

Inflation mechanism and monetary policy: perspectives from Hong Kong

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Abstract

Hong Kong's inflation is heavily influenced by the development in the property market, as property prices can affect the CPI through the CPI rental component, rental cost effect on service fees and charges, and the wealth effect on aggregate demand. Therefore, the deployment of countercyclical and other prudential measures by Hong Kong SAR's policymakers not only enhances the banking sector's resilience to property market shocks, but also helps to mitigate big swings in consumer prices resulting from property market booms and busts.

Keywords: Inflation, monetary policy, property market

JEL classification: E31, E50, R30

1. Inflation dynamics in Hong Kong SAR

Hong Kong's inflation dynamics are quite different from those of its Asian peers. Unlike in many other Asian economies, where the tradables make the largest contribution to inflation, Hong Kong's inflation is largely influenced by non-tradables, with the food component accounting for only a small share. In particular, inflation in Hong Kong SAR is heavily influenced by changes in the rental component, which in turn is affected by the boom-bust cycle in property prices. At the same time, higher property prices also drive up the rents of commercial premises, exerting upward pressure on service fees and charges. The positive wealth effect stemming from the property market up-cycle may also increase domestic price pressure through the consumption channel. All these point to the significant role of property prices in driving Hong Kong's inflation cycle.

In Hong Kong, the most commonly used indicator of headline inflation is the government-compiled Composite Consumer Price Index (CCPI). But to ease the domestic price pressures faced by different income groups, the government from time to time rolls out one-off relief measures (eg waivers of public housing rent, rate concessions and electricity charge subsidies) to mitigate the impact of inflation on citizens' well-being, particularly for the underprivileged.¹ As these relief measures understate the actual price movements in the rental and other components in the CPI basket, the government has also published the underlying inflation rate with these one-off effects removed, which is more useful for gauging domestic price pressure (Graph 1). But unlike in some other economies, there is no officially defined "core" inflation in Hong Kong.²

Non-tradables account for the bulk of the CPI basket, reflecting the service-oriented nature of the Hong Kong economy. The service component accounts for 76% of the consumption basket, with the housing rent component amounting to about one third of the CPI basket. Tradables such as primary food, beverage and consumer durables contribute to the remaining portion of the CPI basket, with primary food taking up about 10% of the basket (Table 1). This is quite different from other Asian peers, where CPI inflation is more sensitive to changes in the prices of basic food and agricultural products, given that food is a major household consumption item.

The heavy weighting of the rental component suggests that large swings in property prices could have a significant effect on Hong Kong's CPI inflation. Past developments show that movements in housing rent explain almost half of the fluctuation in headline CPI inflation over most of the past decade (Graph 2). In particular, the marked decline in the rental component played an important role in the 1999–2004 deflation episode, when house prices dropped by close to 70% from peak to trough in the aftermath of the Asian financial crisis. The strong influence of the rental component on CPI inflation in part reflected the relatively large movement

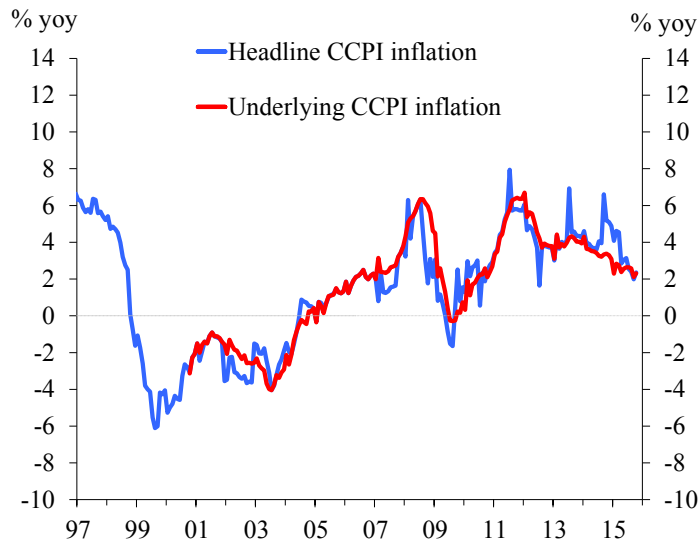
¹ These one-off relief measures aim to ease the burden of inflation on people's livelihoods. As the relief measures reduce the final costs people pay for various goods and services, they lower the CCPI in the months of implementation, thereby causing swings in CPI inflation.

