

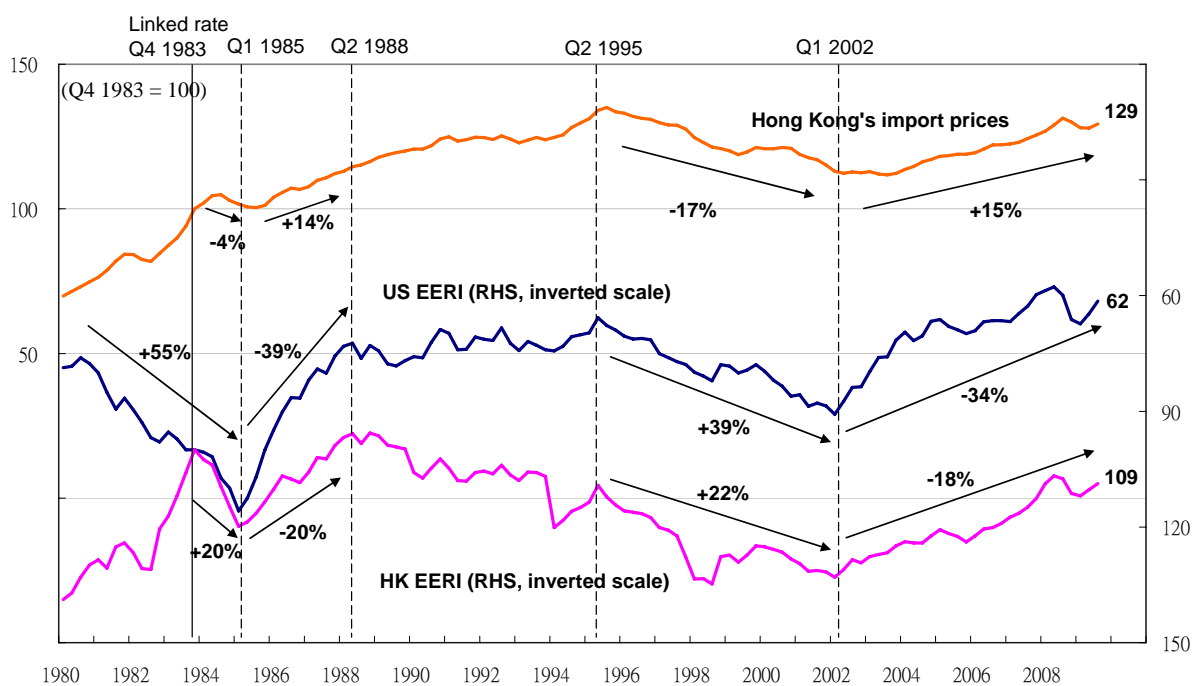
## Box 7.1

## Relationships between exchange rate and import price movements

The outlook for the US dollar is currently subject to considerable uncertainty. There is a concern about whether imported inflation in Hong Kong will go up in the event of a notable weakening of the US dollar. By reviewing the past experience, this article tries to gauge the extent to which Hong Kong's import prices are influenced by exchange rate movements. It also gives a brief comparison with the experiences of other Asian economies.

*Chart 1* shows the movements of the US dollar and Hong Kong dollar in terms of their nominal effective exchange rate index in inverted scale, juxtaposed against those of Hong Kong's import prices. The inverted scale is to reflect the inverse relationship between exchange rate and import price movements.

**Chart 1: The US dollar has gone through several major ups and downs, and so have the HK dollar and import prices\***



(\*) The chart shows the quarterly movements of the US trade-weighted major currencies effective exchange rate index (EERI) and the import-weighted HK EERI, and the corresponding peak-to-trough or trough-to-peak percentage changes.

