

Implications of a renminbi appreciation for inflation in Hong Kong

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There is growing interest in the impact on inflation in Hong Kong, if and when, the renminbi resumes its appreciation against the US dollar. Recent research by the HKMA suggests that the effects of an actual or expected appreciation of the renminbi on Hong Kong's inflation through changes in import prices and aggregate demand are likely to be modest, but the effects through changes in liquidity conditions and asset prices could be more significant.

Introduction

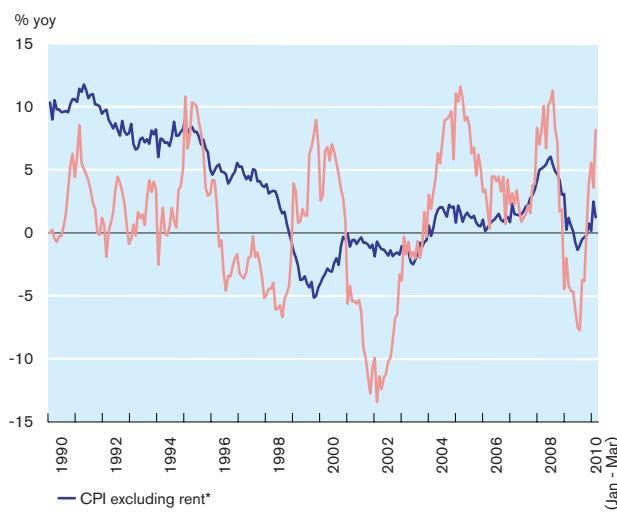
The Mainland authorities have kept the renminbi exchange rate largely stable against the US dollar since mid-2008. As the global economy recovers from the financial crisis and exports in Asia rebounded, there has been increasing interest in the question of whether the renminbi exchange rate will appreciate against the US dollar in the not-too-distant future. The answer will have an important bearing on the monetary and financial stability of Hong Kong.

Theoretically, an appreciation of the renminbi can affect Hong Kong's consumer price inflation directly through its effects on import prices and indirectly through its impacts on aggregate demand and monetary conditions. In this article, we analyse the effects of a renminbi appreciation on Hong Kong's consumer price inflation from three channels: changes in import prices, aggregate demand, and liquidity conditions and asset prices.

Imported inflation

The most direct channel through which an appreciation of the renminbi can affect Hong Kong's consumer price inflation is through changes in the prices of imported goods from the Mainland. Hong Kong is a service-based, small open economy. Most of its necessities are imported from other economies. Therefore, it seems logical that import prices are one of the key determinants of inflation in Hong Kong. However, the HKMA studies suggest that the imported inflation from the Mainland is not as much as may be perceived. Instead, domestic factors appear to be a more important determinant of Hong Kong's inflation.¹ During the past two decades, there has been no high correlation between Hong Kong's consumer price inflation and import price inflation, except for the year 2008 in which high inflation was in large part driven by a global commodity price surge (Chart 1). On the other hand, consumer price inflation has been closely correlated with housing price inflation since the late 1990s, though with some lags (Chart 2). This suggests domestic factors probably play a more important role than external factors in determining inflation in Hong Kong.

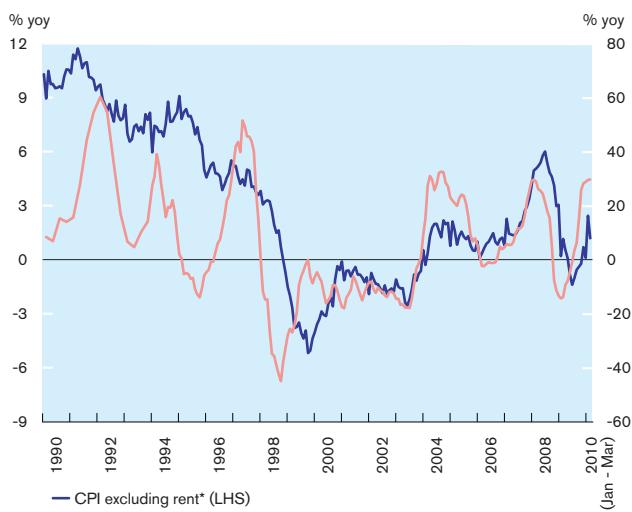
¹ Leung and Chow (2007) estimate that a 10% appreciation of the renminbi would increase Hong Kong's inflation rate at most by 0.4 percentage points. Liu and Tsang (2008) estimate that the coefficient of import prices pass-through to inflation is around 0.3 while that of the unit labour cost is almost double, suggesting that domestic factors appear to dominate Hong Kong's inflation dynamics.