² That said, see F Leung, K Chow and S Chan, "Measures of Trend Inflation in Hong Kong", *HKMA Working Papers*, no 07/2009, April 2009, who found that the "trend" inflation estimated by the exclusion method (by excluding basic food, energy and other volatile items) and the principal component technique had strong predictive power on future changes in the headline CCPI inflation.

in housing rent in line with the up and down cycle of property prices. Meanwhile, as higher property prices also tend to drive up the commercial rents that constitute a significant part in the operating expenses of service providers, any significant change in rents of commercial premises will prompt business owners to pass this increment through to their service fees and charges. This also helps explain the stronger co-movement between the components of rentals and other services in the CPI basket.

Headline and underlying inflation in Hong Kong

Graph 1



Note: Underlying inflation data only start from around year 2000.

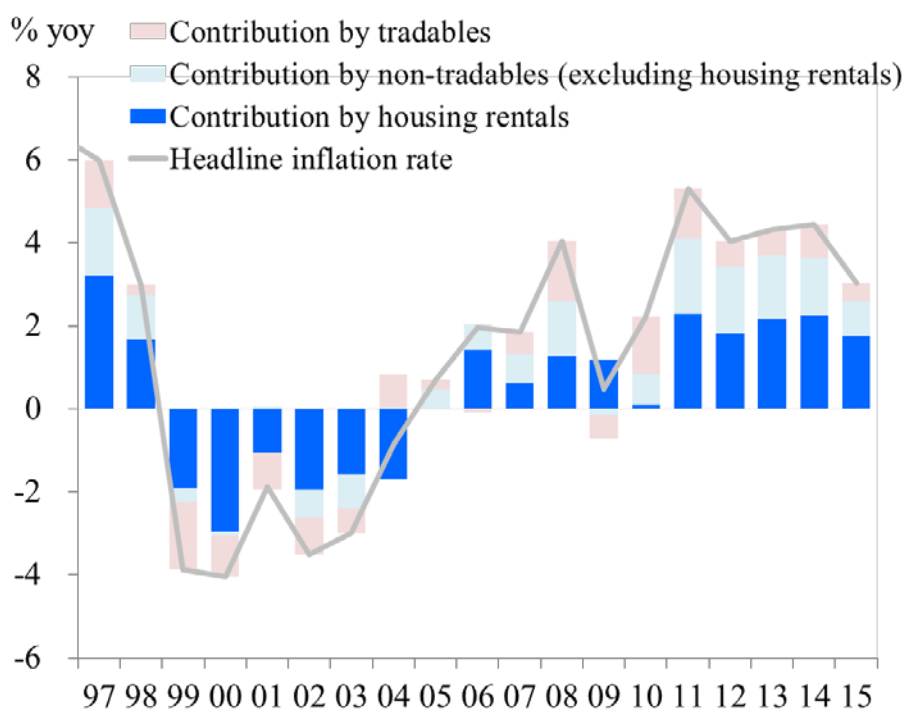
Source: Census and Statistics Department (C&SD).

Expenditure weights of consumer goods and services used in the CCPI

Table 1

Year 2009–10	%	%	%
1. Services			76.14
Housing			31.66
Rent, including rates and government rent		29.19	
Housing: private housing rent	27.14		
Housing: public housing rent	2.05		
Food: meals bought away from home			17.07
Transport			8.44
Motor fuel		0.59	
Electricity, gas and water			3.10
Liquefied petroleum gas and other fuel		0.18	
Miscellaneous services			15.87
2. Goods			23.86
Food: basic food that excludes meals bought away from home			10.38
Durable goods			5.27
Clothing and footwear			3.45
Alcoholic drinks and tobacco			0.59
Miscellaneous goods			4.17
3. Goods and services			100.00

Source: C&SD.

