



BANK FOR INTERNATIONAL SETTLEMENTS

Deflation and its challenge to monetary policy in Asia

Presentation to a
Workshop on Deflation
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by

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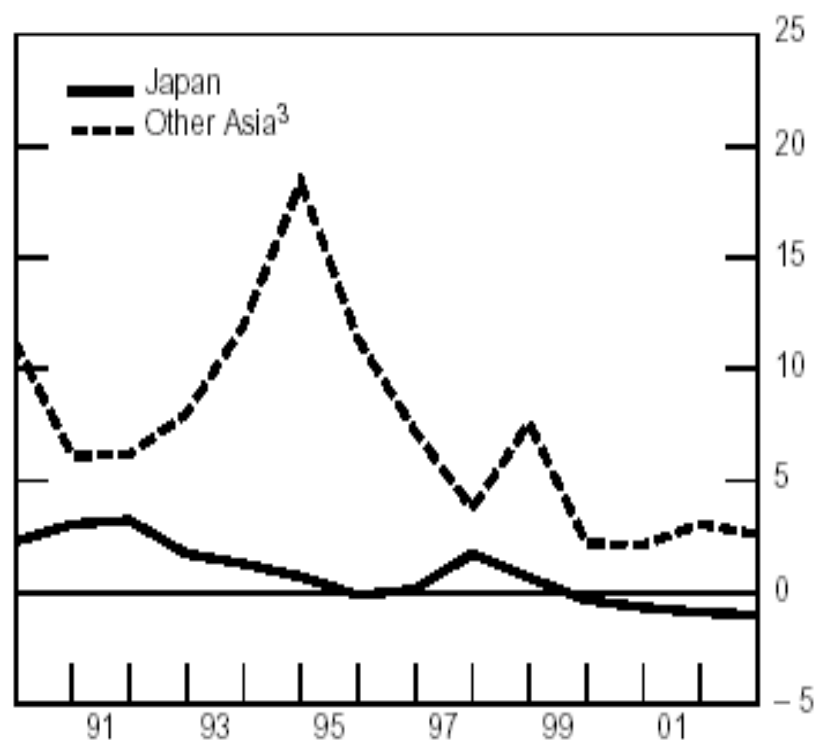
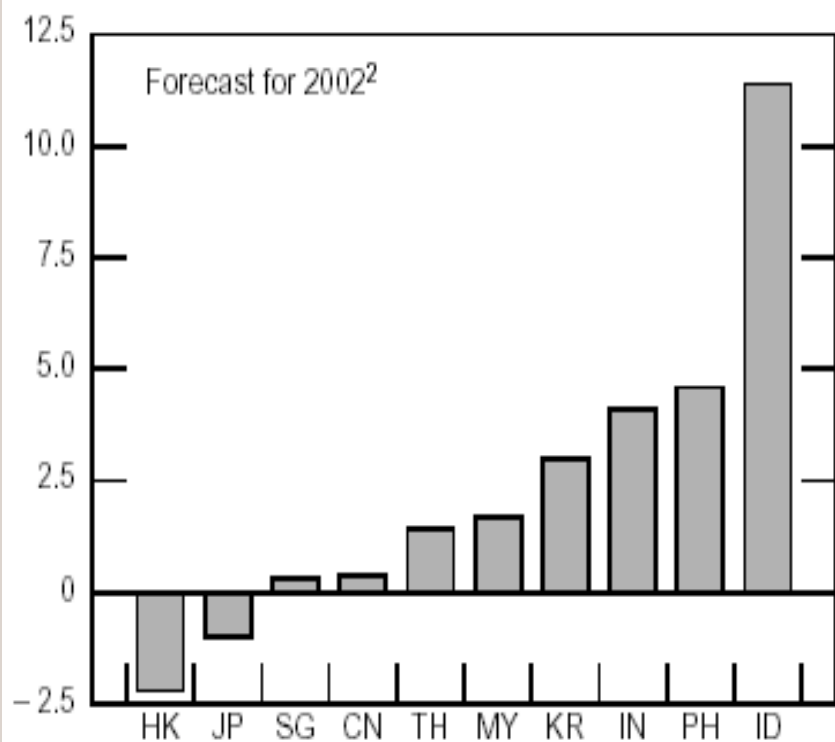


Overview

- Recent inflation experience in Asia
- Sources of deflation
 - Demand
 - Supply
 - Global deflation
- Challenge to monetary policy
 - Zero interest rate constraint
 - Lessons from Japan
 - The role of the exchange rate



