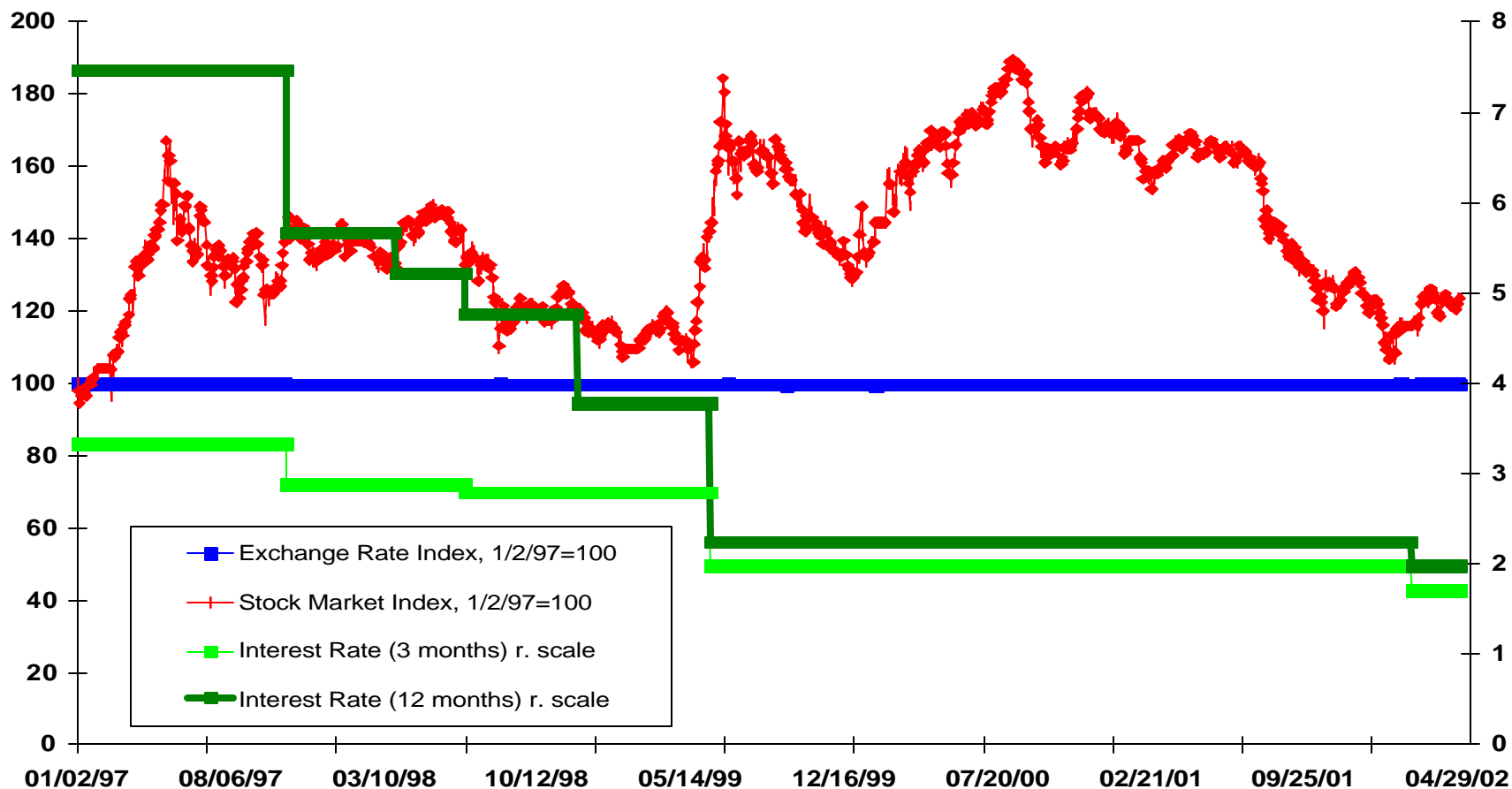
	Direct	Total
◆ Processing Exports	0.153	0.176
◆ Textiles	0.147	0.165
◆ Wearing Apparel	0.158	0.170
◆ Non-Processing Exports	0.329	0.925
◆ Textiles	0.195	0.934
◆ Wearing Apparel	0.229	0.944
◆ All Exports (Weighted Average of Processing and Non-Processing Exports)	0.240	0.545
◆ Textiles	0.178	0.657
◆ Wearing Apparel	0.183	0.441

Direct and Total Effects of Non-Competitive-Imports (NCI) Model (Employment)

	Direct	Total
◆ Processing Exports	0.048	0.057
◆ Textiles	0.044	0.050
◆ Wearing Apparel	0.048	0.052
◆ Non-Processing Exports	0.214	0.703
◆ Textiles	0.107	0.845
◆ Wearing Apparel	0.108	0.745
◆ All Exports (Weighted Average of Processing and Non-Processing Exports)	0.130	0.375
◆ Textiles	0.084	0.558
◆ Wearing Apparel	0.069	0.294

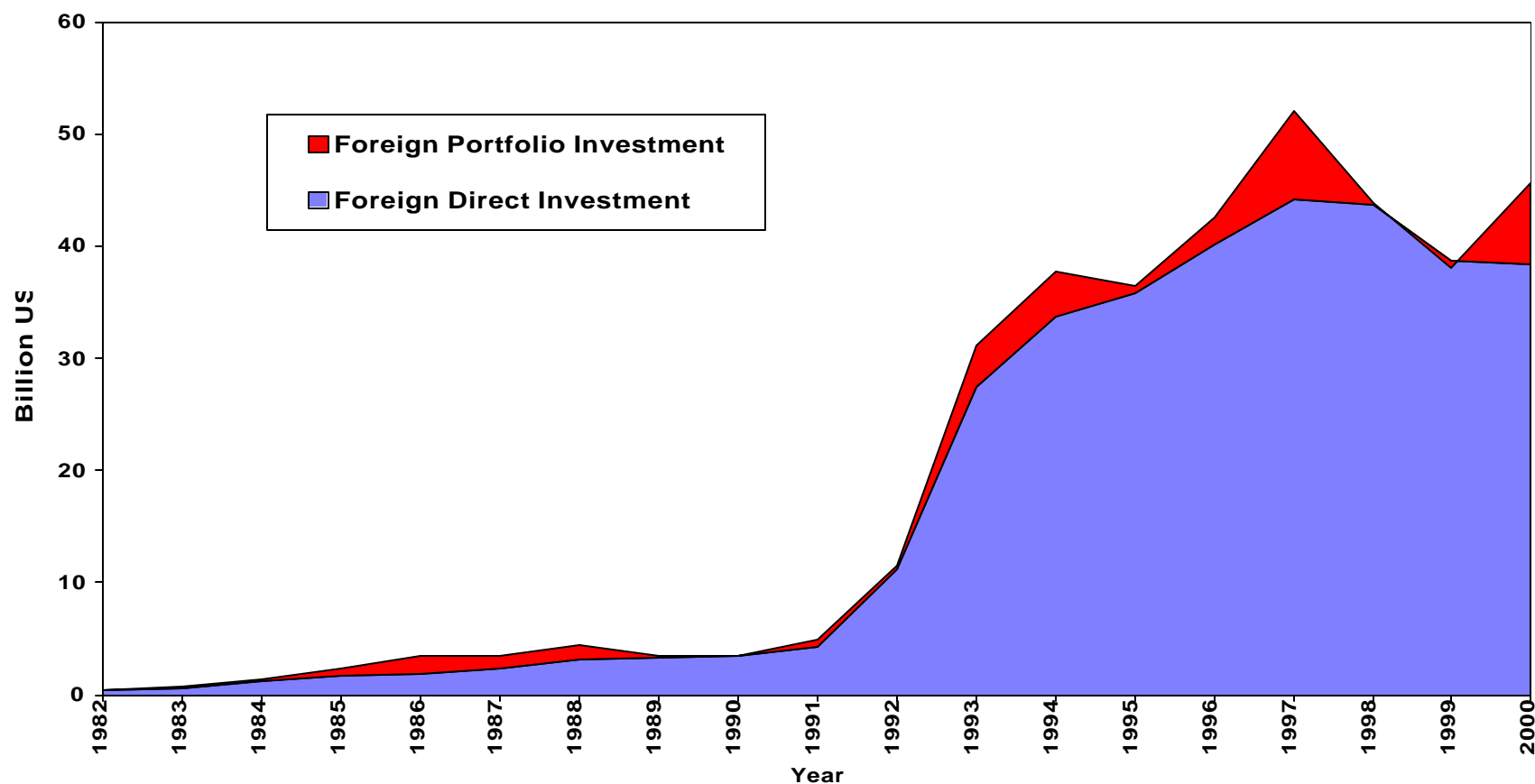
The Exchange Rate, the Interest Rates and the Stock Market Index

Exchange Rate, Stock Market Index and Interest Rates
China



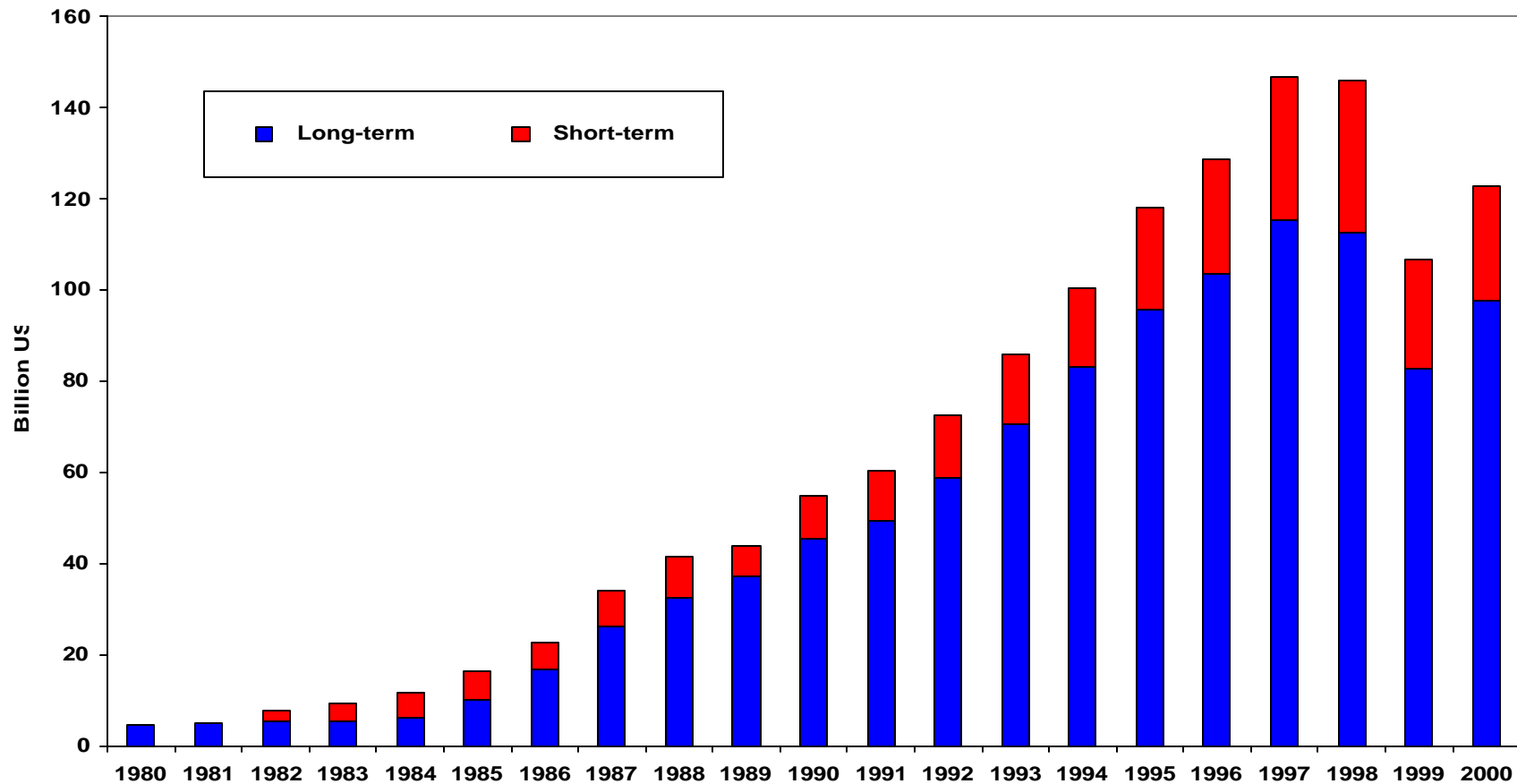
Composition of Foreign Investment—Portfolio vs. Direct: China (Annual Data)

Composition of Foreign Investment, China



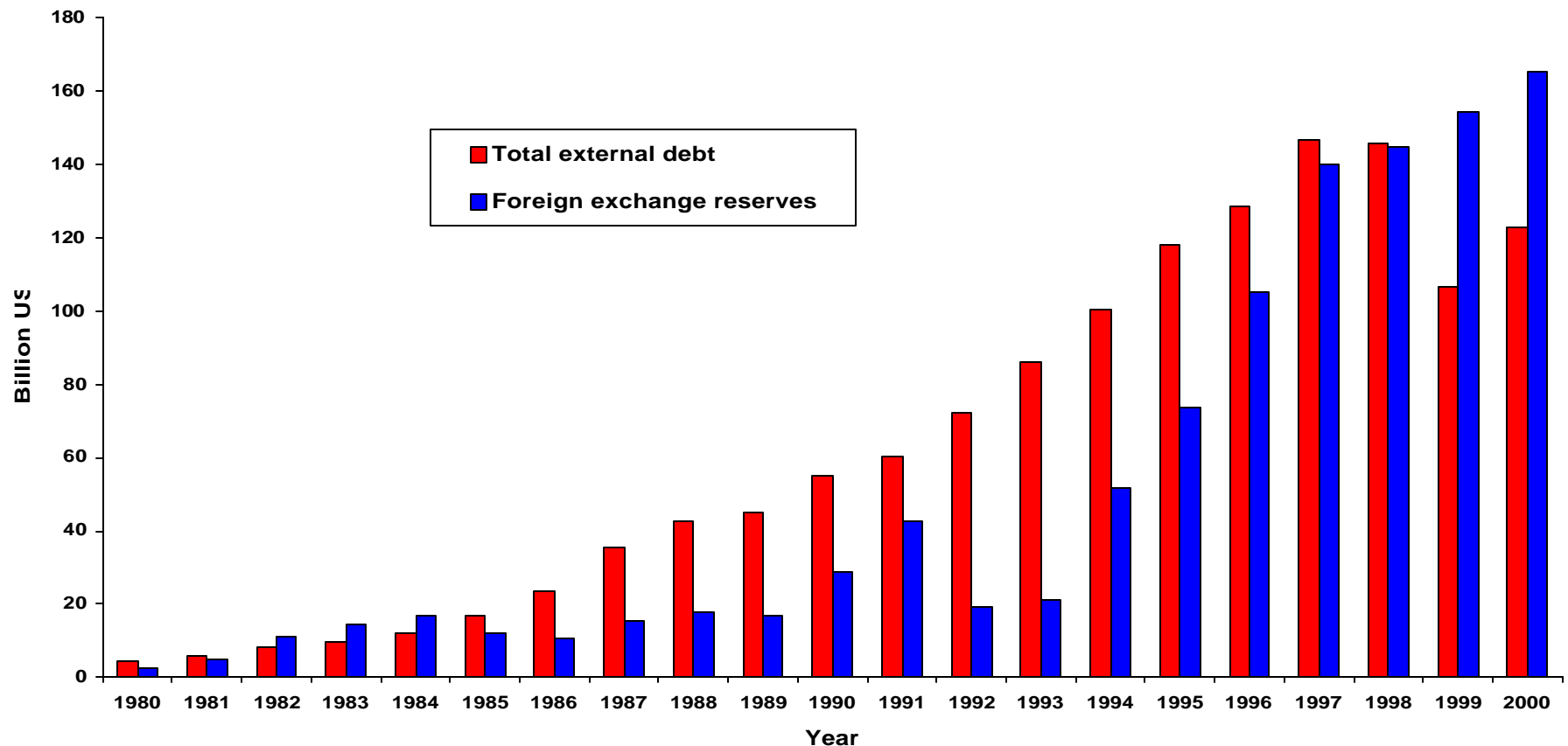
Composition of External Debt—Short-Term (Less Than a Year) vs. Long-Term: China

Stock of External Debt: China
Bank for International Settlements Data



External Debt and Official Foreign Exchange Reserves: China

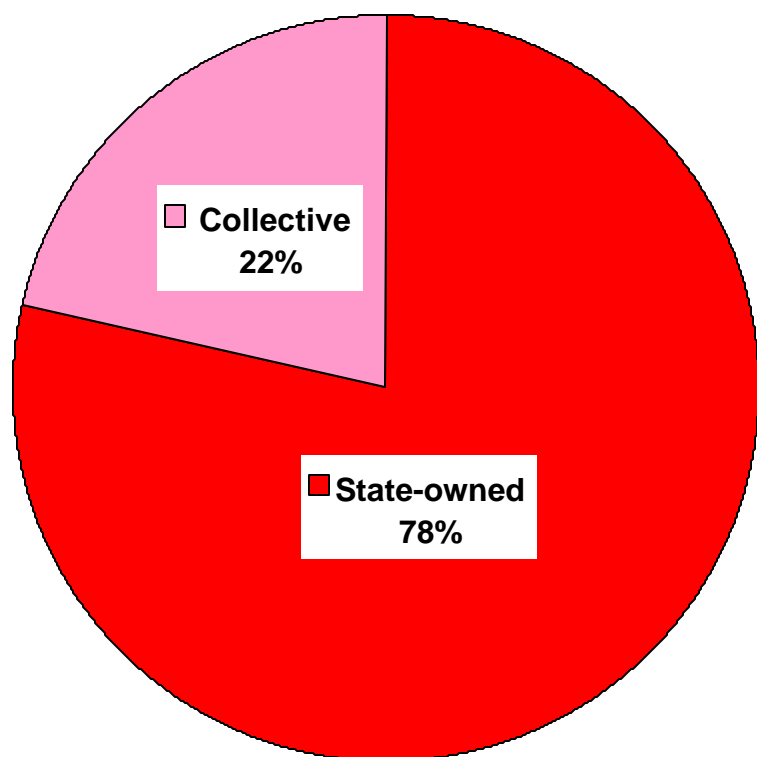
China's External Debt vs. Foreign Exchange Reserves
(International Financial Statistics Data)



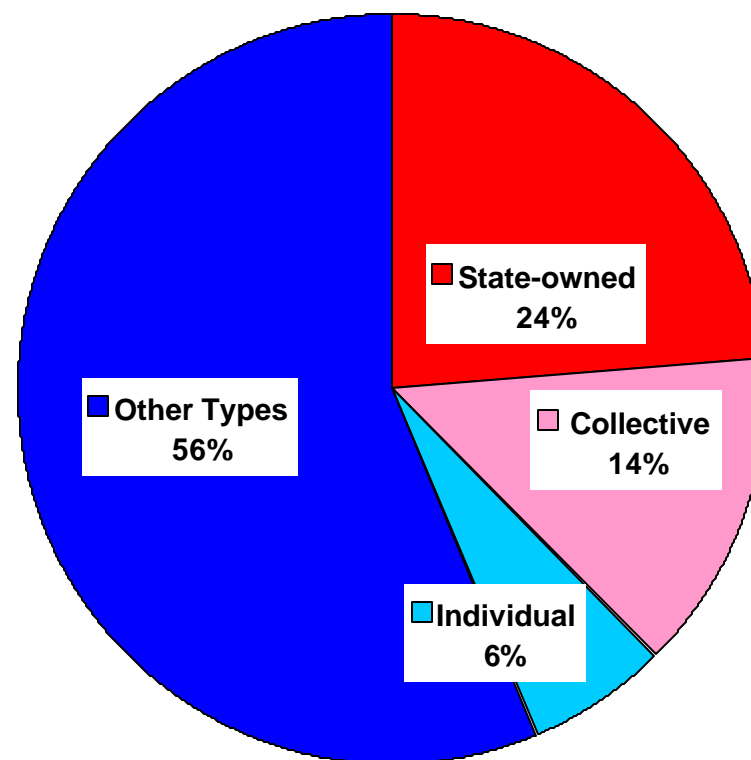
The Growth of the Non-State Sector-Industry

Distribution of Gross Value of Industrial Production by Ownership

1979

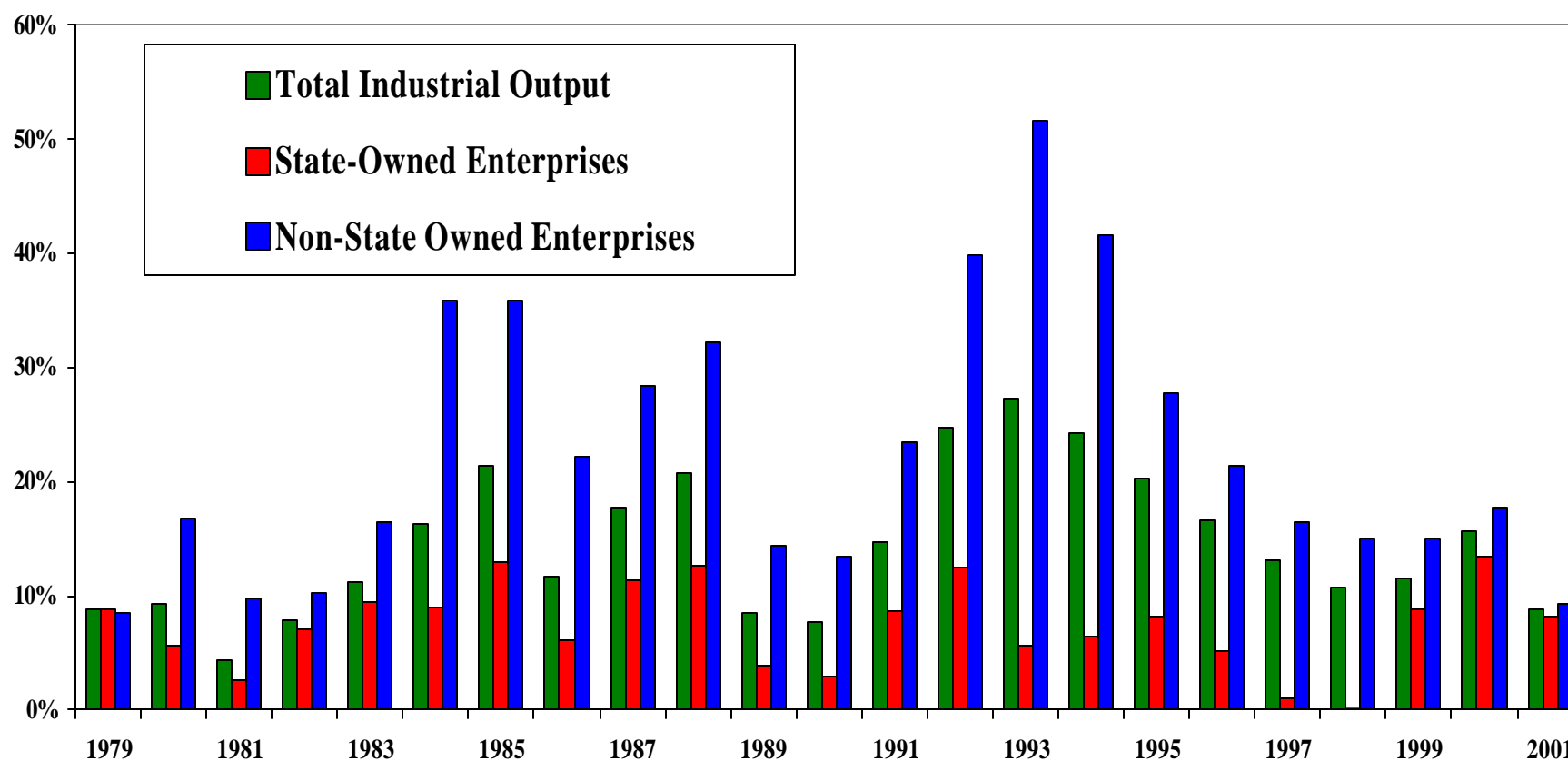


2000

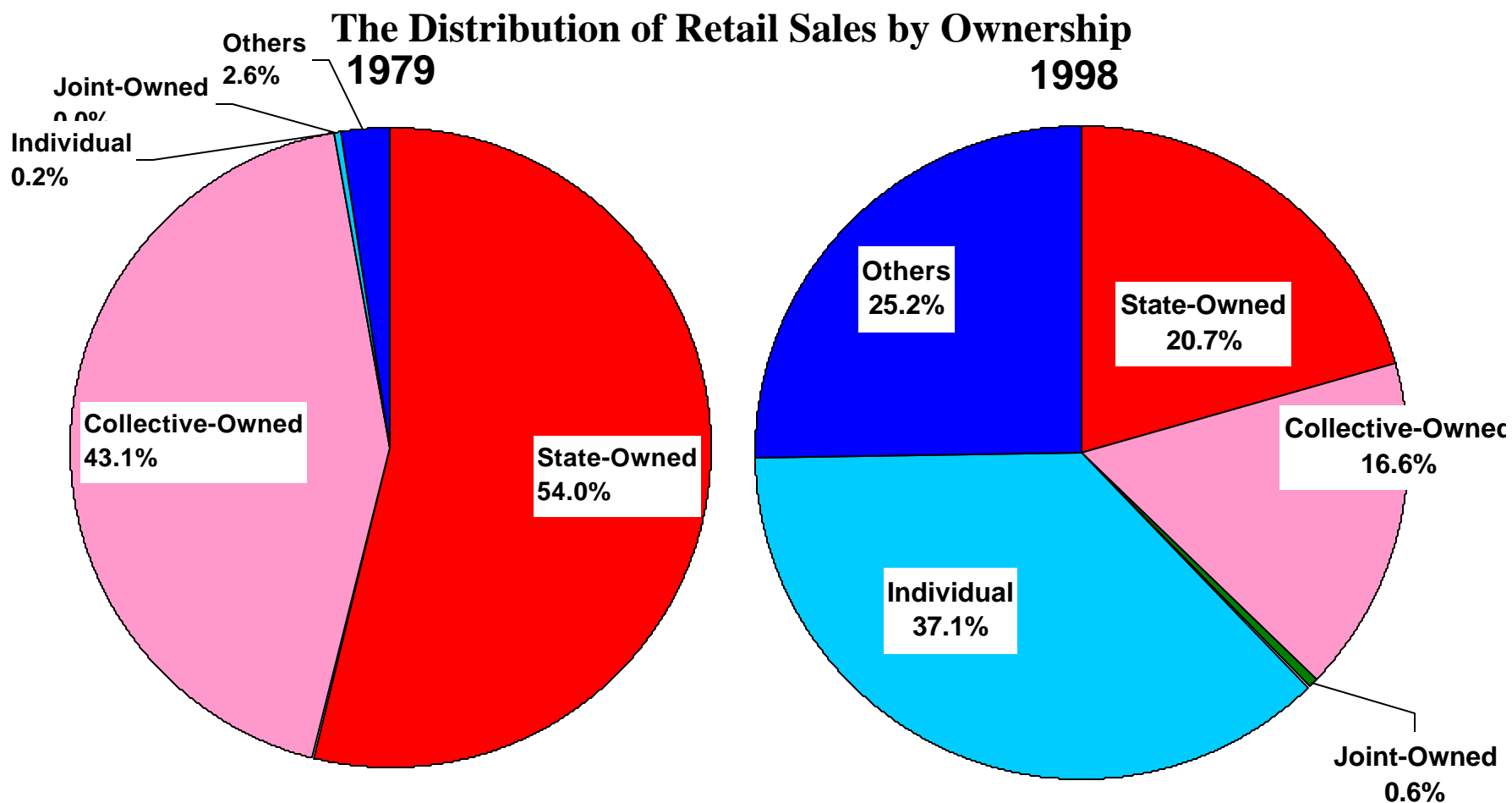


The Growth of Industrial Output by Sector of Ownership

The Rate of Growth of Industrial Output by Sector of Ownership



The Growth of the Non-State Sector-Retail



The Tenth Five-Year Plan (2001-2005)

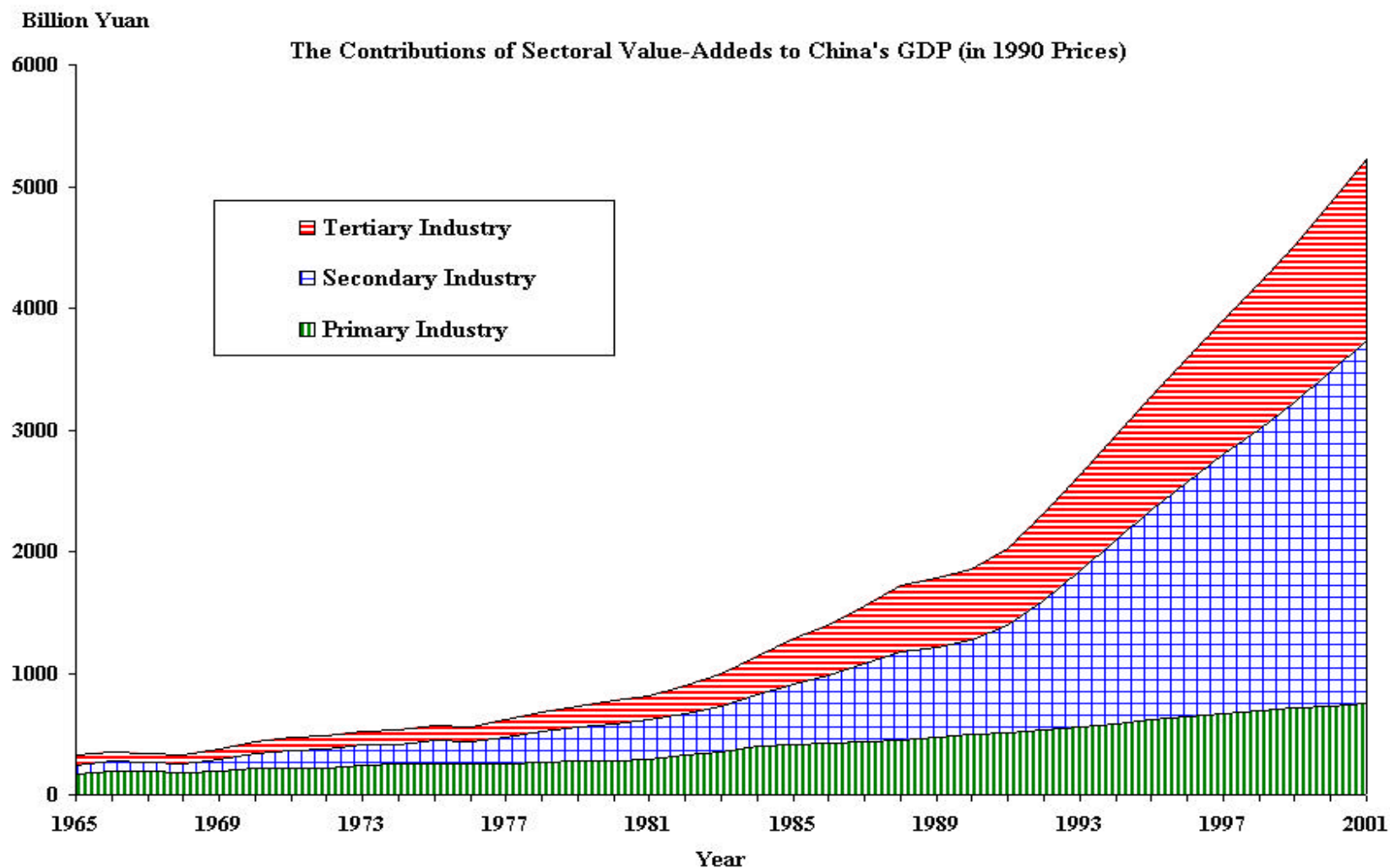
- ◆ An indicative (or predictive) plan rather than a mandatory plan
- ◆ Doubling of real GDP between 2001 and 2010, with an implied rate of growth of 7.2% p.a.
- ◆ An inflation target of less than 3% p.a.
- ◆ An increase in the share of central government revenue in GDP (the introduction of a comprehensive individual income tax)—tax revenue as a proportion of GDP rose from 14.2% of GDP in 2000 to 17.1% of GDP in 2001
- ◆ Indirect (macroeconomic) control of the economy using instruments such as money supply, interest rate and exchange rates rather than direct (microeconomic) control through administrative directives, commands and central planning with mandatory targets

Marketization:

Final Abolition of Planned Prices

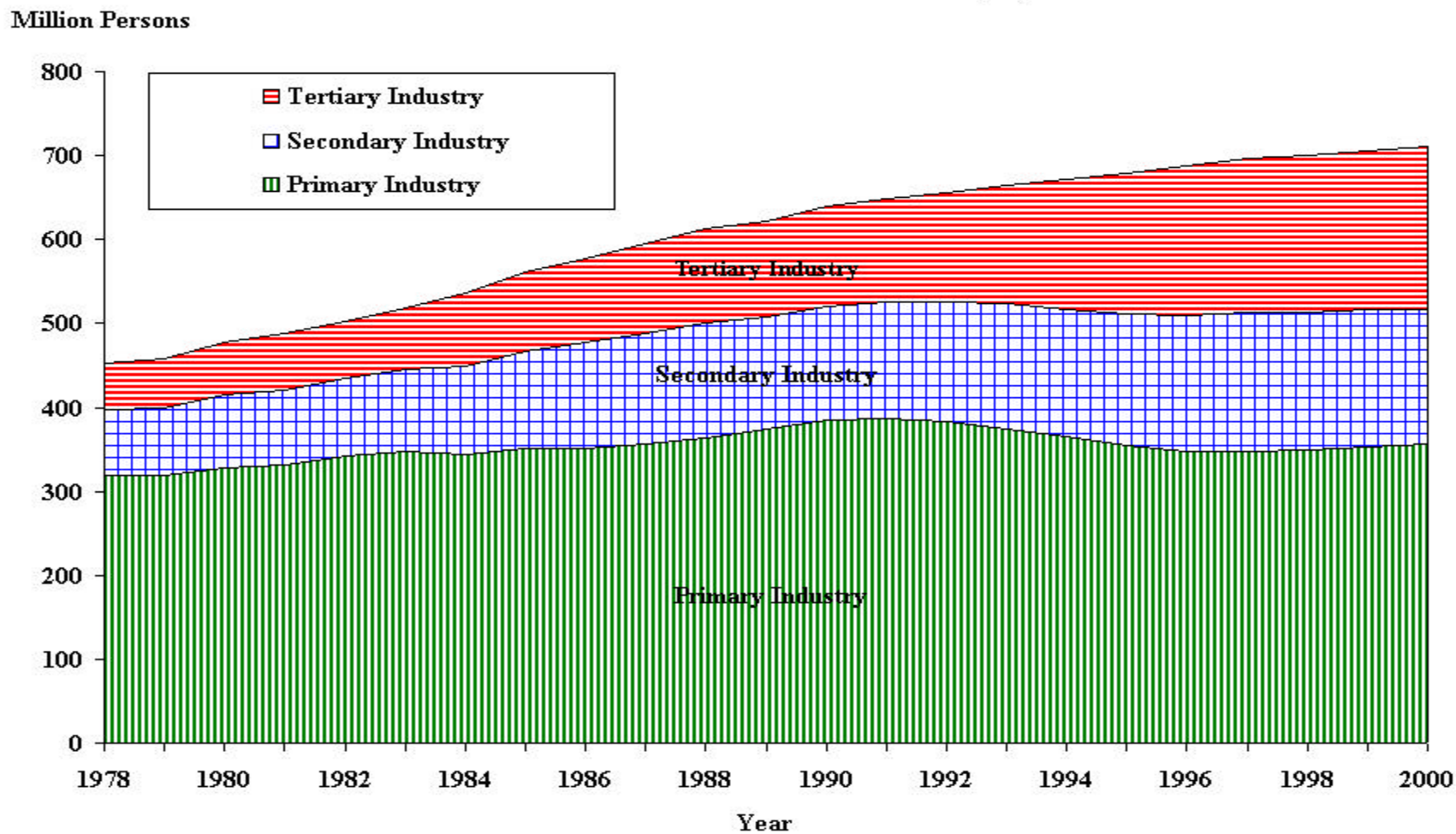
- ◆ The market prices of more than 99% of commodities have been determined by supply and demand for at least a decade
- ◆ In 2001/07, the remaining planned prices are abolished with the exception of the following: the prices of natural gas, oil, edible oils, grains, tobacco, water, salt, and products related to national security
- ◆ The exchange rate and the rate of interest are still determined administratively by the People's Bank of China, the central bank
- ◆ The dual-track system of prices introduced in the mid-1980s to facilitate the transition of China from a centrally planned to a socialist market economy has finally been phased out, reducing to a single-track, market-based system, with the exceptions noted above

The Contributions of Sectoral Value-Addeds to China's GDP



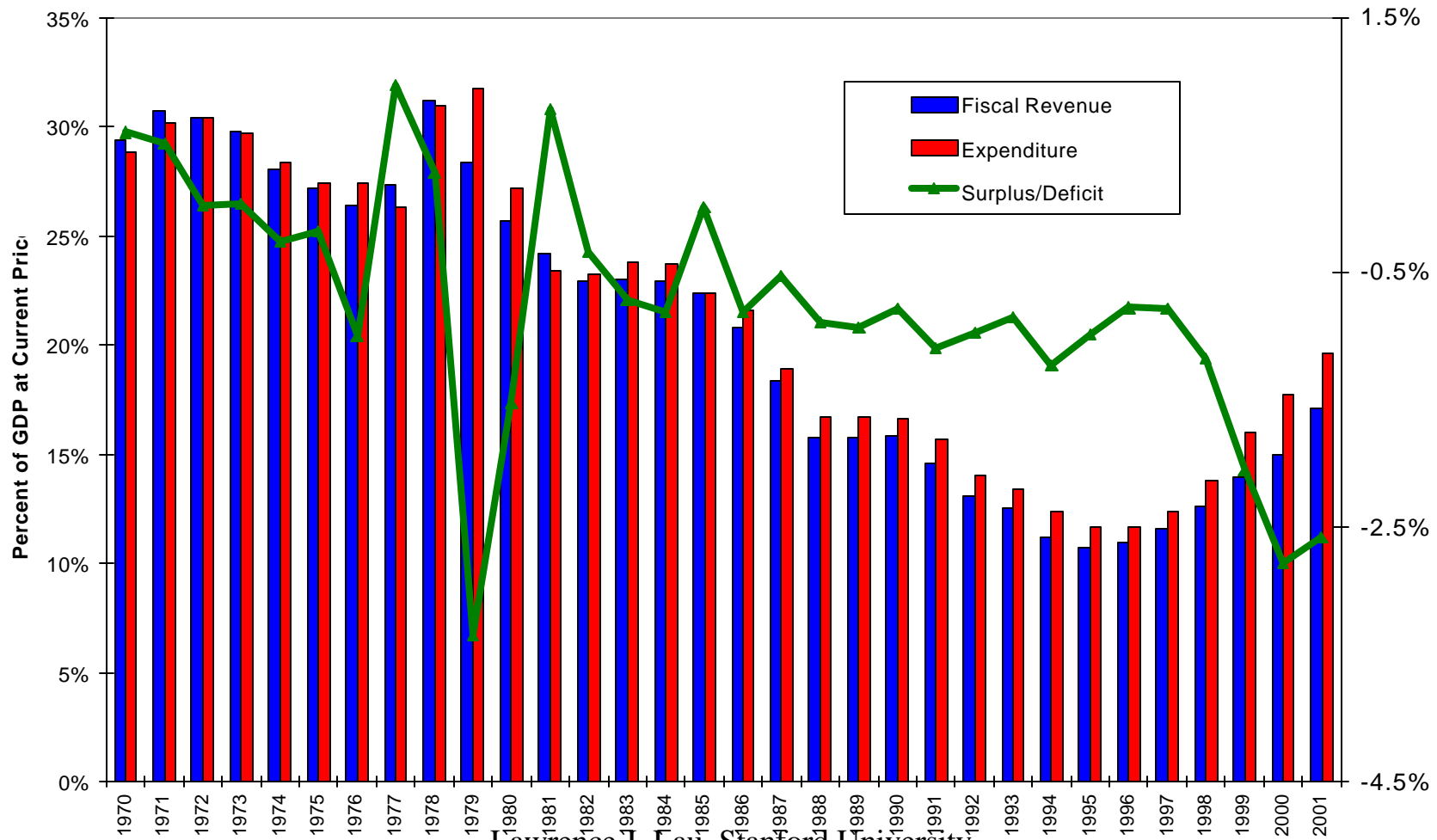
The Sectoral Contributions to China's Employment

The Sectoral Contributions to China's Employment



Total Government Budget Revenue, Expenditure, and Deficit as a Percent of GDP

Total Government Budget Revenue and Expenditure as Percent of GDP



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How Reliable Are Chinese Economic Data?