CHART 1**Consumer price and import price inflation**

* The rental component is excluded because it includes both new and existing lettings and tends to lag behind market rents, owing to fixed-term rental contracts.

Sources: Census and Statistics Department (C&SD), Rating and Valuation Department (R&VD) and HKMA staff estimates.

The direct impact of an appreciation of the renminbi on Hong Kong's inflation hinges on the share of Mainland goods in Hong Kong's consumption basket and the degree of pass-through from import prices to consumer prices. The former depends on how much of Hong Kong's retained imports are from the Mainland. Based on figures published by the

CHART 2**Consumer price and home price inflation**

* The rental component is excluded because it includes both new and existing lettings and tends to lag behind market rents, owing to fixed-term rental contracts.

Sources: C&SD, R&VD and HKMA staff estimates.

Census and Statistics Department (C&SD), retained imports originating from the Mainland were estimated to be 11.9% of Hong Kong's total retained imports in 2008. This share appears to be small compared with other trading partners such as the euro area and Japan, and is only slightly higher than that of Singapore and South Korea (Table 1).

TABLE 1
Retained imports from major trading partners in 2008

| | Imports by origin ^(a) (HK\$ bn) | Re-exports by origin (HK\$ bn) | Re-export margin ^(b) (%) | Retained imports ^(c) (HK\$ bn) | Share in total retail imports ^(d) (%) |
|-----------------------|--|--------------------------------|-------------------------------------|---|--|
| Euro area | 356 | 205 | 9.0 | 170 | 22.1 |
| Japan | 306 | 218 | 9.0 | 108 | 14.0 |
| Mainland China | 1,413 | 1,708 | 22.6 | 92 | 11.9 |
| Singapore | 105 | 29 | 9.0 | 79 | 10.2 |
| South Korea | 148 | 87 | 9.0 | 69 | 9.0 |
| US | 136 | 93 | 9.0 | 52 | 6.7 |
| Taiwan | 205 | 178 | 9.0 | 43 | 5.6 |
| Malaysia | 82 | 56 | 9.0 | 31 | 4.0 |
| India | 67 | 43 | 9.0 | 27 | 3.5 |
| Thailand | 66 | 47 | 9.0 | 23 | 3.0 |
| Others | 139 | 69 | 9.0 | 76 | 9.9 |
| Total | 3,025 | 2,733 | 17.5 | 770 | 100 |

Notes:

(a) Figures do not add up to total because of rounding.

(b) The average rate of re-export margin for non-China trading partners is 9.0% for 2008 according to a survey by the C&SD.

(c) Retained imports are derived using the formula: Imports – Re-exports x (1 – Rate of re-export margin).

(d) Figures do not add up to 100% because of rounding.

Sources: C&SD, Trade Development Council, and HKMA staff estimates.

However, an earlier HKMA study indicates that the official estimates of the share of Mainland-sourced goods in retained imports are likely to be underestimated, because of an underestimation in the rate of the re-export margin.² This, according to a survey conducted by the C&SD, has been around 23% in recent years. Updating the estimation in the study using data for 2008 yields retained import share estimates ranging from 13% to 18%, based on different assumptions about the rate of the re-export margin. Thus, as a source of retained imports for Hong Kong, the Mainland is probably larger than Japan, but still significantly smaller than the euro area. These estimates suggest a 10% appreciation of the renminbi against the Hong Kong dollar raises Hong Kong's consumer price inflation by 0.4 - 0.6 percentage points, assuming a complete exchange rate pass-through to consumer prices.³

Hong Kong can also reduce the extent of imported inflation by shifting some of the imports from the Mainland to other economies. Nonetheless, Mainland suppliers may have a greater market power for most perishable goods such as fresh and raw foods. However, as fresh meats, vegetables and seafood together account for only around 4% of Hong Kong's consumer price index (CPI) basket, the impact of an appreciation of the renminbi on overall inflation through price increases in these items should be limited. Despite this, increases in basic food prices will have a bigger impact on lower-income households, as foodstuffs account for a larger proportion of their household expenditure.

