

An Econometric Analysis in HK property market from the 1980 to 2029

Lie Chun Pong

Research Scholar

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ABSTRACT

This paper presents a quantitative analysis of Hong Kong's private residential market using official time-series data on prices, stock, vacancy, take-up, and the recent completion pipeline. It argues that Hong Kong's housing dynamics are jointly shaped by housing-cycle forces, urban land-supply rigidity, and asset-price transmission rather than by a single shortage. The latest official figures show that completions rose to 24,260 units in 2024, take-up was about 17,310 units, and the vacancy rate reached 4.5 percent. Forecast completions remained elevated from 2022 to 2025 and will gradually rebound in 2026 to 2029, after absorption of housing vacancies [1-6]. This indicates a transition toward inventory adjustment, absorption management, and, finally, an upswing in the housing price cycle in Hong Kong. Our paper aims to help the HK gov't and policymakers make suitable decisions, which will therefore contribute to citizens and the public.

Keywords: Hong Kong housing market, Housing price cycles, Econometric analysis, Vacancy rate, Housing supply and demand, Land-supply constraints, Property-market volatility, Government housing policy, Policy time lags, Inventory adjustment

Introduction

Hong Kong's private housing market is well suited to long-run econometric analysis because it combines extreme price cyclicity, persistent policy intervention, and rich official time-series data. The Rating and Valuation Department publishes annual statistics on price indices, stock, vacancy, and take-up, while its property review provides the official supply pipeline for long subsequent years. This paper studies whether the market displays identifiable historical regimes, whether market looseness helps explain price growth, and how policy transmission changed as the market moved from boom to correction to inventory adjustment [1].

Literature Review

The housing-cycle literature treats real estate as a market marked by persistence, turning points, and an imperfectly elastic supply, especially in metropolitan areas. In such settings, prices often deviate from simple current-period fundamentals because expectations, financing conditions, and delayed supply responses generate multi-year booms and busts. This perspective is directly applicable to Hong Kong, where long development lags and a tightly managed land system amplify cyclical adjustment dynamics. Urban land economics offers a structural explanation, emphasizing land scarcity, planning constraints, and development timing. Even when governments increase supply targets, effective supply reaches the market slowly, so the short-run elasticity of housing availability remains low [2]. The asset-price transmission literature further suggests that housing prices reflect both fundamentals and forward-looking expectations under credit and resale constraints. Bubble-oriented research warns against mechanically interpreting rapid appreciation or high vacancy; instead, the key issue is how prices interact with fundamentals, credit, and expected resale opportunities. Applied to Hong Kong, this implies that housing analysis must combine physical inventory conditions with macro-financial and policy transmission channels [1-6].

Data

The empirical analysis uses official annual data from the Rating and Valuation Department's publications, including the private domestic price index by class, total stock, total vacancy, total take-up, and district-level completions and forecast completions data. The main annual estimation sample runs from 1985 to 2025 because total stock, vacancy, and take-up are available on a consistent basis from 1985 onward in the official series [4]. The policy outlook for 2025–2026 is supported by the official property review and preliminary findings covering completions, take-up, vacancy, and forecast supply [5]. The dependent variable is annual percentage growth in the all-classes private domestic price index. The main explanatory variable in the baseline is the lagged vacancy rate, measured as total vacant units divided by total stock, together with a linear time trend. Take-up from the official completion forecasts is used in the descriptive and policy-analysis sections to capture the difference between market absorption and the supply pipeline [1-6].

Methodology

The paper also employs regime analysis and policy mapping. Regime analysis divides the long-run market into historically meaningful phases, while policy mapping aligns the policy context with transmission channels and observed market outcomes. This combination allows the statistical results to be interpreted in light of institutional change rather than as a purely

mechanical time-series exercise.

New Property Price Predictive Model

The baseline econometric model is:

$$\Delta P_t = \alpha + \eta_1 V_{t-1} + \eta_2 \text{Trend}_t + \varepsilon_t$$

- ΔP_t is the change in price (or another variable P) at time t
- α is the intercept term
- V_{t-1} is a lagged explanatory variable
- Trend_t is a time trend variable
- ε_t is the error term

where ΔP_t denotes annual price-index growth and V_{t-1} denotes the lagged vacancy rate. A lag structure is used because inventory pressure should affect subsequent price adjustment through expectations, bargaining, and marketing delay rather than instantaneously. The expected sign on lagged vacancy is negative because looser market conditions should weaken later price growth.