How Reliable Are Chinese Economic Data?

- ◆ Since 1979, there has been no intentional falsification of statistical data on the part of the National Bureau of Statistics (NBS), an independent agency of the central government of the People's Republic of China.
- ◆ If in fact, there were intentional falsification of the published statistical data by the Government of the People's Republic of China, that implies the maintenance of two separate sets of books. There is no evidence that there exist two sets of books at the National Bureau of Statistics.
- ◆ One may criticize the methodology, the adequacy of the sampling techniques, the method of data collection, processing and adjustments; and there are undoubtedly biases and errors in the published data, e.g., the omission of the underground economy.
- ◆ However, the year-to-year rate of growth of real GDP should be reasonably reliable despite the biases because the degree of biases in the estimation of the levels of GDP changes only very gradually over time.
- ◆ There is likely to be under-reporting in wealthy regions and over-reporting in poor regions. The actual degree of inequality is probably greater than that revealed by the officially published statistics.

How Reliable Are Chinese Economic Data?

- ◆ Discrepancy between the NBS figures and the published provincial figures--the figure for the rate of growth of Chinese GDP published by the NBS is almost always less than the weighted average of the rates of growth of Chinese provincial GDPs, published by the provincial and regional statistical bureaus, by a significant margin.
- ◆ This has been true for many years, and is a widely known fact, and openly acknowledged by the NBS, and is reflected in the annually published Statistical Yearbook of China.
- ◆ The NBS believes that its national figure is much more accurate and reliable than the sum or weighted average of the provincial and regional figures. While it uses the provincial figures as one of the inputs, the NBS has other, independent, sources of data which it uses for making the final adjustments.

Is GDP Growth Compatible with the Growth of Electricity and Freight Traffic?

- ◆ The rate of growth of electricity production is 6.2% in 1999, 10.7% in 2000, and 8.5% in 2001; The rate of growth of freight traffic is 2.4% in 1999, 3.5% in 2000, and 3.1% in 2001.
- ◆ Common factors:
 - ◆ The rate of growth of the manufacturing sector has slowed down relative to the construction sector and the service sector.
 - ◆ Differences in the rates of growth between heavy and light industry.
 - ◆ Intra-industry changes in the composition of outputs, including upgrading of the qualities (and hence values-added) of products.
 - ◆ Effects of changes in the loci of production and consumption.
- ◆ Factors specific to electricity production:
 - ◆ Effects of changes in prices--the price of electricity has risen 3-4 fold since 1990.
 - ◆ Effects of changes in efficiency.
 - ◆ Other “economic” and technical reasons for changes in the rates of transmission losses.
 - ◆ Effects of co-generation--under-reporting and marginal users.
- ◆ Factors specific to freight traffic:
 - ◆ Effects of environmental regulation and inter-fuel substitution—almost 50% of railroad freight traffic was for coal.

How Reliable Are Chinese Economic Data?

The Rate of Growth of Freight Transported

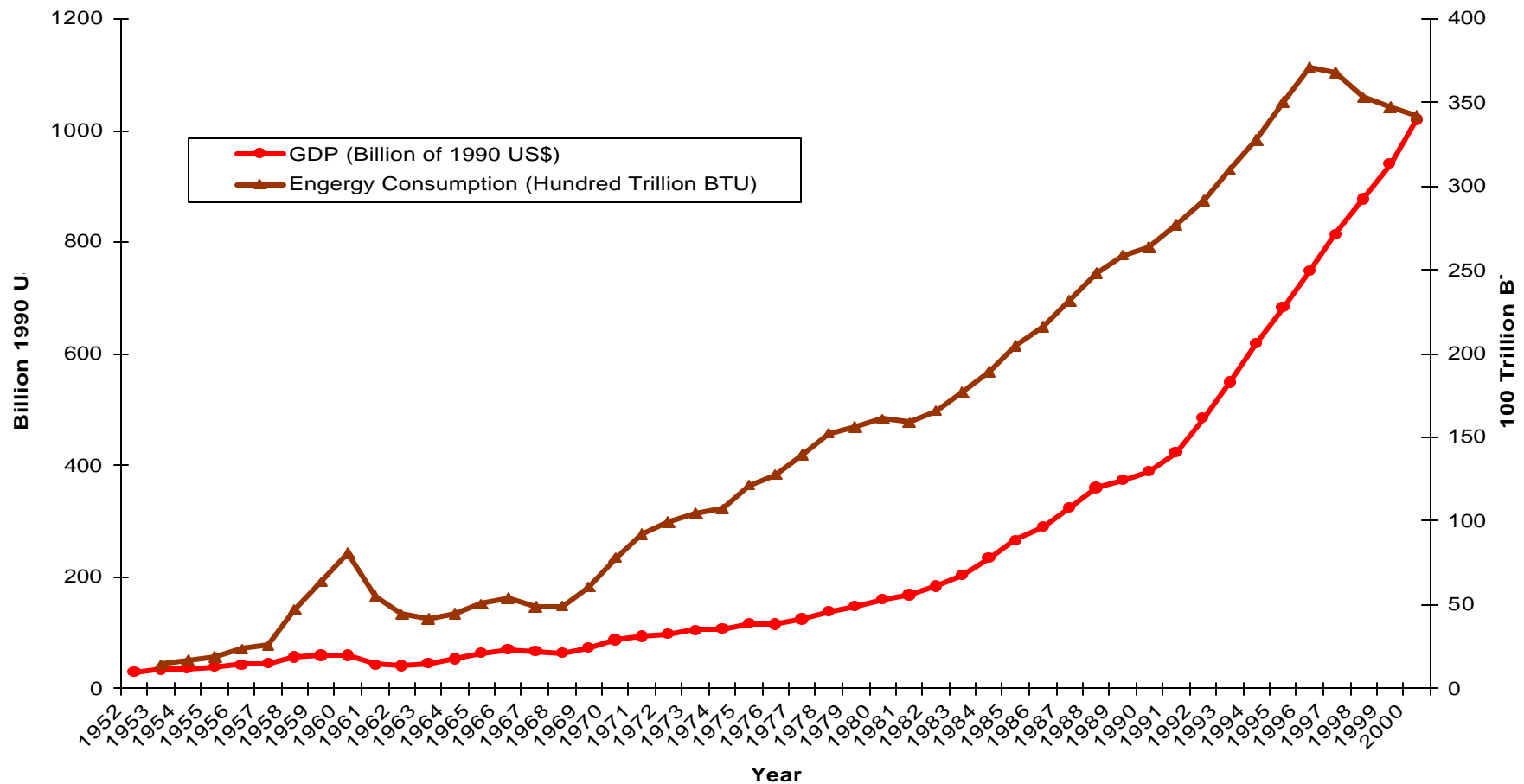
- ◆ Why was the rate of growth of railroad freight transported, measured in metric ton-kilometers, negative in 1998 at the same time the rate of growth of real GDP was 7.8%?
- ◆ While there is no compelling reason why the rate of growth of freight should be the same as the rate of growth of real GDP, the fact that they were in opposite directions was alarming and greatly puzzling. At the time, the Chinese Government was sufficiently concerned about the apparent discrepancy between the two rates of growth to have commissioned a study to look into the matter. The major cause for the reduction of railroad freight transported, it turned out, was the large reduction in the consumption of coal, caused mostly by the then newly issued environmental regulations covering the major urban areas.
- ◆ Almost half of Chinese freight transported was due to coal; with a sharp reduction in the quantities of coal shipped from the production areas in western China to the population centers on the eastern seaboard, there was a similarly sharp reduction in the total ton-kilometers. The coal that was used in eastern China was largely replaced by oil and gas, and indirectly, by electricity. If one looks at the rate of growth of non-coal freight transported in 1998, it was only slightly negative and not inconsistent with the secular decline in non-coal railroad freight transported relative to the real GDP.

Why Was the Rate of Growth of Energy Consumption So Low During 1997-2000?

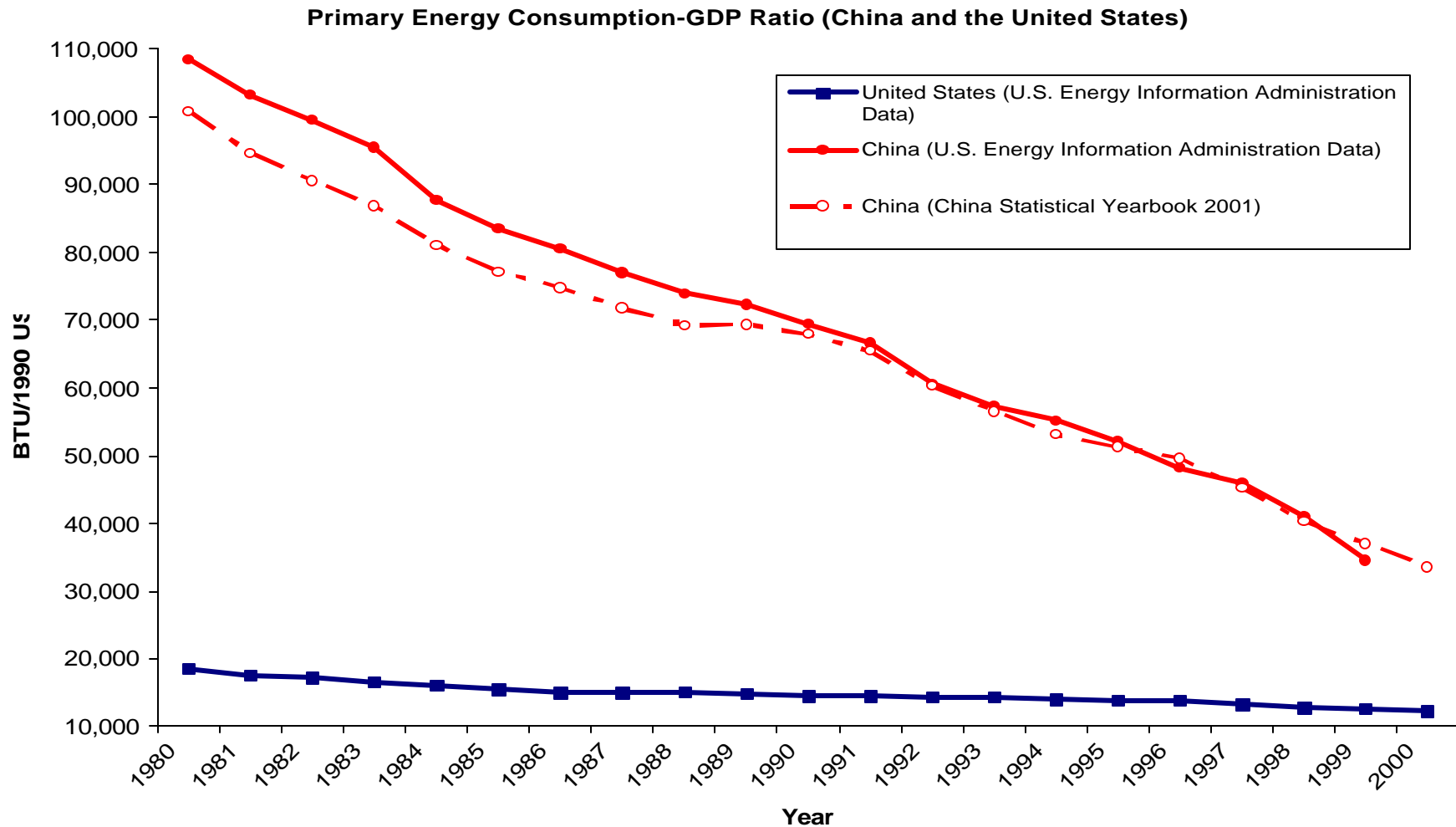
- ◆ For a rapidly growing and transforming economy, one expects the energy to real GDP ratio to decline over time. In the case of China, a number of factors that are relevant:
 - ◆ (i) the rise in the relative price of energy in the early 1990s (e.g., the price of electricity has increased 3 to 4-fold) and the resulting conservation efforts;
 - ◆ (ii) the more efficient production and transmission of energy from the new and large-scale power plants and power grids;
 - ◆ (iii) the change in the intersectoral composition of GDP, principally the rapid growth of the service (including construction) sector, which requires little energy, relative to the agricultural and industrial sectors and the more rapid growth of light industry relative to heavy industry; and
 - ◆ (iv) the change in the intra-sectoral composition of output, due especially to the upgrading of quality—for example, the proportion of high-quality steel produced in the steel sector has been rising rapidly, with the value-added rising much faster than energy consumption per ton. Thus, for the steel sector, the energy to value-added ratio will appear to be declining. The rate of growth of GDP can therefore be much faster than the rate of growth of energy consumption.
 - ◆ In the Chinese case, there is actually an additional factor. As part of an environmental and safety campaign, many small and medium coal mines were ordered closed in 1997. However, many localities, for a variety of reasons, secretly kept these mines working, and their production did not find their way into the statistics. No one knows for sure how much unreported production of coal there was during each of these years. It may be estimated to be on the order of 10% of the annual output in 1997, and then declining gradually over time, as these mines became closed. Thus, it is in part the under-reporting of coal production (and consumption), rather than the over-reporting of real GDP, that contributed to the slower reported rate of growth of energy relative to real GDP during some of these years.
- ◆ The Chinese energy consumption/GDP ratio has been declining continuously since 1980 by approximately 2/3 (while the U.S. energy consumption/GDP ratio has declined by approximately 1/3 between 1980 and 2000).

Real GDP and Energy Consumption of China 1952-2000

Real GDP and Energy Consumption of China



Primary Energy Consumption-GDP Ratio (China and the United States)



How Reliable Are Chinese Economic Data?

The Rates of Growth of Physical Outputs

- ◆ Why was the rate of growth of value added in industry as a whole so much higher than the weighted average of the rates of growth of the quantities of individual physical industrial commodities and products?
- ◆ The explanation lies once again in the change in the intra-sectoral composition of output—over time, as the quality of the goods produced improved, say, from raw iron to stainless steel, from plain cotton textiles to expensively finished designer fabrics, the value-added per ton of steel or per meter of cloth rose rapidly. For a developed economy nearly at equilibrium, the improvement in quality is marginal and gradual; for a rapidly growing and transforming economy such as China's, these improvements can come about very quickly and abruptly, resulting in real value-added rising significantly faster than the quantities of physical outputs.

How Reliable Are Chinese Economic Data?

Cross-Validation with Other Data

- ◆ It is possible to cross-check these figures on the rates of growth of real GDP, derived mostly from the production side, with those estimates derived independently from other methods. There are at least two other methods: the expenditure approach, consisting of looking at the rates of growth of final demands—consumption, investment, government expenditures, and net exports; and the income approach, consisting of adding up the incomes of households and enterprises (and indirect taxes), derived from survey rather than production or end use data.
- ◆ The results of these calculations do not differ from the published rates of growth of GDP by more than 100 basis points, which should be considered to be well within the margin of error for the statistics of a developing country.
- ◆ It is also possible to cross-check these figures with imports data, obtained from the statistics of trading partner countries (Chinese imports must be the exports of some other countries).
- ◆ It is also possible to cross-check using the quantity theory of money equation (the sum of the rates of growth of the money supply and the velocity of circulation of money must be equal to the sum of rates of growth on information and real GDP):

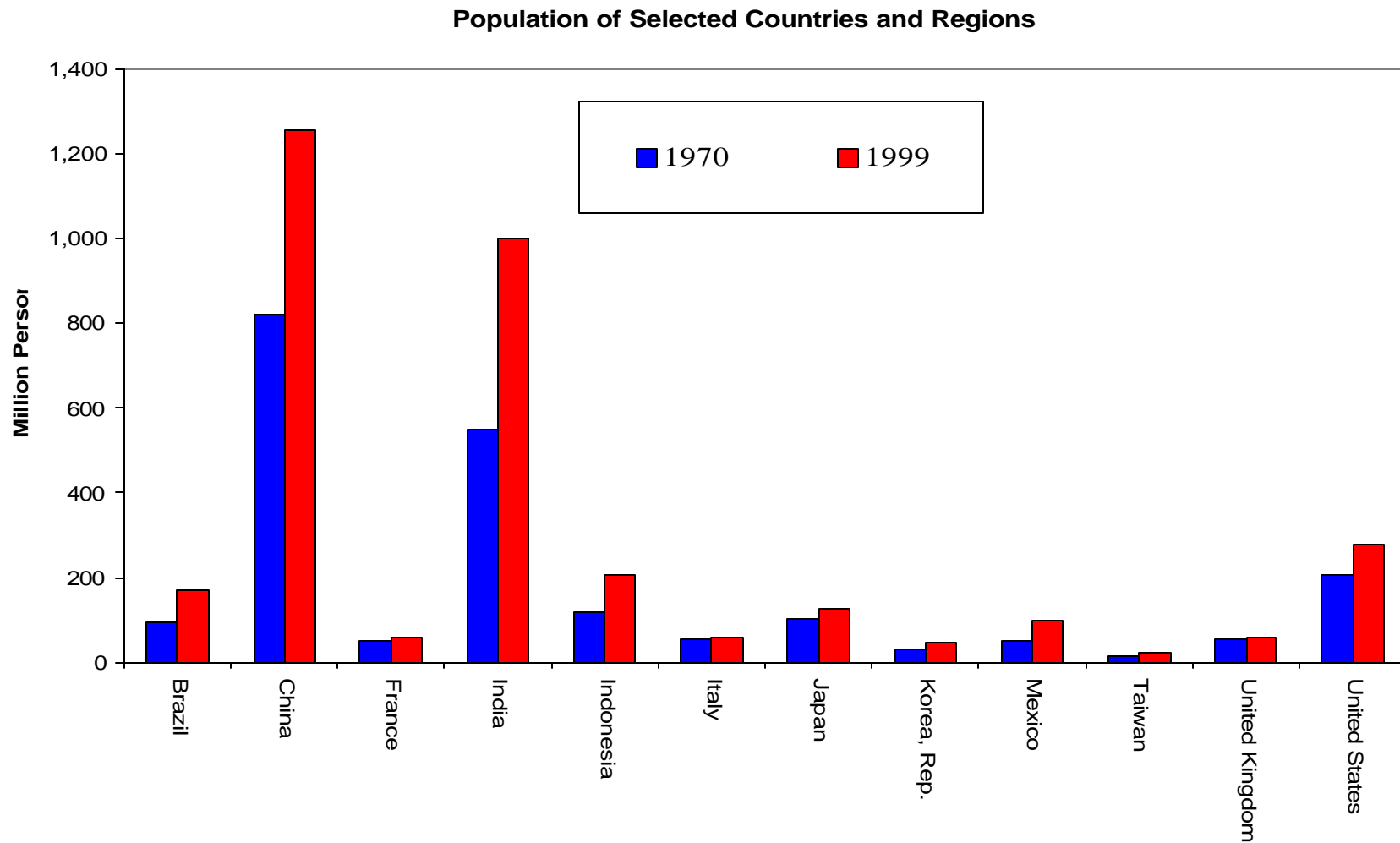
$$MV=PT$$

Are the Reported Rates of Growth of Real GDP Reliable? 1999

- ◆ The expenditure approach
 - ◆ Rate of growth of real gross fixed investment=7.3% with a share of GDP of 35.3% (=2.6%)
 - ◆ Rate of growth of changes in stocks estimated at -18.0% with a share of 2.8% (= - 0.5%)
 - ◆ Rate of growth of real retail sales=10%; rate of growth of real per capita disposable income (=9.3% urban; 4% rural); rate of growth of real personal consumption=8.9% with an estimated share of GDP of 46% (=4.1%)
 - ◆ Rate of growth of government consumption=14.1% with a share of GDP of 11.9% (=1.7%)
 - ◆ Rate of growth of net exports estimated at between 20% and 50% (trade surplus was US\$30 billion in 1999 with the crackdown on smuggling; smuggling adjusted trade surplus in 1998 may be estimated at between US\$20-25 billion) with a share of GDP of 3.8% (=0.76%)
- ◆ The sum of the real rates of growth of the components of expenditure = 2.6 - 0.5+4.1+1.7+0.76 = 8.66% (compared to 7.1%); excluding the rate of growth of net exports, the estimated rate of growth of real GDP according to the expenditure approach would be 7.9%.

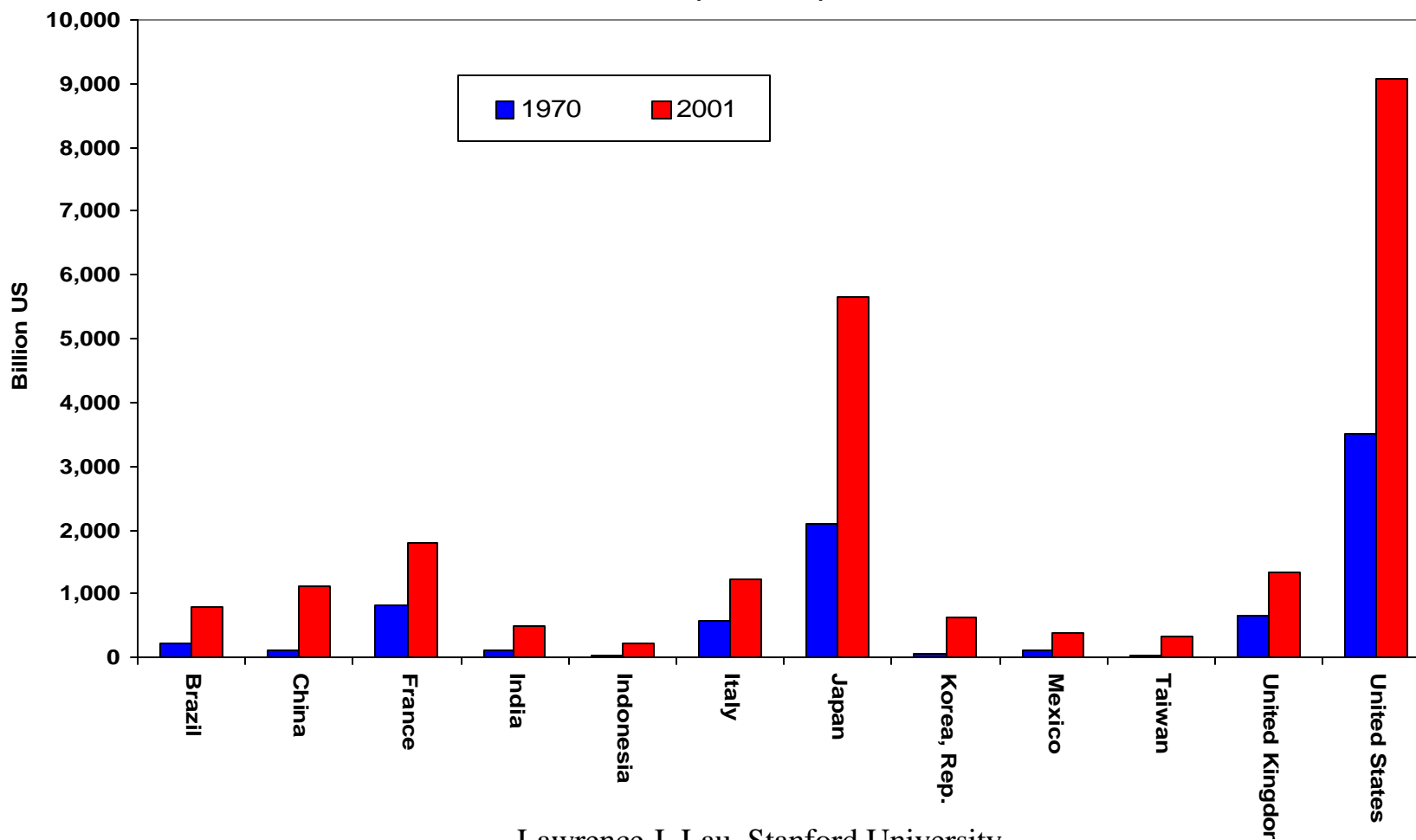
Comparison with Developed and Developing Economies

Population of Selected Countries and Regions, 1970 and 1999



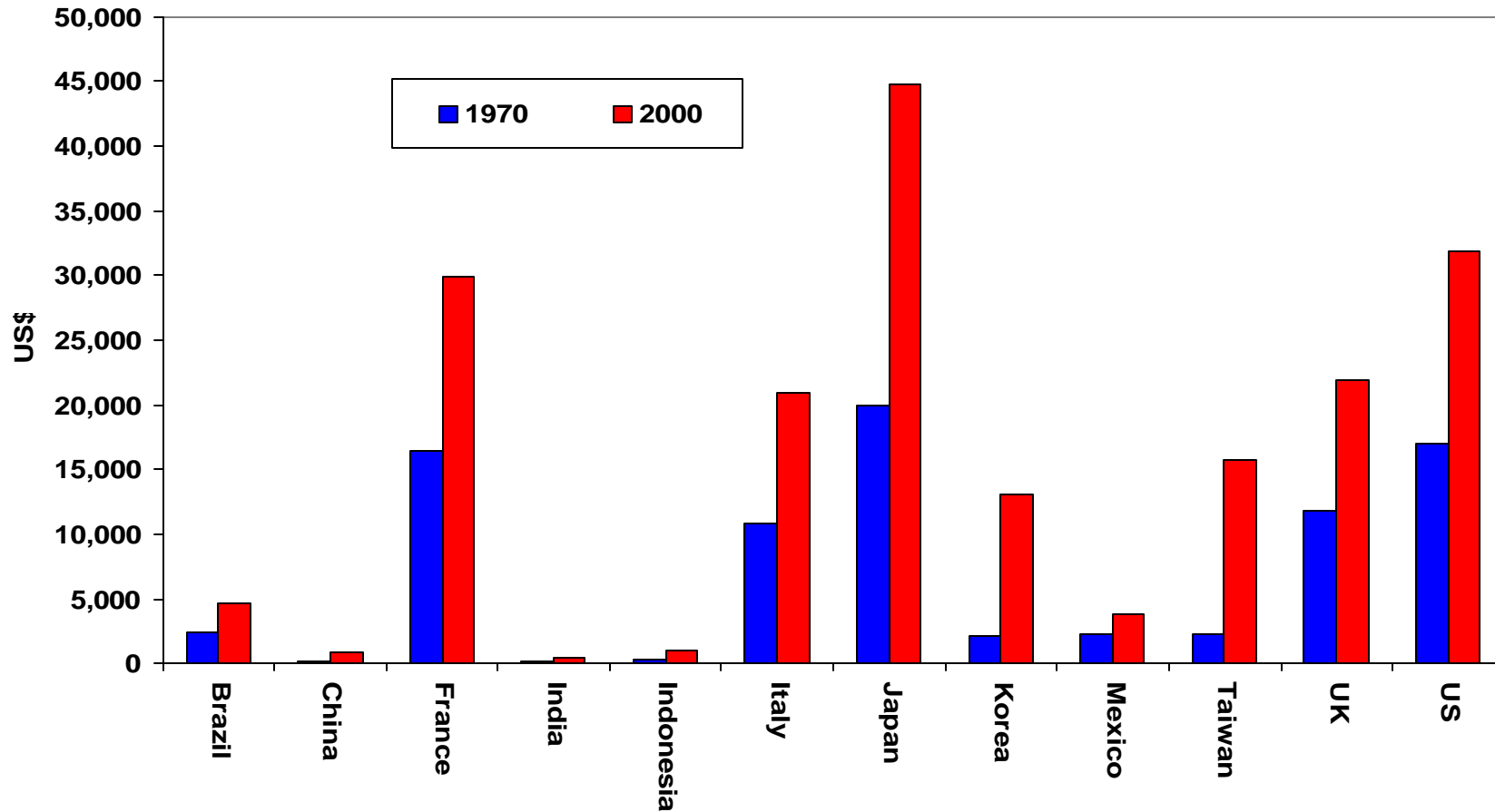
Real GDP of Selected Countries and Regions, 1970 and 2001

Real GDP of Selected Countries and Regions, 1970 and 2001
(1995 US\$)

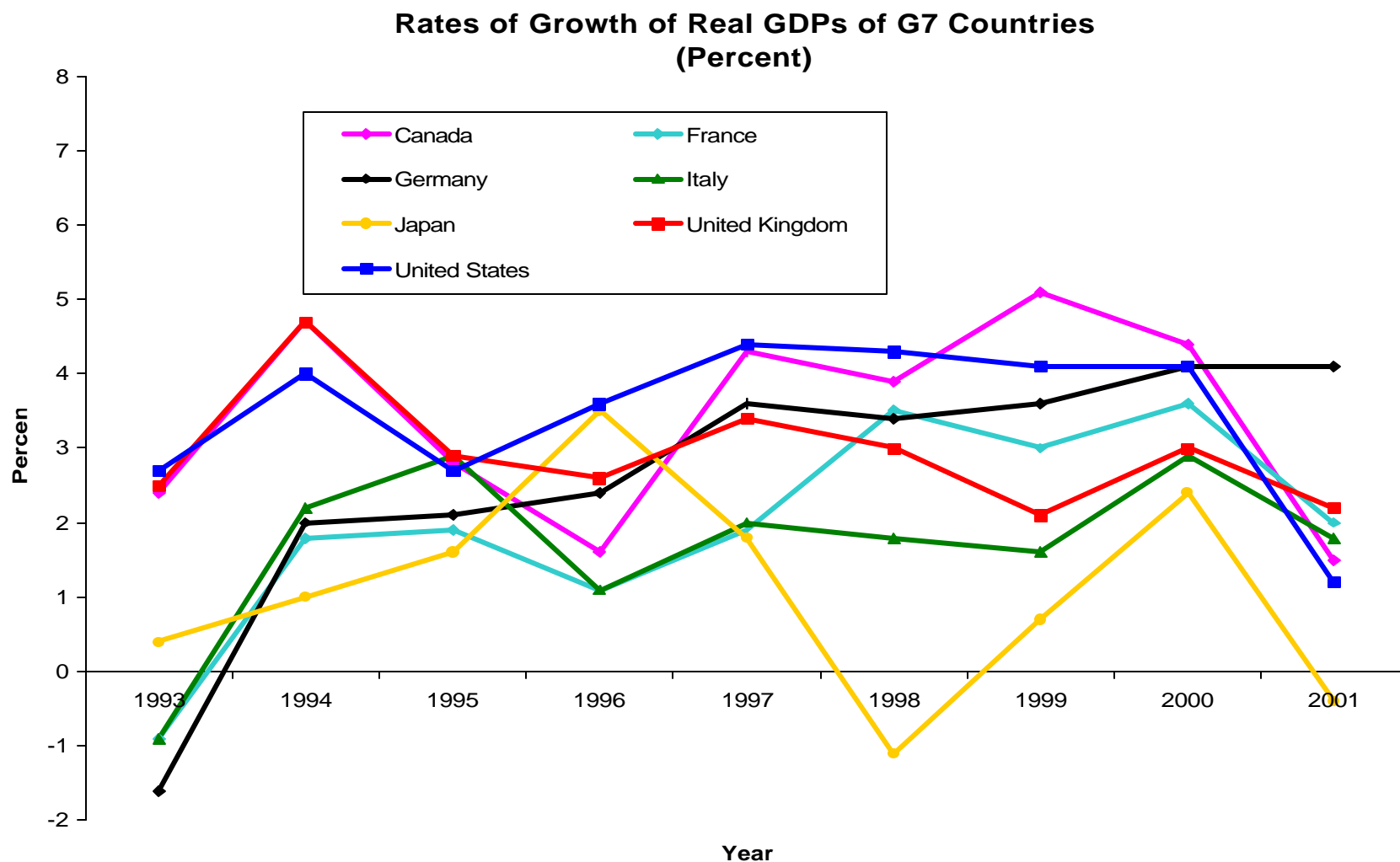


Real GDP per Capita of Selected Countries and Regions, 1970 and 2000

Real GDP per Capita of Selected Countries and Regions, 1970 and 2000
(1995 US\$)