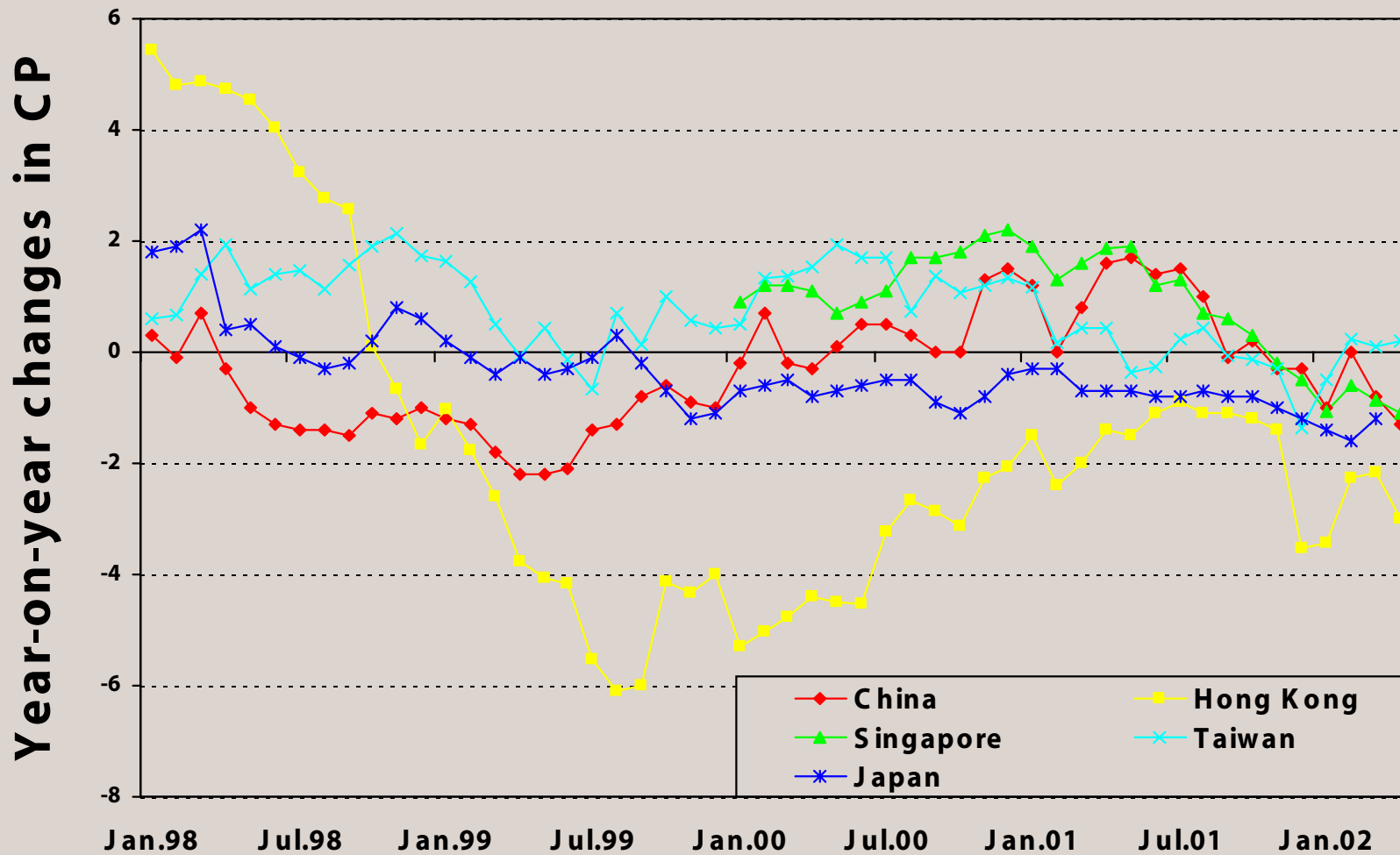
1. Inflation in Asia is falling



¹ Annual percentage change in consumer prices. ² Based on latest Consensus Economics. ³ Other Asia defined as a weighted average of China, Hong Kong, India, Indonesia, Korea, Malaysia, the Philippines, Singapore and Thailand; average based on 1995 GDP and PPP exchange rates.



Prices are actually falling in several economies





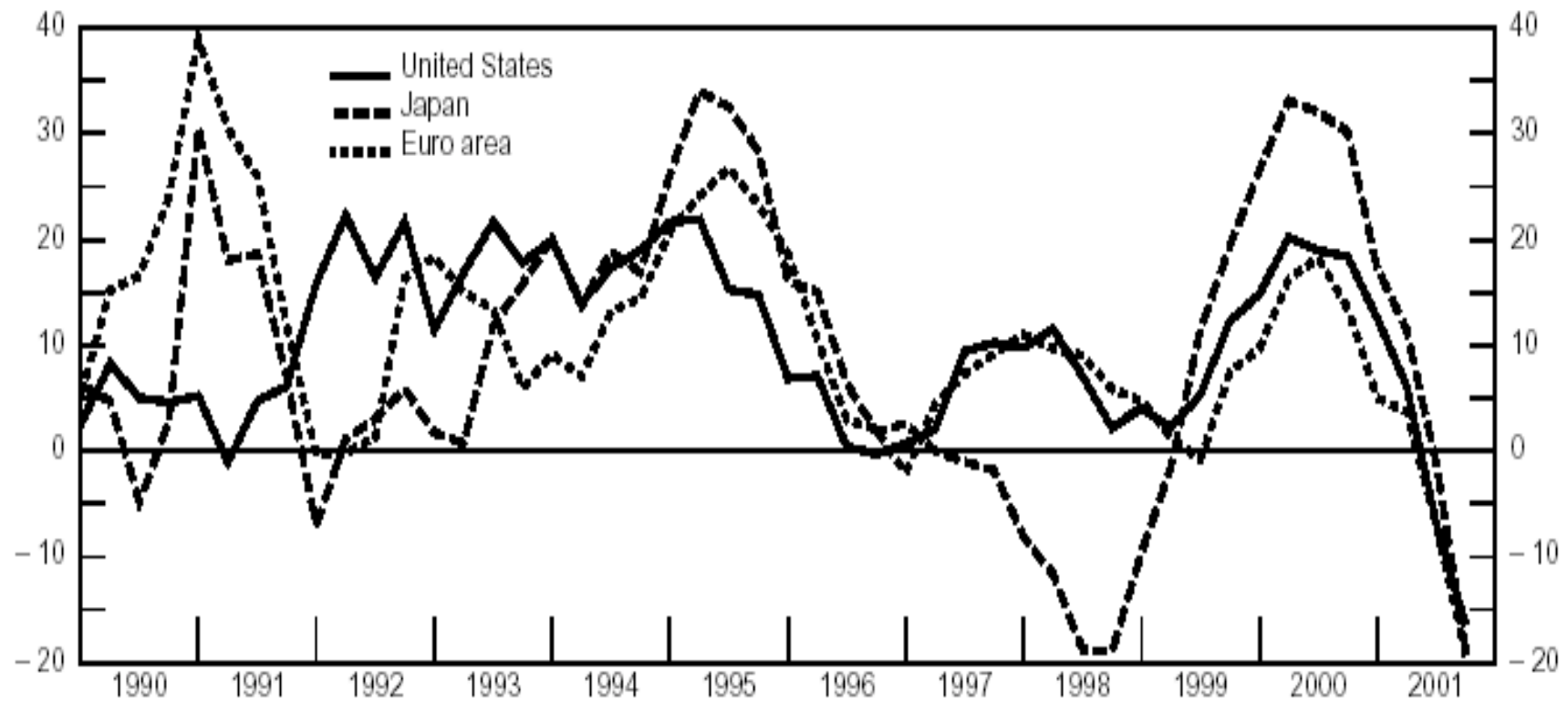
2. Sources of deflation: demand

- Slow external demand for Asia's exports
- Hi-tech down cycles
- Weak domestic demand
- Falling asset prices
- Depressed credit growth



External demand has been weak

Graph 2 Export destination of Asia ¹

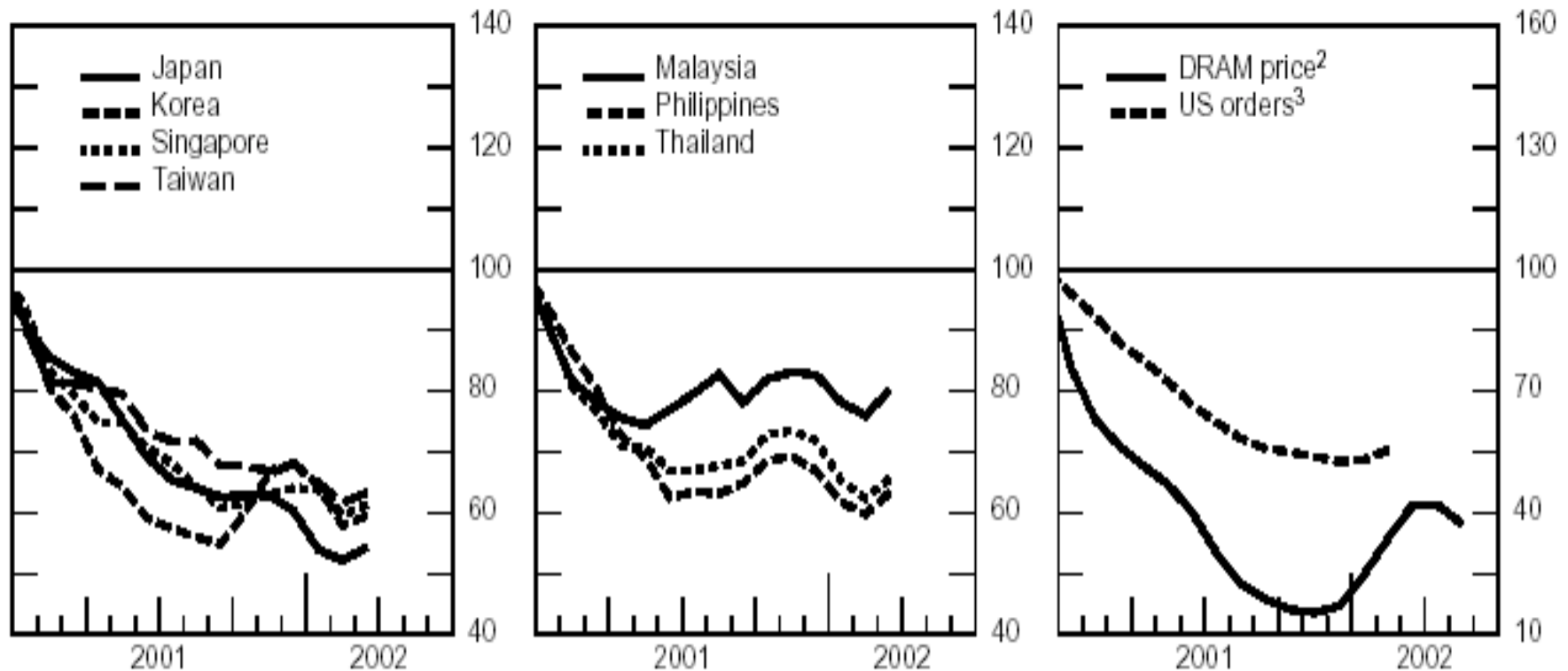


¹ Annual percentage changes.