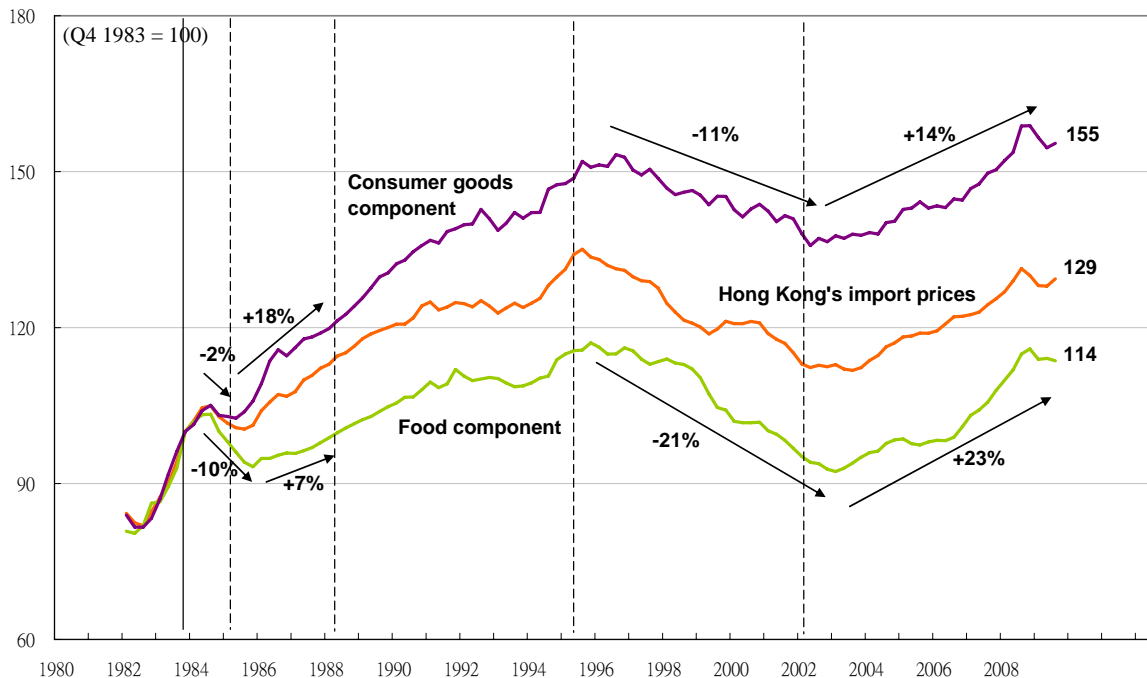
The US dollar went through several rounds of major ups and downs over the past decades. It appreciated sharply by 55% from 1980 to 1985, driven by the success of a tight monetary policy to rein in inflation and by the higher real interest rate resulting from an expansionary fiscal policy. The strong dollar, however, hurt exports and worsened the trade balance. In September 1985, the US reached the Plaza Agreement with France, the then West Germany, Japan and the UK (the then Group of Five) to manage the depreciation of the US dollar against the Japanese yen and the deutschemark. As a result, the US dollar depreciated by 39% from 1985 to 1988, which helped to reduce the current account deficit. The dollar experienced a lingering period of modest depreciation from 1988 to 1995 on the back of a

**Box 7.1 (Cont'd)**

strong deutschemark and a strong yen, and rose by a further 39% on a robust economic outlook and strong dollar rhetoric from 1995 to 2002. Then sentiment switched, and thereafter the dollar was on a downtrend, falling by a cumulative 34% between 2002 and mid-2008 amid mounting concerns over its deteriorating trade deficit. The Hong Kong dollar has generally moved in tandem with but to a smaller extent than the US dollar. There was some divergence in movements during the period 1988-1995, mainly due to difference in trade compositions and divergent movements of the currencies of major trading partners. At that time, China took up roughly 30% of the Hong Kong effective exchange rate index and the renminbi had been depreciating gradually until the unification of renminbi exchange rates in 1994.

From the chart, it can be seen that the movements of Hong Kong's import prices correspond roughly to the movements of the US dollar and Hong Kong dollar against their major trading partners. As higher import prices may pass through to consumer prices as imported inflation, a further look is taken at the components of import prices by end-use categories that are more relevant to final consumption. *Chart 2* shows that the consumer goods and food components of import prices have tended to broadly follow the overall import price movements.

**Chart 2: Consumption related components of import prices have tended to follow the overall import price movement\***



(\*) Based on quarterly data.

**Box 7.1 (Cont'd)**

The results of Granger causality tests likewise suggest that exchange rate movements are one of the relevant factors influencing Hong Kong's import prices<sup>(1)</sup>. Further analysis confirms Granger causality from exchange rate movements to the import prices of consumer goods, but little evidence of causality from exchange rates to import prices of food<sup>(2)</sup>. The latter is due to the fact that food prices are also significantly affected by global supply and demand conditions apart from exchange rate factors. For example, the surge in food prices in 2007-2008 was more of a worldwide phenomenon triggered by low levels of world cereal stocks, crop failures in major exporting countries, and rapidly growing demand for agricultural commodities for biofuels, according to the UN's Food and Agriculture Organization (FAO).

Looking at data since the inception of the linked exchange rate system in 1983, there is however little evidence to suggest that Hong Kong's import prices have exhibited greater volatility or larger increases than those of many other Asian economies, or global inflation for that matter (*Table 1*). Indeed, Hong Kong's import prices have been rising generally in tandem with world commodity prices, and actually are less volatile than the import prices of other Asian economies adopting flexible exchange rate regime. In fact, the linked exchange rate system may have shielded Hong Kong's import prices from the sharp volatilities experienced by Thailand and Korea in their import prices during 1997-98, when the Asian financial crisis struck.

**Table 1: Hong Kong import price has been more stable and contained than other Asian economies and global inflation**

**Between 1983 Q4 and 2009 Q3 (26 years)**

|                                  | <u>Cumulative change</u><br>(%) | <u>Average annualised change</u><br>(%) | <u>Standard deviation<sup>#</sup></u><br>(%) |
|----------------------------------|---------------------------------|---|--|
| Global inflation                 |                                 |   |  |
| World Bank's estimate            | 232.4                           | 5.6                                     | 5.5  |
| IMF's estimate                   | 1430.7                          | 11.2                                    | 7.8  |
| <b>Hong Kong's import prices</b> | <b>29.4</b>                     | <b>1.0</b>                              | <b>4.1</b>                                   |
| Compared with import prices of:  |                                 |   |  |
| Korea                            | 85.0                            | 2.4                                     | 12.9   |
| Singapore                        | -15.4                           | -0.6                                    | 4.9  |
| Thailand                         | 175.5                           | 4.0                                     | 12.2   |
| Taiwan                           | 10.4                            | 0.4                                     | 7.5  |
| World commodity prices           | 39.3                            | 1.3                                     | 11.1   |

(#) Standard deviation of the year-on-year % change.