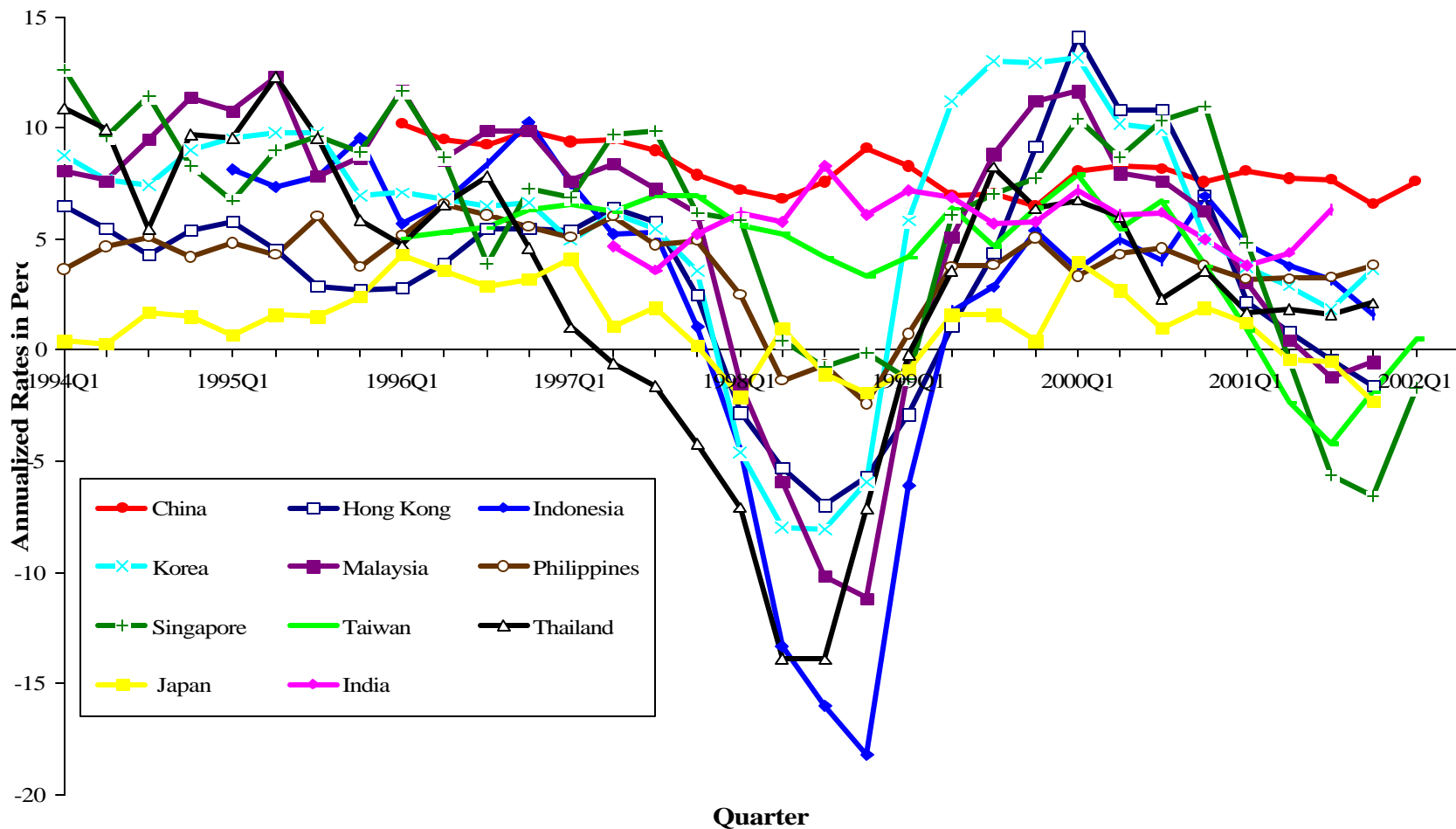


Rates of Growth of Real GDP of G7 Countries



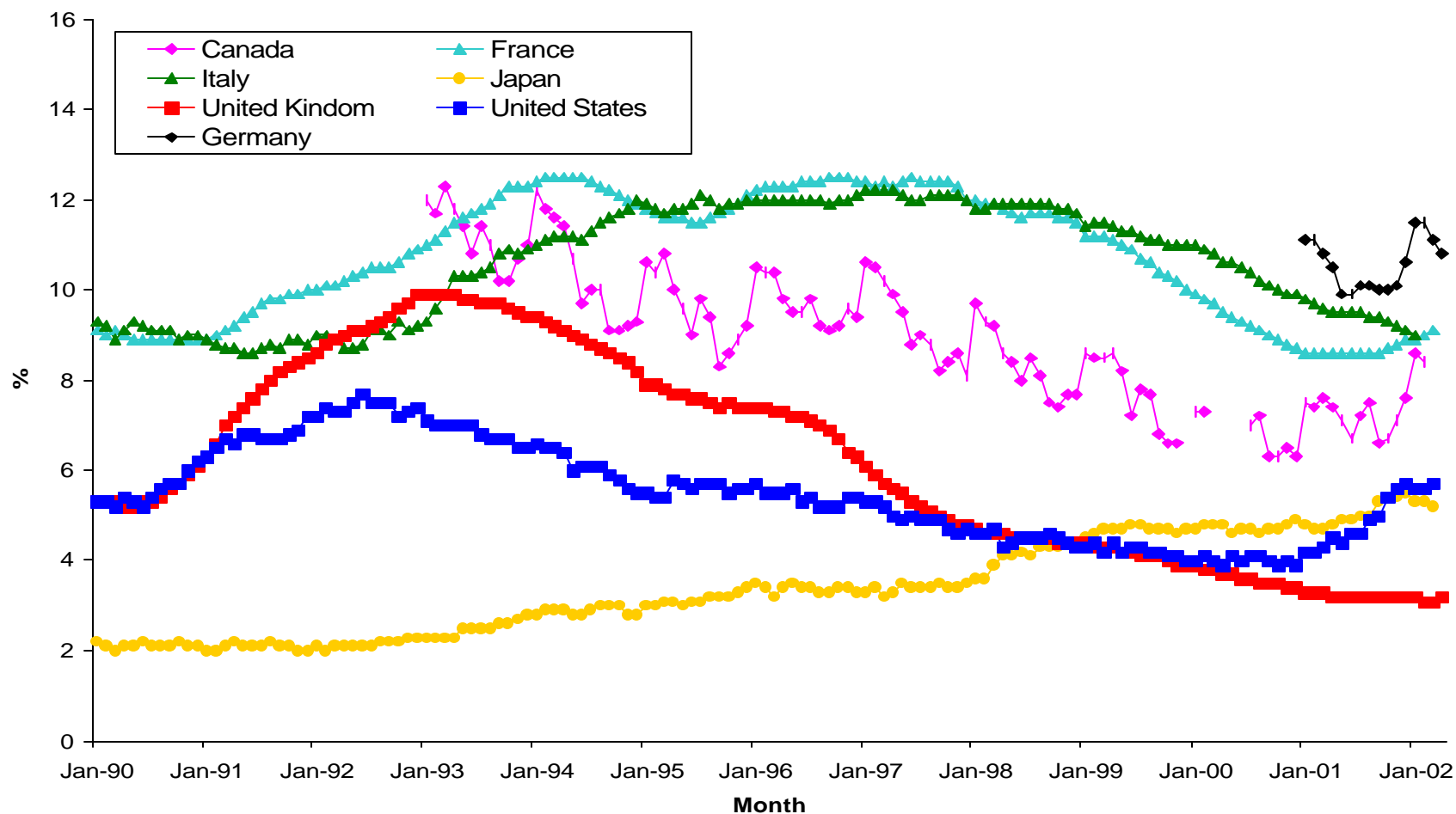
Quarterly Rates of Growth of Real GDP: Selected East Asian Economies

Quarterly Rates of Growth of Real GDP, Year-over-Year, Selected East Asian Economies



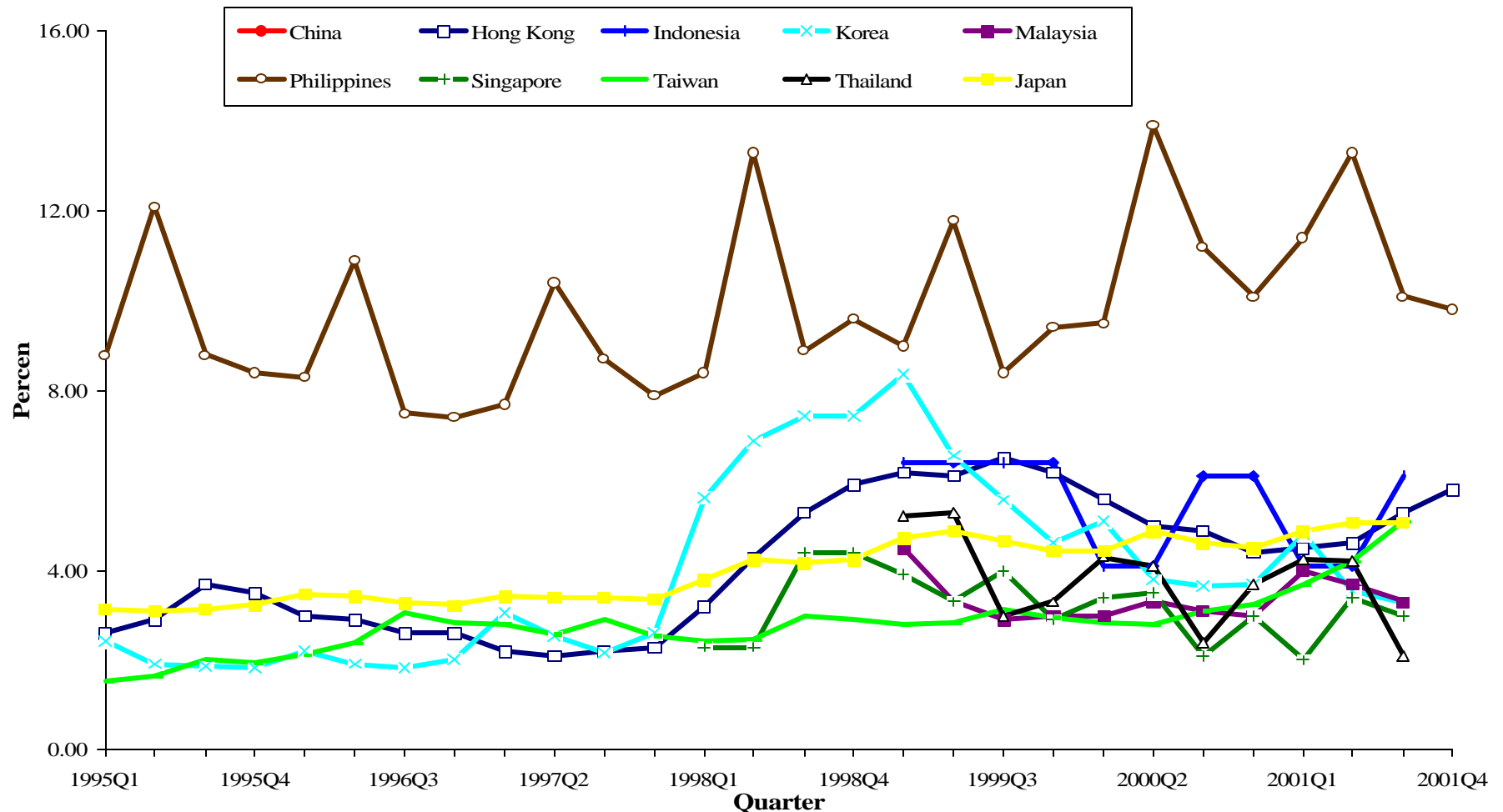
Rates of Unemployment of G-7 Countries

Monthly Unemployment Rates of G7 Countries



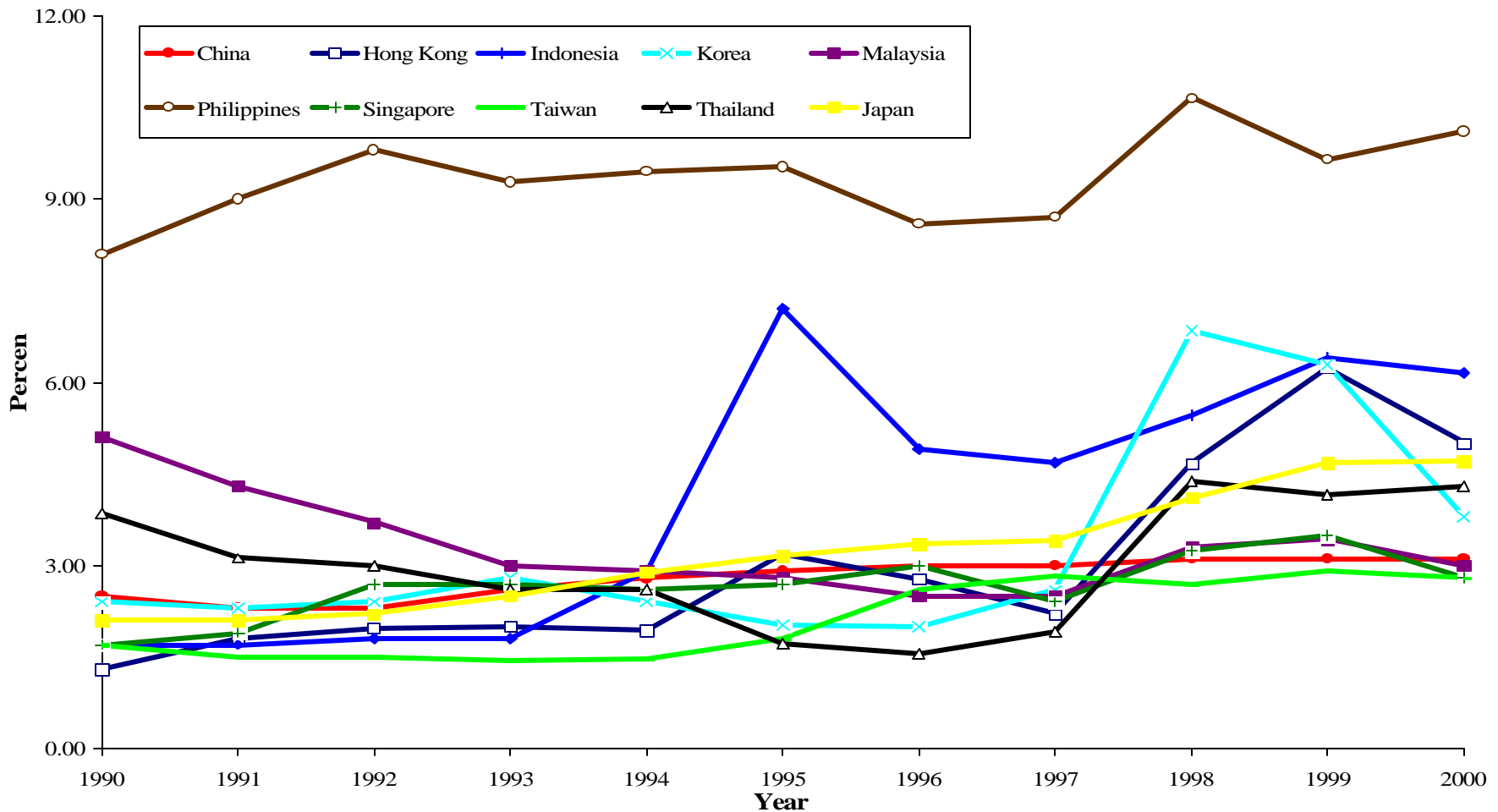
Quarterly Rates of Unemployment: Selected East Asian Economies

Unemployment Rate of Selected East Asian Economies (Quarterly Data)



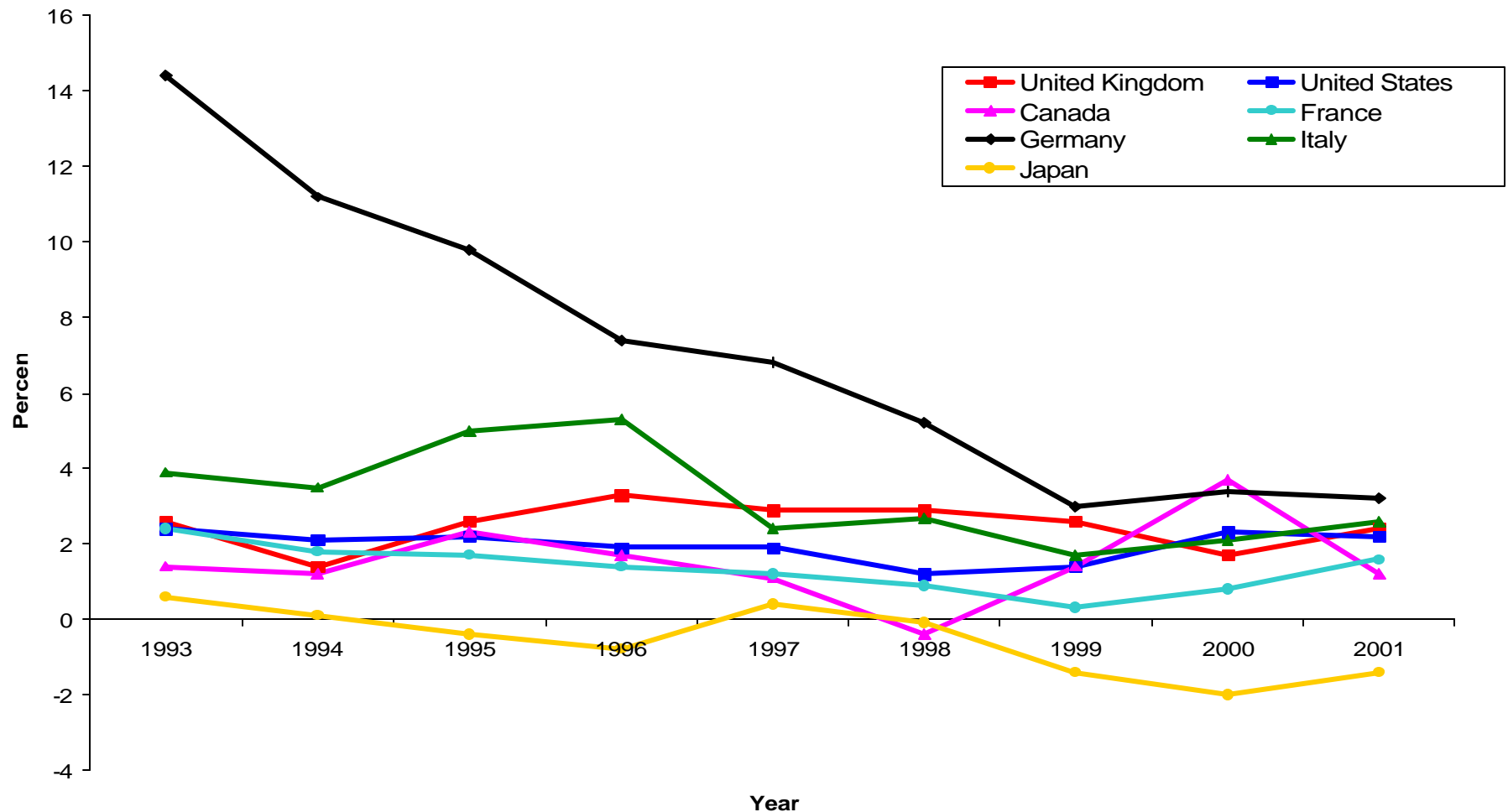
Annual Rates of Unemployment: Selected East Asian Economies

Annual Unemployment Rates of Selected East Asian Economies

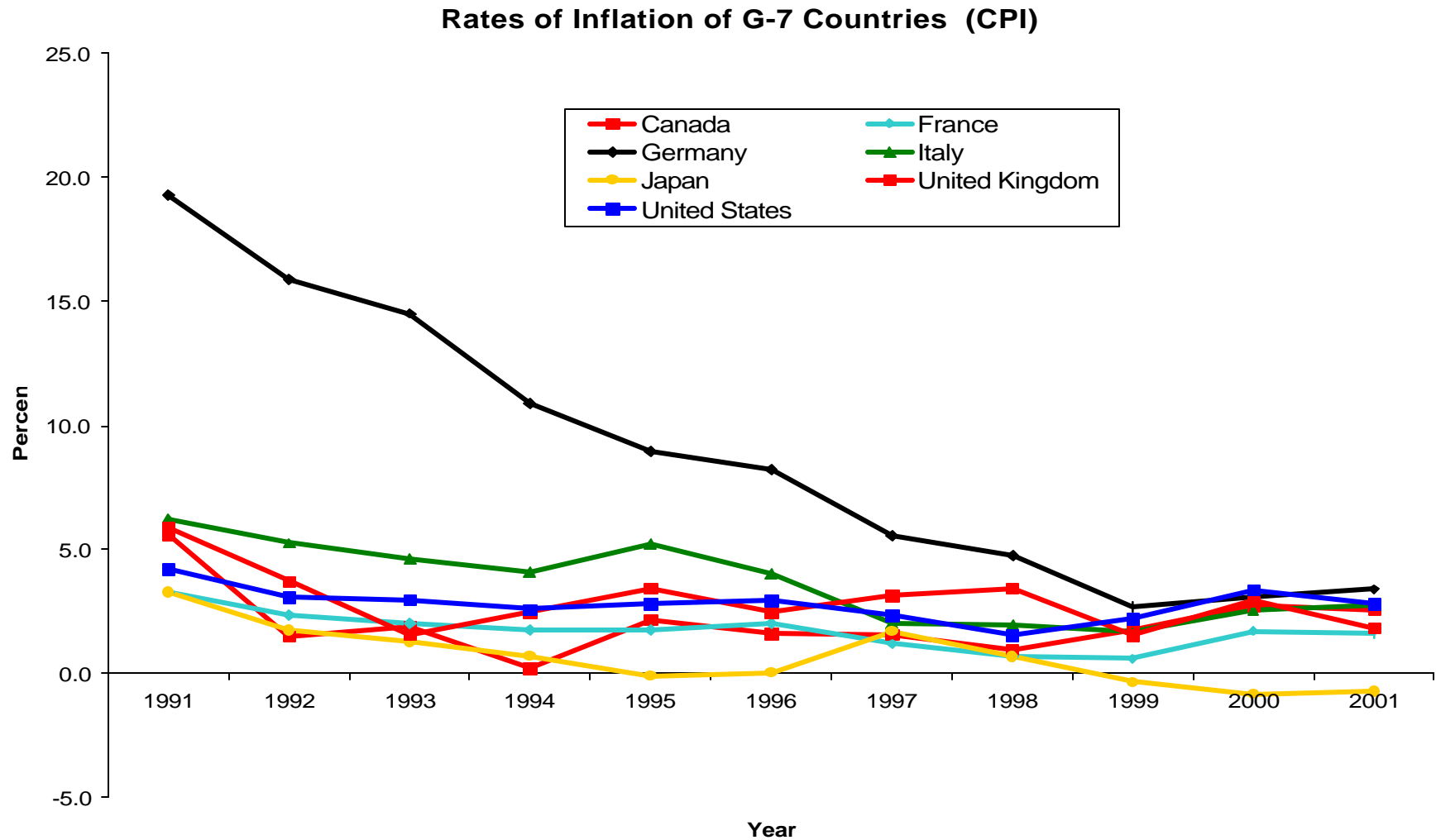


Rates of Inflation of G-7 Countries (GDP Deflator)

Rates of Inflation of G-7 Countries (GDP Deflator)

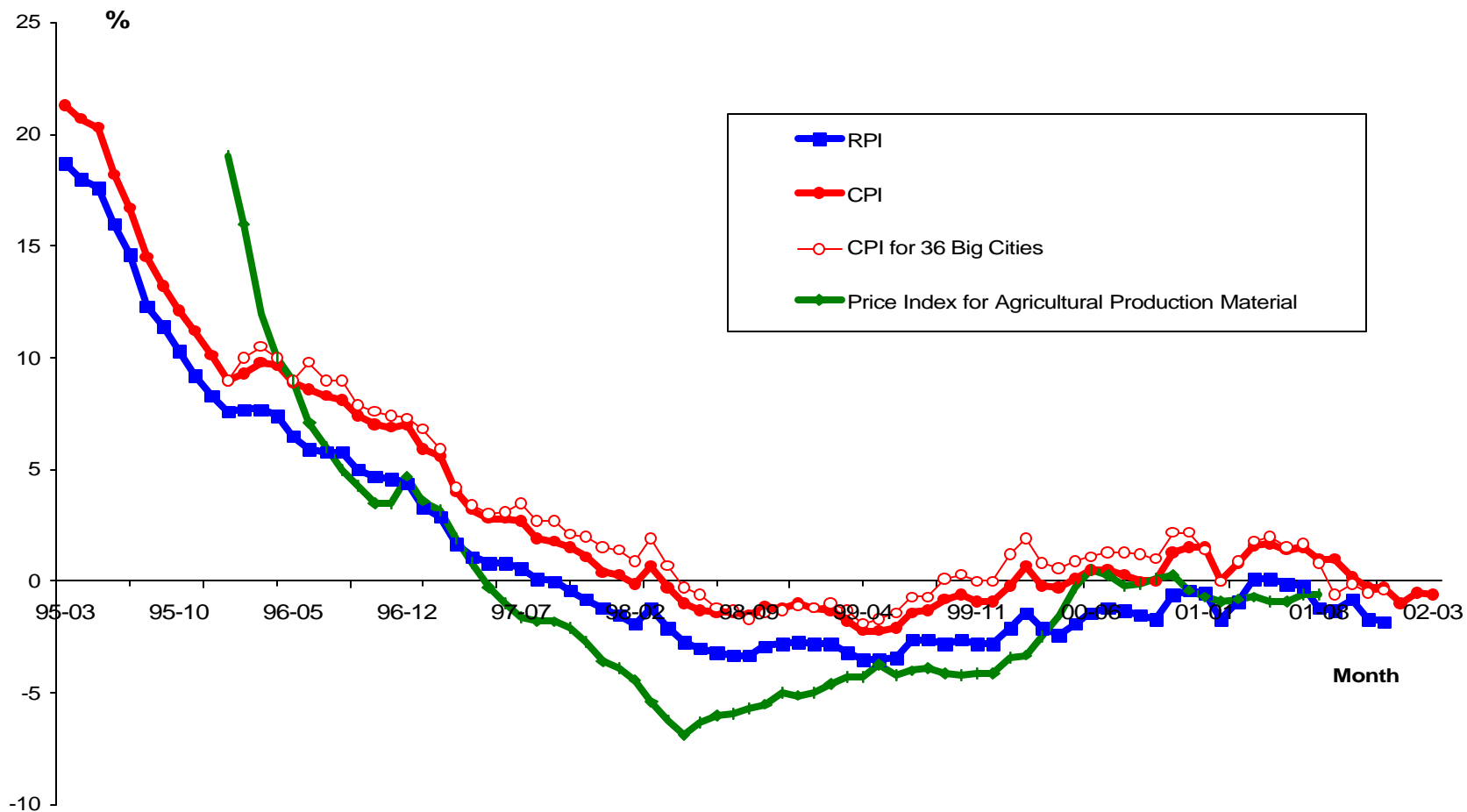


Rates of Inflation of G-7 Countries (CPI)

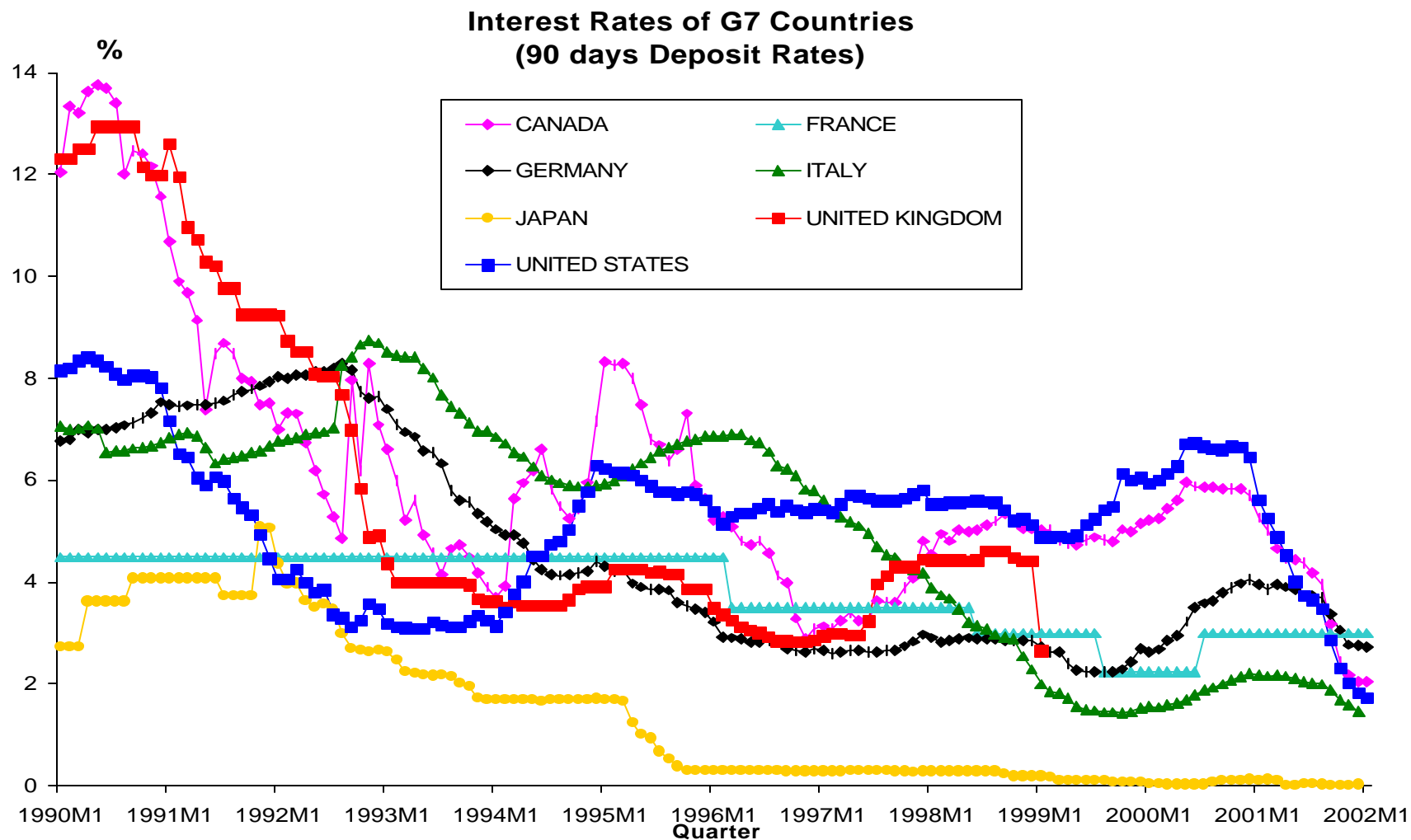


The Consumer and Retail Price Indices

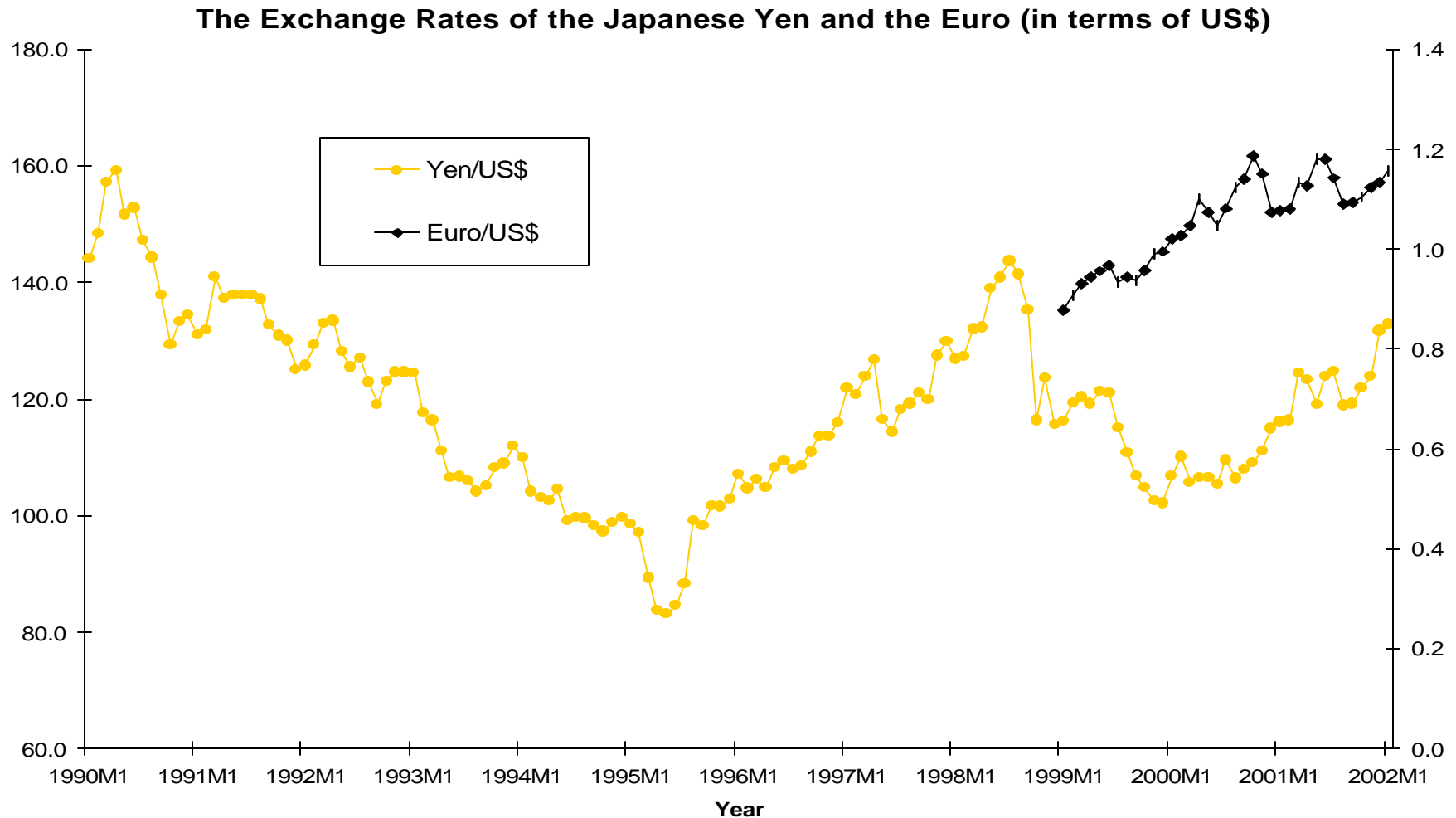
Monthly Rates of Change of Price Indices Since 1995 (Y-o-Y)