Source: IMF, Direction of Trade.



Hi-tech exports of Asian economies to the U.S. remain weak owing to poor demand



¹ End-2000 = 100; three-month moving average; high-tech exports defined as the sum of the trade classifications SITC 75, 76 and 77.

² DRAM Discrete synch 133 16x8. ³ Manufacturers' unfilled orders for computers in the US; seasonally adjusted.

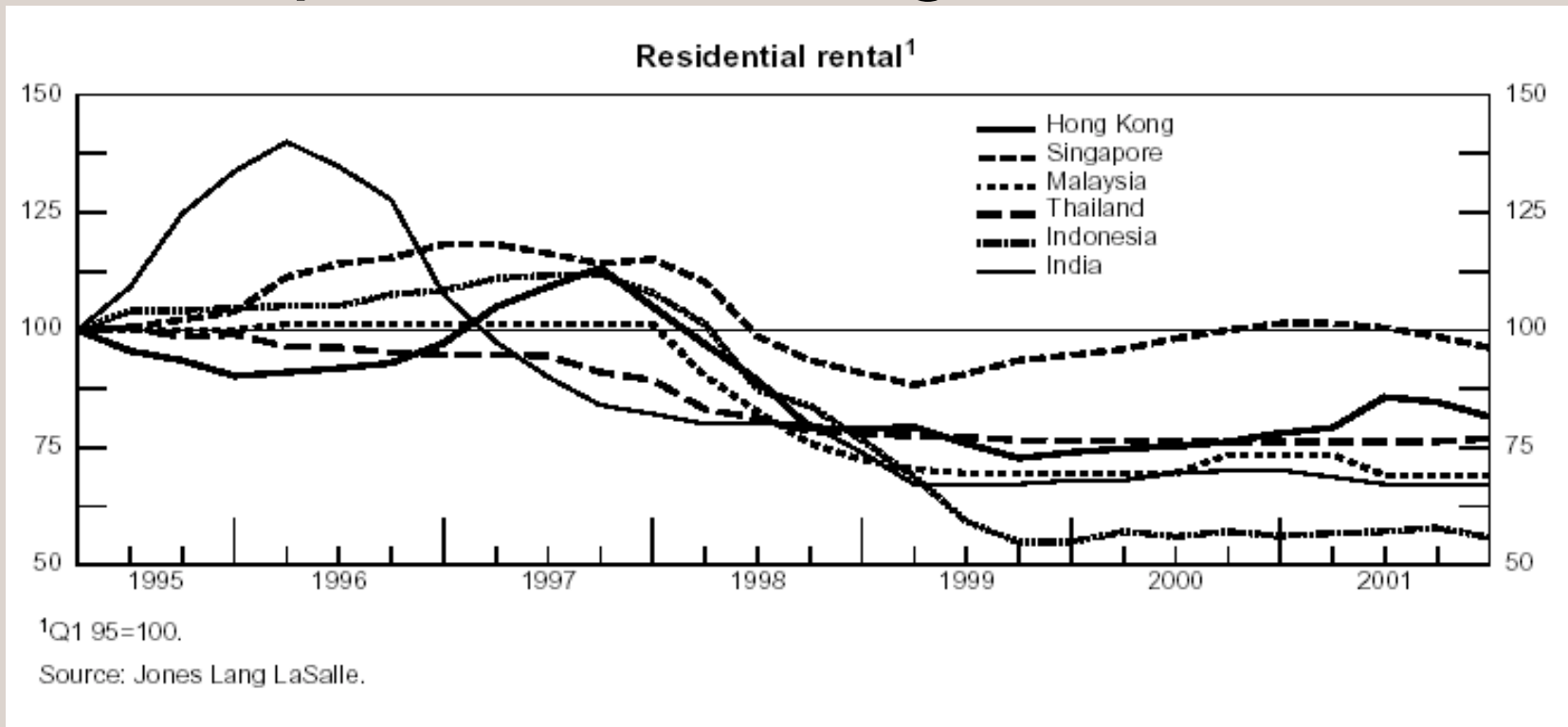


Domestic demand remains weak

- Domestic consumption dragged down by high unemployment
 - HK 7.1%; China at least 4%; Japan 5.2%; Singapore 4.5%; Taiwan 5%
- Wealth effects from falling asset prices
- Investment is still depressed



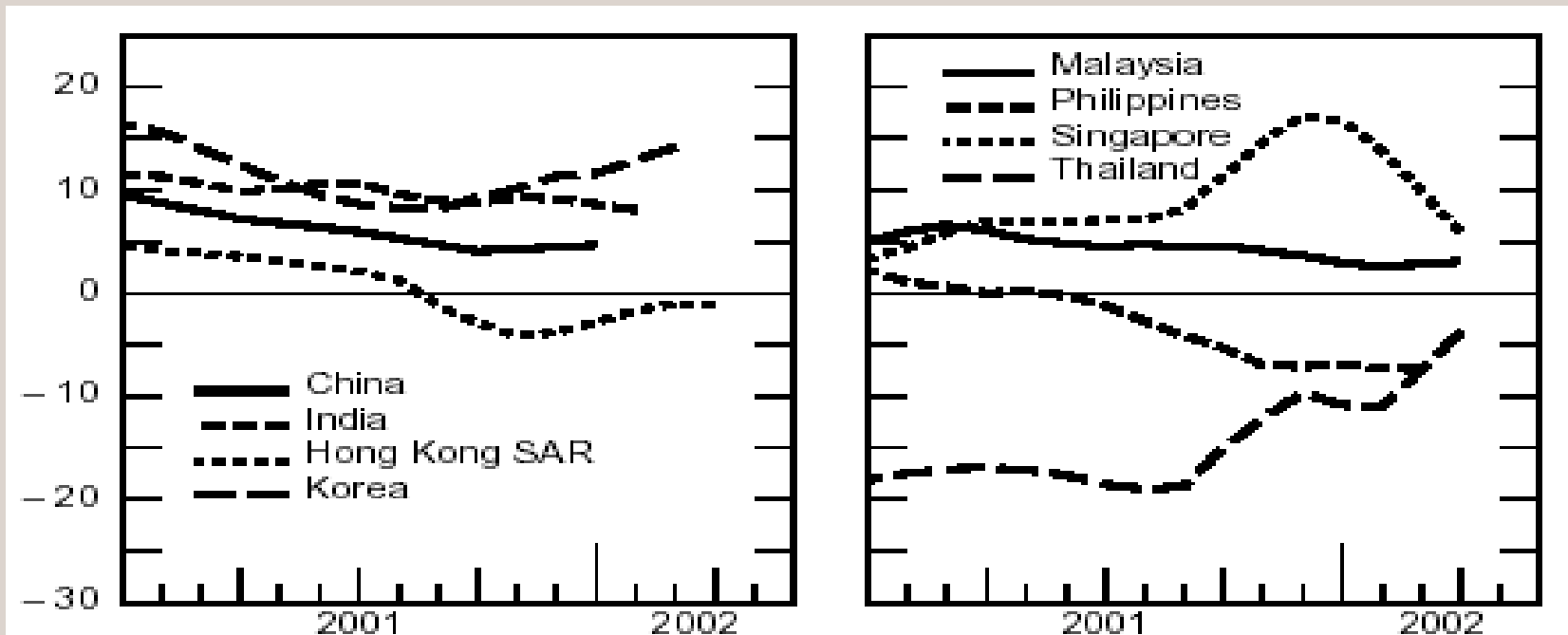
Asset prices still falling



- Direct effects - large weight on housing in CPI
- Indirect effects - wealth effect
- Equity prices have fallen 30-70% from their peaks