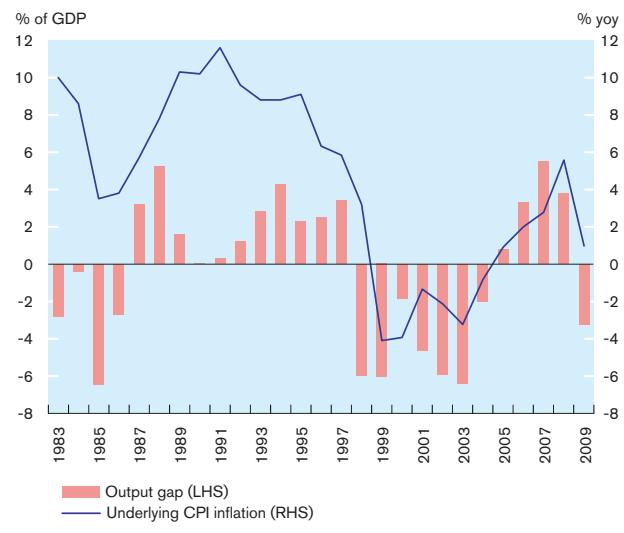
Aggregate demand

A stronger renminbi can influence Hong Kong's inflation indirectly through its effect on Hong Kong's aggregate demand. Should this lead to a widening of the output gap, upward pressure on Hong Kong's price level would increase, and vice versa (Chart 3).

Our analysis suggests that the net effect of an appreciation of the renminbi on Hong Kong's aggregate demand and thus inflation is likely to be mildly negative, as the positive income and wealth effects are expected to be more than offset by the negative impact through the trade channels.

CHART 3

Hong Kong's output gap and consumer price inflation



Sources: C&SD and HKMA staff estimates.

Trade channels

Because of Hong Kong's role as an entrepôt for the Mainland, its export earnings depend on the trade flows between the Mainland and other economies passing through Hong Kong. In particular, around 55% of Hong Kong's cross-border goods and services trade is related to the Mainland. While a stronger renminbi might have a negative impact on the Mainland's net exports, its effect on Hong Kong's export earnings is ambiguous because they are affected by gross trade flows, which may increase even though Mainland's net exports decline.⁴ However, analysis of different types of Mainland-related

² See Leung and Chow (2007).

³ Tradable goods account for roughly 30% of the Composite CPI basket. The effect of a 10% appreciation of the renminbi on Composite CPI inflation is calculated as follows: $10\% \times 13\% \times 30\% \text{ or } 10\% \times 18\% \times 30\%$

⁴ An earlier empirical study by the HKMA shows that an appreciation of the renminbi can reduce the Mainland's exports due to an expenditure-switching effect, resulting in a deterioration in the trade balance and thus a contraction in aggregate demand (Shu and Yip, 2006).

trade flows suggests that the net effect on aggregate demand, and thus inflation, is likely to be negative.

Merchandise exports and trade-related services

The rest of the world's demand for Hong Kong's re-exports from Mainland China is likely to be adversely affected, owing to the reduced competitiveness of Mainland exports. On the other hand, the Mainland's demand for re-exports through Hong Kong from the rest of the world and Hong Kong's domestic exports are likely to benefit from increased purchasing power of Mainland importers. The net effect depends on the relative size of the trade flows, the degree of pass-through from exchange rate changes to Mainland export prices, and the price elasticities of the Mainland's exports and imports.

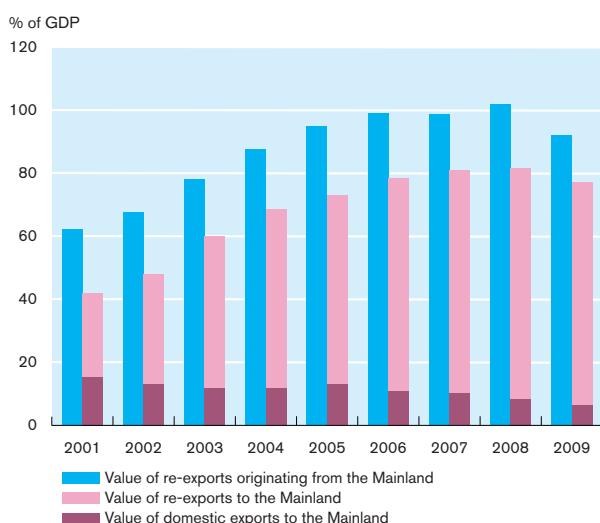
Chart 4 shows that re-exports of Mainland origin have been larger than the sum of re-exports and domestic exports to the Mainland. More importantly, only re-export margins are contributing to the GDP but not gross re-exports. Over the past few years,

