

What Caused Hong Kong's Housing Crisis?

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For over a decade, Hong Kong has ranked as the least affordable housing market in the world (Kwan 2021). Between 2004 and 2021, the real price index of residential homes in Hong Kong rose by 239 percent, even though the real wage index grew by only 7.1 percent². Hong Kong's exorbitant rents have contributed to political discontent, led to the proliferation of subdivided houses, and attracted global concern.

Although many observers have proposed explanations, it is not well understood why Hong Kong's housing prices have risen so much. Recent studies find that trends in Hong Kong's housing price index have at best a weak relationship with macroeconomic factors that drive housing demand, such as credit conditions and economic growth (Leung, Ng and Tang 2020b; Taghizadeh-Hesary et al. 2020). Many suggest that a slowdown in housing construction raised housing prices (Leung, Ng and Tang 2020a). However, it is unclear how slower housing creation could have led to an ungodly rise in prices when population, income, and credit grew only moderately.

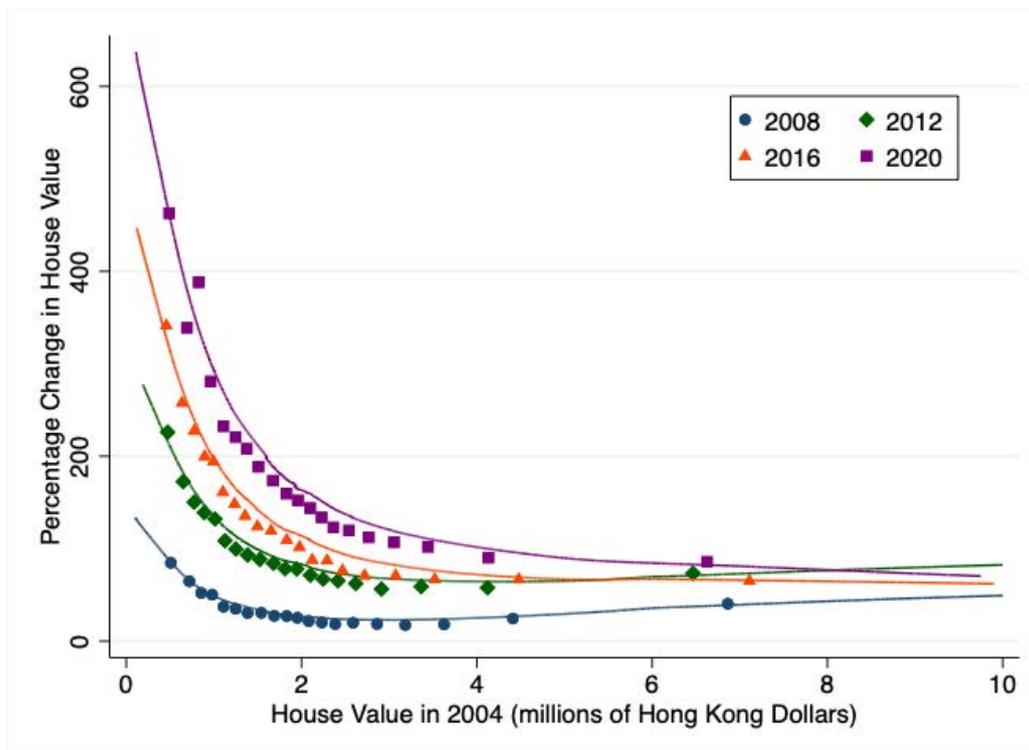
A clue to this puzzle is that the prices of the lowest-value homes in Hong Kong grew many times faster than those of higher-value homes. Figure 1 shows the distribution of changes in housing prices from 2004 until 2020 in four year intervals, using repeated sales data scraped from Midland Realty. Between 2004 and 2020, the average real price of a unit valued at one million Hong Kong dollars in 2004 quadrupled, while that of a unit valued at five million dollars only doubled. To my knowledge, this startling cross-sectional heterogeneity in price changes has not previously been documented.