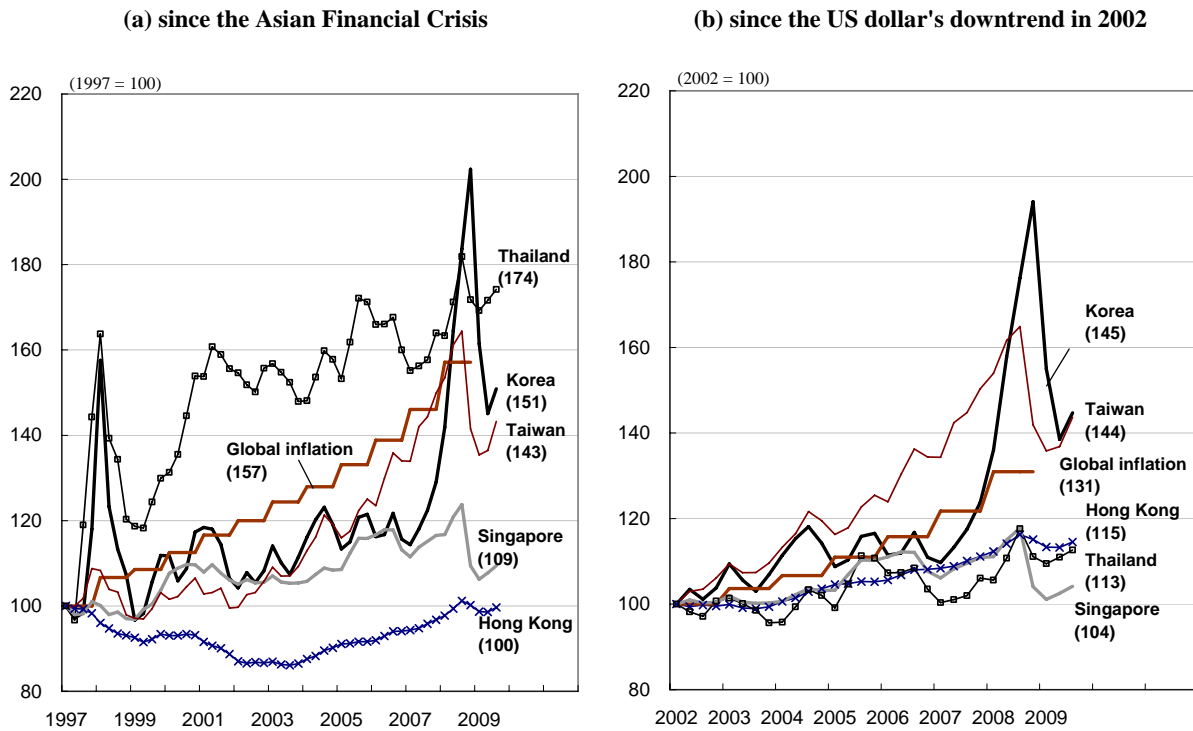
(1) Granger causality tests were run using quarterly data from Q1 1983 to Q3 2009 and four lag periods were included. The results suggest significant Granger causality relationships of US and Hong Kong dollar exchange rates on Hong Kong's import prices, at the 5% and 1% levels respectively.

(2) Granger causality tests were run using quarterly data from Q1 1983 to Q3 2009 and four lag periods. The results suggest significant Granger causality relationships of the US and Hong Kong dollar exchange rates on Hong Kong's import prices of consumer goods, both at the 1% level, but not on import prices of food.

**Box 7.1 (Cont'd)**

Looking at different time periods to discern the US dollar's influence on Hong Kong's import prices more closely, it is found that in the past 13 years after the Asian Financial Crisis, during which most Asian currencies became de-linked with the US dollar, Hong Kong's import prices had barely moved compared with the 1997 level whereas other Asian economies had seen their import prices fluctuate wildly and increase at a rapid pace (*Chart 3a*).

**Chart 3: Hong Kong's import prices are less volatile and increase more slowly than many other Asian economies\***



(\*) Import prices are based on quarterly data; global inflation on annual data from the World Bank.

Even in more recent years after 2002, when the US dollar turned and embarked on a persistent downtrend, and along with this the Hong Kong dollar correspondingly declined, the increase in Hong Kong's import prices had been slower than those of many other Asian economies, and also global inflation (*Chart 3b*). This suggests that while exchange rate is a prominent factor affecting import prices, other factors such as world commodity prices and the compositions of imports have also been in play. In particular, the Mainland has been instrumental in keeping import prices down, thanks to our increasing trade ties with the hinterland.