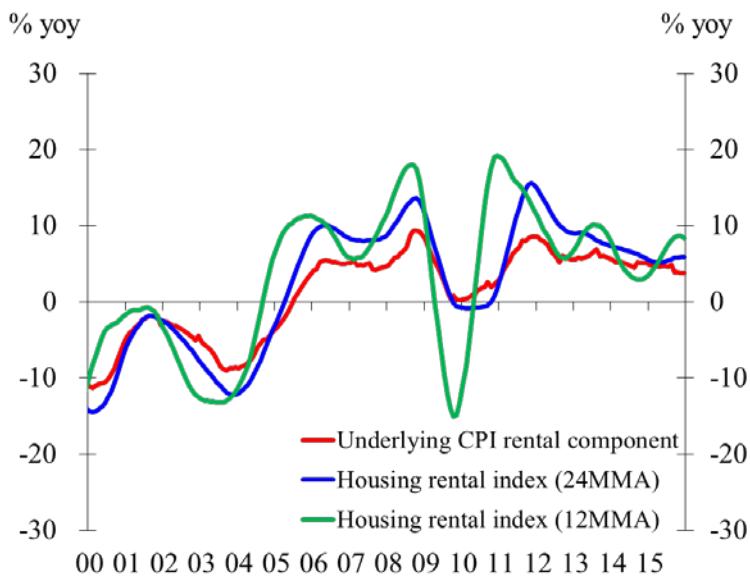


Source: C&SD and HKMA staff calculation.

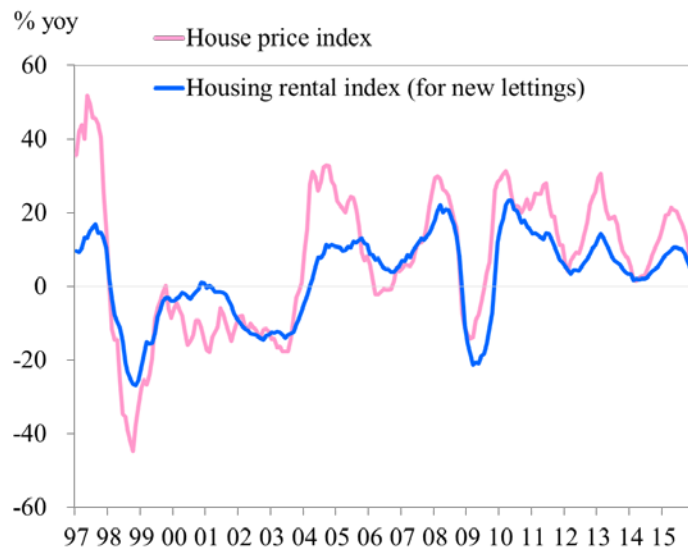
Understanding the dynamics between the housing rental component and market rentals, between housing rents and prices, as well as between the rental and non-rental component of the CPI basket is therefore important for gauging and assessing consumer price trends in Hong Kong.

Technically, **there is a significant time lag before a change in housing prices feeds through to housing rents**, as the tenancy of private dwellings usually lasts for one to two years depending on contractual agreements. Reflecting these factors, changes in house prices only gradually pass into CPI inflation through the rental component, with a degree of pass-through that is rather less than one-to-one. Past experience suggests that the housing rental component of the CPI very closely tracks the 12-month and 24-month moving average of market rentals (Graph 3). Given the important role that the rental component plays in Hong Kong's overall CPI inflation, one can therefore get a good sense of where inflation is heading by tracking movements in market rentals.

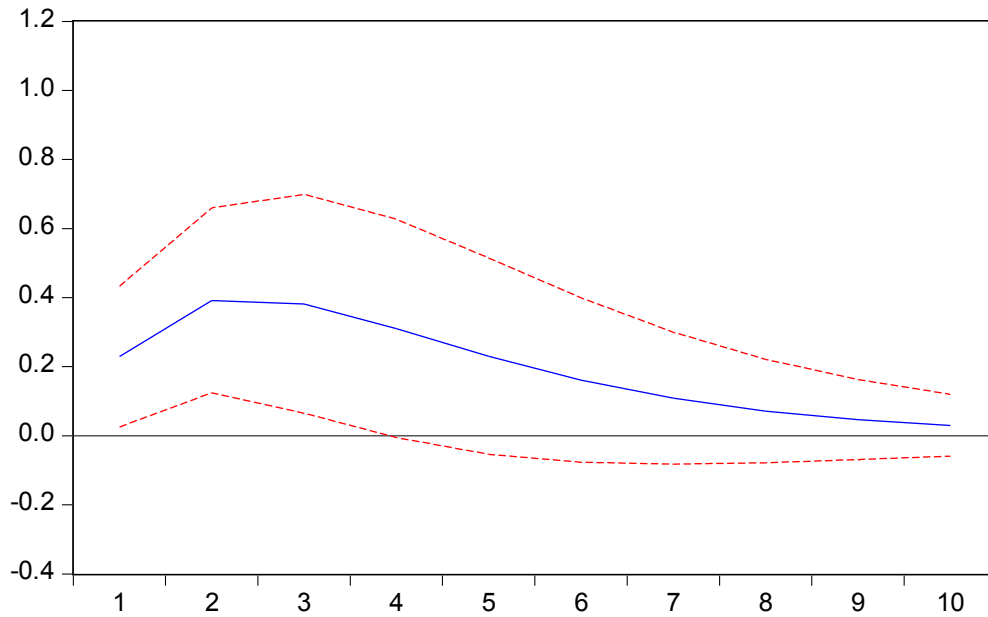
Historically, **there has been a strong co-movement between housing rents and house prices**, but the former tends to be less volatile than the latter (Graph 4). This is because housing rent is largely determined by end user demand, while the price of a residential property could be affected by both end user and investment demand, with the latter driven by a host of factors such as interest rates and price expectations.