What explains the sharp and highly uneven ascent in housing prices? This paper presents evidence that Hong Kong's extreme and unusual housing crisis was caused by unresponsive public-sector rents. Unlike many other cities, roughly half of Hong Kong's population reside in government-built units whose occupancy costs do not vary with housing market conditions. About two-thirds of these are rental units whose rents are tied to an income index, capped, and revised biennially; the remainder are subsidized ownership units, almost all of which are subject to strict resale and leasing restrictions.

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² See the Bank for International Settlements and the Hong Kong Census and Statistics Department.

Figure 1: Distribution of Private Housing Price Changes in Hong Kong: 2004-2020



Note: Figure plots the percentage change in real house value against price in 2004 for private-sector properties with transactions in both 2004 and the year indicated above. Each dot represents one of twenty equal-sized bins grouped by their house value in 2004, which are restricted to be between 0.1 and 10 million Hong Kong Dollars. The solid lines are the percentage change predicted by a regression of the change in house value between 2004 and the particular year on the initial value in 2004 with the use of locally weighted scatter plot smoothing (LOWESS) fit.

Unresponsive public-sector rents mean that low-end private housing prices in Hong Kong are extremely sensitive to housing demand and supply conditions. As documented below, new housing construction experienced a slowdown during 2004-2020, while housing demand continued to steadily rise. Since public-sector rent adjustment lagged behind market rent growth, public renters were increasingly discouraged from moving into the private sector. Public housing wait times sharply rose. A large share of the lowest-income households was locked out of public housing and had to compete for a small pool of low-end private-sector homes. Prices for low-end housing consequently skyrocketed.

Explaining the Uneven Rise of Housing Prices

To systematically analyze Hong Kong's housing prices, we first introduce an economic framework that generates cross-sectional heterogeneity in prices. We then examine evidence on the drivers of housing price changes as suggested by the model.

The housing assignment model developed by Landvoigt, Piazzesi and Schneider (2015) has three building blocks. First, there is a population of households with housing demands determined by their economic and financial characteristics, such as age, income, and access to credit. Second, there is a continuum of indivisible houses providing different flows of housing services. Finally, there is an outside option for households who decide not to reside in private-sector urban housing. In equilibrium, housing prices adjust to induce households with lower demand for housing services to move into lower-value houses. The distribution of equilibrium prices thus depends on the distribution of the population's characteristics, the distribution of house qualities, as well as the population's outside option.