Credit growth slows (ex Korea)



¹ Deflated by consumer prices; annual percentage changes; 3-month moving average.

- Reflects weak domestic demand
- But also a source of deflation as banks are reluctant to lend



Sources of deflation: supply

- Over-investment and overcapacity in the IT and telecom sectors
- New source of cheap labour - China as the world's lowest-cost producer in goods, hollowing out domestic industries in other economies
- Falling prices due to rapid technological changes, trade liberalisation, deregulation and rising competition



Excess supply

- A senior Statistics Bureau official noted that excess supply remains one of the main factors of China's deflation
- “Uniqlo effect” – Japanese-quality clothing at accessible prices (made in China)
- Trade dispute between China and Japan over imports e.g. food items such as leeks and mushrooms
- But there is a partial equilibrium fallacy as China is also importing many products as labour income rises, so take a macro view



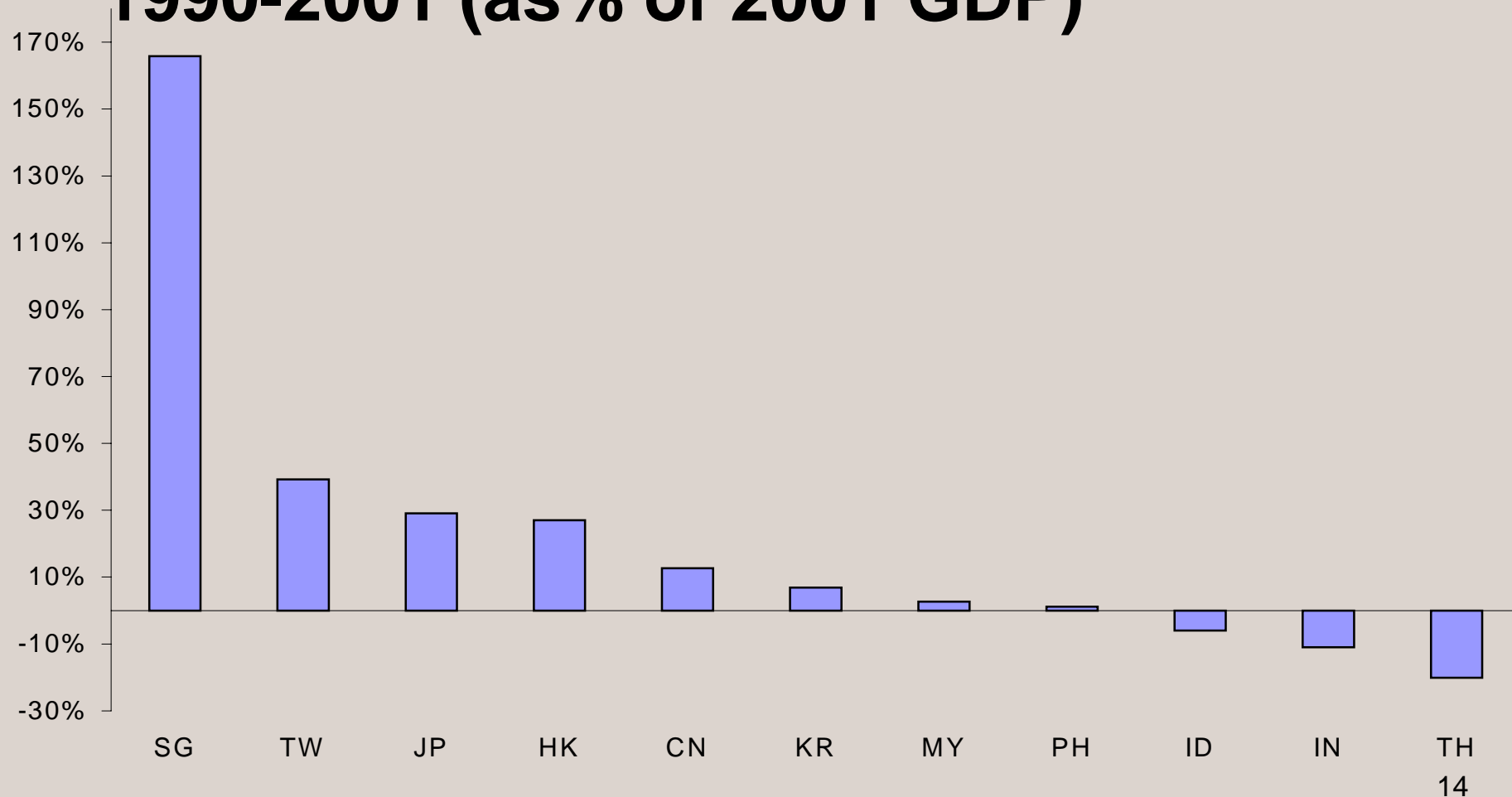
MACRO VIEW OF EXCESS SUPPLY

- Cumulative current account balance serves as a broad measure of secular excess supply of goods and services for an economy
- Sorting economies in Asia by cumulative CA surplus since 1990 identifies those facing deflation
- Time series of aggregate CA surplus from 1990 mirrors inflation experience
- But scatter diagram for post-crisis period does not show a strong relationship between CA surplus and inflation, as regional economies accumulate CA surplus