Sources: C&SD; Rating and Valuation Department (R&VD); HKMA staff calculations.



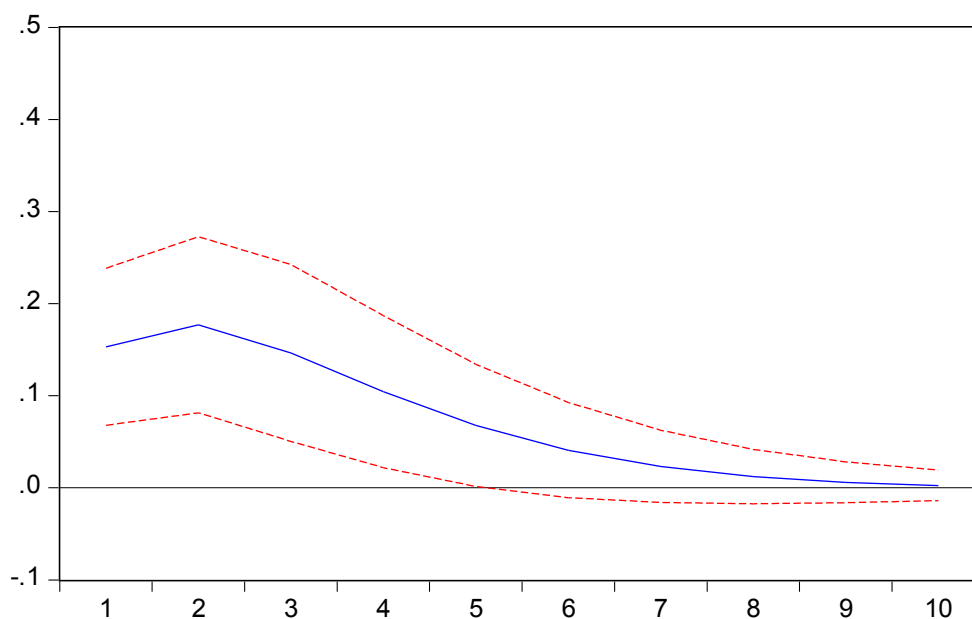
Source: R&VD.



Sources: C&SD; HKMA staff calculations.

House prices can also affect CPI inflation through a number of indirect channels such as their impact on the wealth effect and prices of property-related services and items. In a simple vector auto-regression (VAR) model with CPI non-rental component inflation, the output gap and house price inflation as endogenous variables, and retained import price inflation as exogenous variables, a positive shock to house price inflation is estimated to increase both the output gap and CPI non-rental component inflation (Graphs 5 and 6), reflecting house prices' wealth effect on aggregate demand as well as the rental cost pressure on service fees and charges.³

³ The VAR model is estimated with quarterly data from Q2 2000 to Q3 2015, and one lag of each variable is included in the VAR, based on lag length selection criteria. The output gap is expressed as a percentage difference from the potential GDP, while house prices and the CPI non-rental component are expressed in log-difference. For details of the estimation of Hong Kong's output gap, please refer to M Cheng, L Chung and I Yu (2011), "On the Estimation of the Output Gap of Hong Kong", *HKMA Occasional Paper*, no 03/2011, 28 October 2011. The impulse responses are estimated using the generalised impulse response technique, which is robust to the ordering of variables in the VAR.