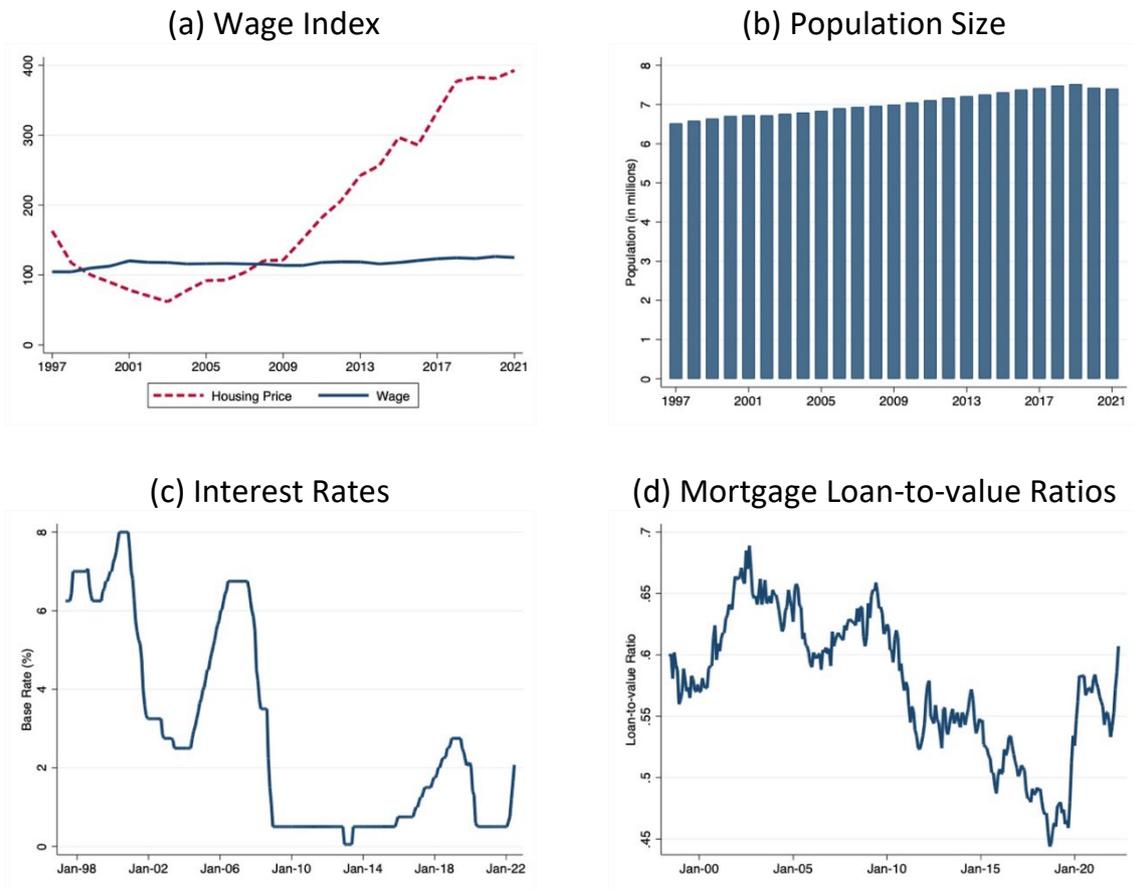
In most other metropolitan areas, the outside option is given by the rural sector at the margins of the city, where the lowest value land will either be left unused or used for farming. In Hong Kong, however, there is essentially no rural frontier, because rural land is extremely limited and there are strong restrictions prevent it from being used as housing. Instead, Hong Kong has a very large population residing in government-built subsidized housing, which primarily serves the lower-income population. As such, Hong Kong's private-sector housing demand at the bottom end is heavily influenced by the availability of public housing.

The model therefore suggests three potential culprits for the sharp rise in low-end housing prices in Hong Kong. First, incomes and credit access of the lower half of the population may have sharply risen. Second, the supply of low-value private-sector housing may have sharply fallen. Third, the availability of public housing may have declined. As I shall show, the first two possibilities are inconsistent with the data.

Housing Demand

The first potential culprit for the sharp rise in low-end housing prices is a shift in housing demand due to changes in income, population or credit availability. However, these changes were small during 2004-2020, and they did not disproportionately affect the low-income population, so they cannot explain the sharp and uneven rise in property prices.

Figure 2: Drivers of Housing Demand



Sources: Census and Statistics Department, HKMA and Rating and Valuation Department.

Notes: Panel (a) plots the private housing price index and real wage index. Panel (b) plots the population in Hong Kong. Panel (c) plots the base rate of Hong Kong. Panel (d) plots the average mortgage loan-to-value ratio.

As shown in Figure 2 both income and population growth were slow. Real median wages in the city grew only 7 percent during the entire period. At 0.6 percent per year during 2004-2020, population growth was also rather slow. Expansion in credit availability was also limited. Even though interest rates fell to nearly zero in the wake of the US subprime crisis in 2008 to follow US interest rate policy, fears of financial instability led the government to limit credit expansion by requiring larger mortgage down payments and increased transaction fees. The loan-to-value ratios for mortgages in Hong Kong therefore fell during this period.