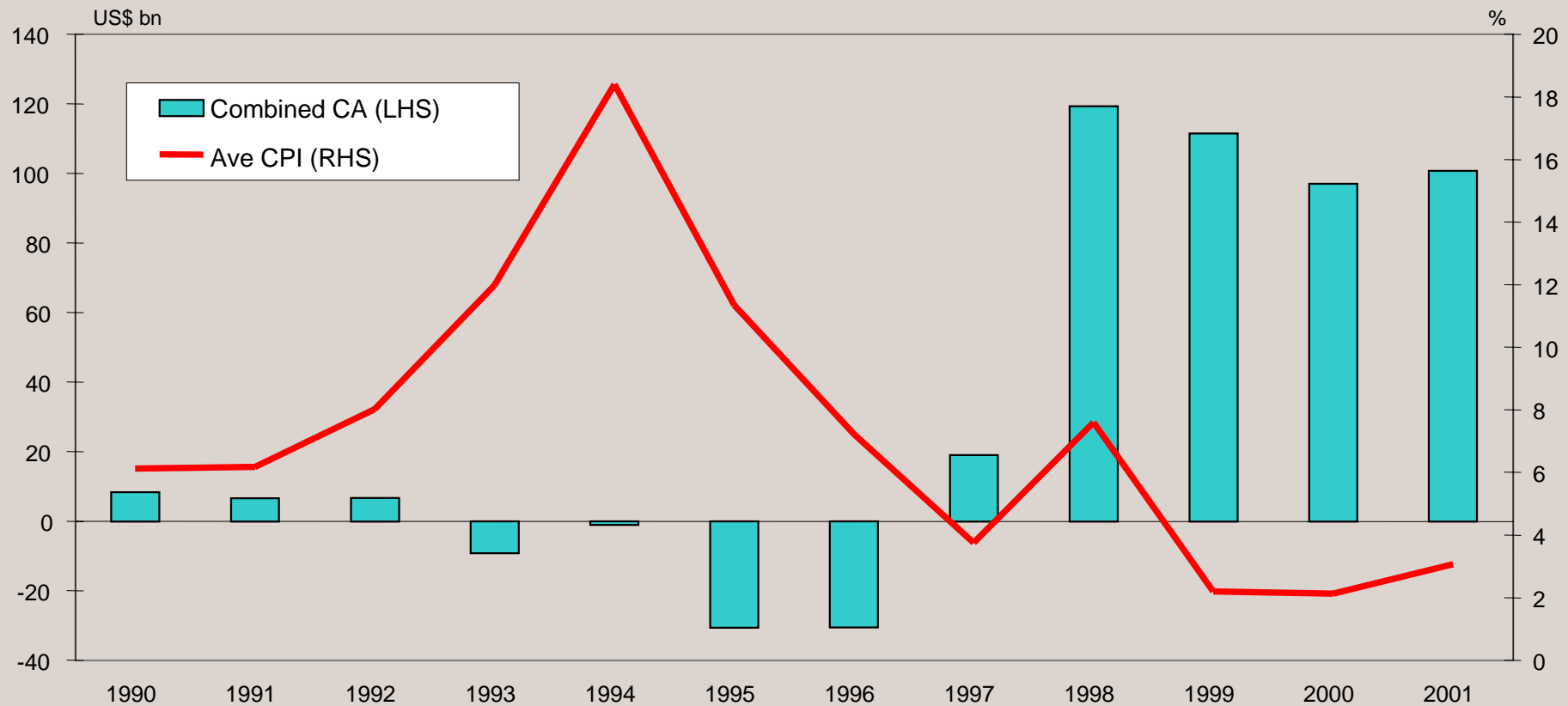
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Cumulative current account balance for 1990-2001 (as% of 2001 GDP)



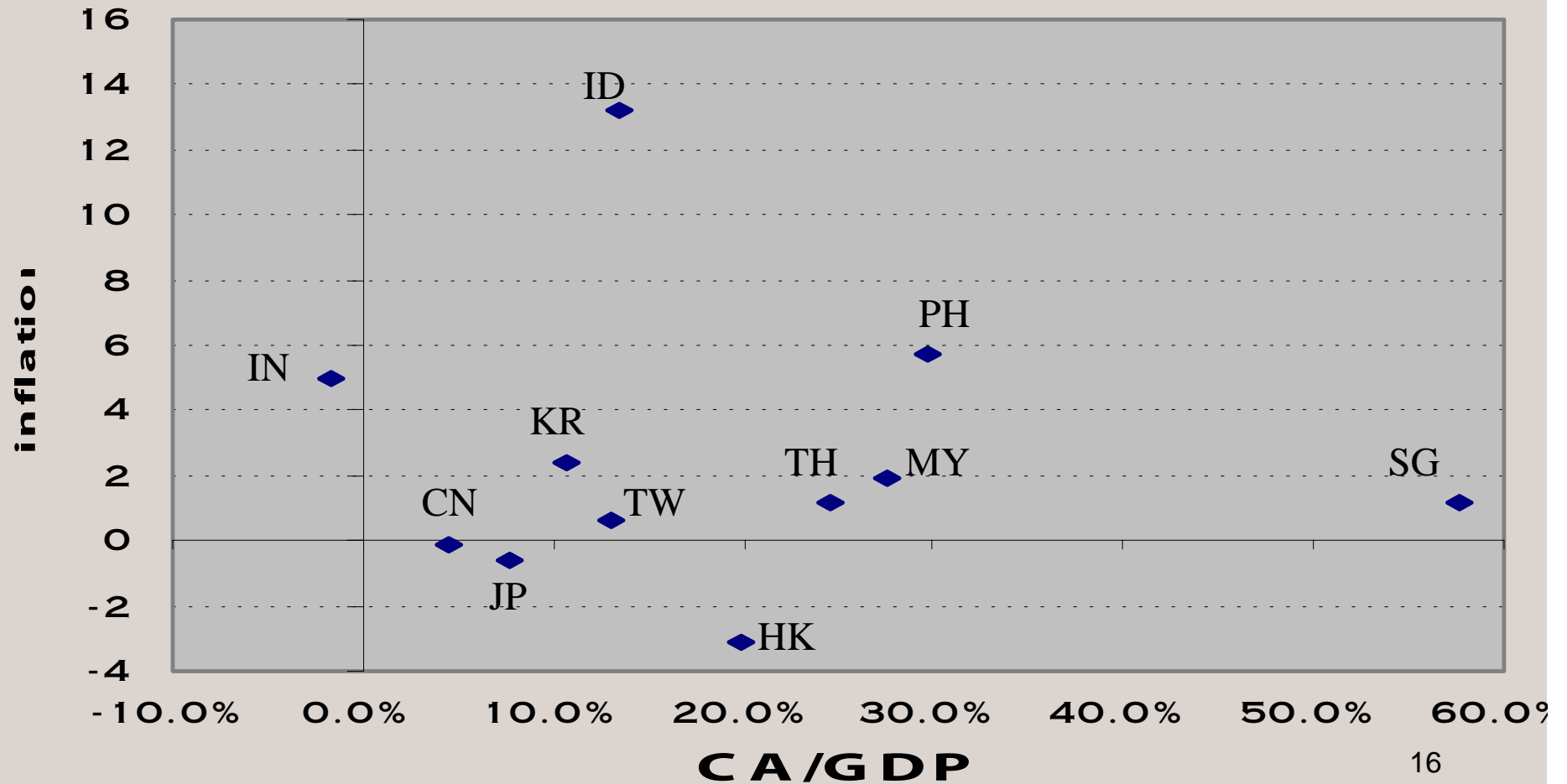


Non-Japan Asia's aggregate CA balance (US\$ bn) and average CPI inflation 90-01





Cumulative CA surplus and inflation 99-01





Deflation from tech changes can exist with output growth

| Deflation in perspective | | | | | |
|--------------------------|----------------------------------|------------|-----------------------|------------|--|
| | Deflation periods ¹ | | Non-deflation periods | | <i>Memo item: Years of deflation</i> |
| | Prices | Output | Prices | Output | |
| | Average annual percentage growth | | | | |
| 1882–1913 | | | | | |
| United States | -3.7 | -1.2 | 1.4 | 4.4 | 5 |
| Japan ² | -3.7 | 1.8 | 4.4 | 2.7 | 4 |
| Germany | -2.0 | 4.0 | 1.8 | 2.6 | 8 |
| France | -1.1 | 2.1 | 0.2 | 1.6 | 2 |
| Italy | -1.2 | 1.3 | 1.4 | 2.2 | 14 |
| United Kingdom | -3.0 | 1.4 | 1.0 | 1.9 | 8 |
| Canada | -4.7 | 1.1 | 1.1 | 4.6 | 3 |
| Belgium | -4.2 | 1.6 | 1.5 | 2.1 | 8 |
| Sweden | -2.8 | 2.0 | 2.2 | 3.3 | 12 |
| Denmark | -3.5 | 2.8 | 1.8 | 3.0 | 10 |
| <i>Average</i> | <i>-3.0</i> | <i>1.7</i> | <i>1.7</i> | <i>2.8</i> | <i>7</i> |

¹ Deflation defined as at least two consecutive years of price decreases. ² 1885–1913.