Rates of Interest of G-7 Countries

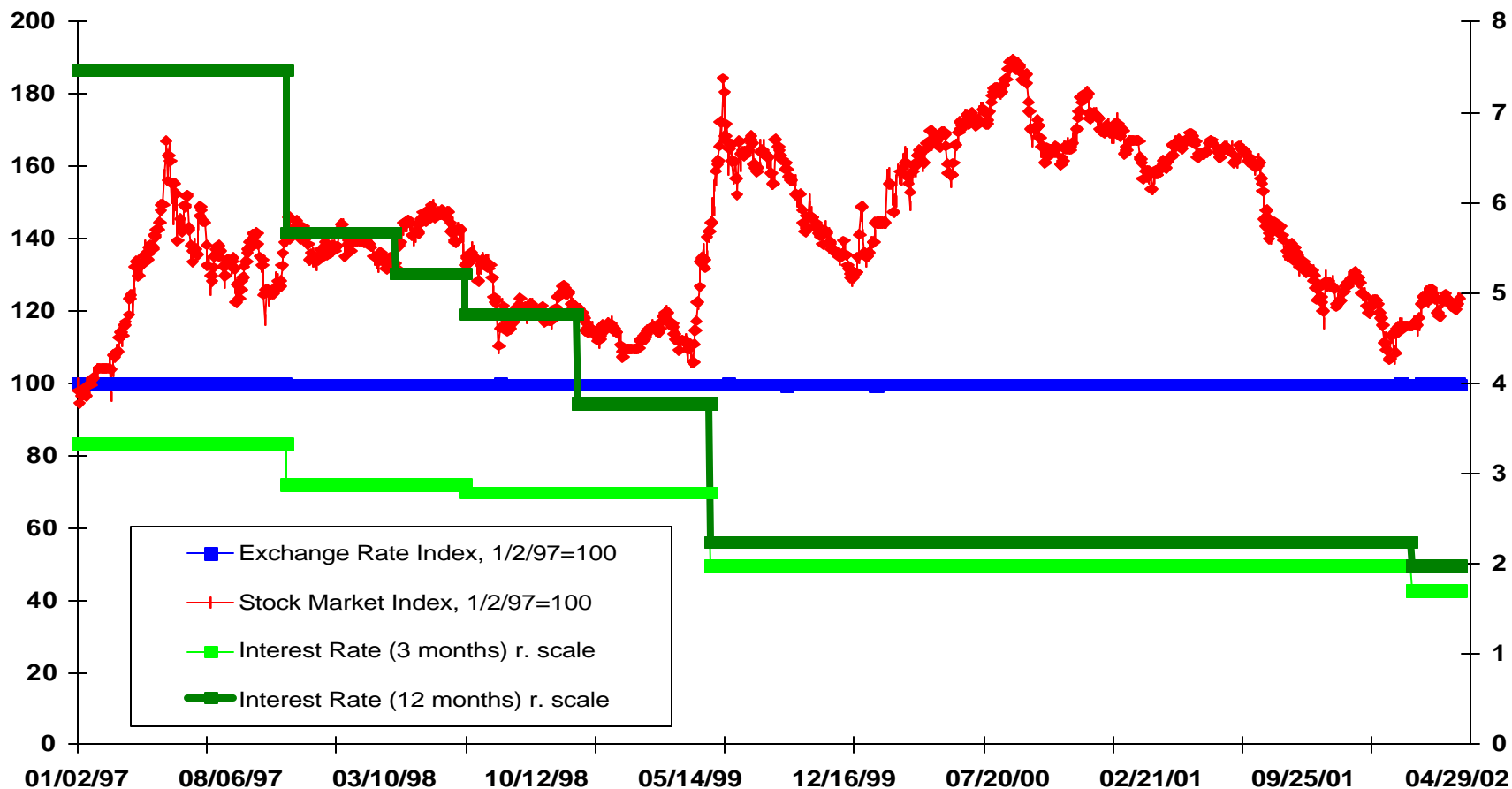


The Exchange Rates of the Japanese Yen and the Euro

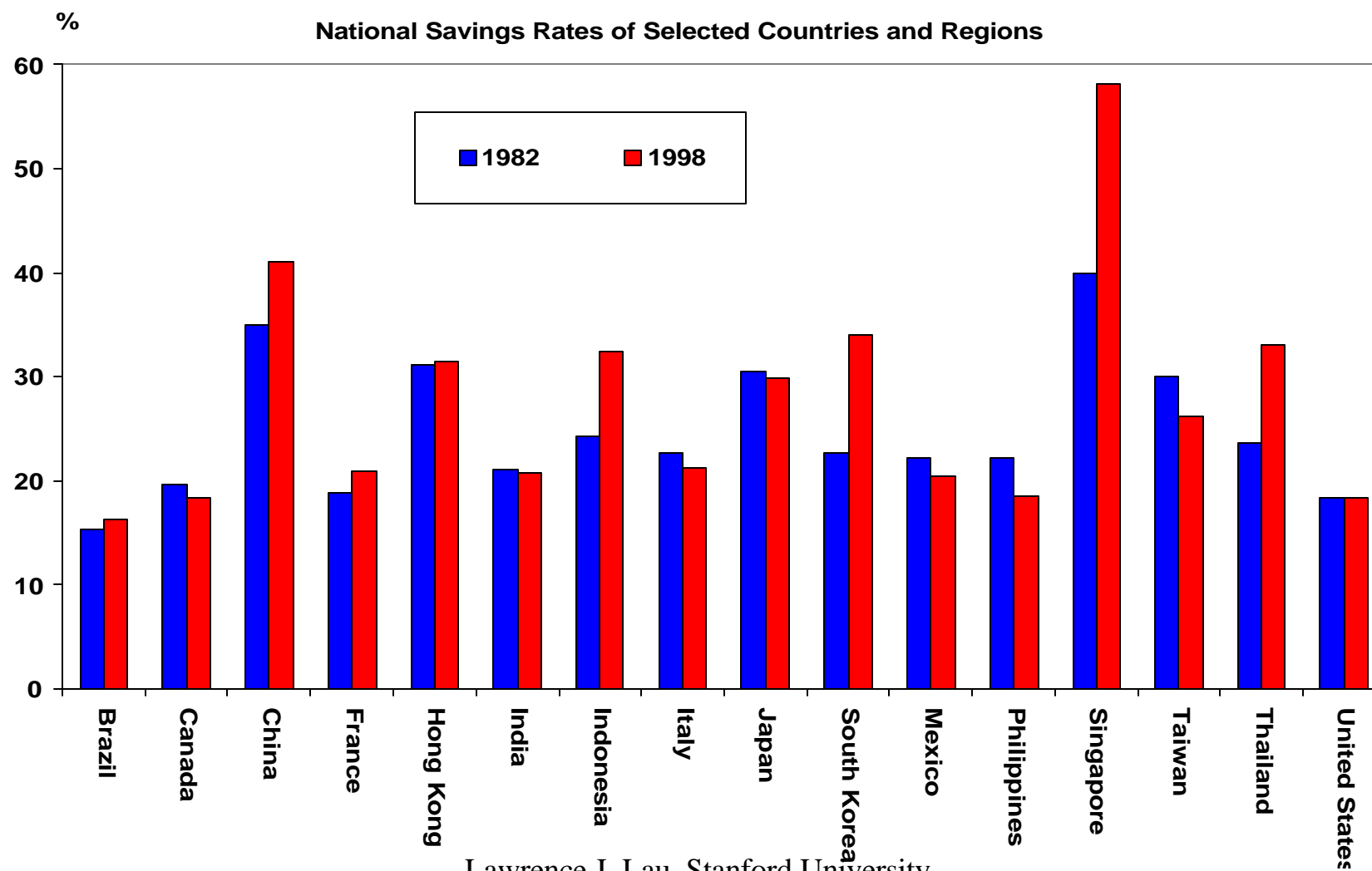


The Exchange Rate, the Interest Rates and the Stock Market Index

Exchange Rate, Stock Market Index and Interest Rates
China

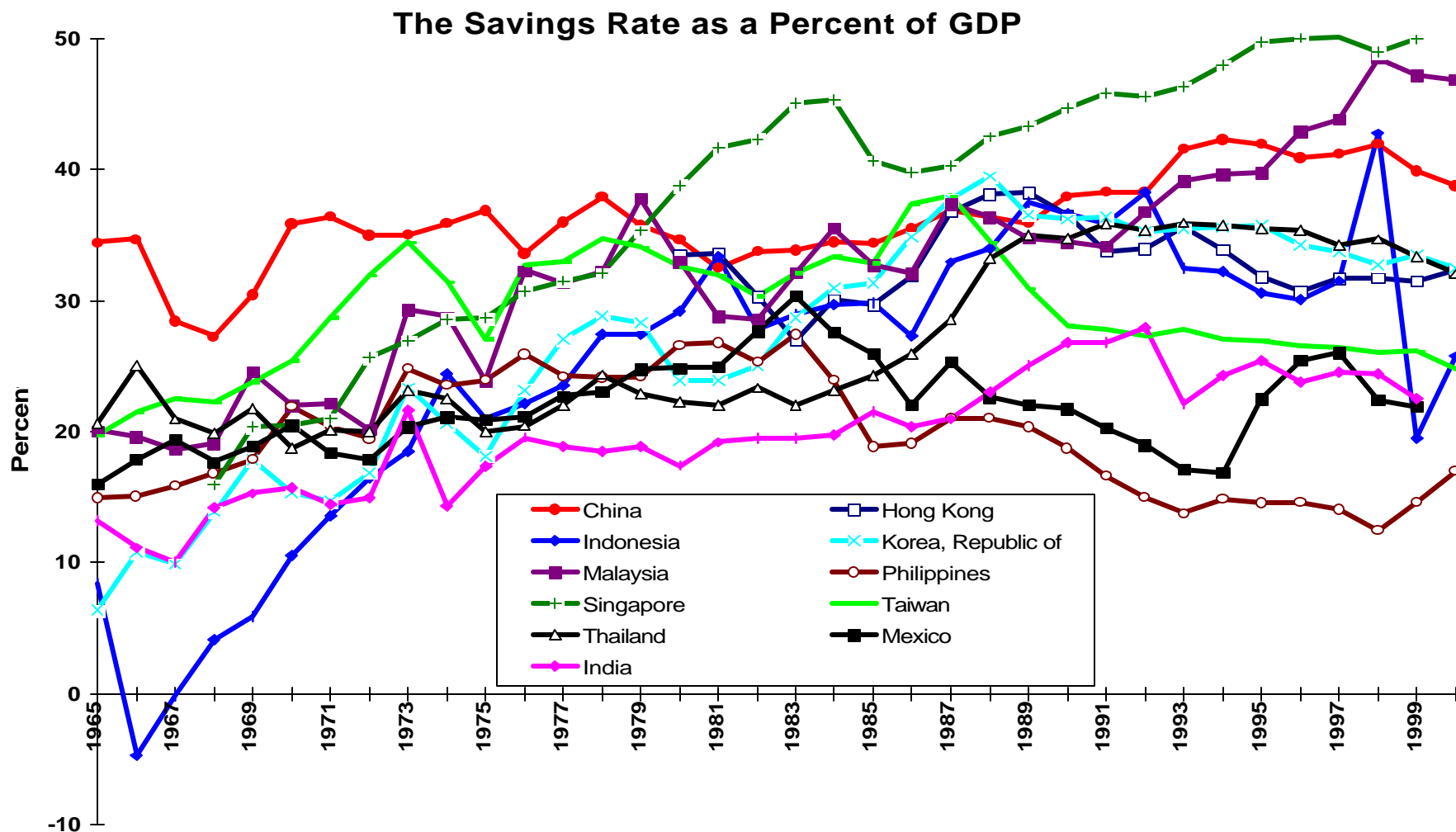


National Savings Rate as a Percent of GDP: Selected Countries and Regions



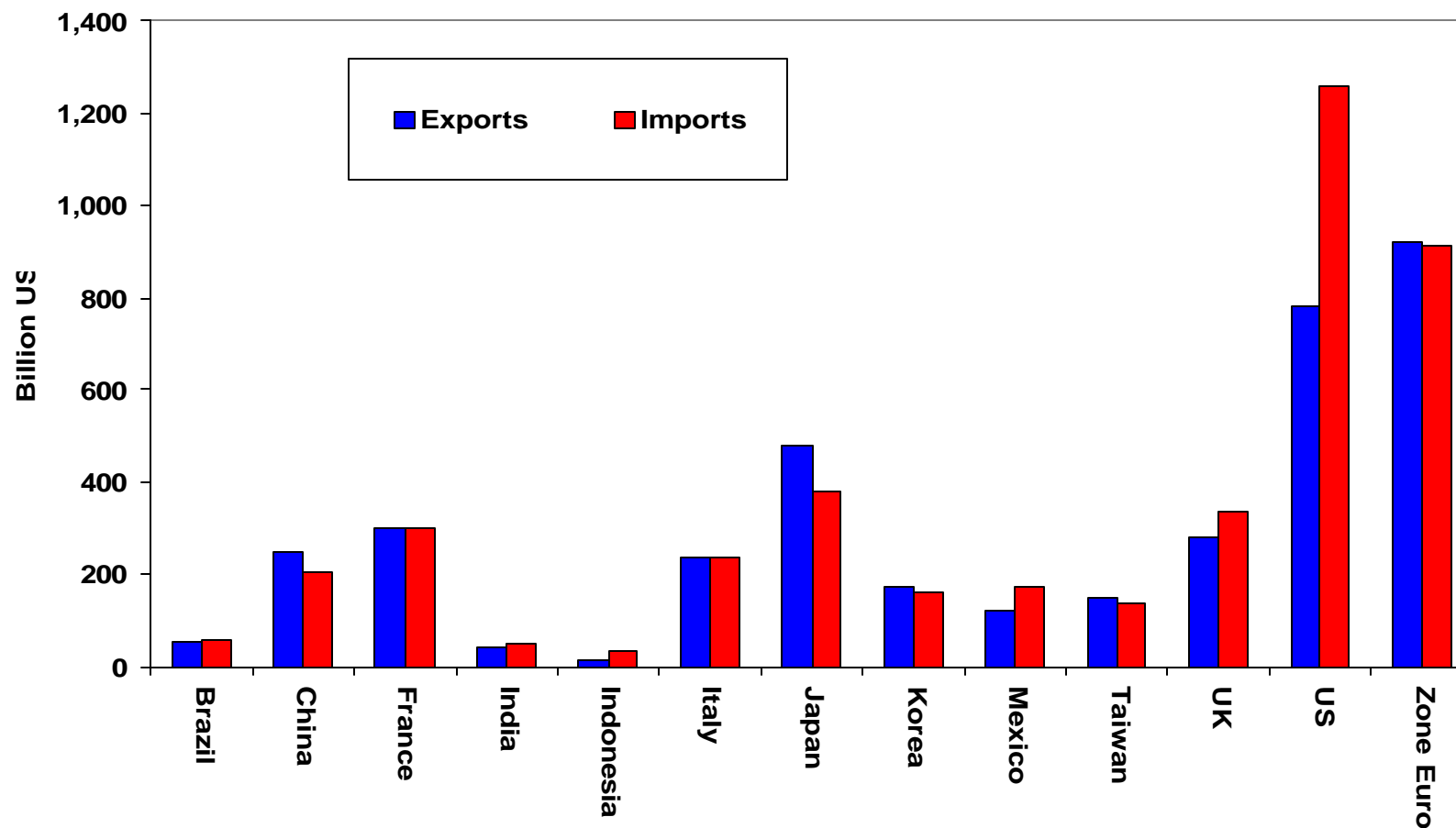
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The Savings Rate as a Percent of GDP: Selected East Asian Countries and Regions



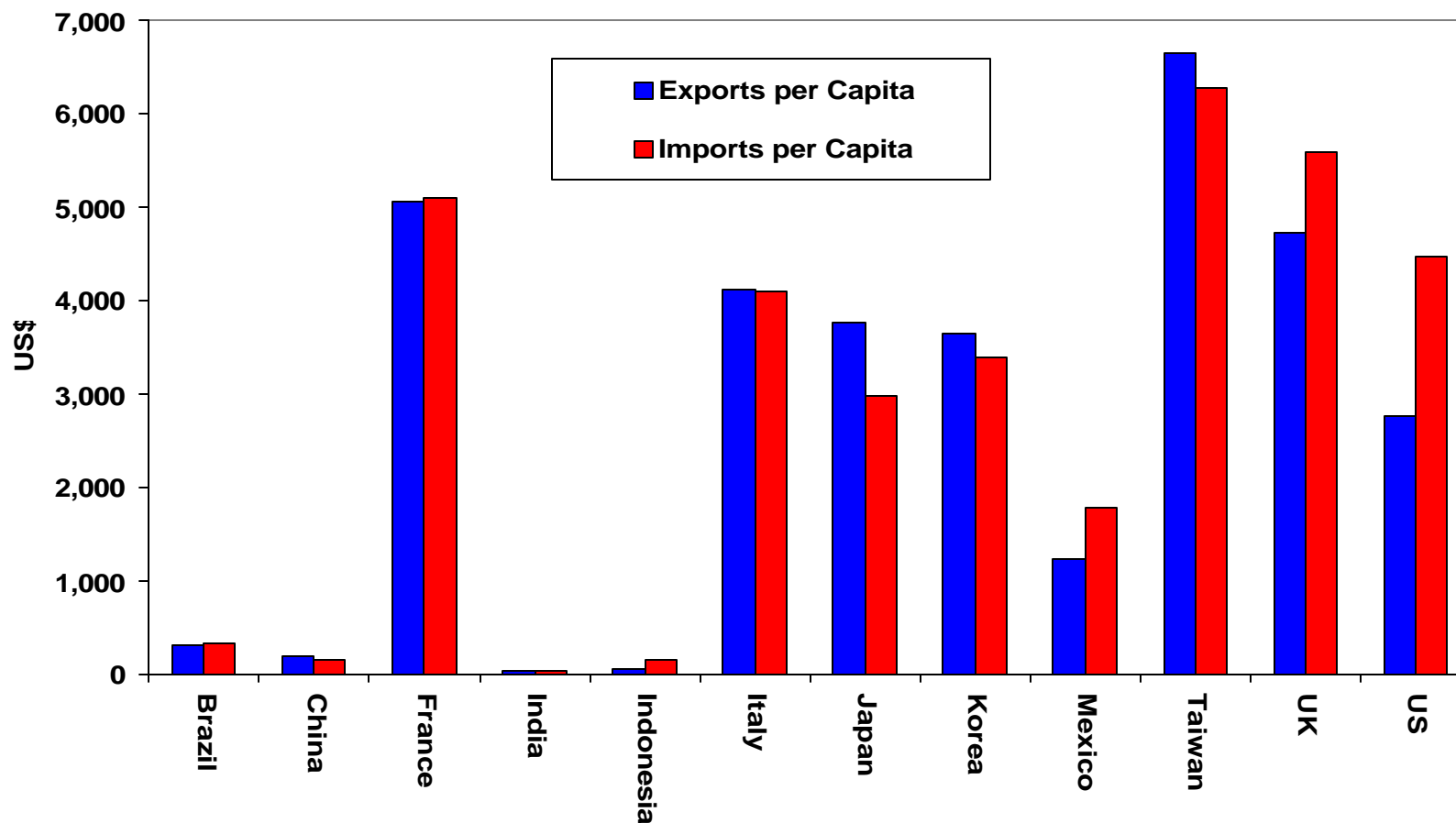
Exports and Imports (US\$): Selected Countries and Regions, 2000

Exports and Imports of Selected Countries and Regions, 2000
(US\$)

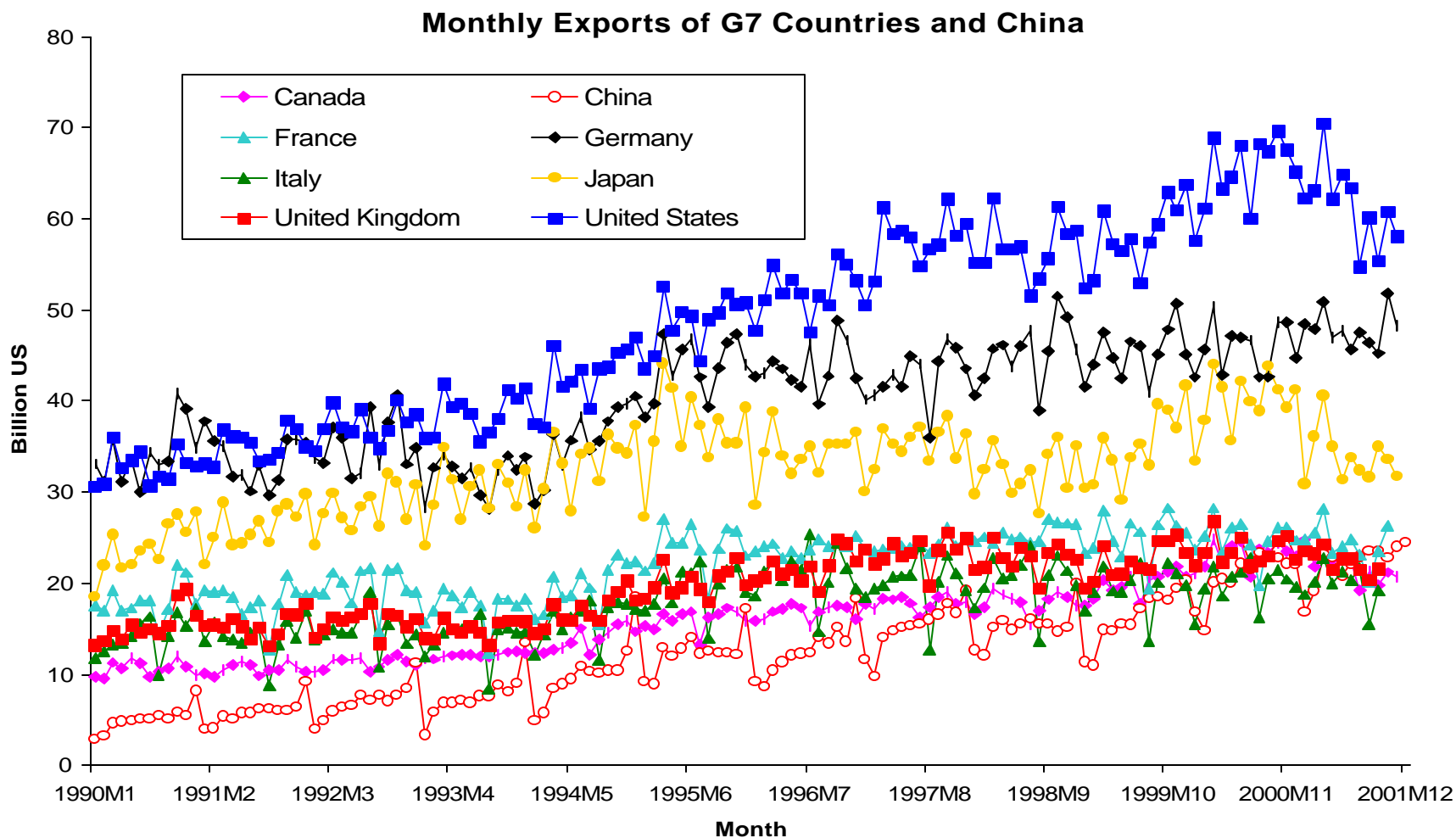


Exports and Imports per Capita (US\$): Selected Countries and Regions, 2000

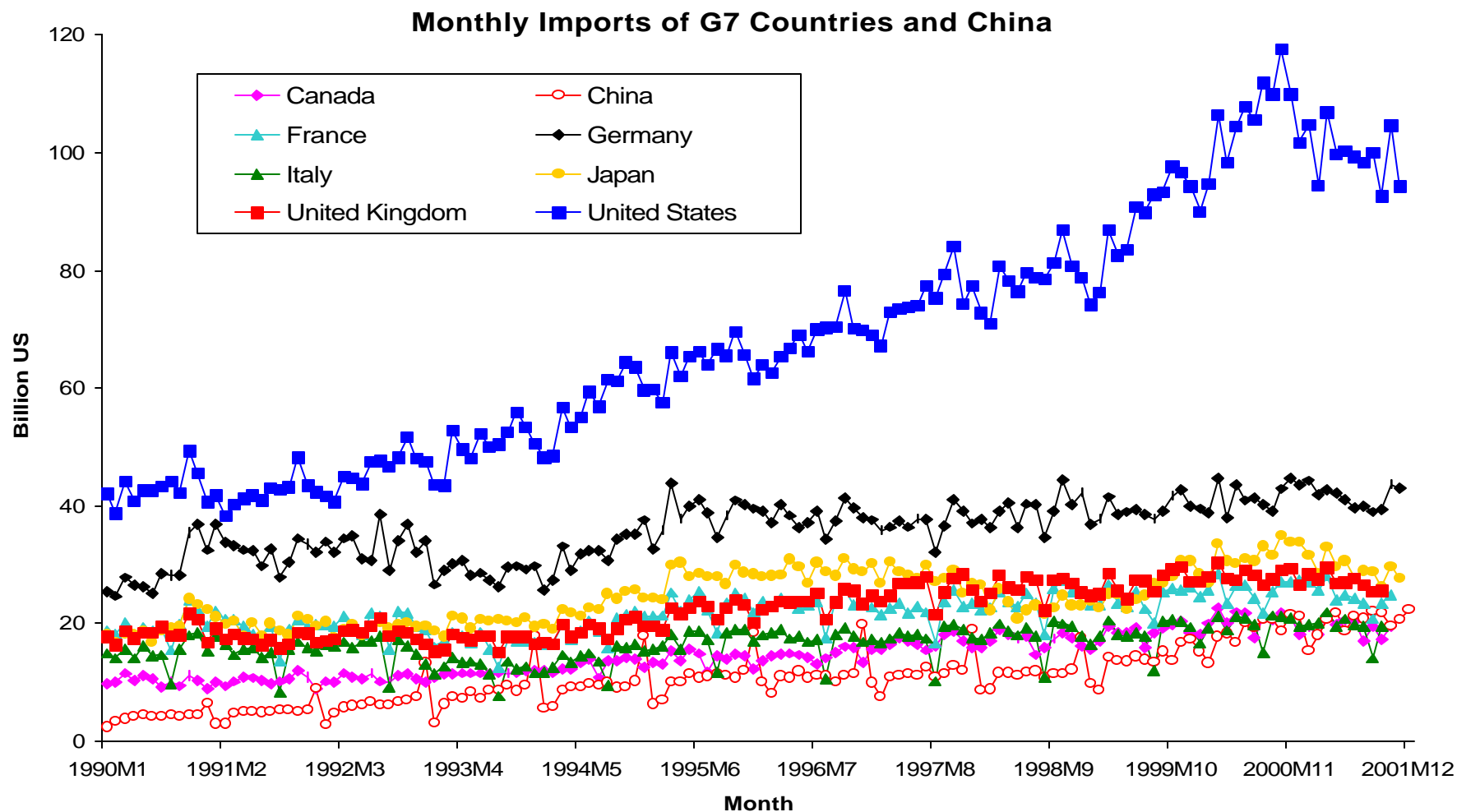
Exports and Imports per Capita of Selected Countries and Regions
(Year 2000)



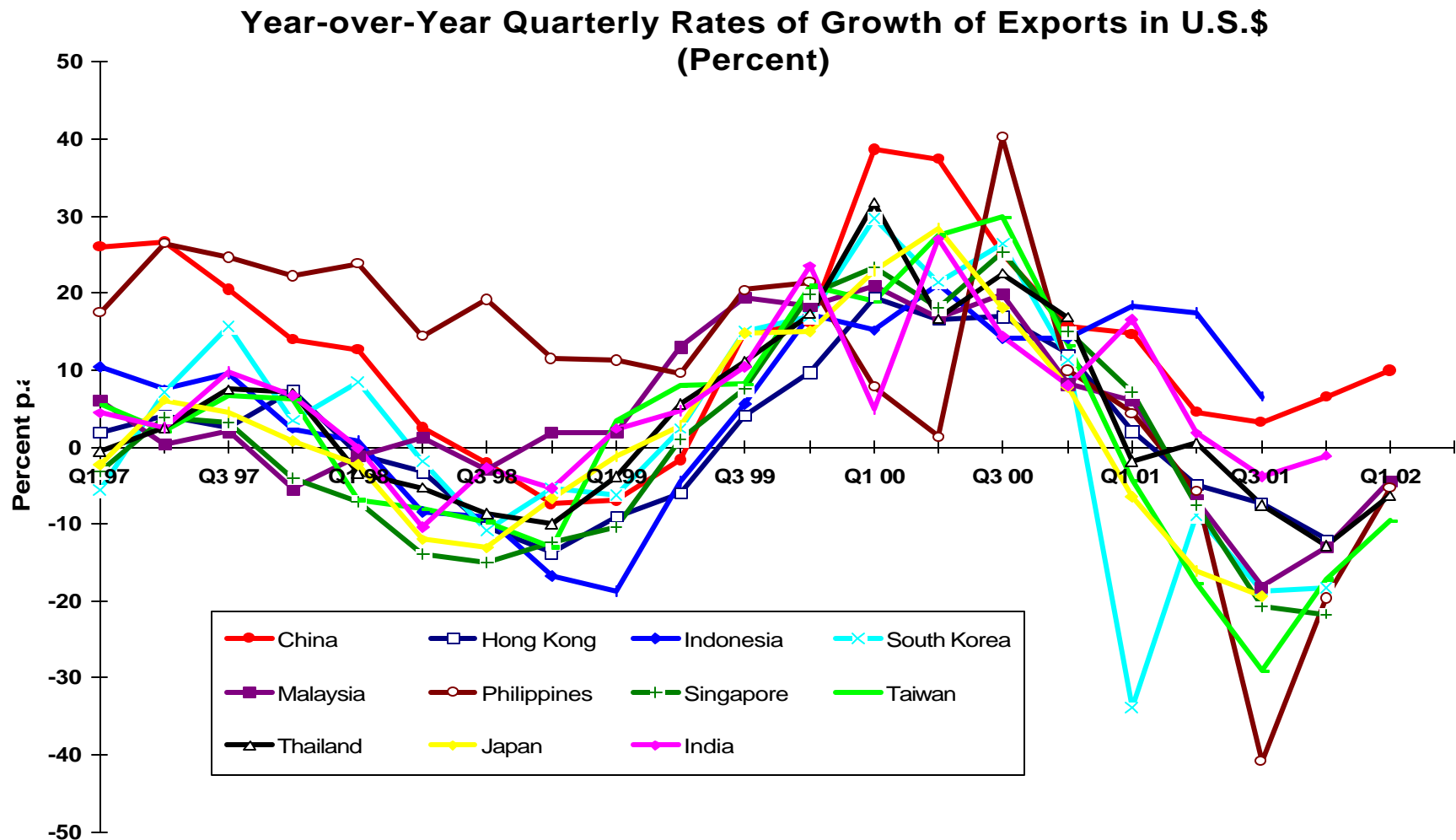
Monthly Exports of G7 Countries and China



Monthly Imports of G7 Countries and China

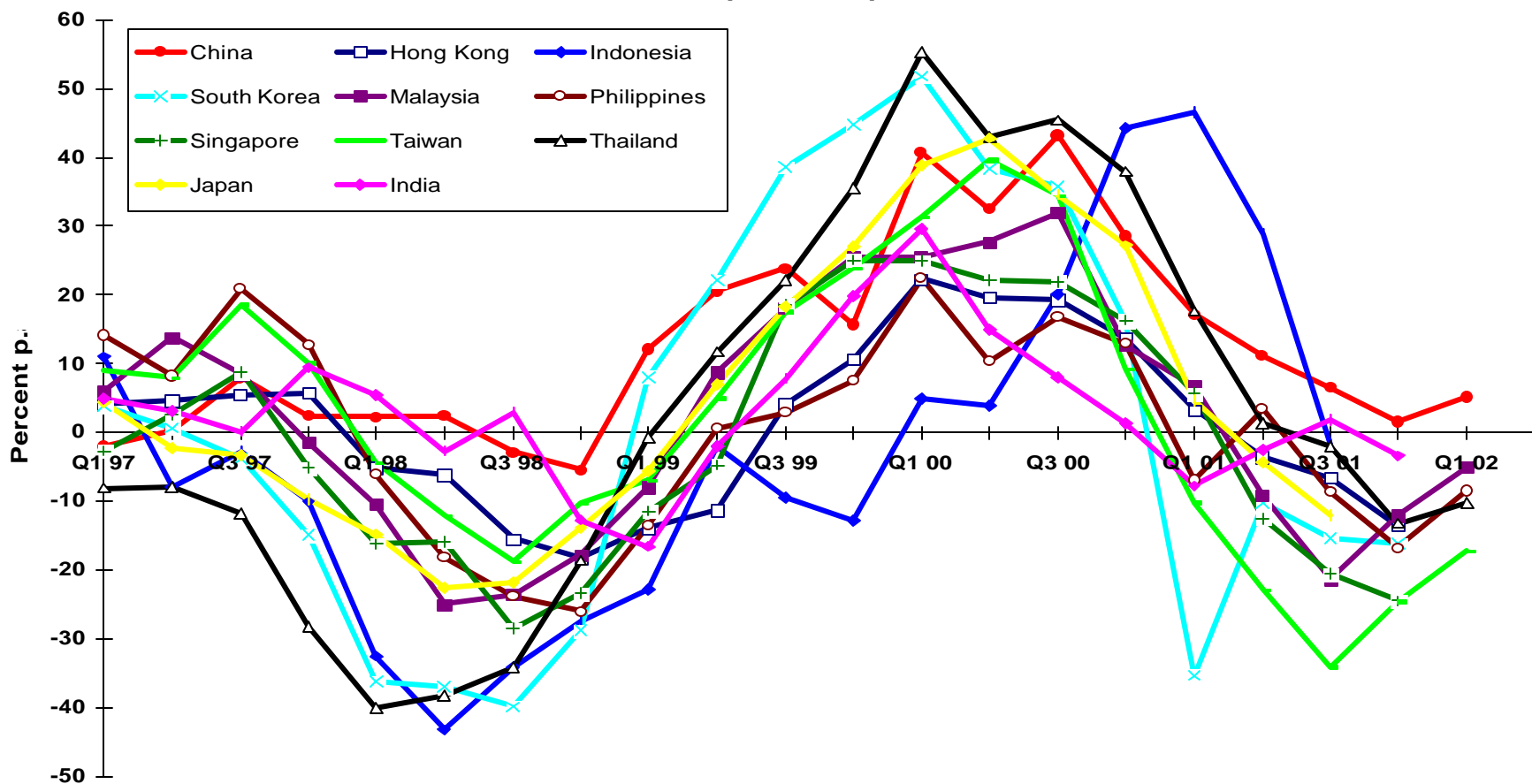


Quarterly Rates of Growth of Exports: Selected East Asian Economies

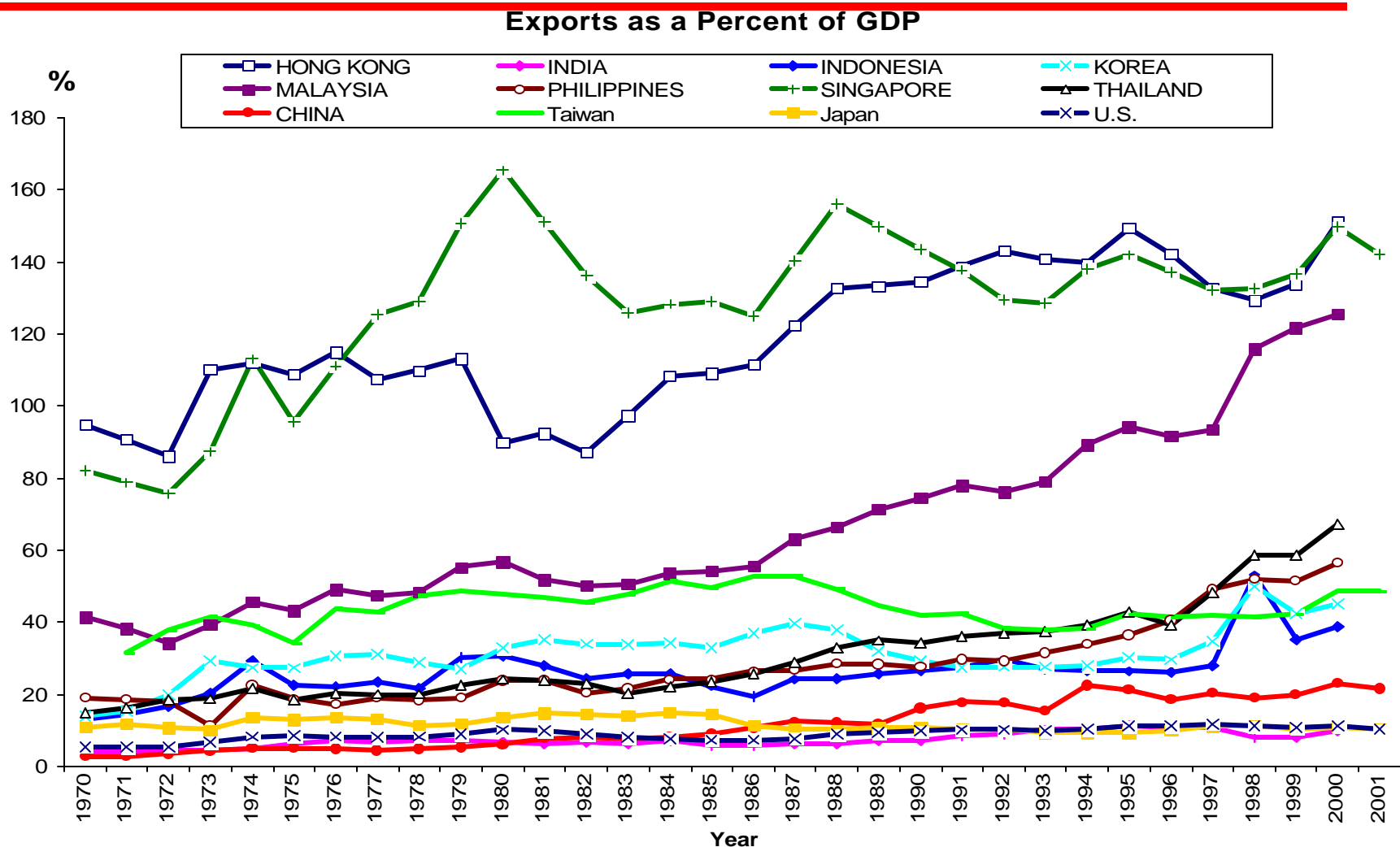


Quarterly Rates of Growth of Imports : Selected East Asian Economies

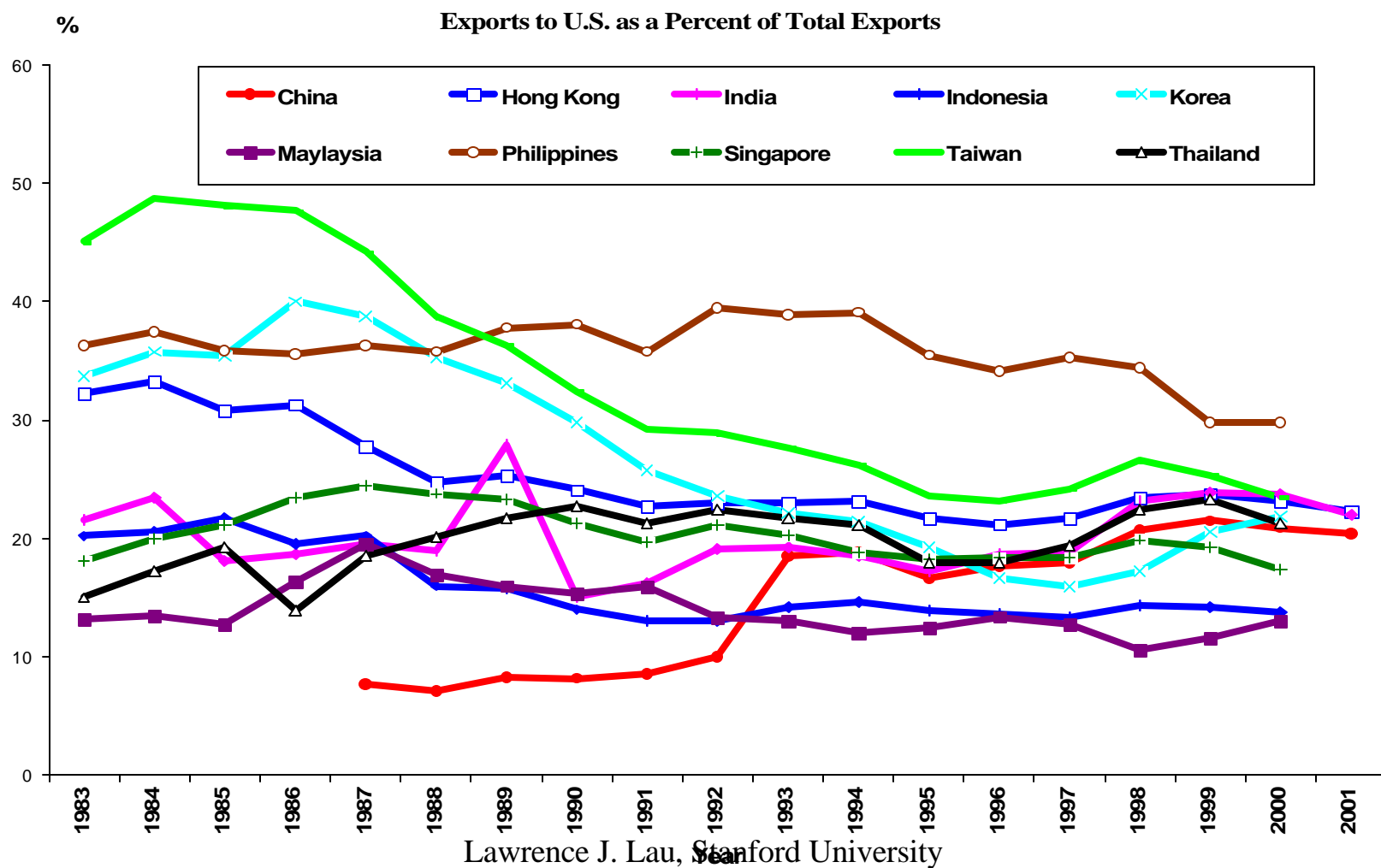
Year-over-Year Quarterly Rates of Growth of Imports in U.S.\$
(Percent)



Exports as a Percent of GDP: Selected East Asian Economies and U.S.