Sources: C&SD; R&VD; HKMA staff calculations..

2. Interlinkages between financial stability and price stability and implications for monetary policy

Owing to the strong influence of property prices on domestic inflation, large swings in house prices will not only have significant implications for financial stability, but will also undermine price stability. For example, during the up-cycle in the property market, overheating pressures will increase the banking sector's vulnerability to property price shocks, while the positive wealth effect and buoyant real estate sector will strongly boost domestic demand, thus exerting upward pressure on overall consumer prices. During the down-cycle in the property market, the decline in house prices and rising defaults by mortgage borrowers could result in a tightening of lending that will weigh on business activities. This, together with the negative wealth effect associated with the correction in house prices, will weaken domestic demand and exert downward pressure on inflation. This suggests that the property price cycle can significantly amplify the boom-bust tendency of other economic activities, in turn leading to increased volatility in consumer prices.

Given the heavy weighting of the rental component in the CPI basket and the significant role of the property price channel in affecting domestic demand, the use of macroprudential measures could be effective both to safeguard financial stability in the face of big swings in property prices and, indirectly, to help mitigate big swings in consumer prices resulting from property market boom and busts. By reducing the leverage of borrowers and building a buffer in the banking sector against property price shocks, the potential fallout from any sharp swings in property prices on economic activity and hence price stability is reduced. This is particularly important in the case of Hong Kong given that there is no

discretionary monetary policy to directly manage price stability under the Linked Exchange Rate System (LERS).⁴

The boom-bust cycle in property prices during the Asian financial crisis has shown that sharp declines in house prices not only affect asset quality in the banking sector, but also put substantial downward pressure on Hong Kong's consumer prices, reflecting the significant influence of the property price channel on domestic demand (see Graph 5). The lesson learnt is that it is important for banks to build up buffers to withstand property market shocks.

In this regard, since 2009, the HKMA has implemented seven rounds of countercyclical measures on the mortgage lending business, by lowering the caps on the loan-to-value (LTV) ratio and the debt servicing ratio (DSR) for mortgage borrowers. The coverage of these measures was also extended from luxury homes to investment properties and later to those where borrowers are repaying their debt with foreign income or have multiple mortgages. A risk-weighted floor of 15% was also applied to all outstanding mortgages. With these countercyclical measures in place, the LTV ratio of new mortgages has trended down to around 50% from 64% in 2009. Meanwhile, the DSR of mortgage applicants has come down to below 35% from 38% in 2010.

Apart from countercyclical measures, the Hong Kong government has also implemented demand management measures to discourage speculative activities and dampen investment demand in the property market. Key policy measures include special stamp duty (SSD) of as much as 20% for properties resold within two years, buyer's stamp duty (BSD) of 15% for residential properties acquired by companies and non-residents, and double stamp duty (DSD) for transactions in all types of properties, except for those residential units purchased by residents who are first-time home buyers. Preliminary findings show that higher transaction taxes in the form of additional stamp duties help restrain house price appreciation.⁵ Over the longer term, the government will increase land supply to redress demand supply imbalances in the housing market.

3. Concluding remarks

In the case of Hong Kong, which is a highly services-oriented economy, dampening swings in house prices not only helps reduce risks to financial stability, but is also important for price stability. Past experience suggests that the bursting of a property price bubble could have dire consequences on price stability, which can be seen from the prolonged deflation in consumer prices period during 1999–2004 in the aftermath of the Asian financial crisis.

⁴ It is useful to note that the LERS is not the root cause of property price bubbles and a flexible exchange rate would not preclude such bubbles. Even economies with well established flexible exchange rate regimes are not immune from the problem of asset bubbles. The United States is a case in point, as evidenced by the housing bubble in 2006.

⁵ For details please refer to "Box 5: The impact of counter-cyclical prudential and demand management measures on Hong Kong's housing market", Hong Kong Monetary Authority, *Half-yearly Monetary and Financial Stability Report*, September 2014.

In Hong Kong, while there is no discretionary monetary policy under the LERS, policymakers can deploy countercyclical and other prudential measures to restrict the leverage of home buyers during the property price upswing, thereby enhancing the resilience of the banking sector to property market shocks. Meanwhile, reduced volatility in house prices would also help maintain price stability, given the heavy weight of the rental component in the CPI basket and the significant role of the property price channel in affecting domestic demand.