Output growth remained positive in periods of deflation in Asia

| | Deflation periods | | Non-deflation period | | Memo: Months of deflation |
|-------|--------------------------|--------|----------------------|--------|---------------------------|
| | Prices | Output | Prices | Output | |
| | 1990-2001* (China 1993-) | | | | |
| China | -1.0 | 8.5 | 8.9 | 9.6 | 27 |
| HK | -3.0 | 3.4 | 8.3 | 4.1 | 42 |
| Japan | -0.7 | 0.9 | 1.9 | 1.4 | 38 |



Sources of deflation – international trade

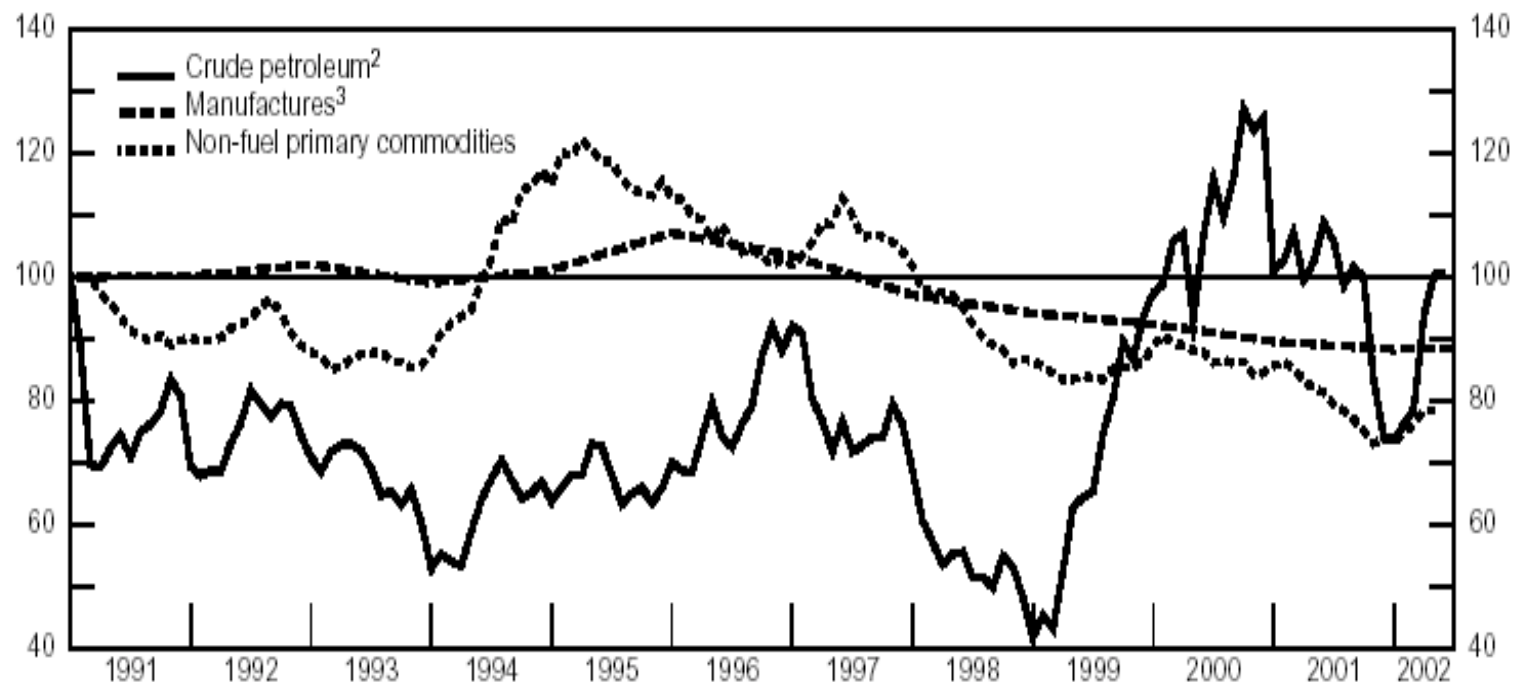
- Global deflation, whether it is a result of excess supply or weak demand, could exacerbate deflation in regional economies through their openness to trade
- Effect depends on openness and flexibility of \$ exchange rate
- Increasing consumer acceptance of foreign goods and reduced trade restrictions in Japan could lower prices
- China may also import deflation because of increasing openness and stable \$ exchange rate



World trade prices of manufacturing in US \$ has been falling

Graph 4

Price developments in international trade¹



¹ End-1990 = 100; in US dollar terms. ² Unweighted average of the price of Dubai Fateh, UK Brent and West Texas Intermediate.

³ Export prices of OECD manufactures.



Summing up and a glance at the CPI data

- Different factors are at work in explaining falling inflation or deflation
- In Japan, major contributors to deflation are traded good prices - food and clothing – reflecting structural changes, rising trade and weak demand
- In Hong Kong, Singapore and Taiwan, declines in non-traded goods such as housing account for most of the falls in CPI, suggesting property prices and weak demand may have been the main sources