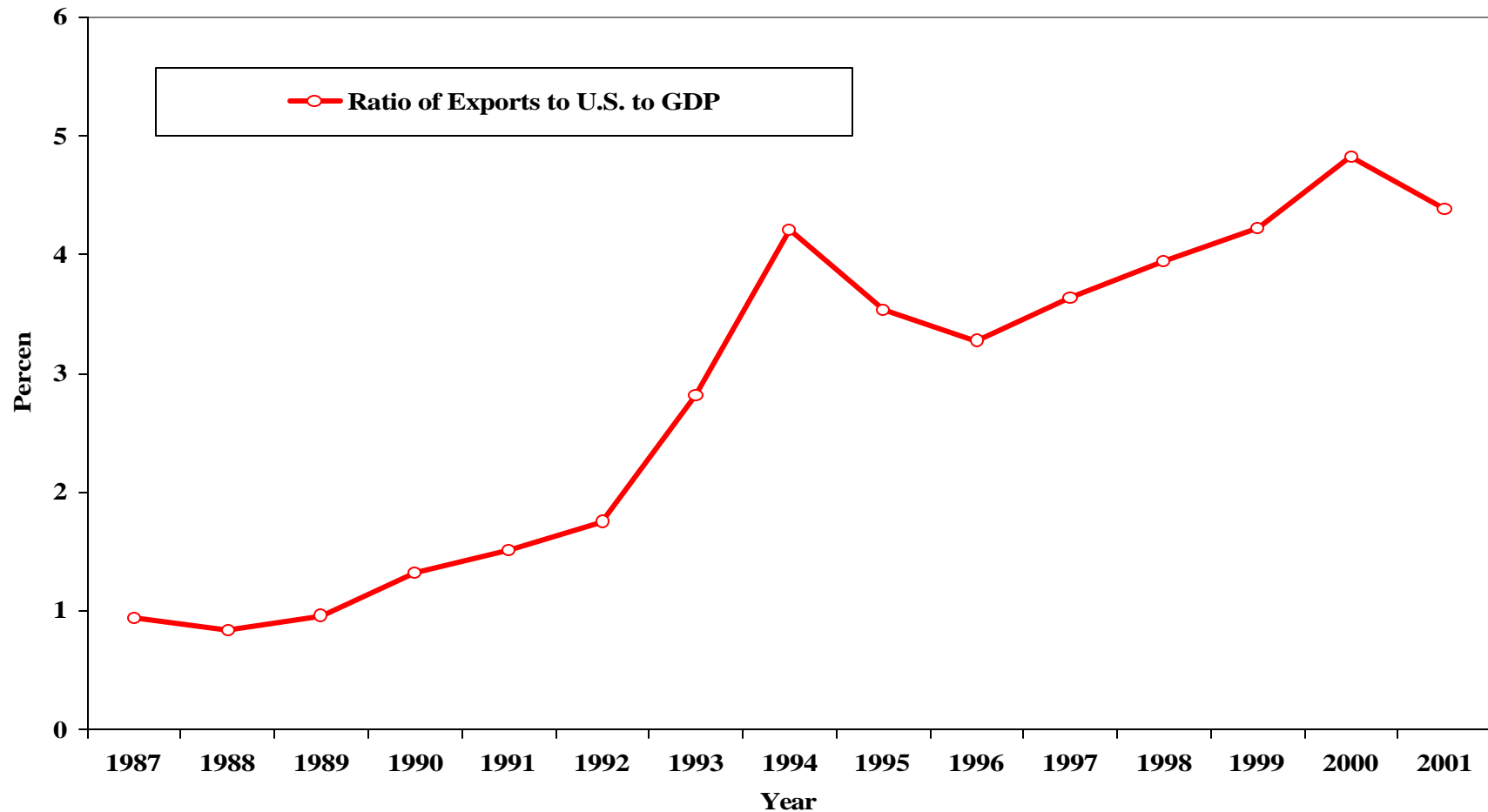
Exports to U.S. as a Percent of Total Exports



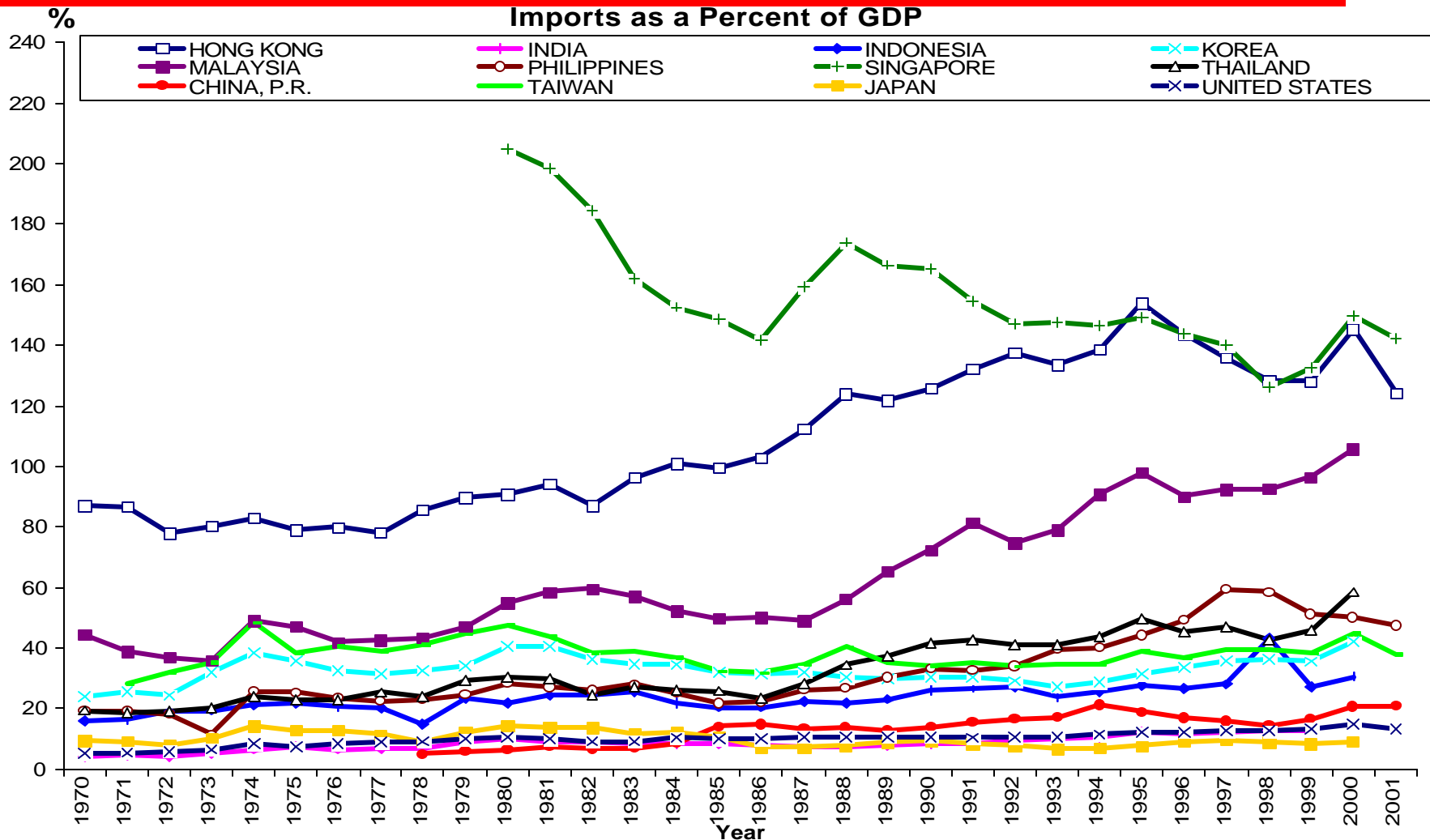
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Chinese Exports to the United States as a Percent of Chinese GDP (Chinese Data)

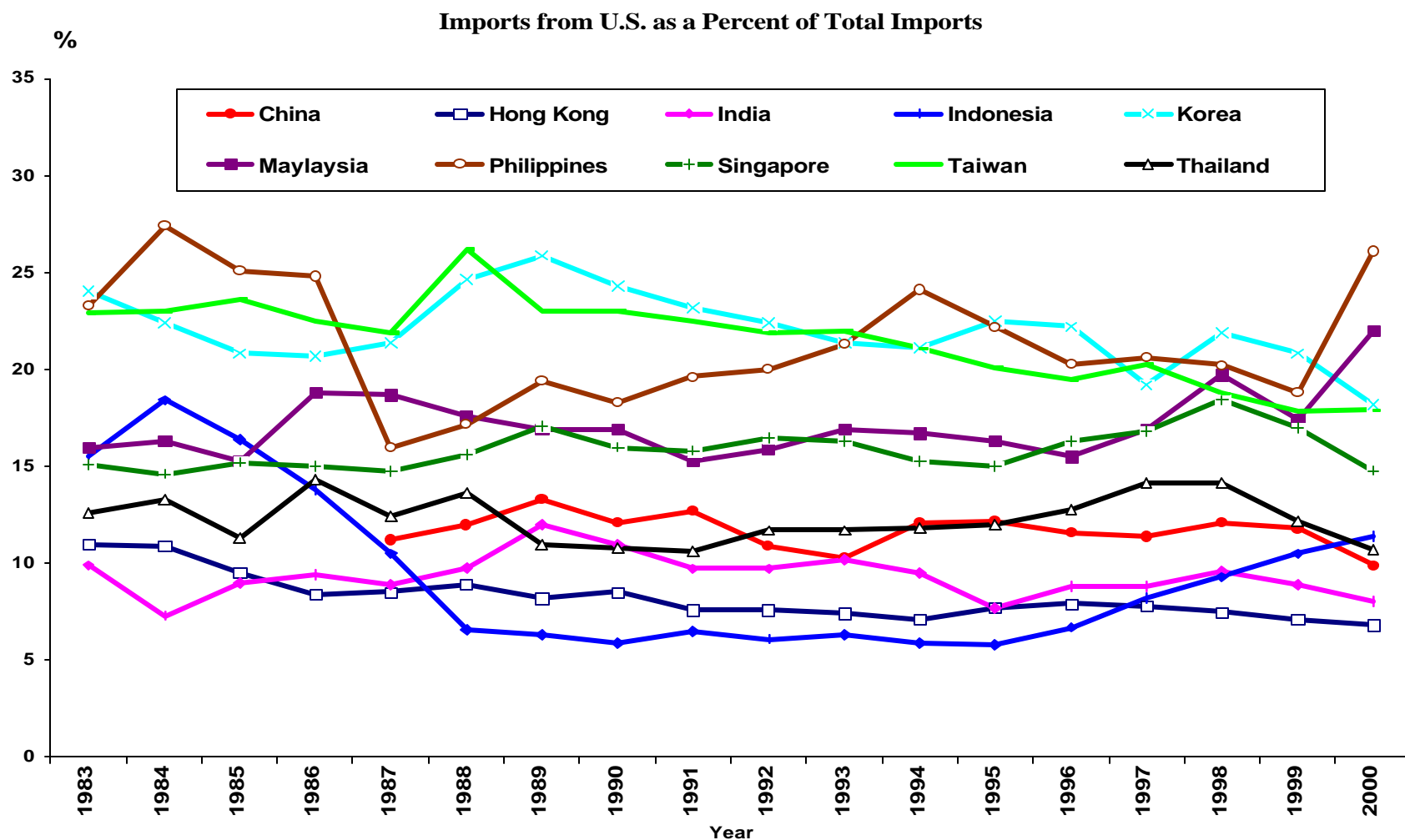
Chinese Exports to U.S. as a Percent of Chinese GDP



Imports as a Percent of GDP: Selected East Asian Economies and U.S.

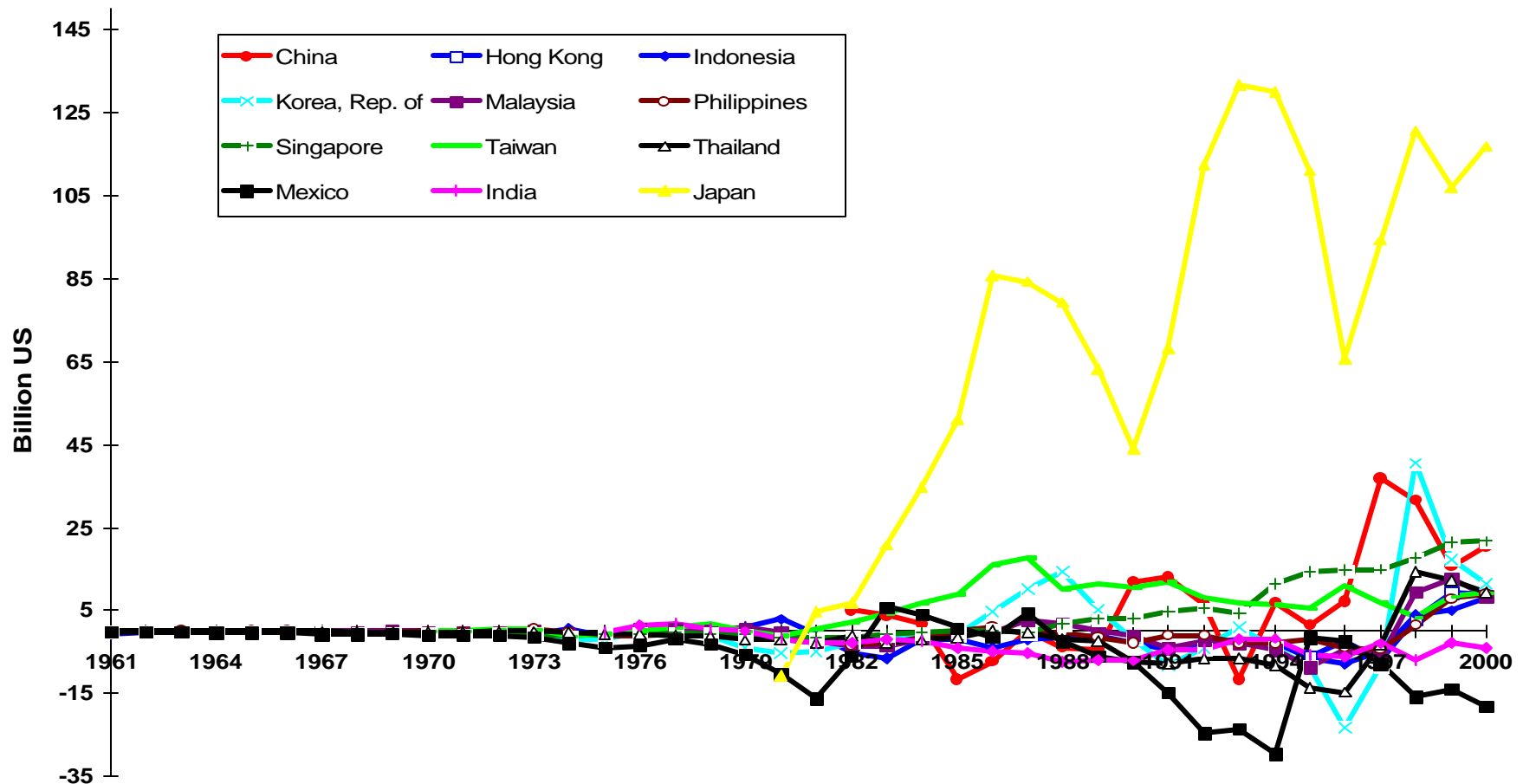


Imports from U.S. as a Percent of Total Imports

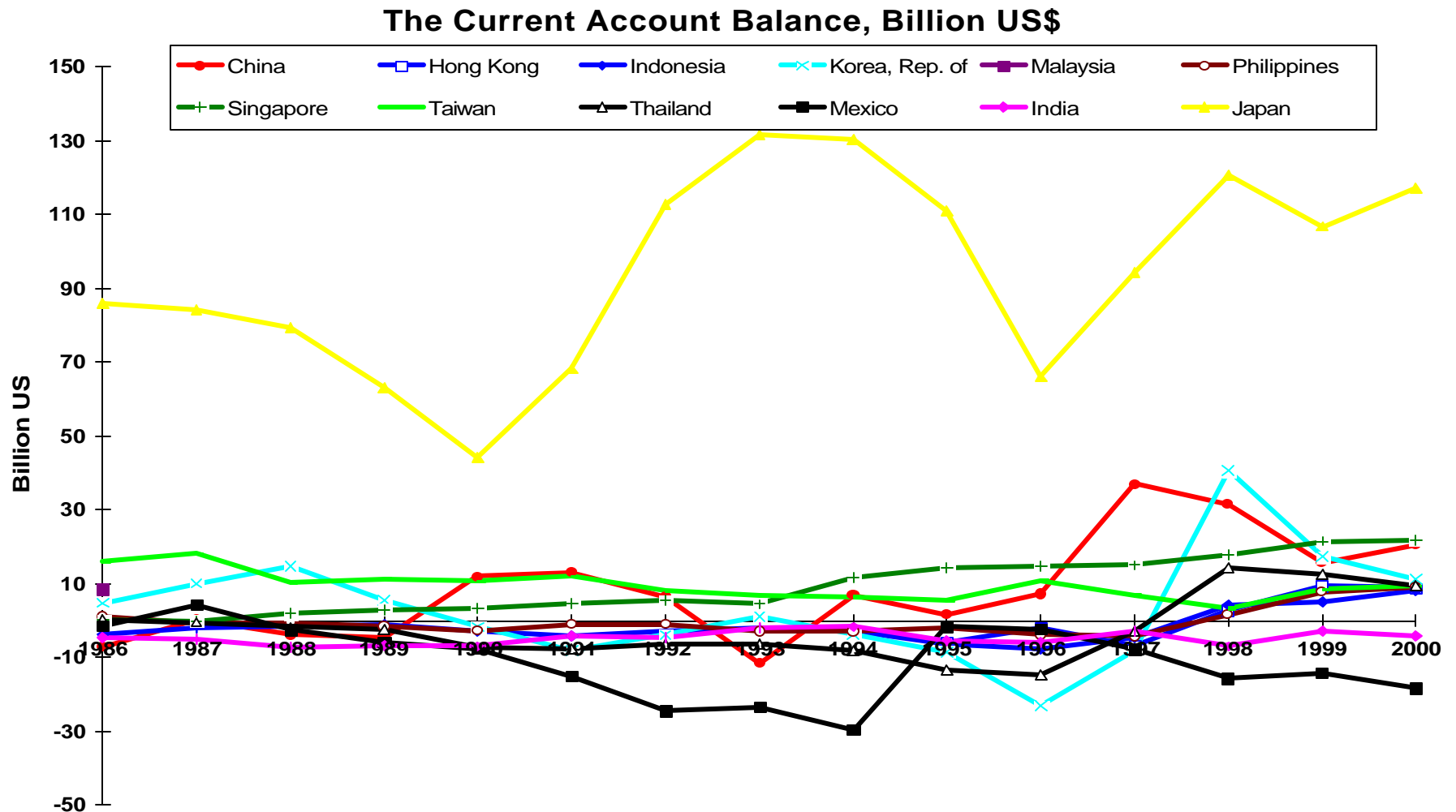


The Current Account Surplus: Selected East Asian Economies

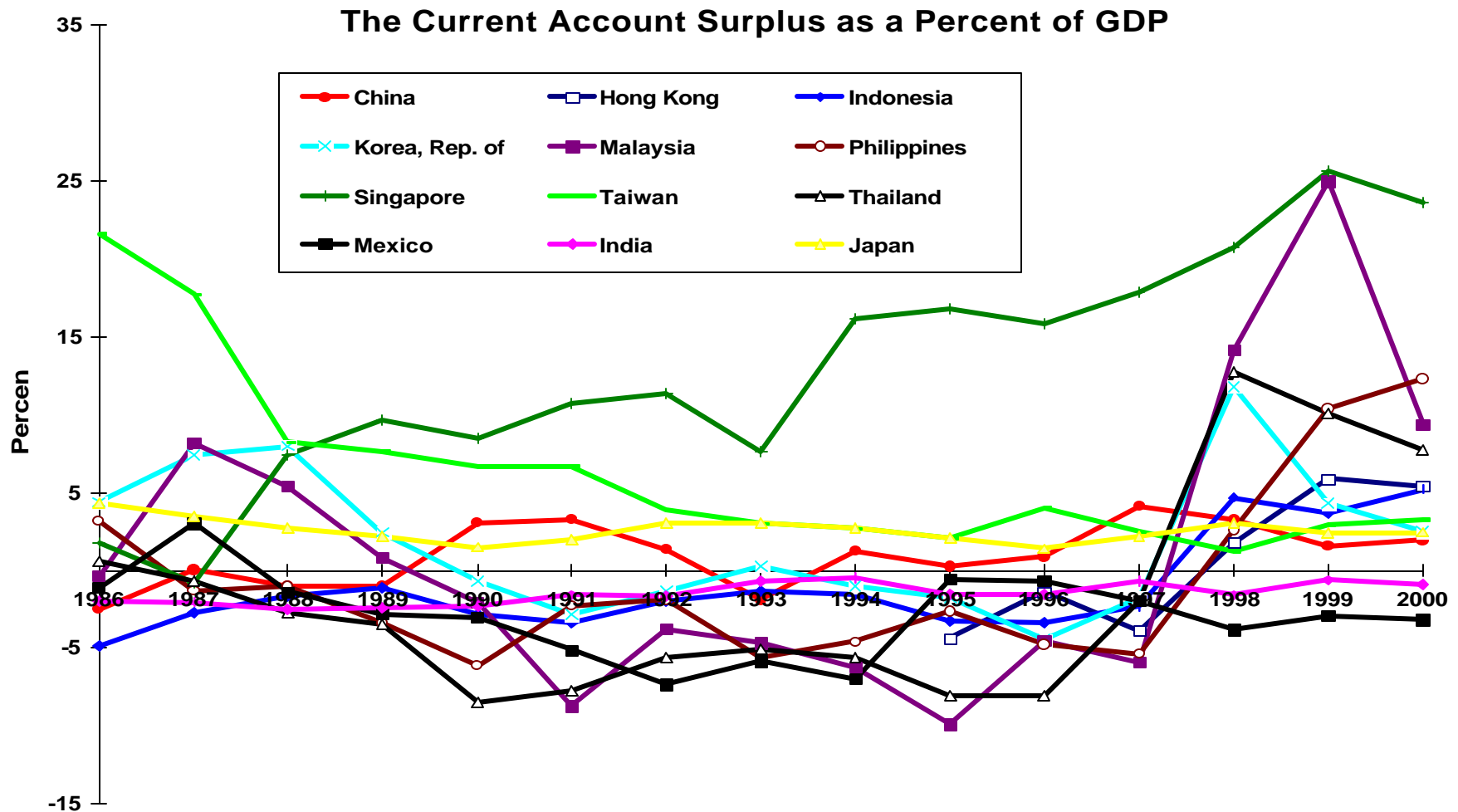
The Current Account Balance, Billion US\$



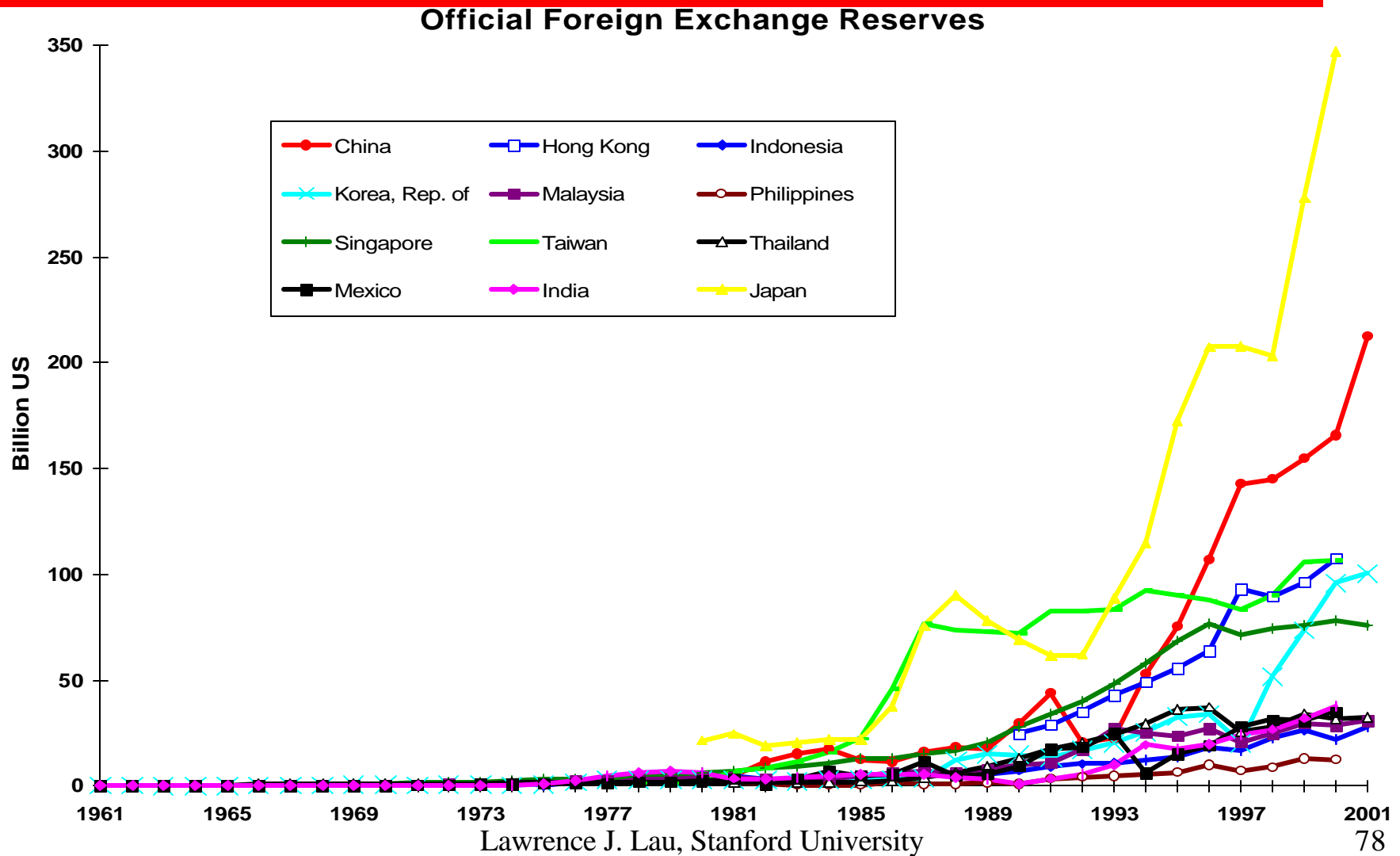
The Current Account Surplus: Selected East Asian Economies



The Current Account Surplus as a Percent of GDP: Selected East Asian Economies

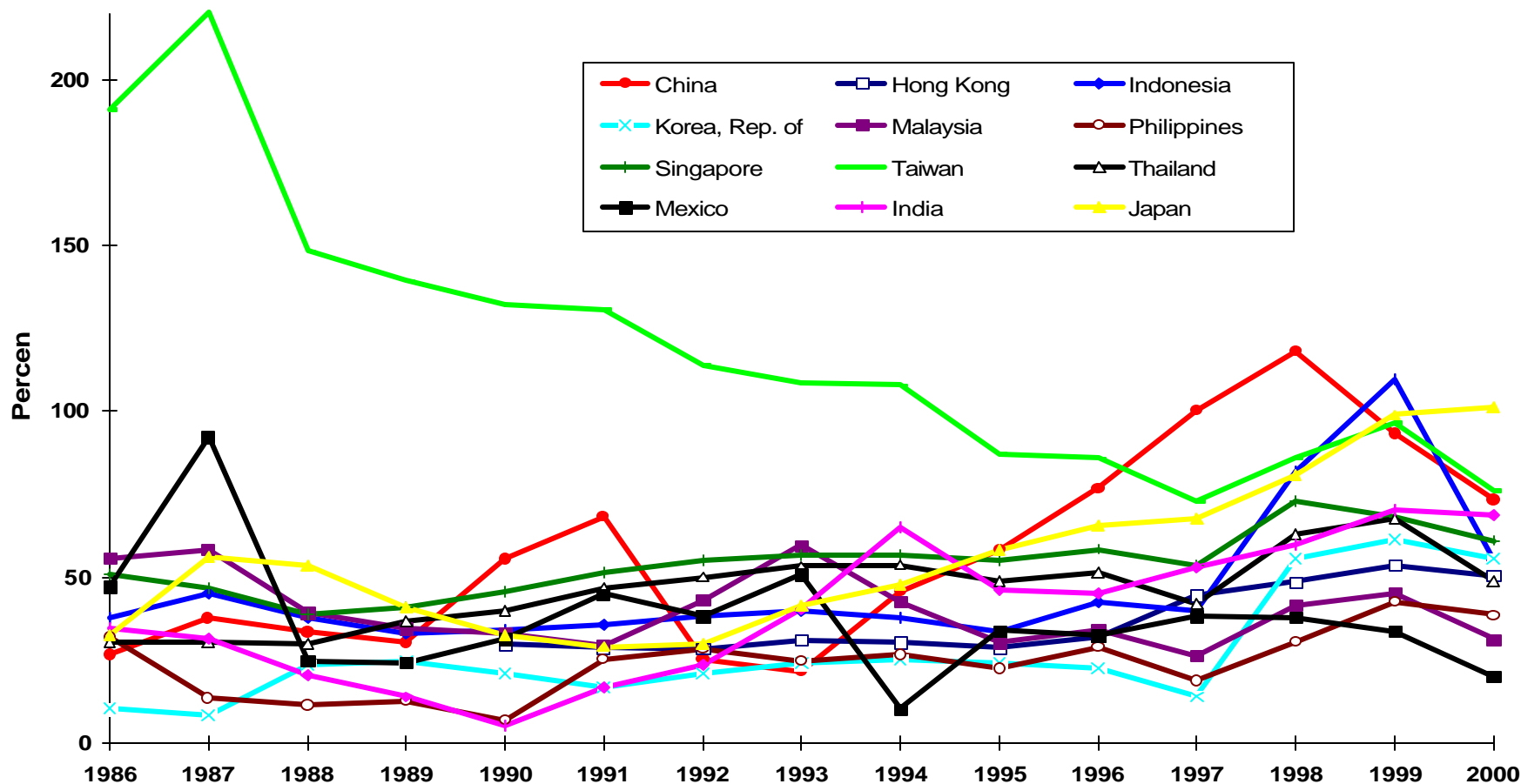


Official Foreign Exchange Reserves: Selected East Asian Economies



Foreign Exchange Reserves as a Percent of Annual Imports: Selected East Asian Economies

Foreign Exchange Reserves as a Percent of Annual Imports



The ASEAN Free Trade Area (AFTA)

- ◆ Intra-ASEAN tariff rates have been lowered to 5% on Jan. 1, 2002 with the inauguration of the ASEAN Free Trade Area (AFTA) among Brunei, Indonesia, Malaysia, Philippines, Singapore and Thailand. The goal is to reach zero tariff rate within AFTA by 2010. The reduction in tariffs applies to 90% of products provided the ASEAN content of the product exceeds 40%.
- ◆ Khmer Republic, Laos, Myanmar and Vietnam are expected to join AFTA in 2006 and reach zero tariff rate within AFTA by 2015.
- ◆ Specific protection on manufactured and agricultural products still remains.

The China-ASEAN Free Trade Area

- ◆ Chinese Premier ZHU Rongji proposed in Brunei in November, 2001 a new free trade area, covering China and the ASEAN (Brunei, Indonesia, Khmer Republic, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand and Vietnam), to be created within ten years
- ◆ A 3 trillion US\$ market and 1.7 billion consumers
- ◆ Complementarity (primary raw materials) and competition (light manufactures)
- ◆ Opening the economies for trade—China will become a major export market for the ASEAN and vice versa
- ◆ The free trade area will promote foreign direct investment in the ASEAN region itself through the enlargement of the potential market
- ◆ A mutual support program for the currencies of one another, leading possibly to a currency area
- ◆ Simultaneous, coordinated expansions among the East Asian economies can help accelerate the recovery of the depressed economies of East Asia
- ◆ Significant political implications

China without the World
and
the World without China

Foreign Direct Investment (FDI)

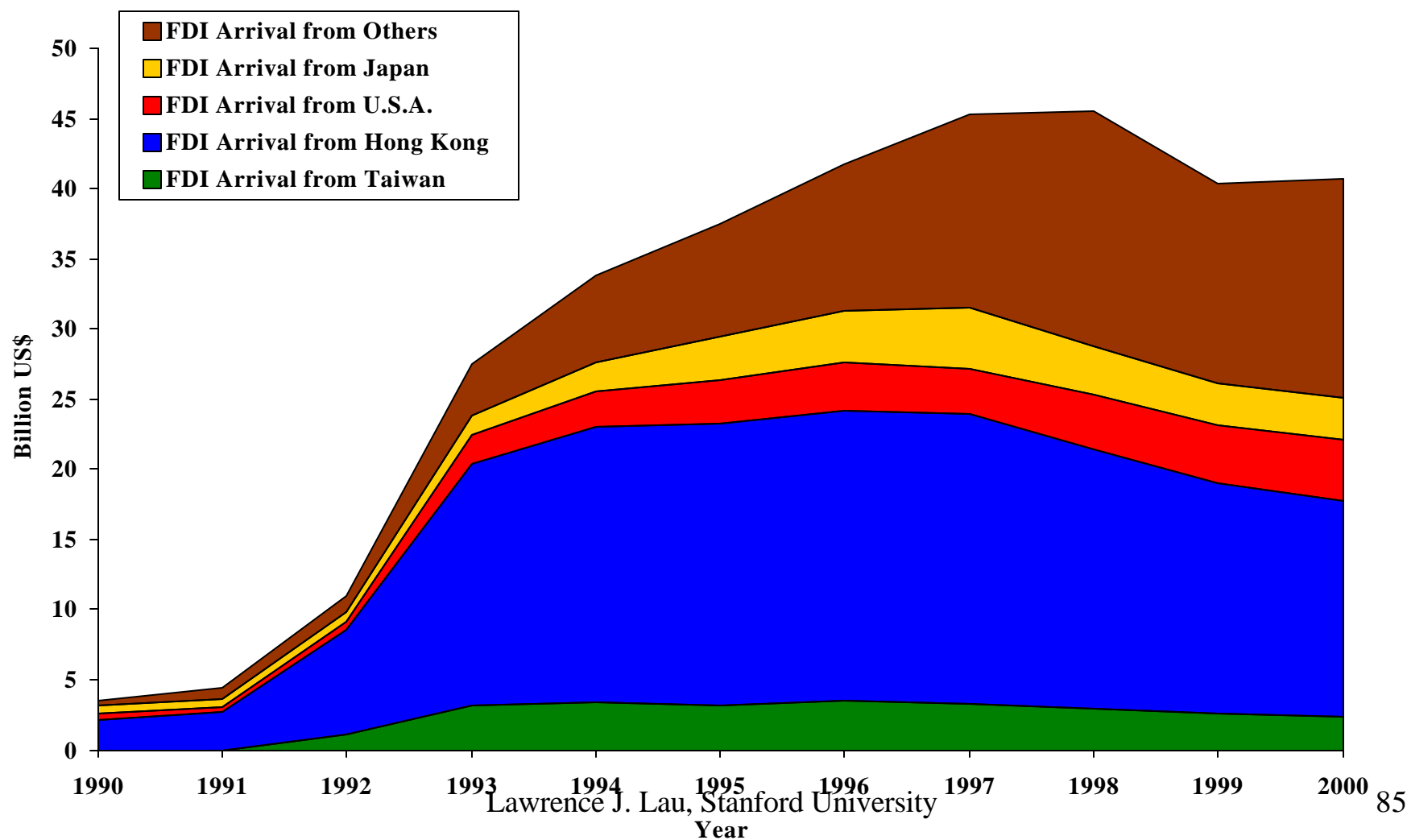
- ◆ FDI, at US\$45 billion a year, amounts to approximately 10% of the annual Chinese aggregate gross domestic investment of approximately US\$450 billion. Moreover, a significant proportion of it is what is known as “recycled” or “round-tripped” investment ultimately originated by Chinese entities and individuals. Quantitatively, FDI is not critical to the Chinese economy.
- ◆ Qualitatively, FDI is probably more important because it brings in technology, know-how, business methods, management techniques and markets that will otherwise be unavailable in China.
- ◆ FDI arrivals totaled US\$40.39 billion in 1999, an 11% decline from 1998-- however, the sources of the FDI were different--real FDI probably rose if “round-tripped” capital were excluded
- ◆ FDI commitments amounted to US\$41.24 billion in 1999, a decline of 20.9%
- ◆ FDI arrivals totaled US\$40.7 billion in 2000, a 1% increase over 1999; in 2001, FDI arrivals reached an all-time high of US\$46.85 billion, a 14.9% rise from 2000
- ◆ FDI commitments amounted to US\$62.4 billion in 2000, a 51.3% increase over 1999, partly in response to expected Chinese accession to WTO; in 2001, FDI commitments amounted to US\$69.19 billion, a 10.43 rise from 2000
- ◆ Cumulative FDI at year end 2001 amounted to US\$395.47 billion
- ◆ The nature of FDI has also changed--from export-oriented to domestic-market oriented; from light industry to heavy and high-technology industries; and from small projects to large projects.