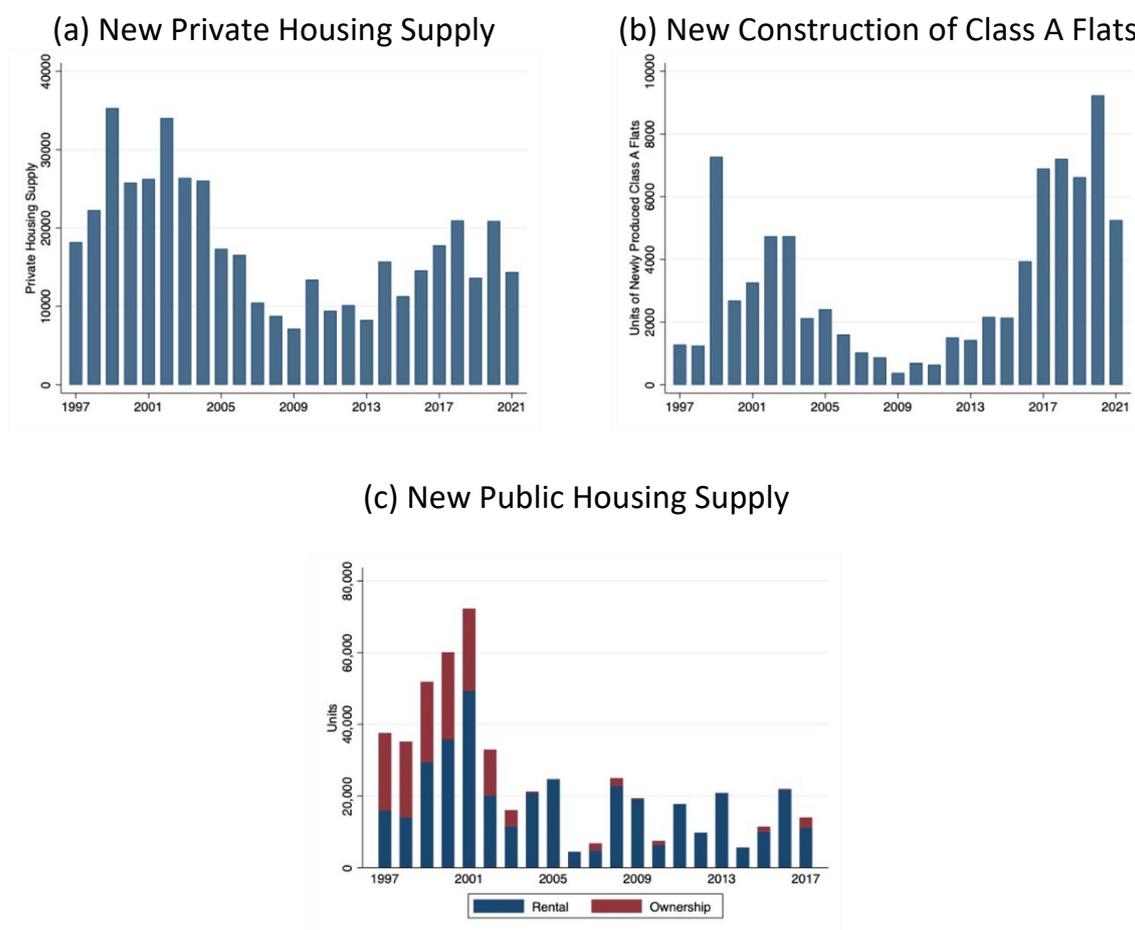
It is also unlikely that the rapid rise in property prices is due to speculative demand. Stamp duties and other transaction costs enacted during this period limited speculation. Property prices in Hong Kong also did not fall despite the COVID-19

pandemic, US monetary policy tightening in 2022, and deteriorating financial conditions in China in the same year, which popped many other asset bubbles.

Private Housing Supply

The second potential culprit for the uneven rise in housing prices is a fall in the supply of lower-value private-sector homes relative to higher-value homes. This possibility is also ruled out by the data.

Figure 3: Changes in Housing Supply



Source: Rating and Valuation Department and Hong Kong Housing Authority.

Notes: Panel (a) plots the supply of new private housing. Panel (b) plots the new construction of Class A flats. Panel (c) plots the total supply of new public housing, as the sum of public rental housing and subsidized home-ownership scheme housing.