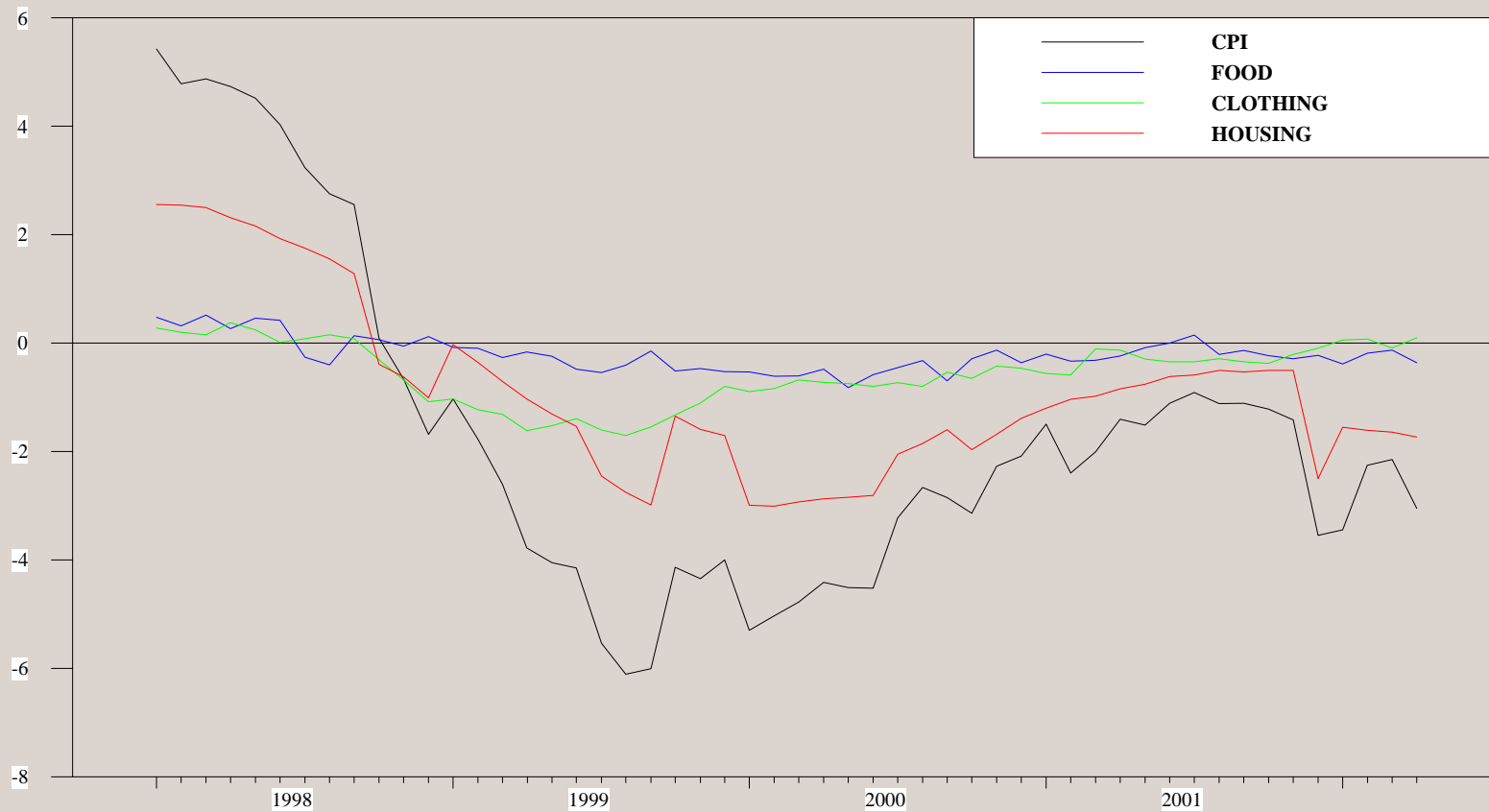


Year-on-year changes in CPI and its selected components

| Sector | Sept 01 | | | | | Feb 02 | | | | | Contributions (Feb.02) | | | | |
|-----------------------|---------|------|------|------|-------|--------|------|------|------|------|------------------------|-------|-------|-------|-------|
| | CN | HK | JP | SG | TW | CN | HK | JP | SG | TW | CN | HK | JP | SG | TW |
| Food | 0.3 | -1.2 | -0.8 | 0.6 | 0.01 | 0.6 | -1.6 | -3.3 | 0.6 | 2.2 | ... | -0.18 | -0.89 | 0.16 | 0.61 |
| Clothing | -2 | -5.2 | -1.7 | -0.3 | -1.99 | -2 | 1.2 | -2.8 | -2.2 | -1.0 | ... | -0.08 | -0.16 | -0.1 | -0.06 |
| Furniture/ durable | ... | -8.1 | -3.6 | ... | ... | ... | -7.3 | -3.8 | ... | ... | ... | -0.4 | -0.14 | ... | ... |
| Housing | -0.3 | -1.8 | 0.3 | -0.6 | -1.47 | -0.6 | -5.6 | 0.3 | -3.6 | -1.4 | — | -1.61 | 0.06 | -0.82 | -0.43 |
| CPI | -0.1 | -1.1 | -0.8 | 0.5 | -0.51 | 0 | -2.3 | -1.6 | -0.6 | 0.02 | | | | | |