Foreign Direct Investment (FDI)

- ◆ Collateralized loan program as a natural hedge for foreign direct investors
- ◆ Initial public offerings (IPOs) and listings on Chinese stock exchanges (the second board) as a potential exit strategy for foreign direct investors

FDI Arrivals in China by Origin

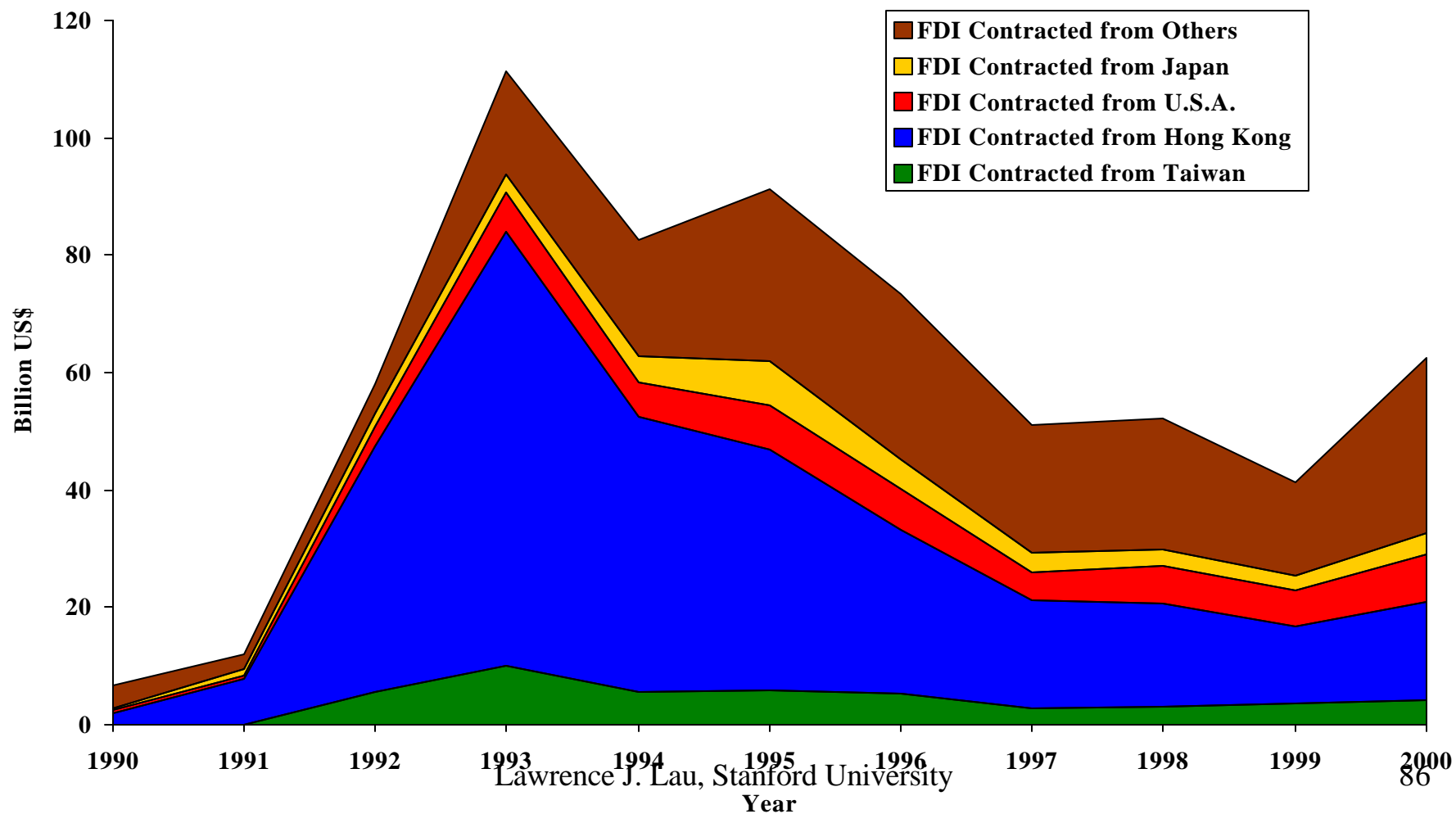
FDI Arrivals in China by Source



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FDI Contracted by Origin

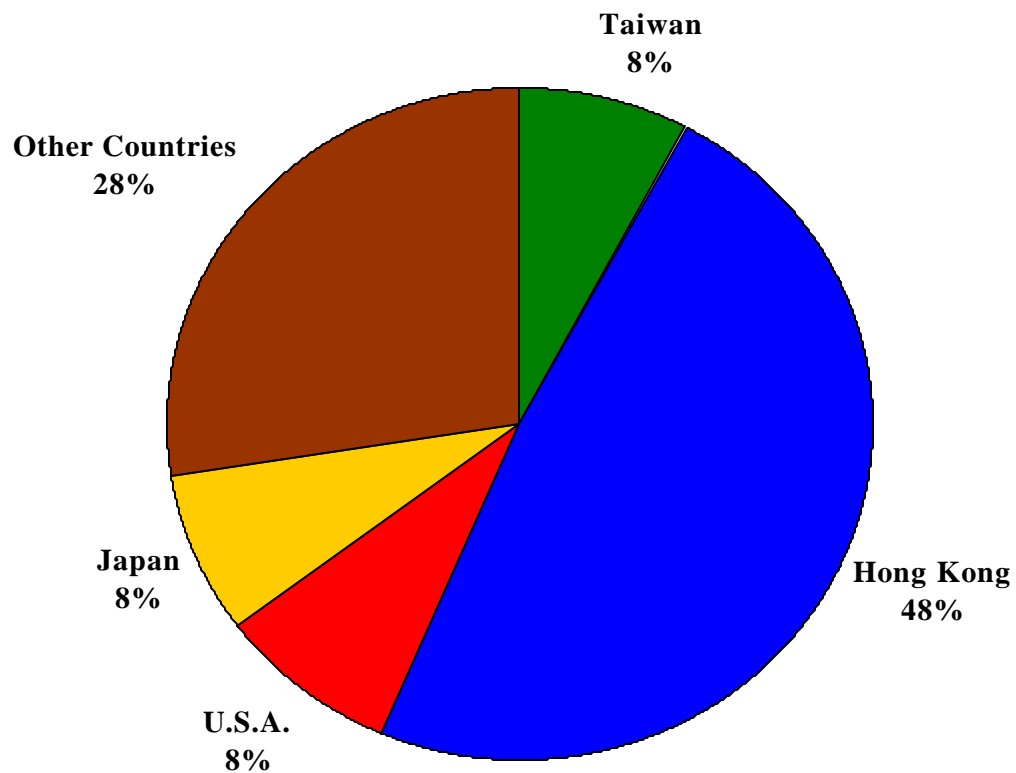
FDI Contracted in China by Source



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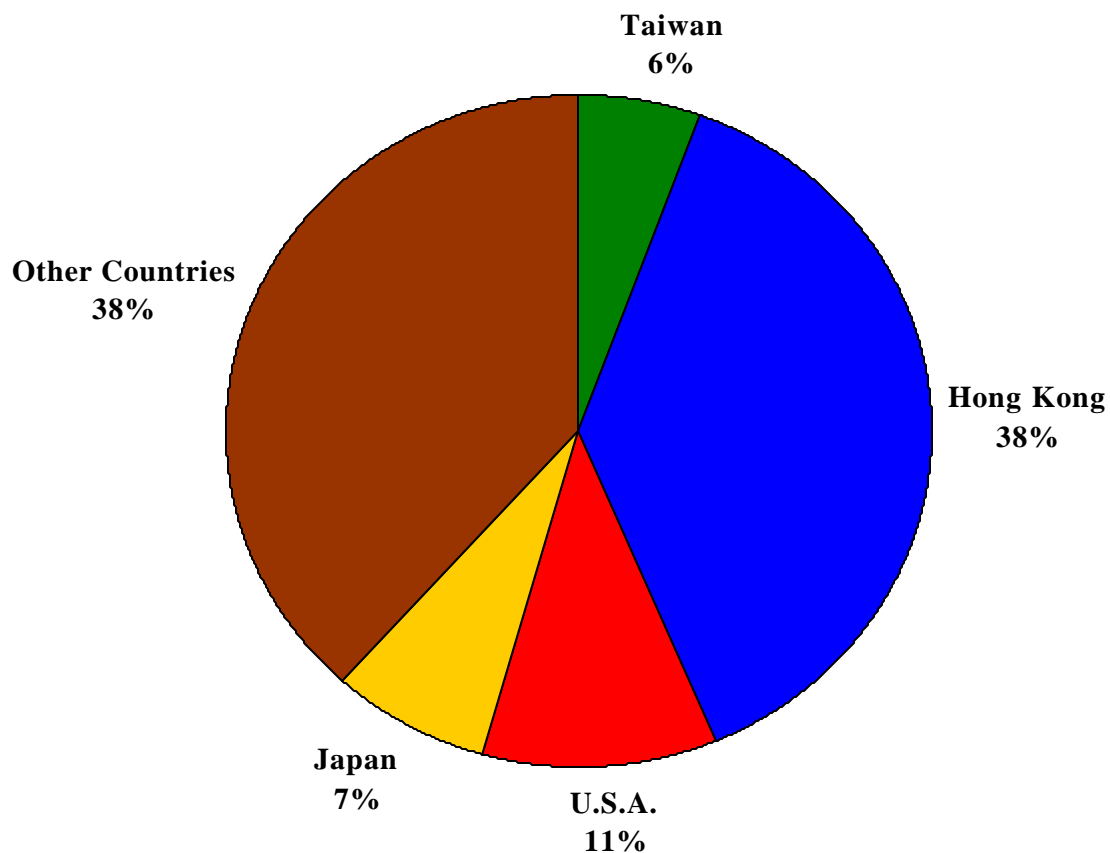
Distribution of Cumulative FDI Arrivals

Distribution of Cumulative FDI Arrivals in China, 1990-2000



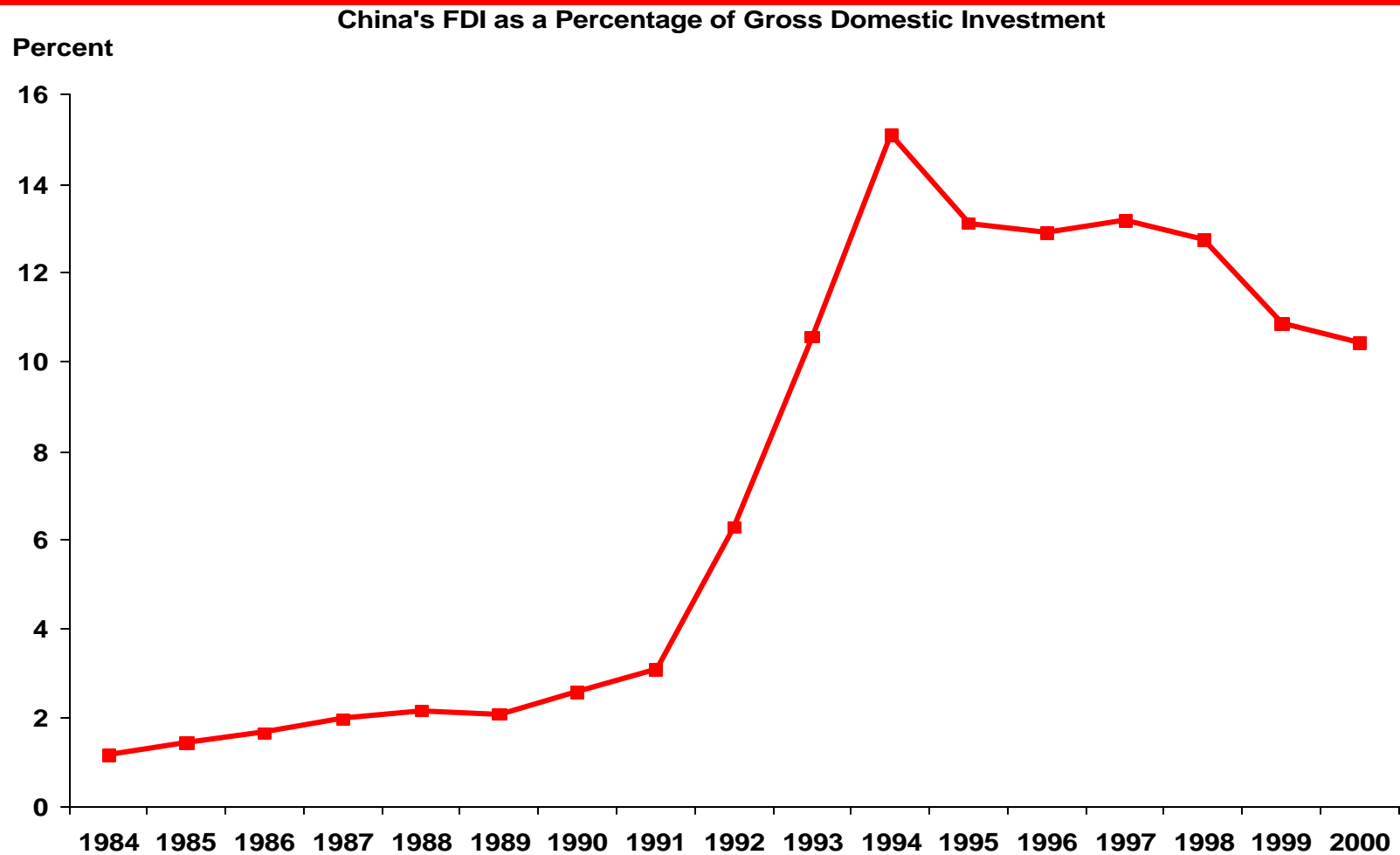
Distribution of FDI Arrivals in 2000

Shares of FDI Arrivals in China, 2000

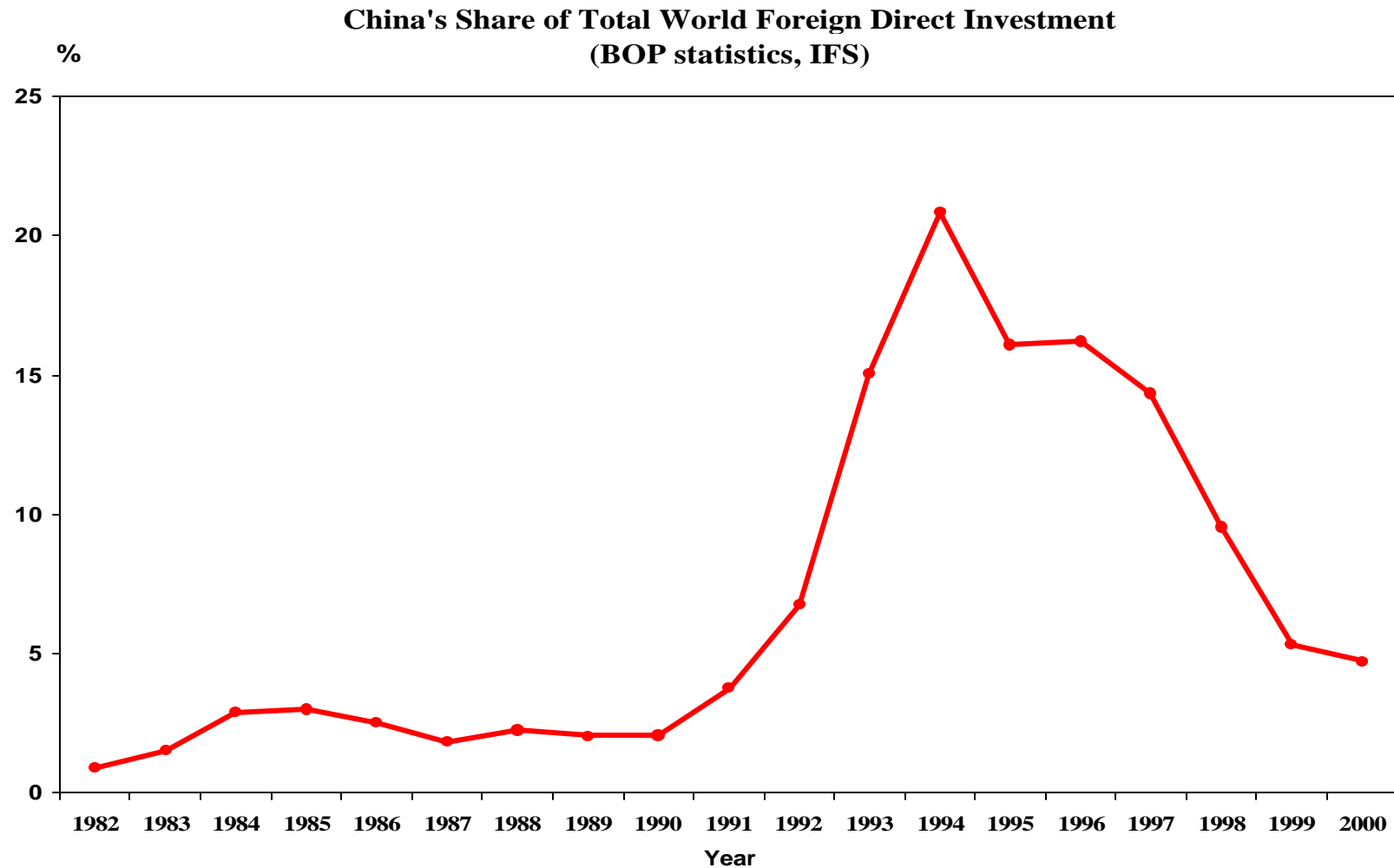


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China's FDI as a Percent of Gross Domestic Investment



China's Share of World Foreign Direct Investment



Globalization and Investment Diversification

- ◆ Geographical diversification has to be re-thought because of globalization
 - ◆ Diversification by multinational corporations: e.g., IBM is not a U.S. risk because of its significant business around the globe; similarly, Nestle is not a Swiss risk; these are all globally diversified corporations
 - ◆ Covariance due to supply-chain connections, e.g., Dell, and its sub-contractor in Taiwan, Quanta Computer, face the same risks—Quanta is not really a Taiwan risk
 - ◆ Covariance of markets—the stock markets have in recent years tended to move together
- ◆ There are gains from geographical diversification only if the economic performance of the different regions of investment are uncorrelated or negatively correlated
- ◆ The apparent “home bias” of the portfolios of domestic investors may be due to legal restrictions (both outbound and inbound), explicit or implicit restrictions on foreign ownership, transactions costs (including information acquisition and monitoring), corporate governance (and available float for the general public), competitiveness and fairness of the stock market, and exchange rate risks.
- ◆ China, India, and potentially Latin America are candidates for investment if diversification is the objective because they are large economies the rates of growth of which are not very sensitive to what happens outside

Investment in China by Foreign Investors: Considerations

- ◆ Covariance between East Asian and U.S. markets
 - ◆ Covariance increased by globalization
 - ◆ The high-technology sector versus the traditional and the non-tradable sectors
 - ◆ Covariance between U.S. and China is small, hence maximum gain from diversification
- ◆ Public versus private markets
 - ◆ Credibility of public markets (insider trading, manipulation, protection of minority shareholders, disclosure and transparency)
 - ◆ Ease and necessity of direct financial monitoring
 - ◆ Casino mentality of public markets
- ◆ Portfolio versus direct investment
 - ◆ Possibility of capital control and other forms of restrictions on short-term capital flows
 - ◆ Necessity of continuous active direct monitoring
 - ◆ Choice of joint-venture partner(s), if any, critical
 - ◆ Availability of depositary receipts in liquid, transparent and well-regulated markets with no capital control
- ◆ Competitive advantage
 - ◆ Money alone is not sufficient because of relative abundance of domestic savings—foreign direct investors must have superior technology, know-how, knowledge or control of markets

Investment in China by Foreign Investors: Considerations

- ◆ The nature of foreign direct investment (FDI) in China has been undergoing a transformation
 - ◆ The nature of FDI has changed gradually from export-oriented to domestically oriented, taking advantage of the large Chinese domestic market; from light industry to heavy and high-technology industries, and from small projects to large projects
 - ◆ Foreign direct investors increasingly view China not so much as an export base but as a market for their finished products--e.g., BASF, General Motors, Motorola all plan to market at least a significant proportion of the products they produce in China in China itself

The Major Components of Chinese Economic Reform (1979-the present)

- ◆ The “Open Door”
 - ◆ International Trade
 - ◆ Foreign Direct Investment
- ◆ Marketization
 - ◆ Goods Market
 - ◆ Labor Market
 - ◆ Foreign Exchange Market
 - ◆ Housing Market
 - ◆ Capital Market
- ◆ Devolution of economic decision-making power (The “Contract Responsibility System”)
 - ◆ Empowering Provincial and Local Governments
 - ◆ Autonomy and Incentive at the Enterprise Level
 - ◆ Professionalization of Management of Enterprises
- ◆ Creation of new, non-state-owned modes of organization for production
 - ◆ Agriculture--Abolition of communes and return to a system of individual cultivators with fixed rents and taxes
 - ◆ Non-Agriculture (Industry and Services)--emergence of “Township and Village” (T&V) enterprises (foreign joint venture, foreign and private enterprises)

Economic Performance: Pre- and Post-Reform

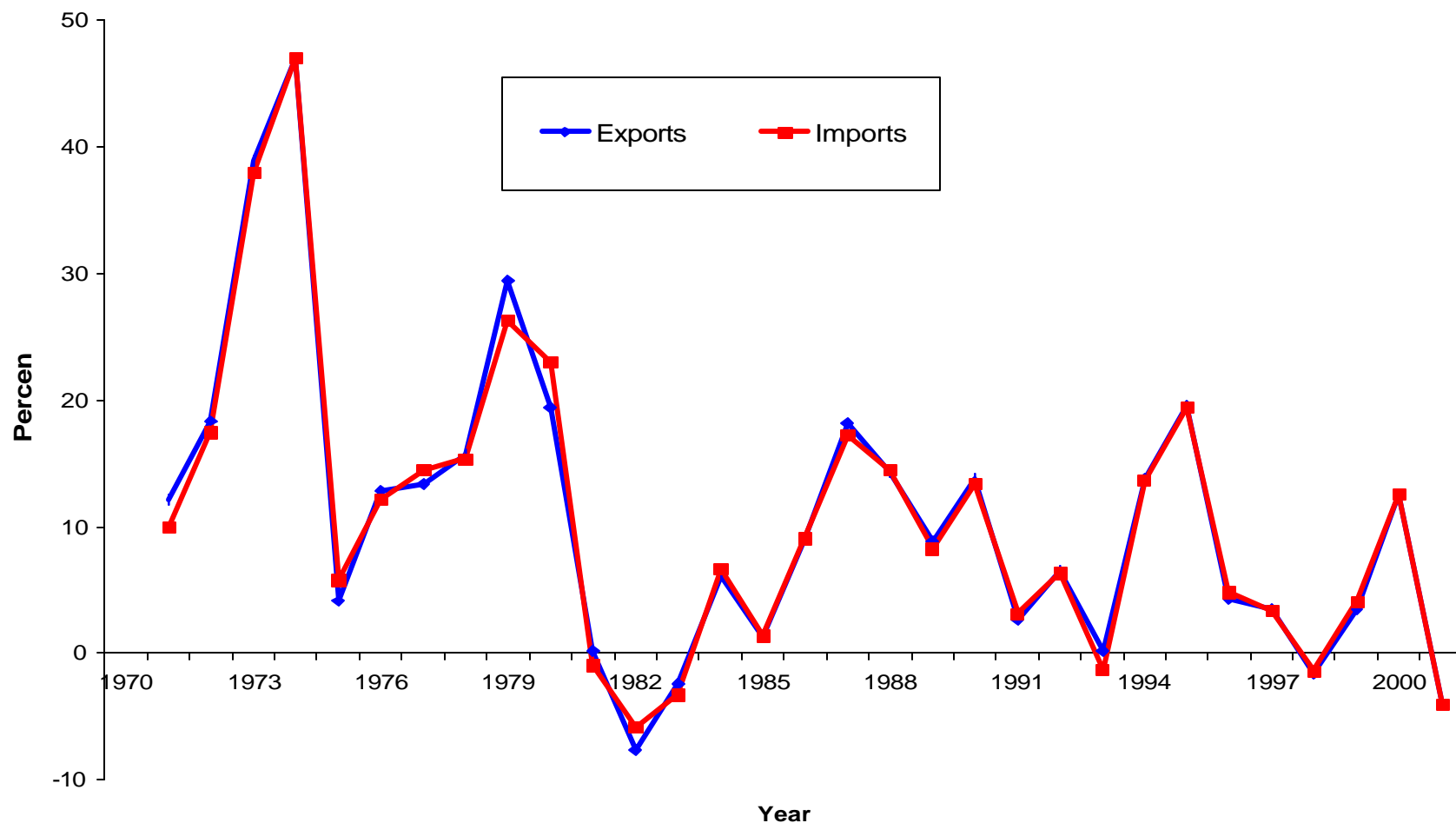
Average Annual Rates of Growth of Selected Economic Indicators (%)

	1952-1979	1979-2000
	Pre-Reform	Reform
Real GDP	6.20	9.62
Real GDP/Capita	4.14	8.24
Real Gross Value of:		
Agricultural Production	4.33	7.41
Light Industry	7.83	11.23
Heavy Industry	11.37	11.10
Real Personal Consumption	4.99	9.04
Real Consumption/Capita	2.96	7.70
Real Gross Fixed Capital Formation	11.43	10.90
Capital Stock	5.93	9.82
Employment	2.52	2.71
GDP Deflator	0.59	5.72
Retail Price Index	0.80	6.11
Exports (in current US Dollars)	10.98	14.83
Imports (in current US Dollars)	10.27	13.53

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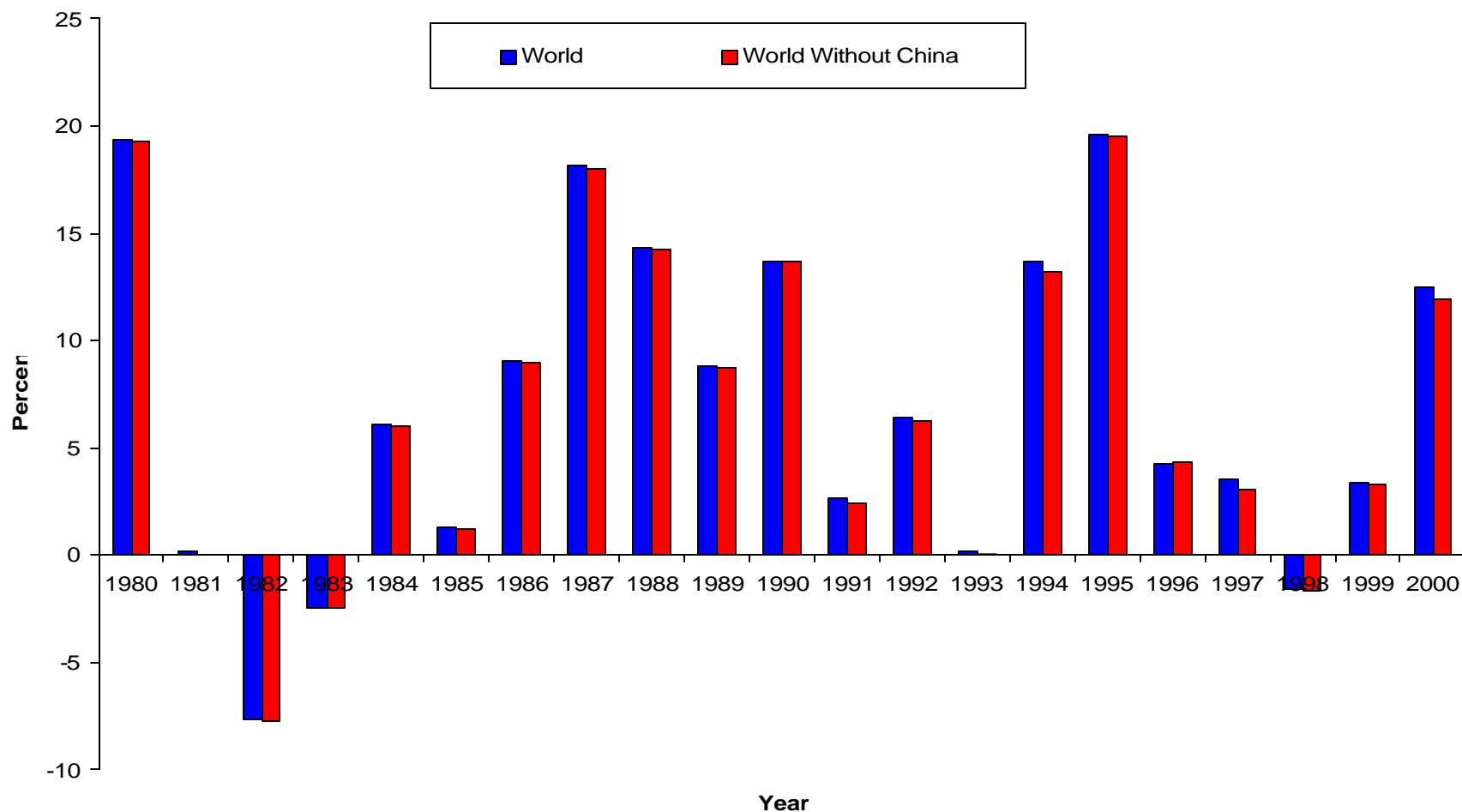
Rates of Growth of Total World Trade (US\$)

Rates of Growth of World Exports and Imports (Percent p.a.)



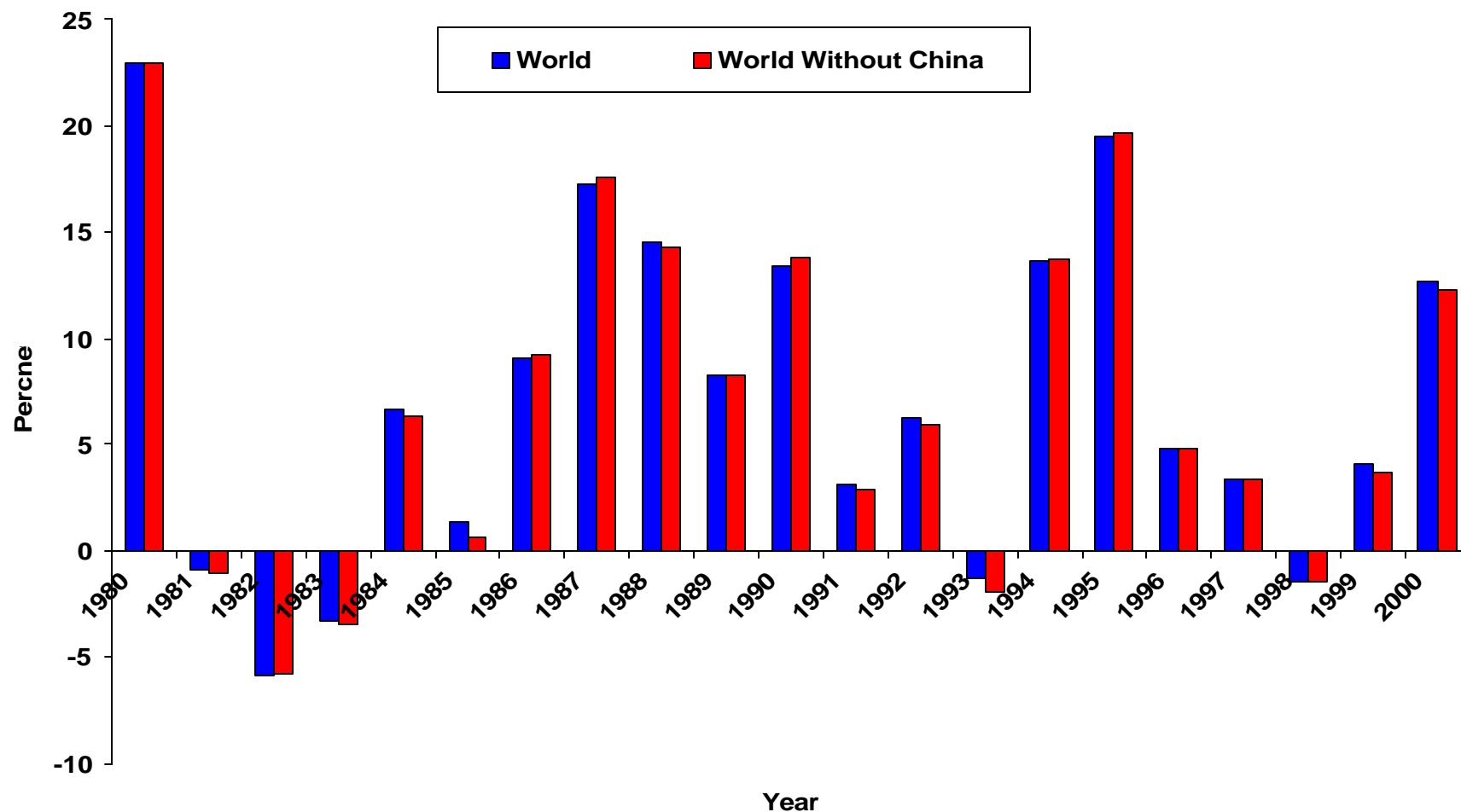
Rates of Growth of Total World Exports (US\$) with and without China

Growth Rates of Total World Exports with and without China (percent p.a.)