Even though the creation of new private housing supply was slow during 2004-2020, there was in fact a large increase in the building of low-value housing. As shown in Figure 3, the average number of new private sector houses built between 1997 and 2003 was around 26,900, but declined to an average of around 14,300 between 2004

and 2020. However, the new construction of small units increased. The number of new Class A unit (defined as those with saleable area less than 40 sq m) rose from 2122 in 2004 to 6622 in 2019. The number of new nano flats (defined as those with saleable area less than 20 sq m) increased from zero in 2012 to around 1,000 in 2019 (Our Hong Kong Foundation 2022). Changes in private housing supply therefore could not have driven the disproportionate rise in low-end housing prices.

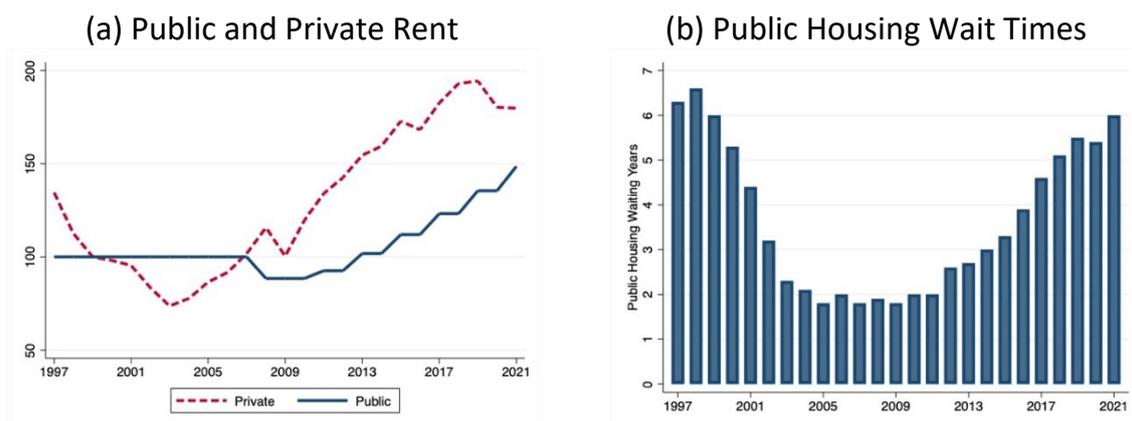
Rather, the rise in new construction of smaller units was the property market's response to increased demand for lower-quality private-sector units. Given that the prices of low-value private homes still soared, there was in fact too little new construction of low-value private homes. Recent policies to curtail the construction of small units will have the perverse effect of exacerbating the housing crisis.

Public Housing Availability

The remaining culprit for the sharp and uneven rise in housing prices is a reduction in public housing availability. As shown below, public housing became increasingly inaccessible to low-income households due to both reduced housing supply and unresponsive public-sector rents.

As shown in Figure 3 Panel (c), the supply of new public housing slowed from an average of approximately 44,000 between 1997 and 2003 to an average of around 15,000 between 2004 and 2017. Together with Panel (a), this confirms that overall housing supply slowed relative to housing demand beginning in 2004.

Figure 4: Public Housing Rent and Wait Times



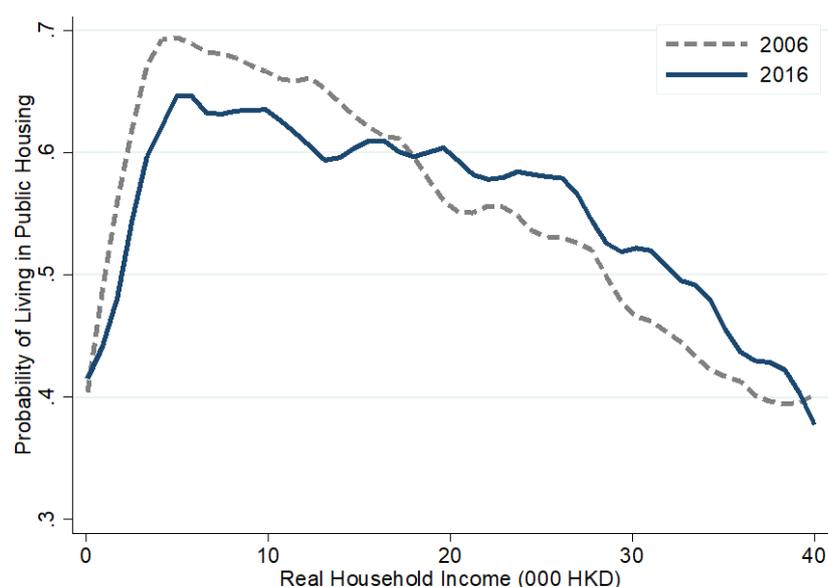
Sources: Rating and Valuation Department and Hong Kong Housing Authority.