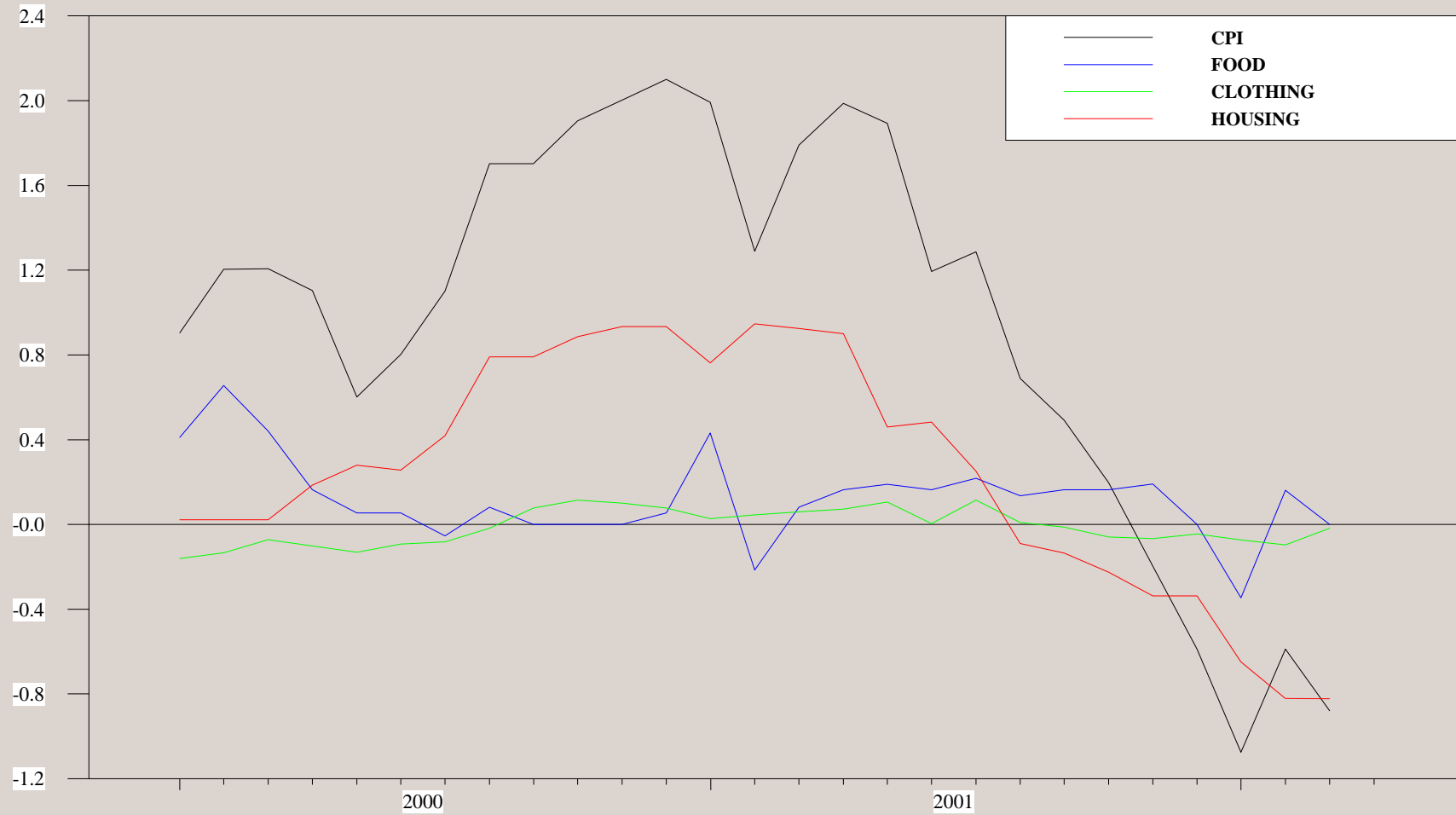


Hong Kong's falling housing prices have been the main contributor to deflation



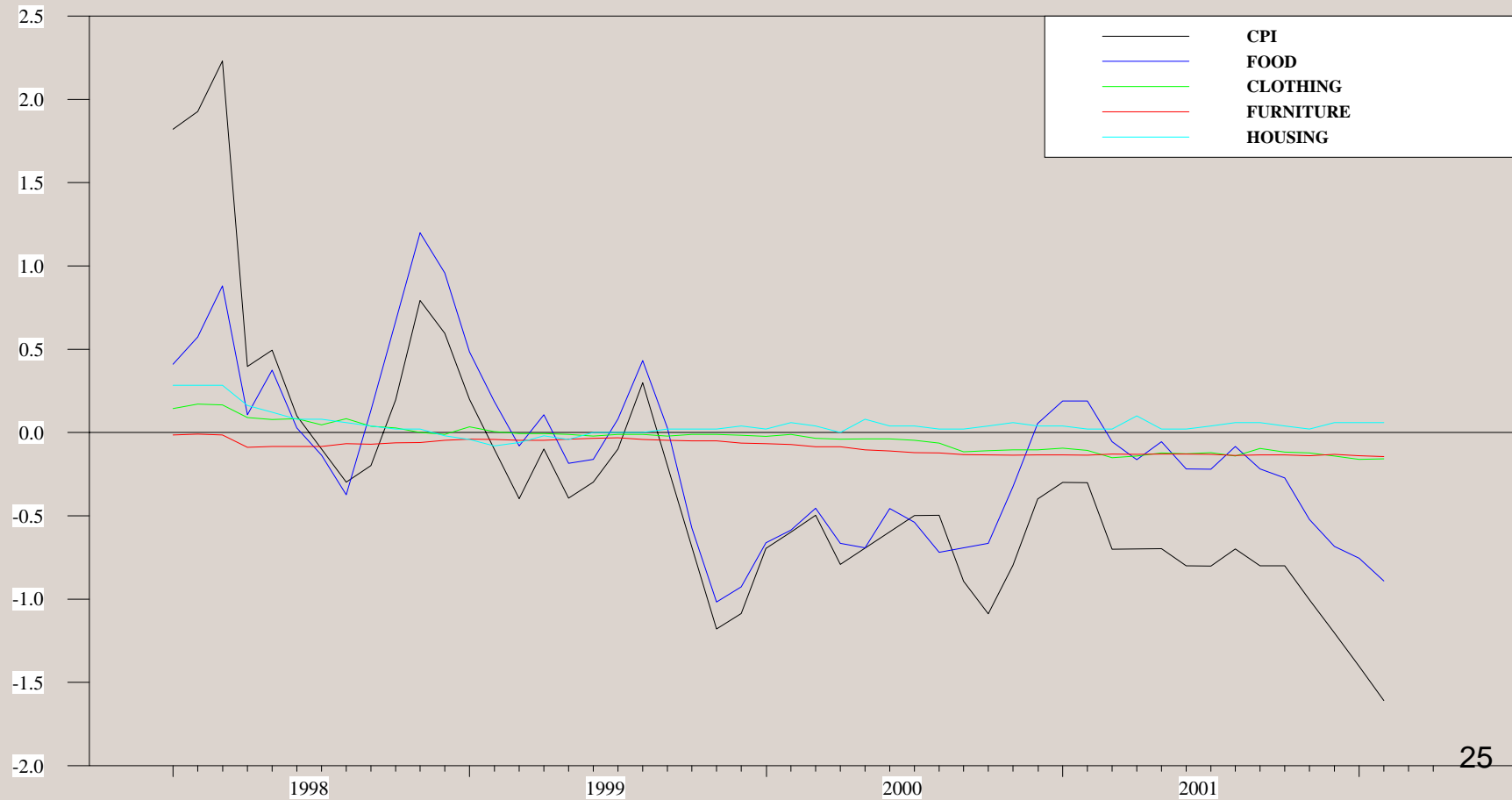


Singapore is similar





Food prices have been the main contributor to deflation in Japan





3. Implications of deflation for monetary policy

- Constraints on further monetary easing at near-zero interest rates
- Should interest rate response differ when facing the risk of deflation?
- Lessons from Japan
- The role of the exchange rate



Asian central banks cut rates less than the US and keep interest rates above inflation (% points)

| | US | CN | HK | ID | IN | KR | MY | PH | SG | TW | TH |
|---|--------------|--------------|--------------|------------|-------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Tightening (5/99-11/00) ¹ | up 1.75 | down 1.53 | up 0.52 | down 12 | up 0.5 | up 0.5 | down 0.16 | up 5.0 | up 1.02 | up 0.25 | down 0.25 |
| Easing (12/00-2/02) | down 4.75 | down 0.27 | down 3.90 | up 2.23 | down 1.5 | down 1.25 | up 0.01 | down 6.25 | down 1.94 | down 2.63 | up 0.50 |
| Post-easing (3/02 –) | 0 | 0 | Down 0.17 | 0 | 0 | up 0.25 | 0 | down 0.25 | Down 0.06 | 0 | 0 |
| <i>Memo: Levels</i> | | | | | | | | | | | |
| May 1999 | 4.75 | 3.78 | 5.46 | 26.12 | 8 | 4.75 | 3.43 | 10 | 1.81 | 4.5 | 1.75 |
| Feb 2002 | 1.75 | 1.98 | 2.03 | 16.86 | 6.5 | 4 | 3.28 | 7.25 | 0.94 | 2.13 | 2.00 |
| May 2002 | 1.75 | 1.98 | 1.86 | 15.81 | 6.5 | 4.25 | 3.28 | 7.00 | 0.88 | 2.13 | 2.00 |
| CPI Apr 02 | 1.64 | -1.3 | -3.05 | 13.3 | 1.56 | 2.5 | 1.88 | 3.63 | -1.07 | 0.21 | 0.39 |



Constraint: positive deposit rates

- Preference to keep deposit rates above inflation to maintain depositors' income because interest earnings are a significant source of income in some economies
- In Thailand, the government instructed state-owned banks not to cut rates
- In deflationary economies, deposit rates are still above zero



Constraint: health and profits of banks

- Lower interest rates can squeeze banks' margins and hence profits
 - Unremunerated deposits that pay no interest
 - Deposit rates tend to be sticky downwards
 - China's interest rate cut in Feb.
- Interest rate cuts by central banks may not pass on fully owing to concerns about banks' health or bank behaviour e.g Hong Kong banks did not match the Fed's cut in Nov. and Dec. last year
- Thus lower rates may not stimulate lending



Pulling out all the stops

- How aggressively to lower rates in the region of zero inflation? Is gradualism desirable?
- A Taylor-type rule suggests symmetric interest rate response to inflation
- But there is a risk of losing the interest rate as an instrument once it get close to zero, e.g. Japan



Japan's quantitative easing

- Since March 2001
- Target banks' outstanding balances of C/A deposits: 10-15 tn by Dec 2001
- Increased the targeted monthly purchase of LT bonds: 1 tn yen in Feb 2002
- Hope to stimulate the economy and stop deflation by raising asset prices (equity, property and bond) and weakening the yen
- But only the yen has weakened somewhat



The role of the exchange rate

- A weaker currency can help deflation by stimulating export, raising import prices, and increasing the value of overseas financial assets
- Japan's NEER has depreciated near 10% since Mar 01, but deflation has not improved
- Would more depreciation have helped? What are the impacts on Japan and the rest of Asia?



The role of the exchange rate

- Pressure on the Chinese RMB
- Pressure on Hong Kong's peg
- Could weaker currencies in Singapore and Taiwan help?
- Singapore's monetary policy does not face the zero nominal rate constraint as NEER is the policy instrument