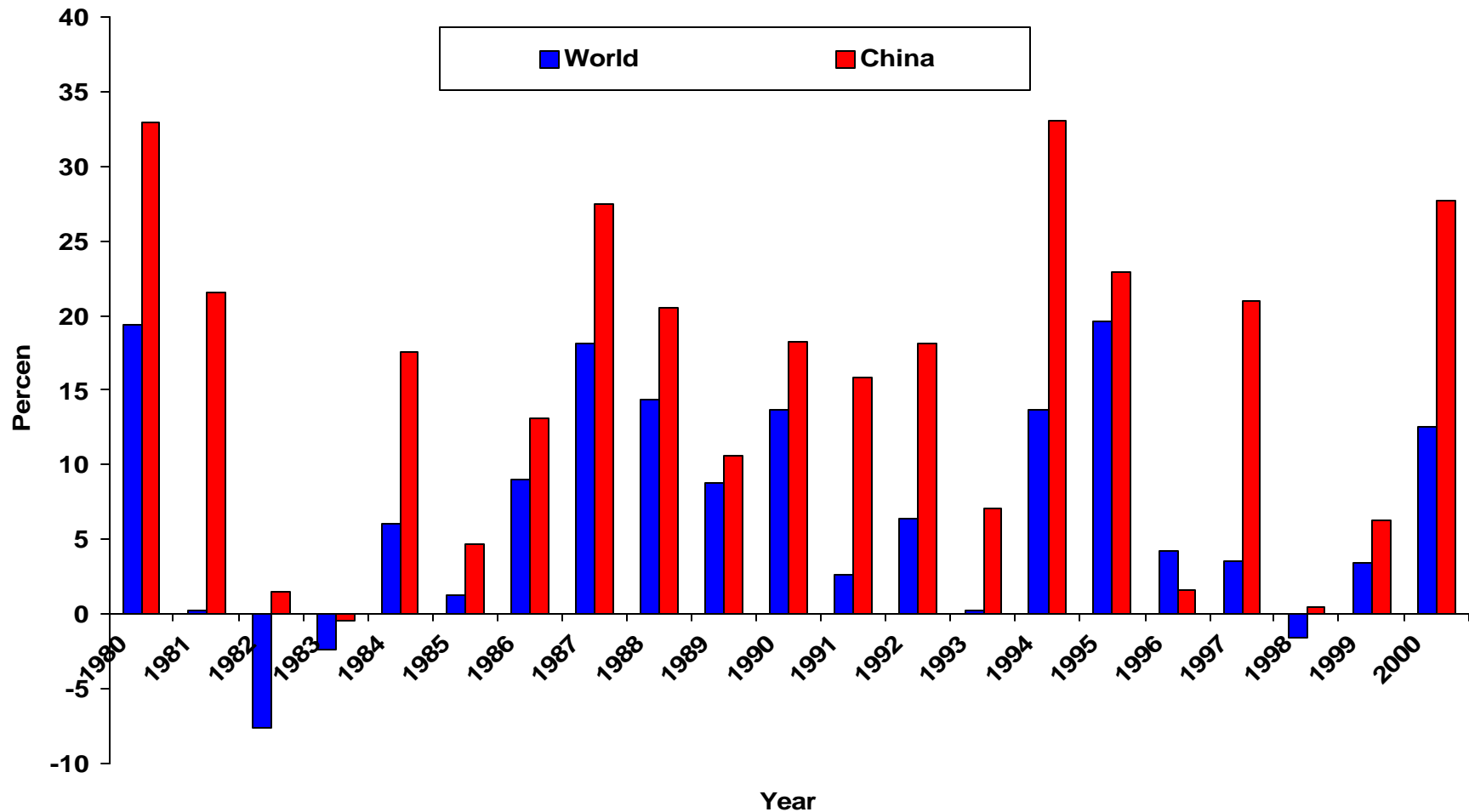
Rates of Growth of Total World Imports (US\$) with and without China

Growth Rates of Total World Imports with and without China (percent p.a.)



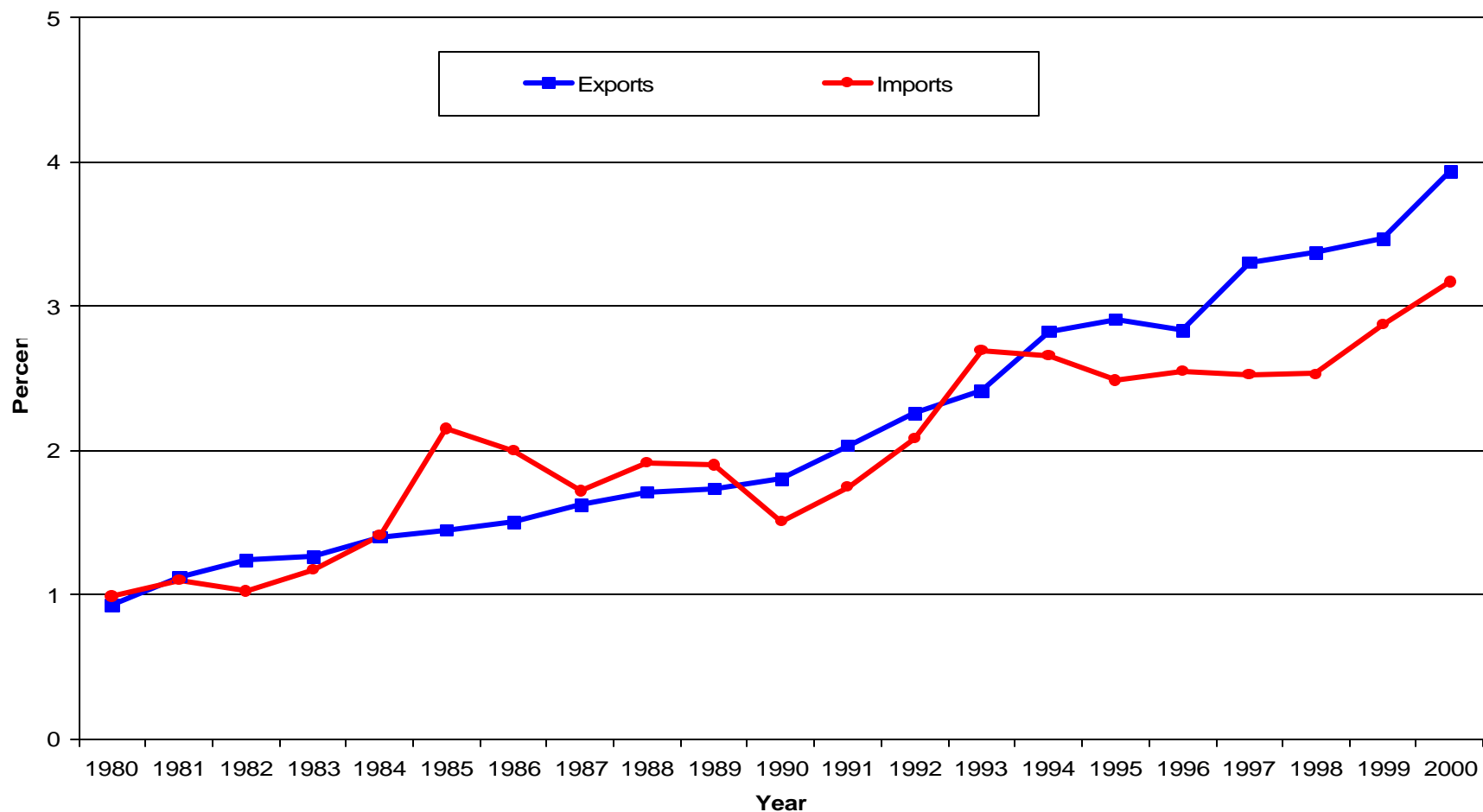
Rates of Growth of Total World Exports and Total Chinese Exports

Annual Rates of Growth of Total World Exports and Total Chinese Exports (percent p.a.)



China's Shares of Total World Trade

China's Share in World Trade



Prospects for Future Economic Growth

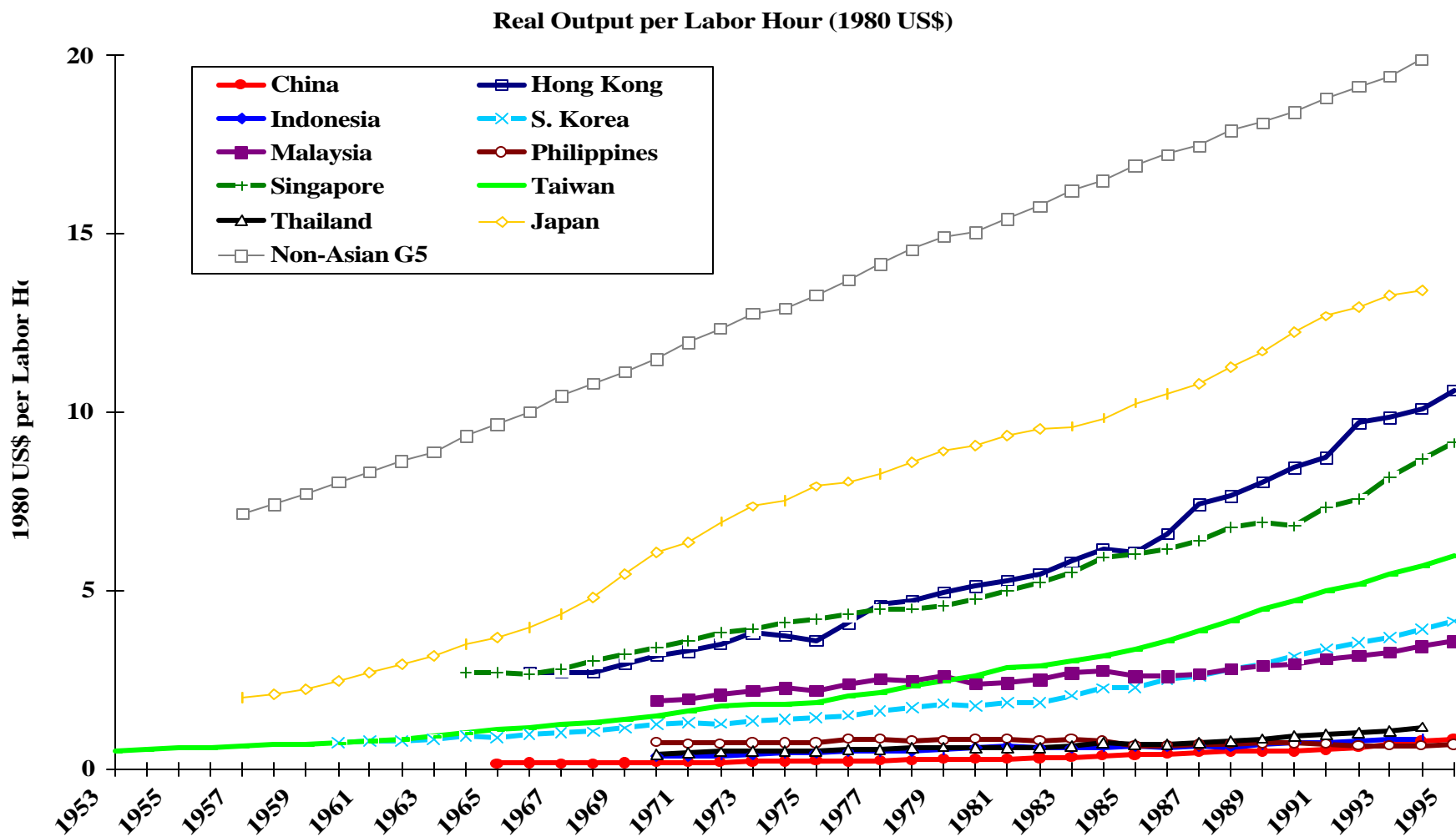
The Sources of Economic Growth: Findings of Kim & Lau As Reported by Krugman (1994)

- ◆ Using data from the early 1950s to the late 1980s, Kim and Lau (1992, 1994a, 1994b) find that:
- ◆ (1) No technical progress in the East Asian NIEs but significant technical progress in the industrialized economies (IEs)
- ◆ (2) East Asian economic growth has been input-driven, with tangible capital accumulation as the most important source of economic growth (the latter applying also to Japan)
 - ◆ Working harder as opposed to working smarter
- ◆ (3) Technical progress is the most important source of economic growth for the IEs, followed by tangible capital, accounting for over 50% and 30% respectively, with the exception of Japan
 - ◆ NOTE THE UNIQUE POSITION OF JAPAN!
- ◆ (4) Technical progress is purely tangible capital-augmenting and hence complementary to tangible capital

The Sources of Economic Growth--Developing Economies in East Asia

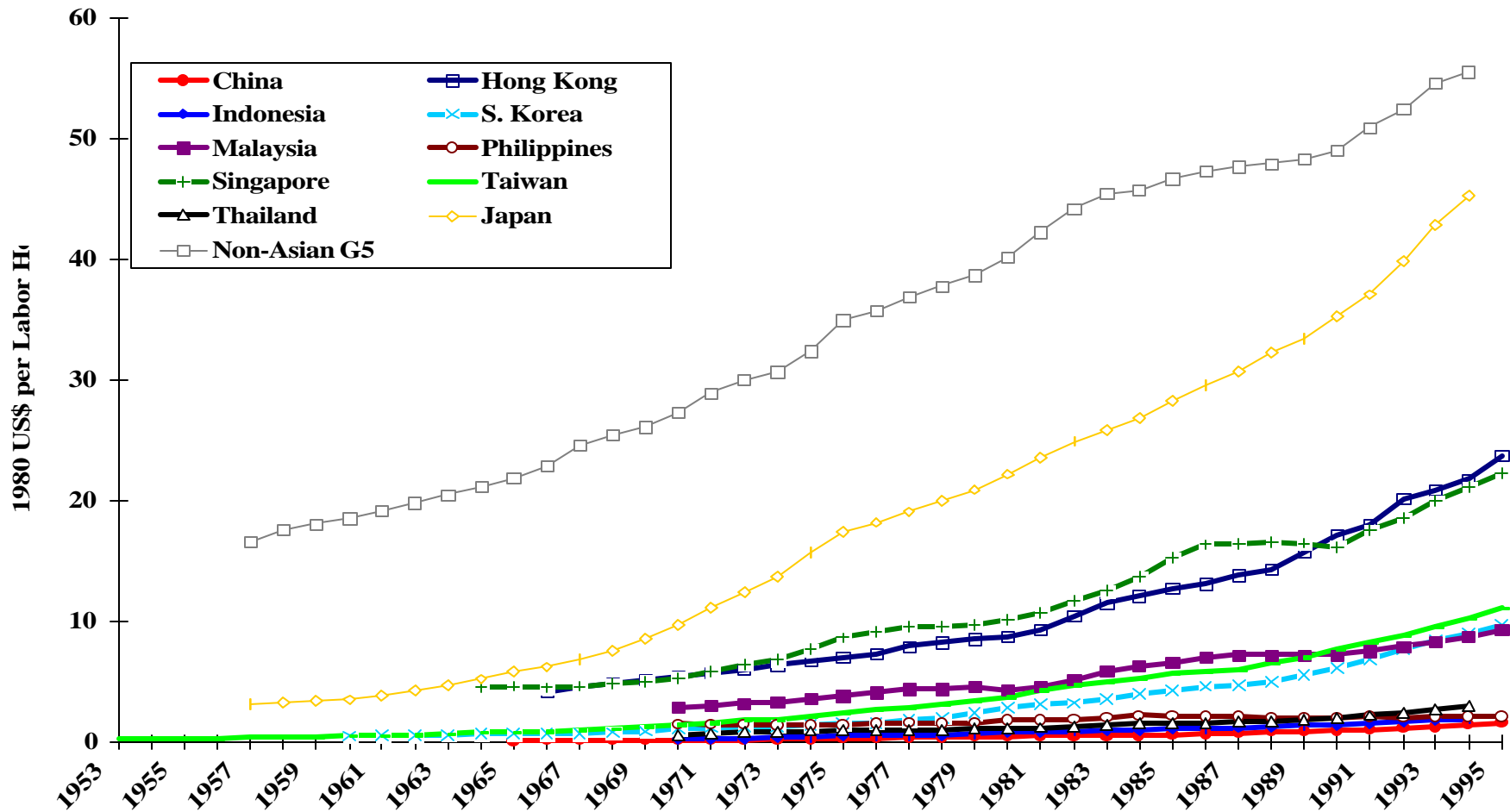
- ◆ Different types of measured inputs play different roles at different stages of economic growth
- ◆ Tangible capital accumulation is the most important source of growth in the early stage of economic development
- ◆ But simply accumulating tangible capital is not enough--it must also be efficiently allocated
- ◆ Efficient tangible capital accumulation is the major accomplishment of the East Asian NIEs in the postwar period
 - ◆ Market-directed allocation of new investment, aided by export orientation, promotes efficiency
 - ◆ Private enterprises have the incentives for prompt self-correction
- ◆ Intangible capital accumulation becomes important only after a certain level of tangible capital per worker is achieved but has begun to be important for some East Asian NIEs such as South Korea and Taiwan

Real Output per Labor Hour (1980 US\$)

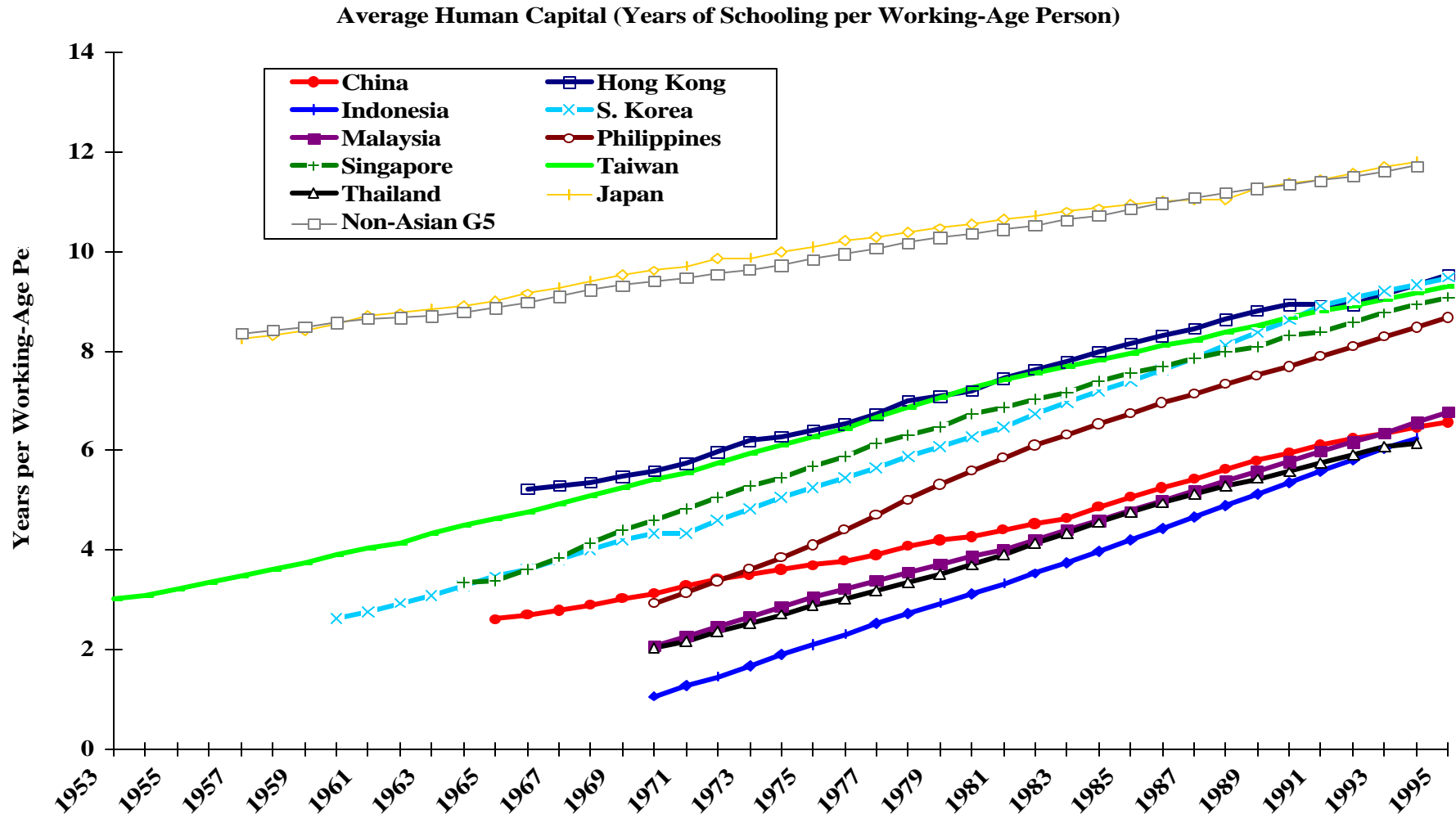


Tangible Capital Stock per Labor Hour (1980 US\$): Selected Economies

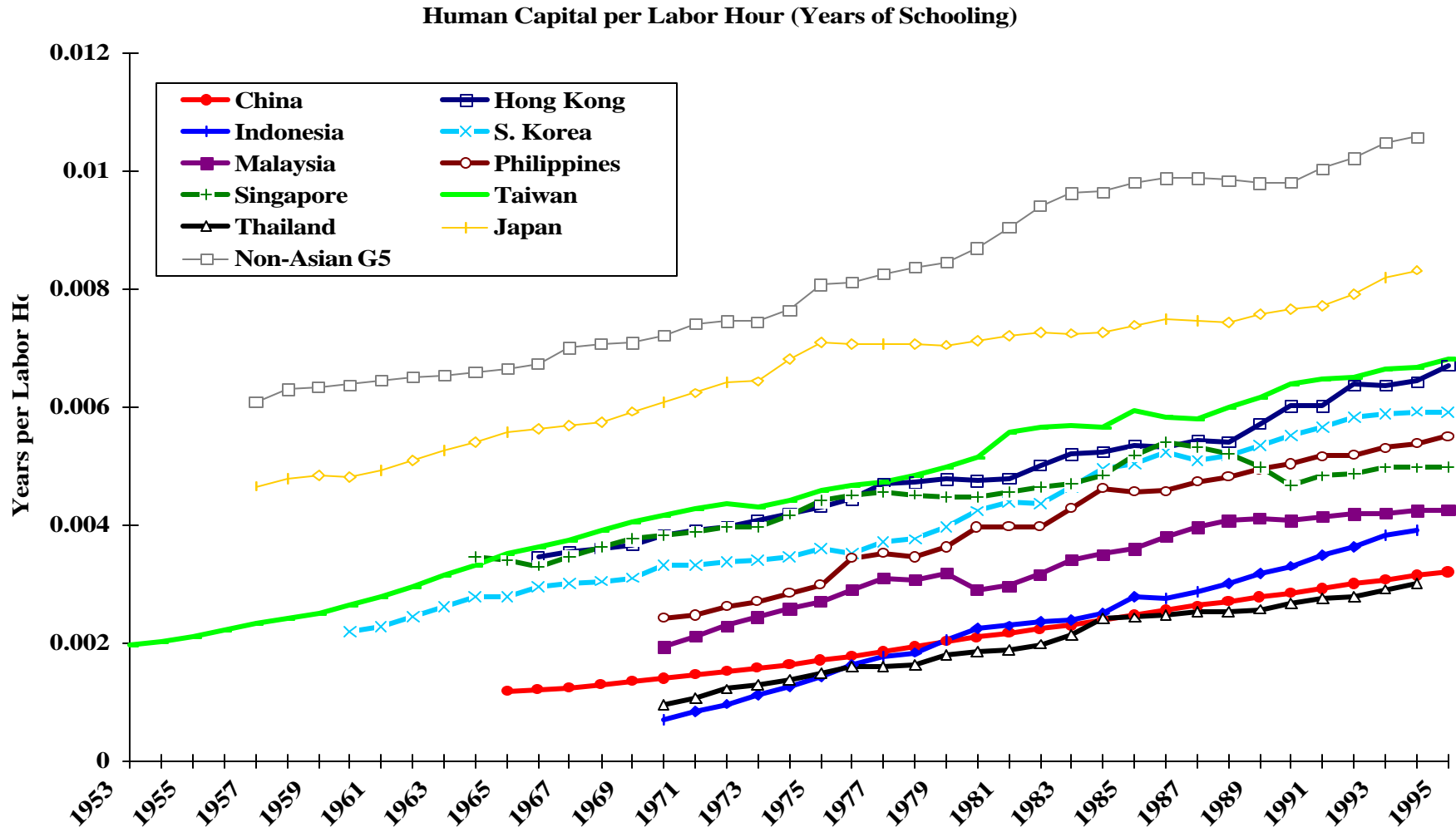
Tangible Capital Stock per Labor Hour (1980 U.S.\$)



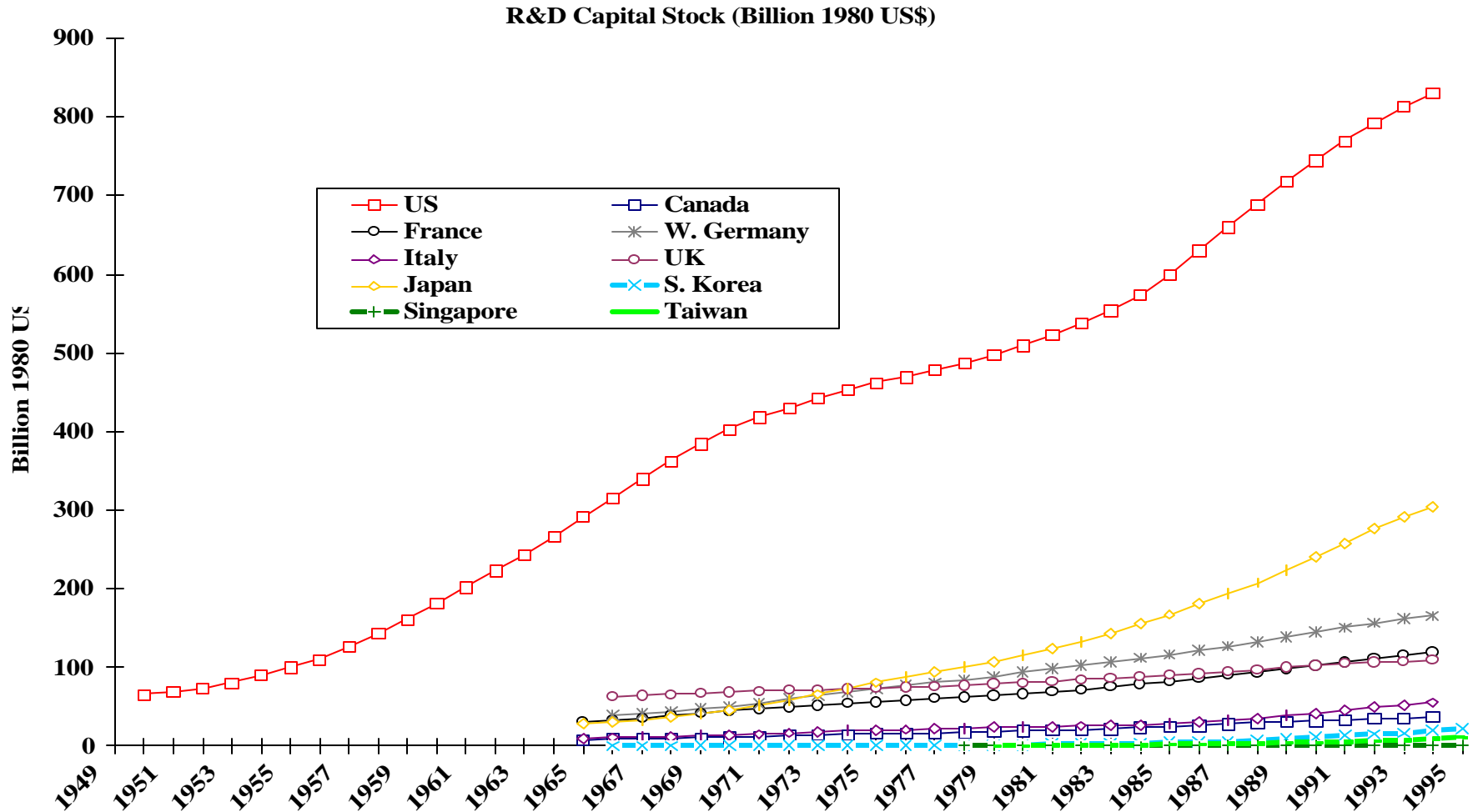
Average Human Capital: Selected Economies



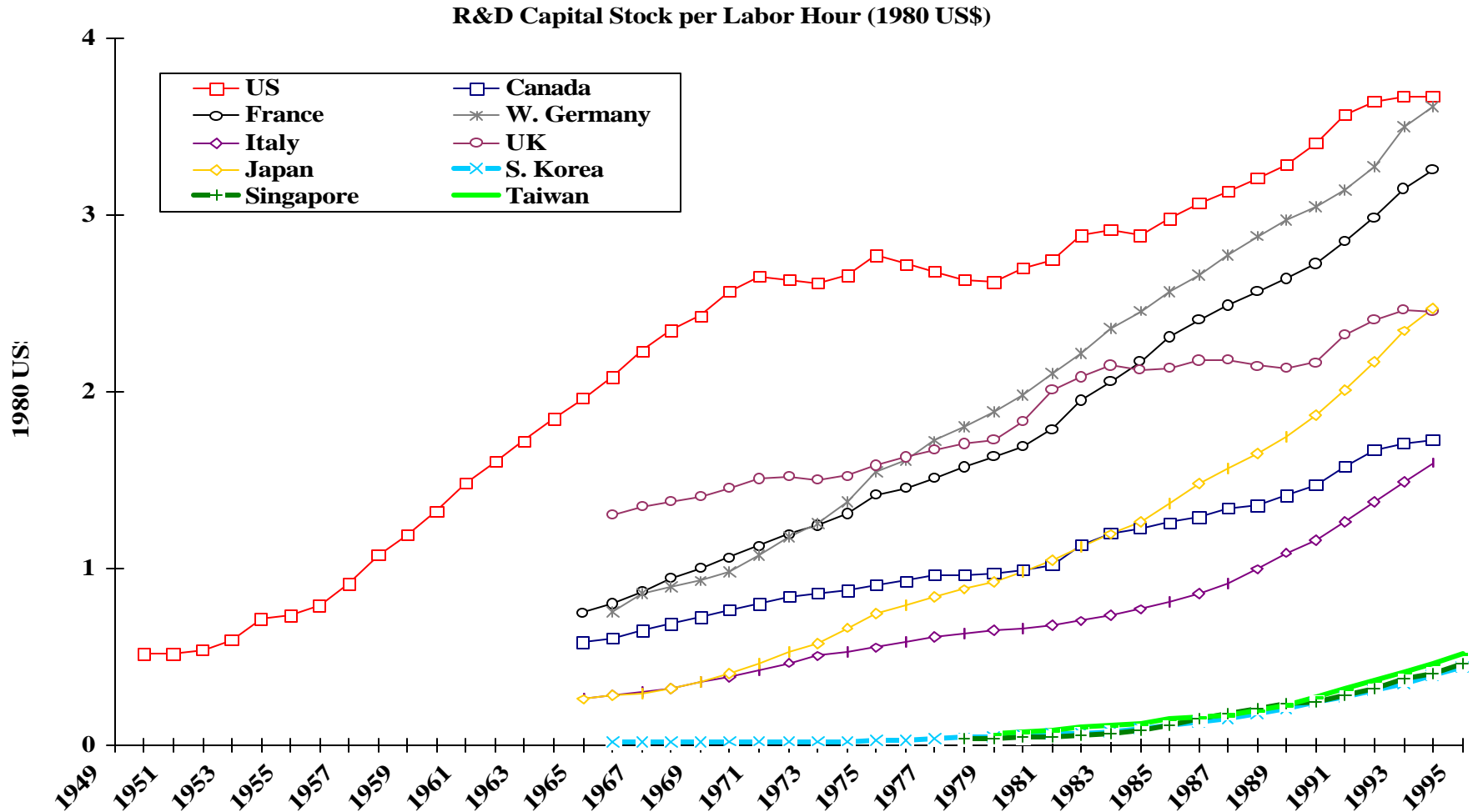
Human Capital per Labor Hour (Years of Schooling): Selected Economies



R&D Capital Stocks: Selected Economies



R&D Capital Stock per Labor Hour (1980 US\$): Selected Economies



Sources of East Asian Economic Growth with Three Inputs and Technical Progress—No Breaks

	Tangible Capital	Labor	Human Capital	Technical Progress
Hong Kong	69.37	29.08	1.55	0.00
South Korea	75.44	22.33	2.23	0.00
Singapore	59.36	38.82	1.82	0.00
Taiwan	80.83	17.37	1.80	0.00
Indonesia	77.49	17.36	5.15	0.00
Malaysia	59.48	37.68	2.83	0.00
Philippines	54.60	41.24	4.16	0.00
Thailand	73.91	22.66	3.44	0.00
China	83.75	14.12	2.13	0.00
Japan	50.44	5.70	0.56	43.30
Non-Asian G-5 Countries	37.79	3.54	0.86	57.81

Sources of East Asian Economic Growth with Three Inputs and Technical Progress—With Breaks in 1985

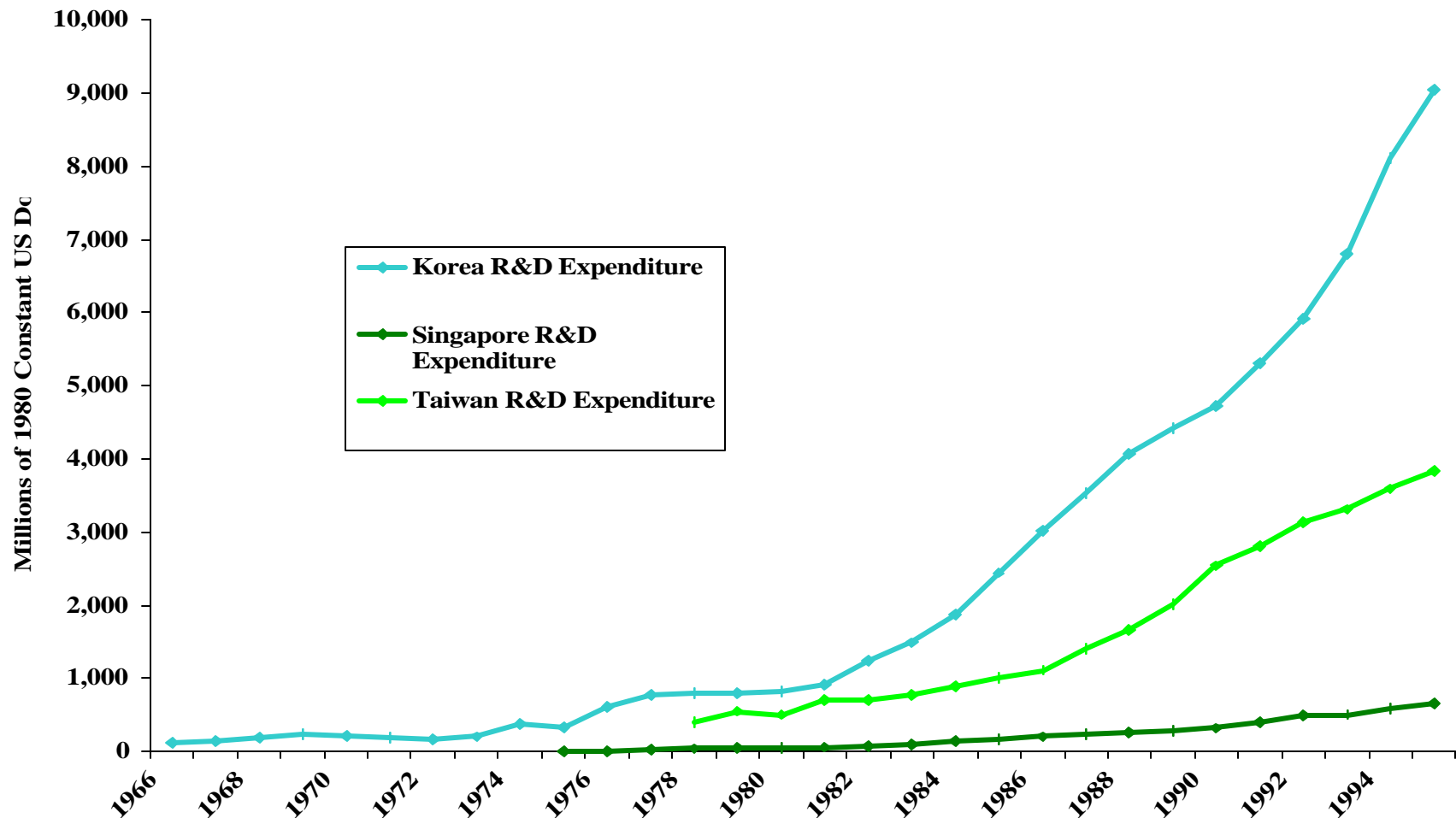
		Tangible Capital	Labor	Human Capital	Technical Progress
Hong Kong	66-95	56.89 (8.79)	23.65 (2.44)	2.51 (4.80)	16.94
South Korea	60-95	65.45 (12.28)	18.62 (3.35)	3.84 (6.31)	12.08
Singapore	64-95	53.10 (10.23)	33.94 (4.70)	3.23 (5.92)	9.73
Taiwan	53-95	71.26 (11.76)	15.61 (2.33)	3.15 (5.40)	9.99
Indonesia	70-94	71.20 (10.88)	14.59 (2.72)	9.38 (10.34)	4.83
Malaysia	70-95	54.22 (9.65)	32.47 (4.68)	5.12 (8.02)	8.19
Philippines	70-95	54.05 (5.40)	37.81 (3.94)	8.15 (7.41)	-0.01
Thailand	70-94	60.84 (9.68)	18.06 (2.93)	5.65 (8.00)	15.44
China	65-95	83.87 (11.63)	11.92 (2.55)	4.21 (5.99)	0.00
Japan	57-94	49.04 (7.98)	5.23 (0.56)	1.08 (2.15)	44.65
Non-Asian G-5 Countries	57-94	37.44 (3.52)	3.36 (0.17)	1.70 (1.68)	57.49