margins generated from re-exports originating from the Mainland have been about 2.5 times the sum of margins from re-exports and the value of domestic exports to the Mainland (Chart 5). This is mainly because the margin rates for Mainland-origin re-exports have been around 23%, much higher than the average margin of 9% for re-exports from other places. Thus, if margin rates are unchanged, the rate of increase in exports to the Mainland must be at least 2.5 times the rate of decline in re-exports originating from the Mainland in order to increase overall export earnings.

This suggests that the net effect of an appreciation of the renminbi on Hong Kong's Mainland-related merchandise exports earnings is likely to be negative. In addition, Hong Kong's trade-related services provided to trading and manufacturing firms on the Mainland might also fall (relative to the benchmark scenario assuming no change in the renminbi exchange rate) as the result of a reduced demand for Mainland goods. However, the effect should be mild as these amounts account for just 3.5% of GDP in 2008.

CHART 4

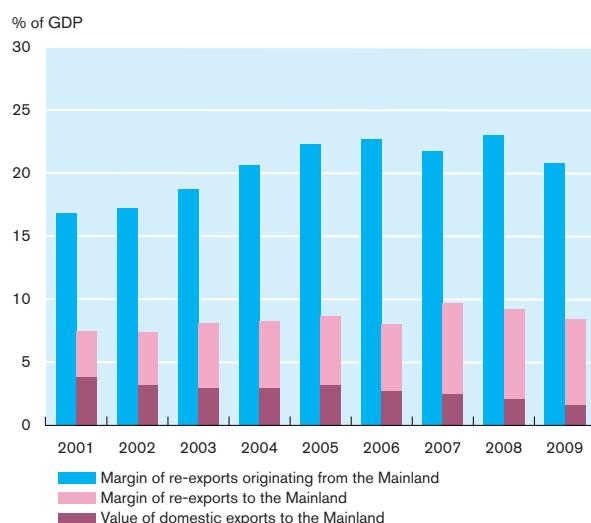
Hong Kong's merchandise trade with the Mainland



Sources: C&SD and HKMA staff estimates.

CHART 5

Hong Kong's export earnings from merchandise trade with the Mainland



Sources: C&SD and HKMA staff estimates.

Exports of tourism and financial services

The demand from Mainland visitors for Hong Kong's tourism-related services may increase as a stronger renminbi will boost their purchasing power. In contrast, Hong Kong residents' spending on the Mainland may decline, leading to an improvement in the net exports of travel services. However, exports and imports of Mainland-related travel services only accounted for 4.9% and 2.7% of GDP in 2008, implying that the effect of an appreciation of the renminbi on Hong Kong's aggregate demand through tourism trade is likely to be small.

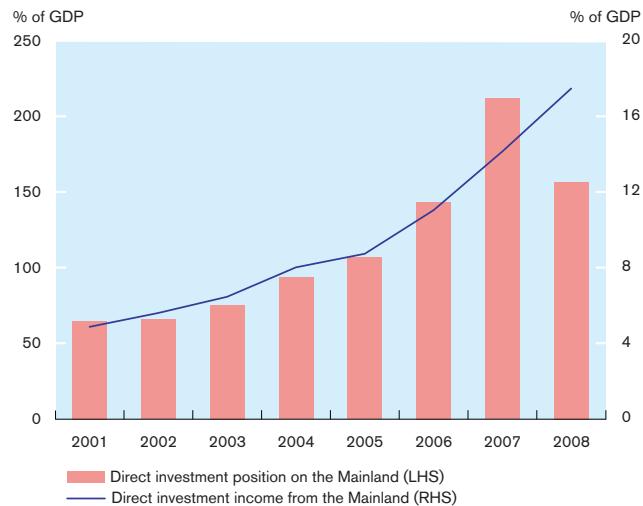
Exports of financial services to the Mainland may benefit by a stronger renminbi due to the improved price competitiveness of Hong Kong's service providers. A decline in listing and brokerage fees and charges for other financial services priced in renminbi terms, coupled with a rally in Hong Kong's equity market (see below), might attract more Mainland firms to list and raise funds through Hong Kong's capital markets. This may also result in an increase in demand for other related business services such as banking and legal services. Nevertheless, exports of financial and other business services to the Mainland accounted for less than 1% of GDP in 2008, implying that the positive impact on Hong Kong's aggregate demand is likely to be small.