Notes: Panel (a) plots the trend of private and public rent indices. Panel (b) plots the wait year for public housing.

Figure 4 Panel (a) confirms that public-sector rents adjusted much more slowly than private-sector rents throughout the study period. Between 1997 and 2007, there was no change in public-sector rents, even as private-sector rents fell sharply. In 2007, a rent adjustment mechanism was put in place, which tied rents to changes in an income index. However, public housing rent adjustments now lagged behind now rapidly increasing private-sector rents. Faced with rapidly increasing private-sector rents, incumbent public housing renters who might have moved to the private sector thus increasingly preferred to stay in public housing.

Figure 4 Panel (b) shows that periods of high private-sector rents relative to public-sector rents corresponded to longer public housing wait times. Public housing wait times declined from 1997 to a trough in 2004, as private-sector rents fell relative to public-sector rents. Wait times began to rise again after 2011, as private-sector rents increased relative to public-sector rents, from around two years to over six years by 2022.

Figure 5: Likelihood of Residing in Public Housing by Household Income



Notes: Figure plots the likelihood of residing in the public sector for households with different real monthly household incomes (in 2006 HKD) using 5% samples from the 2006 and 2016 Hong Kong Population Census. Local mean-smoothing with Epanechnikov kernel weights and a bandwidth of 1000 HKD is used. 95% confidence bands are included.

Figure 5 shows that the lowest-income households were less likely to live in public-sector homes in 2016 than in 2006. Furthermore, the relationship between public housing residence and household income considerably weakened. This implies that long wait times have worsened the ability of the low-income population to receive

public housing. Since a larger share of low-income renters now had to compete to rent low-end private housing, it is unsurprising that low-end housing prices spiked.

Conclusion

Hong Kong's unusual housing affordability crisis was caused by unresponsive public-sector rents that made low-end housing prices extraordinarily sensitive to inadequate housing supply. Because public-sector rent adjustment lagged behind rising market rents during 2004-2020, incumbent public renters became unwilling to move out to the private sector. As public housing wait times soared, a large segment of the lowest-income households had to compete for a small pool of low-end private-sector housing. The increase in prices for low-end housing was consequently not only sharp, but also many times greater than that for higher-end housing.

Increasing the supply of public rental housing will provide relief, but does not change the underlying dynamic. Even if there is more public rental housing, low-end private housing prices will remain highly sensitive to housing supply and demand conditions. If in the future housing demand grows faster than housing supply once more, then private-sector rents at the lower end will spike again. At that point, coffin homes and subdivided units will re-emerge. To prevent recurring housing crises, deeper reforms are necessary to not only ensure adequate supply, but also reorient Hong Kong's housing policy away from unresponsive rents and towards subsidized ownership instead.

A politically palatable step in this direction is to allow existing public owners to freely let their Homeownership Scheme and Tenant Purchase Scheme units without the payment of a land premium. This simple policy change benefits both public owners and low-income private renters and it does not raise the rents of public renters. Public owners would retain the option to stay in their units while gaining the option to earn rental income. Low-income private renters could then rent from a broader set of low-end units and hence will face less exorbitant rents. This reform can be done without significant administrative costs and does not require finding land for new construction. Given its lack of downsides, it is recommended that the administration enact this change as soon as possible.

In the longer run, the government should strongly consider selling public housing to sitting tenants at low prices and allowing buyers to lease out units. This way, the prices of low-end housing will no longer be so sensitive to housing market conditions, and subdivided houses will no longer be a recurrent feature of Hong Kong's housing market.

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