Sources of East Asian Economic Growth with Four Inputs and Technical Progress

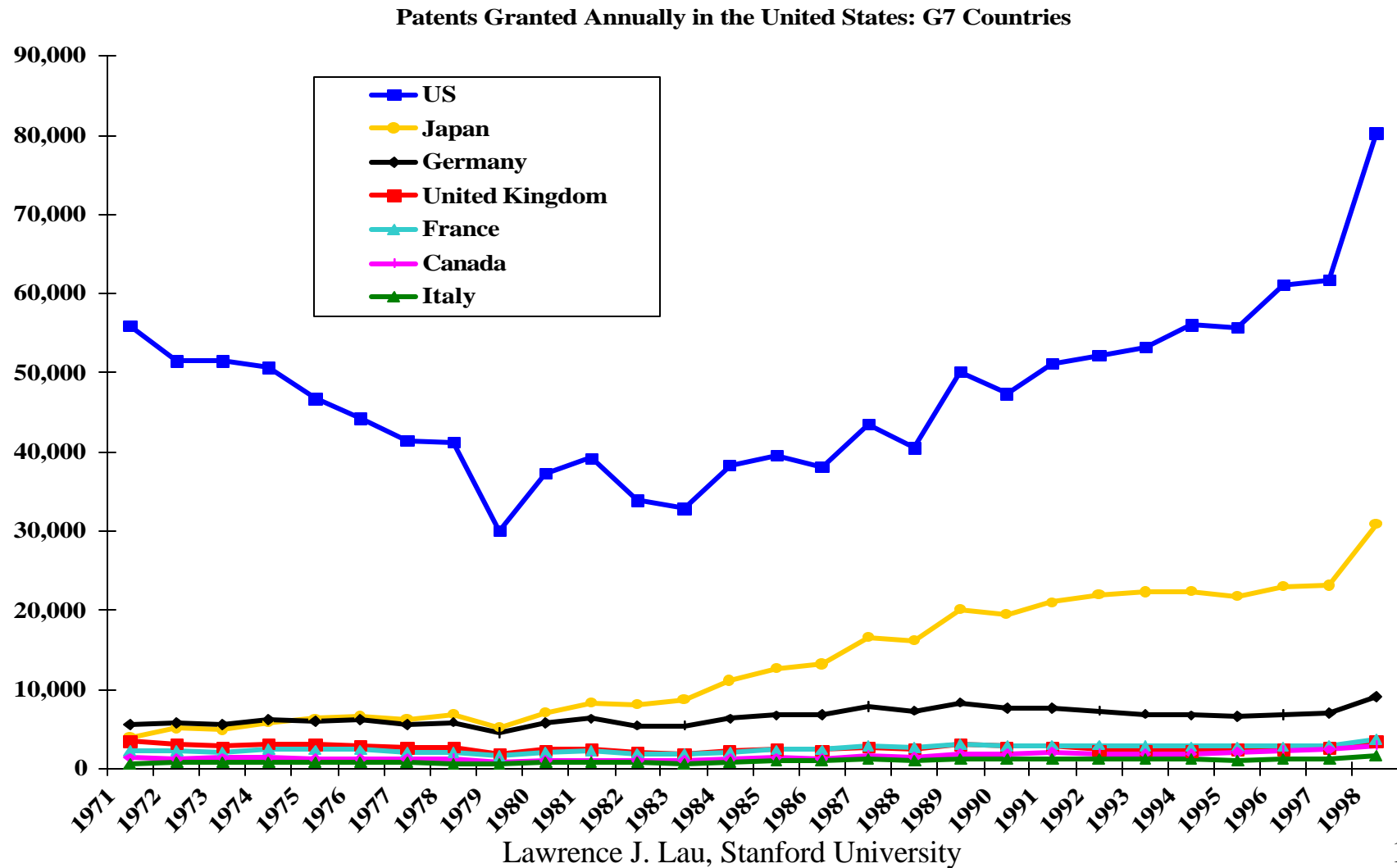
	Sample Period	Tangible Capital	Labor	Human Capital	R&D Capital	Technical Progress
South Korea	65-95	63.35	13.61	2.10	20.94	0.00
Singapore	77-95	47.33	21.55	1.37	29.75	0.00
Taiwan	78-95	58.73	11.42	1.32	28.54	0.00
Japan	64-94	44.83	5.20	0.82	14.63	34.52
Non-Asian G-7 Countries	65-94	33.71	3.71	1.32	12.53	48.72

R&D Expenditures: 3 Newly Industrialized Economies

Real R&D Expenditures (3 NIEs)

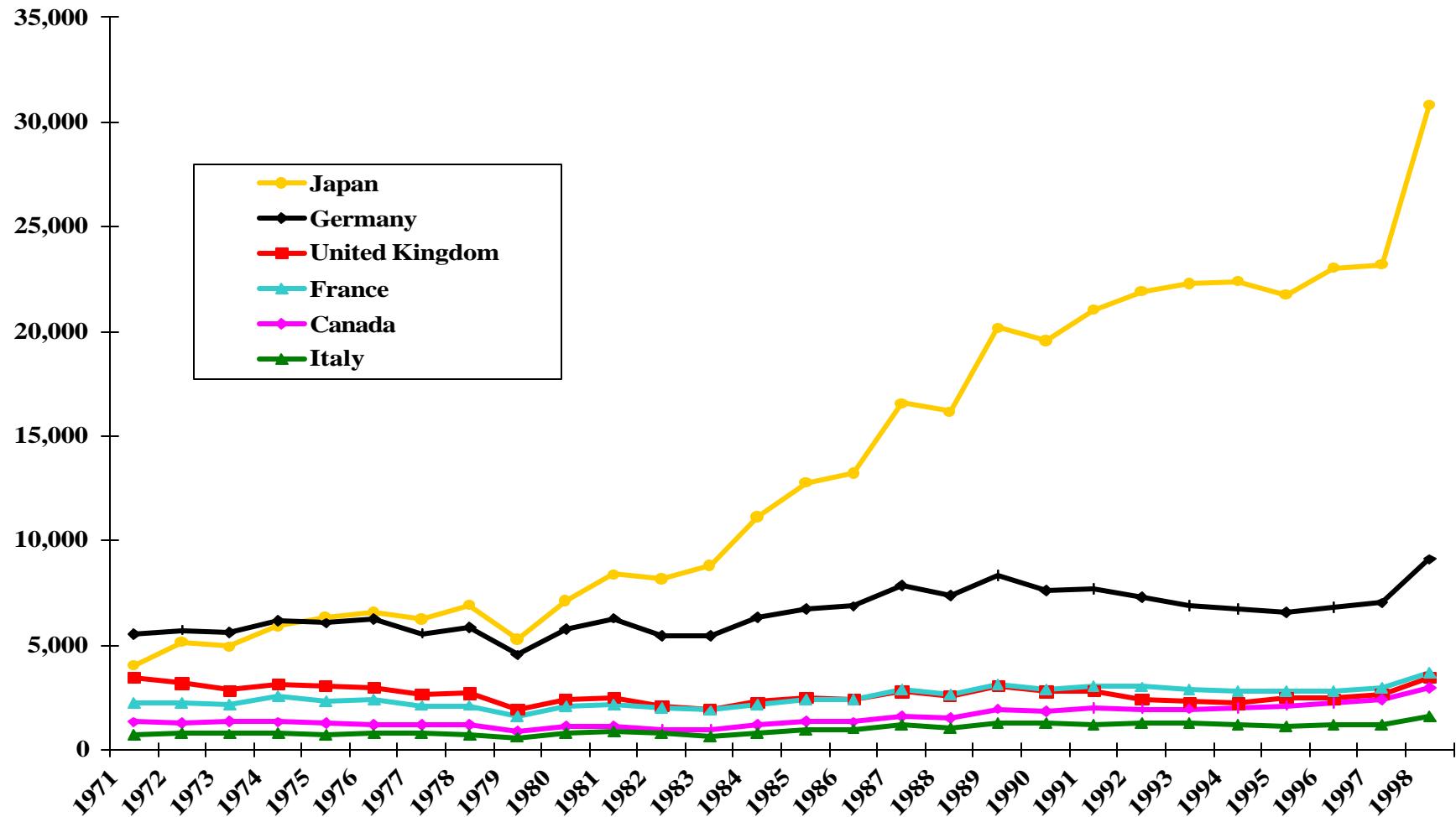


Patents Granted in the United States: G-7 Countries



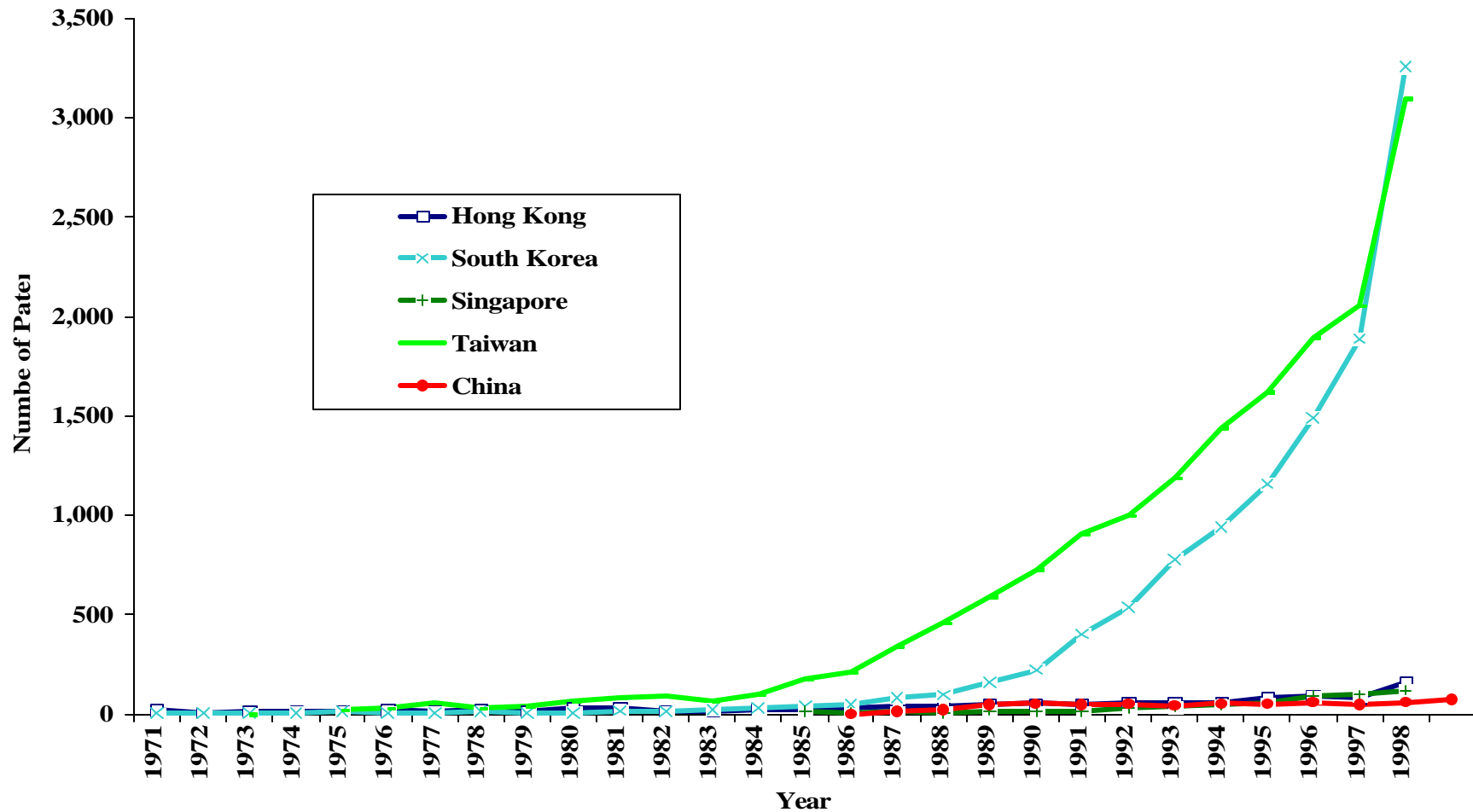
Patents Granted in the United States: G-6 Countries

Patents Granted Annually in the United States: G-6 Countries



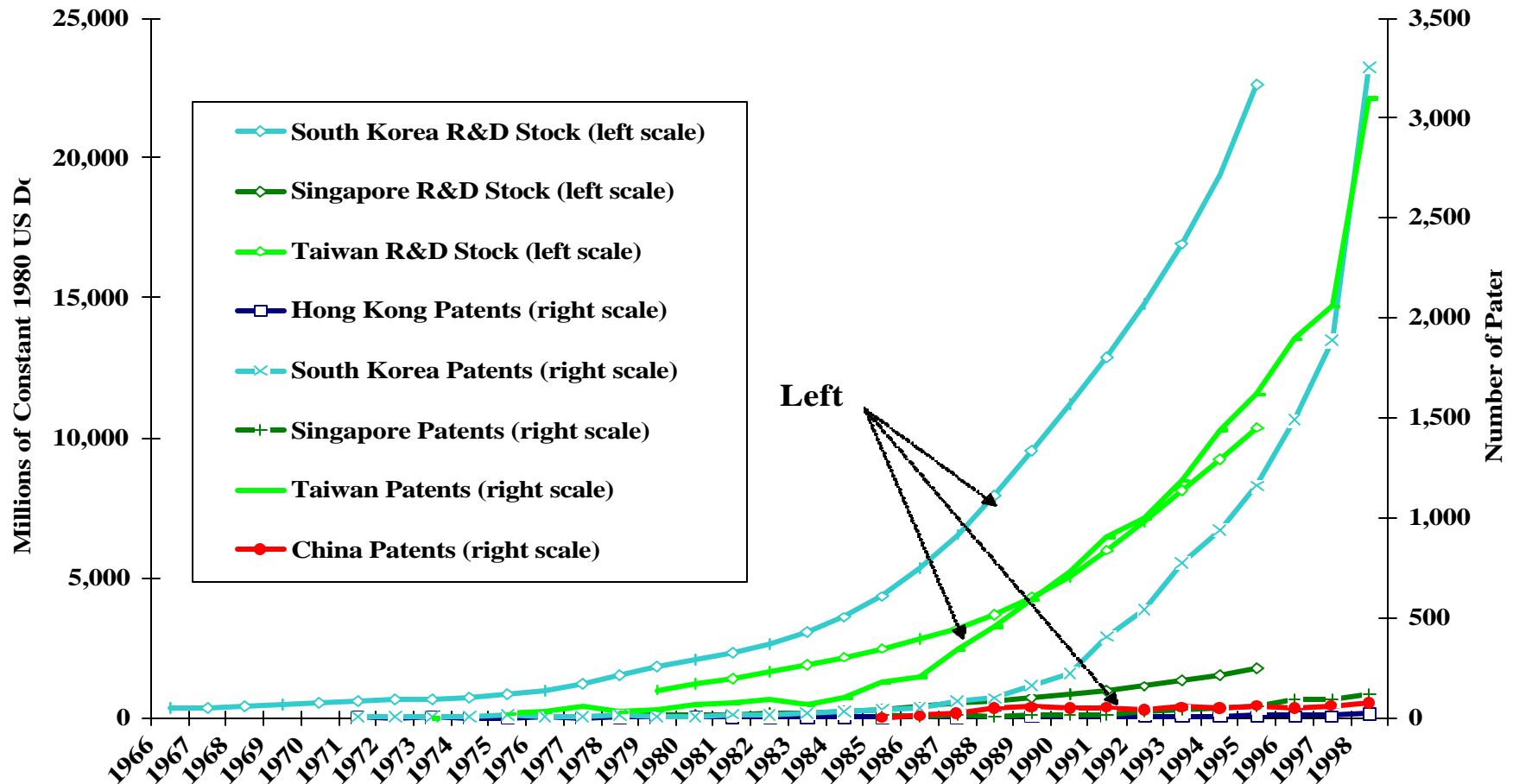
Patents Granted in the United States: China and 4 East Asian Newly Industrialized Economies

Patents Granted Annually in the United States, 4 East Asian NIEs and China



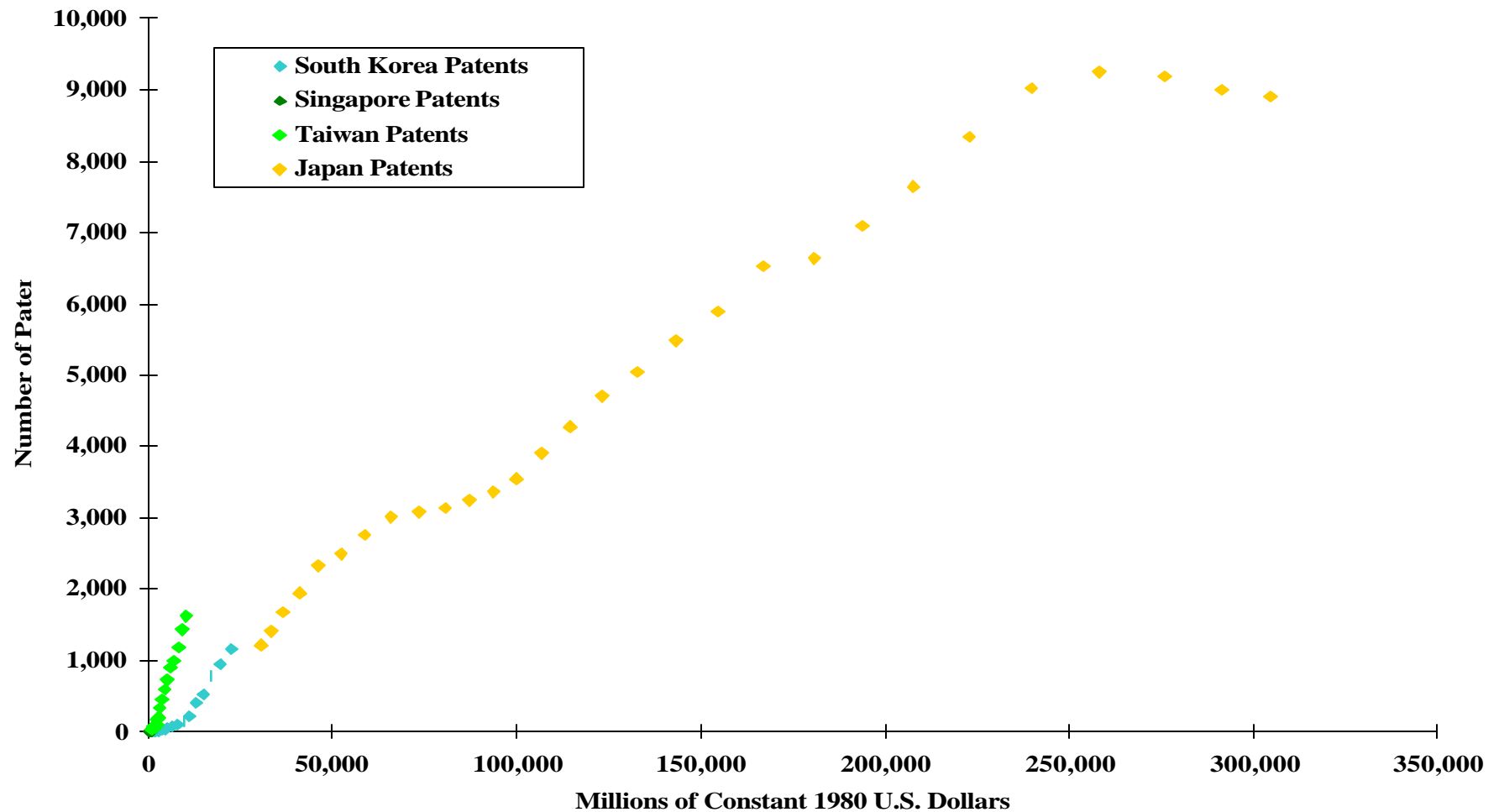
R&D Capital Stock and Patents Granted in the United States: China and 4 East Asian NIEs

R&D Capital Stocks and Number of Patents Granted in the United States:
4 East Asian Newly Industrialized Economies and China



Patents Granted in the United States and R&D Capital Stock: Japan and 3 East Asian NIEs

Number of Patents vs. R&D Capital Stock in Millions of Constant 1980 U.S. Dollars



Lawrence J. Lau, Stanford University

Is East Asian Economic Growth Sustainable?

- ◆ Prospects for continued economic growth in East Asia remain good—room for continuation of tangible-inputs-driven growth
- ◆ Fundamentals are sound—high savings rates, priority for education, private-enterprise market economy
- ◆ The experience of developed economies, especially that of Japan, suggests that investment in R&D capital and other forms of intangible capital has high returns
- ◆ Because of its complementarity with tangible capital, investment in intangible capital can retard the decline in the marginal productivity of tangible capital and counteract the “Krugman effect”
- ◆ There is also evidence of positive technical progress in the more recent period
- ◆ The people of East Asia are entrepreneurial, hard-working, and thrifty--all they need is a good, market-friendly, predictable and stable environment

Is East Asian Economic Growth Sustainable?

- ◆ The attractiveness of investment in intangible capital depends on the protection of intellectual property rights, which in turn depends on whether a country is a producer of intellectual property--some of the East Asian economies, e.g., Hong Kong, South Korea, Singapore and Taiwan are ahead of other East Asian economies with the possible exception of Japan on this score
- ◆ Intangible capital is different from tangible capital in three important aspects:
 - ◆ Intangible capital is freely mobile across countries
 - ◆ Intangible capital is simultaneously deployable in different locations without diminution of its effectiveness (increasing returns in the utilization of intangible capital)
 - ◆ Intangible capital enhances the productivity of existing tangible capital whereas additional tangible capital diminishes the productivity of existing tangible capital

Long-Term Economic Growth: Three Paradigms of Chinese Economic Growth

- ◆ Domestic demand-driven growth--the domestic market paradigm a la the United States in the 19th century. China is a large continental economy--International trade will never be as important as other, smaller countries and China must rely on internal demand for further economic growth. Value-added from exports constitutes only 6 percent of Chinese GDP.
- ◆ The "wild-geese-flying pattern" metaphor of East Asian industrial migration over time can apply to Chinese provinces and regions
- ◆ Privatizing the economy without privatization--shrinking the state sector through the growth of the non-state sector in the absence of explicit privatization--the experience of Taiwan and South Korea
- ◆ What does it take?
 - ◆ Availability of infrastructure (transportation and communication, including the internet)
 - ◆ Continued marketization of the economy
 - ◆ Maintenance of a domestically open economy (the equivalent of the "interstate commerce" clause of the U.S. constitution)
 - ◆ Affirmation of property rights and the rule of law (a national commercial and tax court?)
 - ◆ Maintenance of an internationally open economy--the role of the "open door" (WTO)

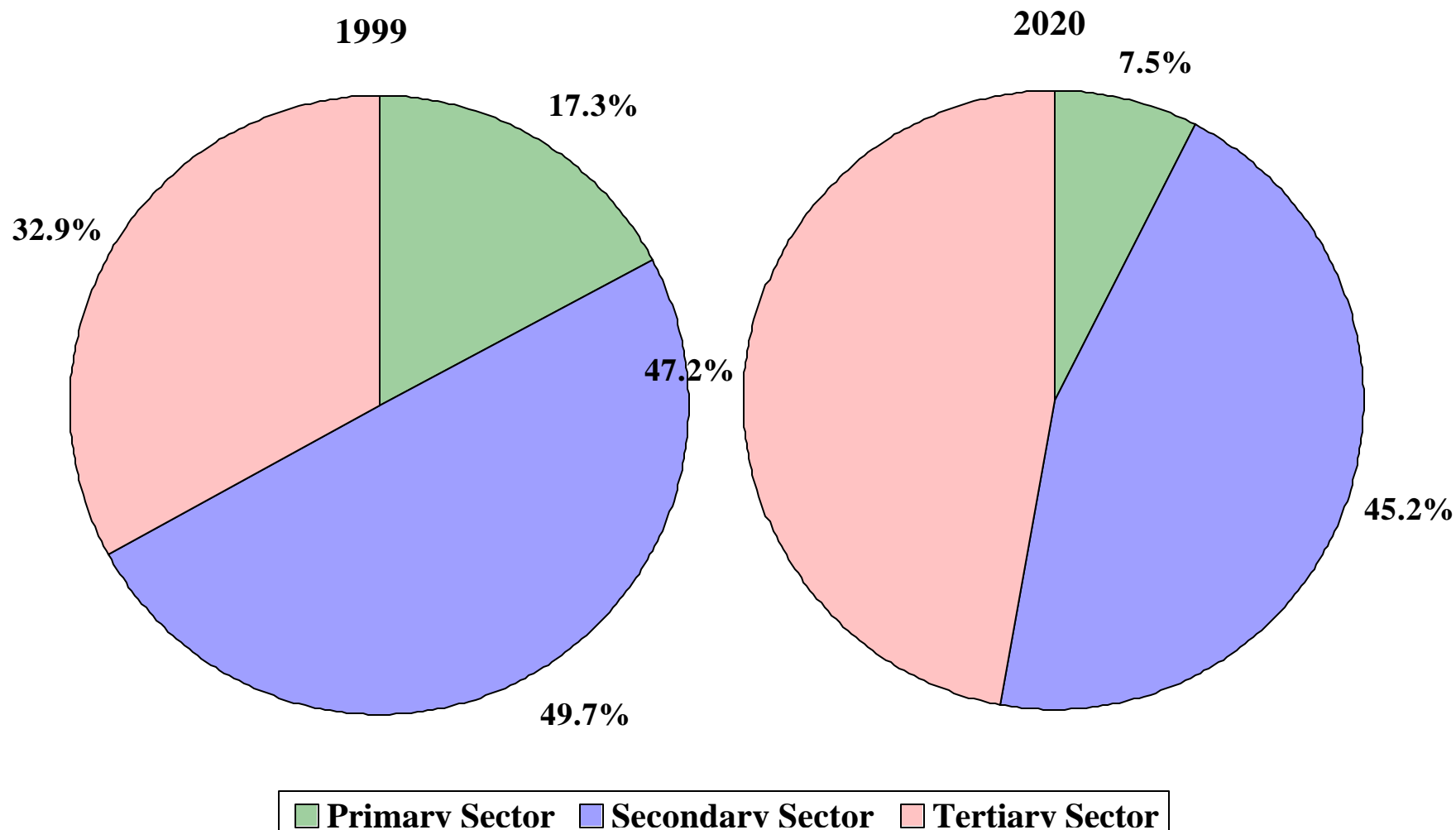
Long-Term Economic Trends

- ◆ Aggregate GDP
 - ◆ The Chinese economy is likely to continue to grow, more or less independently of what happens in the rest of the world, over the next several decades at an average annual rate of approximately 7%
 - ◆ The source of this growth will come primarily from tangible capital accumulation, supported by a national savings rate of 40%, human capital accumulation, and economies of scale, and to a lesser extent on the growth of intangible capital (for example, R&D capital) and improvements in efficiency
 - ◆ By 2020, aggregate Chinese GDP will exceed the aggregate GDP of Japan (and approximately half of aggregate U.S. GDP)
 - ◆ By 2035, aggregate Chinese GDP will reach the same level as aggregate U.S. GDP
- ◆ Per capita GDP
 - ◆ However, Chinese GDP per capita will only reach US\$10,000, or approximately 20% of U.S. GDP per capita, in 2035
 - ◆ Chinese GDP per capita will approach the level of U.S. GDP per capita only beyond 2050
- ◆ Population
 - ◆ By 2035, India will have overtaken China as the most populous nation in the world
- ◆ The currency
 - ◆ The Renminbi will in time become one of the strongest currency in East Asia and a quasi-reserve currency like the Euro

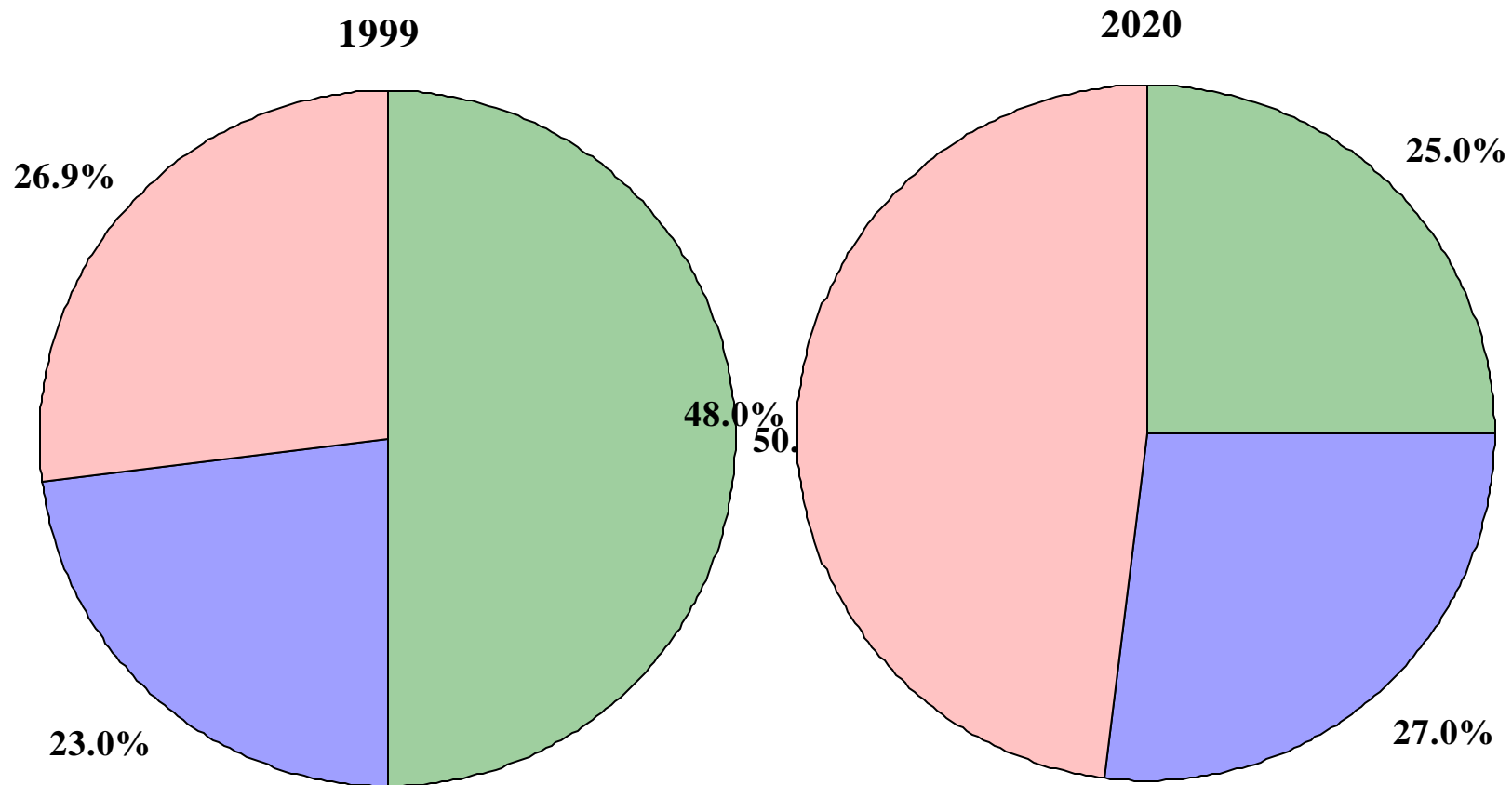
Long-Term Projections

	2001	2010	2020
	US\$ (2001 prices)		
Real GDP	1.16 trill.	2.25 trill.	4.5 trillion
Real GDP/per capita	920	1,750	3,400

The Structure of the Economy: GDP



The Structure of the Economy: Employment



■ Primary Sector ■ Secondary Sector ■ Tertiary Sector

Lawrence J. Lau, Stanford University

Sources of Growth of Aggregate Demand: Affordable Owner-Occupied Housing

- ◆ Huge pent-up demand for new affordable owner-occupied residential housing and rebuilt and renovated residential housing—a housing boom that can last for decades
- ◆ Promotion of affordable owner-occupied residential housing investment for and by the domestic population is one of the few alternative new and durable sources of growth of aggregate demand
 - ◆ Simultaneous adjustment of salaries and rents, providing purchasing power for employees not currently provided housing
 - ◆ Establishment of properties (transfer) rights to residential housing similar to those already available in the rural areas
 - ◆ Provision of long-term, preferably fixed rate, mortgages; development of secondary markets for such mortgages to avoid maturity mis-match; adoption of “safe-harbor” rules to overcome “reluctance to lend”
 - ◆ Institution of urban zoning and land use laws; absorption of land costs but maintaining fairness through land leases adjustable upon renewal
 - ◆ Development of mass urban transit
- ◆ Housing reform has taken root in major urban centers except Beijing

Sources of Growth of Aggregate Demand: Promotion of Science and Education in China

- ◆ Investments in information technology
 - ◆ Leap-frogging traditional development in telecommunication (the experience of the wireless phone)
 - ◆ E-commerce among enterprises
 - ◆ New models of marketing, distribution and sales
 - ◆ A PC in every classroom (in every urban home)
 - ◆ Set-top boxes on television sets with point and click device and numeric pad can link 400 million households to the internet
 - ◆ New modes of education and information dissemination
 - ◆ The Chinese language is uniquely suited to communication based on a graphic interface (the experience of the fax machine)
- ◆ Extension of compulsory education to 12 years
- ◆ Investments in tertiary education and in R&D

The Development of the Great West: Reducing Regional Inequalities

- ◆ Even though all regions benefited from the economic reform since 1979, the coastal regions benefited much more than the inland regions—there is an estimated 6 to 1 or even 8 to 1 ratio between the per capita GDP of the richest and poorest province/region.
- ◆ Interregional income inequality has risen, resulting in:
 - ◆ Dissatisfaction and restiveness
 - ◆ Deterioration of social services, especially education and health care
 - ◆ Massive illegal migration from the inland regions to the coastal regions, creating huge pressure on social and physical infrastructure
- ◆ Relaxation of rural-urban migration (mostly controlled by the local authorities)
- ◆ Transfer payments from the central government
- ◆ Raising agricultural incomes
- ◆ Moving jobs to where people are, not people to where jobs are
- ◆ Urbanization through the creation of new towns and cities, not the growth of existing towns and cities
- ◆ Developing a truly unified national market
- ◆ Education and investment in human capital is the most effective means for reducing income inequality
- ◆ Maintaining long-term competitiveness without devaluation; WTO accession can help by putting pressure on enterprises to move inland to lower their costs and maintain competitiveness
- ◆ Relocation of the capital from Beijing to a city in the Western region of China can significantly accelerate the development of the Great West

The New Economy and China: The Advantages of Backwardness and Size

- ◆ The possibility of leap-frogging--there are no vested interests to protect; no existing businesses to be cannibalized; there can be “creation without destruction”
 - ◆ e.g., facsimile machines instead of telexes; video compact discs instead of VCRs; a new keyboard layout; mobile and wireless telephones instead of fixed lines; debit and credit cards instead of checks
- ◆ The possibility of influencing/setting standards--the markets are potentially large enough in China for the benefits of economies of scale to be realized and for it to have a significant influence on future standards
 - ◆ e.g., Linux; wireless telephone standards (CDMA)
- ◆ The possibility of local adaptation--taking advantage of local conditions
 - ◆ e.g., the Legend story—language; local supply and demand conditions, e.g., stability of the voltage of the electric power supply
- ◆ Transformation of the “Old Economy” through the information and communication technology

The New Economy Levels the Playing Field between Large and Small Firms

- ◆ Small firms can have access to services and supplies heretofore only available to large firms
 - ◆ E.g., by bringing down the cost of securities trading, Charles Schwab and E-trade benefit small investors proportionally much more than large investors
 - ◆ Rapid delivery services and warehousing facilities, e.g., Federal Express, are available to both large and small firms
- ◆ Small firms can also become more accessible to their customers and potential customers through the Internet with only marginal expenditures on advertising and public relations
- ◆ Small firms have access to large firms as potential suppliers in a global supply chain
- ◆ The Chinese economy with its high and potentially even higher concentration of smaller firms and more primitive information infrastructure (and thus the potential for leap-frogging) may benefit much more from the new economy than other more developed economies
 - ◆ E.g., B2B dot.coms seem to have relatively greater success in East Asia than in the United States

Implications for U. S.-China Relations

- ◆ Chinese economic growth during the next several decades will depend mostly on internal factors and be largely unaffected by the actions of either the U.S. or other countries.
- ◆ There are numerous serious problems confronting the Chinese economy—however, these problems are not intractable.
- ◆ On the margin, U.S. involvement in the Chinese economy will make some, but not a critical, difference; but it can be mutually beneficial for both the U.S. and China.
- ◆ Chinese GDP and GDP per capita will remain low relative to the United States for at least three or more decades.
- ◆ The share of Chinese GDP produced by the non-state-owned sector will rise from 65% to 80% in another decade.
- ◆ There is significant complementarity between the U.S. and Chinese economies--the U.S. does not export anything that China exports and China does not export anything that the U.S. exports. It is this complementarity that maximizes the potential gains from free trade between the two countries.