Income and wealth effects

As Mainland China is a major investment destination and important source of investment income for Hong Kong, external factor income flows will benefit from the currency revaluation effect, although investment income in renminbi terms could decline if output growth on the Mainland is negatively affected by a stronger currency. The market value of investment holdings will also benefit from the currency revaluation, and this could have a positive impact on Hong Kong's aggregate demand, and thus inflation, through the wealth effect. Indeed, Hong Kong's foreign direct investment (FDI) on the Mainland amounted to HK\$2,625 billion (or 157% of GDP) and the investment income generated from the FDI reached HK\$293 billion (or 17.5% of GDP) in 2008 (Chart 6).

CHART 6

Hong Kong's direct investment on the Mainland



Sources: CEIC, C&SD and HKMA staff estimates.

The valuation of other assets held by Hong Kong residents, including H shares, red chips, renminbi deposits and property holdings, may also be boosted by a stronger renminbi. The resulting positive wealth effect can help boost domestic demand, exerting inflationary pressure on consumer prices in Hong Kong. However, the wealth effect has not been found to be very large in previous HKMA studies (for example, Liu and others, 2007), and its significance to aggregate demand is likely to be of secondary importance to that of the trade channels.

Liquidity conditions and asset prices

A substantial appreciation of the renminbi would support asset prices in Hong Kong. The positive outlook for asset prices and expectations of further appreciation of the renminbi might attract capital flows into Hong Kong. Even without an actual move in the renminbi exchange rate, expectations that a large appreciation would eventually occur may suffice to pull capital into Hong Kong. Under the Currency Board System, an increase in liquidity would suppress Hong Kong-dollar interest rates. If money supply exceeds the desired money demand, inflationary pressure will rise. Lower interest rates will also provide incentives for increased borrowing and boost asset prices.

Hong Kong's equity and property markets might benefit from increased potential buyers on the Mainland. In particular, decline in asset prices in Hong Kong relative to those on the Mainland would increase the attractiveness of the former. Charts 7 and 8 show that movements in equity and property prices appear to be negatively correlated with that of the Hong Kong-dollar nominal effective exchange rate (NEER), possibly because a depreciation of the Hong Kong dollar makes asset prices in foreign currency terms more attractive to overseas investors.

Traditionally, in Hong Kong's property market, the transmission from residential property price increases to market rentals has been fast, and consumer price inflation has been closely correlated with residential price inflation since late 1990s, but with a time lag (Chart 2). This reflects the fact that housing, accounting for almost 30% of the CPI basket, is the largest component. Given the importance of residential property prices in driving the overall level of inflation, asset prices can become a dominant channel through which an appreciation of the renminbi, or the expectation of such an appreciation, can affect the inflation outlook in Hong Kong.

Concluding remarks

A renminbi appreciation can influence Hong Kong's consumer price inflation directly by putting an upward pressure on import prices and indirectly by affecting aggregate demand, liquidity conditions, and asset prices. Even if the spot rate does not change much in practice, expectations that it will appreciate significantly alone may lead to increased capital flows which in turn affect monetary conditions in Hong Kong. In reviewing the significance of various channels, our analysis suggests that the net effect due to changes in import prices and aggregate demand is likely to be modest, but the impact through asset price inflation as a result of increased liquidity could be more significant.

CHART 7

Movements of the Hong Kong-dollar NEER against those of equity prices



Sources: CEIC and HKMA staff estimates.

CHART 8

Movements of the Hong Kong-dollar NEER against those of property prices



Sources: CEIC and HKMA staff estimates.

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