Results

Based on the above model, we discover that the HK property market has fluctuated during peaks and exhibited large swings during downturns. The descriptive evidence indicates that Hong Kong's housing market exhibits distinct historical regimes rather than a single continuous pattern. The market experienced an upswing and bubble-formation era before 1997, a post-crisis correction from 1998 to 2003, a low-rate recovery from 2004 to 2013, a prolonged intervention regime from 2014 to 2021, and a recent inventory-adjustment phase from 2022 onward. The latest official figures are consistent with the final regime: completions were 24,260 units in 2024, take-up was about 17,310 units, vacancy reached 4.5 percent, and official forecasts kept the supply pipeline elevated through 2026 [6].

Regression results

Variable	Coefficient	Std. Error	t-statistic	p-value
const	36.1968	12.3397	2.9333	0.0057
LagVacancyRatePct	-4.1378	2.5807	-1.6034	0.1173
Trend	-0.4384	0.2048	-2.1408	0.0389

The coefficient on the lagged vacancy rate is -4.1378, indicating a negative association between looser inventory conditions and subsequent price growth in the reduced-form specification with a time lag. Interpretation, a 1 percentage-point increase in last period's vacancy rate is associated with an estimated 4.14% decrease in the current property price level (dependent variable). The model's R-squared is 0.171, which suggests partial explanatory power and reinforces the argument that macro-financial variables and policy shocks remain important omitted drivers in Hong Kong's housing cycle. As a result, the time lag in policy makers' decision-making causes large fluctuations in the HK property price.

Regime table

Period	Characterization	Avg price growth %	Avg vacancy %	Avg take-up
1985-1997	Upswing and bubble formation	20.39	3.86	26160
1998-2003	Post-crisis correction	-14.74	5.85	20588.3
2004-2013	Low-rate recovery	14.99	4.96	13812
2014-2021	Policy intervention plateau	6.46	3.92	14180.2
2022-2025	Inventory adjustment	-7.24	4.32	16588

Figures

The figures above visualize the Regime table, into long-run price cycle analysis, with the vacancy trajectory, the time path of take-up, and the recent official completion pipeline data. The regime table summarises Hong Kong's private property market from 1985 to 2025 by dividing it into five distinct phases, each characterised by different dynamics in prices, vacancies, and take-up. Between 1985 and 1997, the market experienced an upswing and bubble formation, with average annual price growth of 20.39%, very low vacancies of 3.86%, and the highest average take-up at 26,160 units, reflecting strong demand ahead of the 1997 handover. The subsequent post-crisis correction (1998–2003) saw prices fall by 14.74% on average, vacancies rise to 5.85%, and take-up decline to 20,588.3, consistent with the aftermath of the Asian Financial Crisis and SARS. From 2004 to 2013, a low-rate recovery regime emerged, with robust price growth of 14.99%, moderate vacancies of 4.96%, but lower take-up of 13,812, indicating a liquidity-driven upswing. The 2014–2021 period is labelled a policy intervention plateau: price growth slowed to 6.46%, vacancies remained tight at 3.92%, and take-up stabilised around 14,180.2, as repeated demand-side curbs constrained momentum. Finally, 2022–2025 represents an inventory adjustment phase, with negative price growth of -7.24%, vacancies edging up to 4.32%, and take-up recovering to 16,588 as the market absorbed excess supply amid higher interest rates. Together, these regimes illustrate how external shocks, monetary conditions, and policy interventions have shaped Hong Kong's long-run property cycle.

Discussion

The results support a hybrid interpretation of the Hong Kong housing market. Urban land economics explains why effective supply remains structurally inelastic, while asset-price transmission explains why prices can move sharply when interest-rate conditions, expectations, and market sentiment change. The negative vacancy coefficient is therefore best understood not as proof that supply alone governs prices, but as evidence that inventory pressure becomes more influential once the market loosens materially.

This interpretation also clarifies why policy tools have asymmetric effects. Transaction taxes and mortgage rules can quickly affect turnover and borrowing conditions, but they do not convert planned supply into completed and absorbed stock. By contrast, when actual supply pipelines rise and absorption lags, as in the 2024-2026 setting, vacancy becomes a more direct transmission channel from physical market conditions to prices. In addition, the policy time lag is an important factor in housing price dynamics. The policy time lag will also make the property cycle more volatile.

Policy Analysis

Policy timeline

Period	Policy context	Transmission channel	Observed effect
1980s-1997	Land scarcity and slow supply response in boom	Supply elasticity remained low	Prices rose through prolonged upswing
1998-2003	Post-crisis market correction	Macro-financial contraction overwhelmed structural scarcity	Deep price correction
2009-2013	Renewed tightening and prudential focus	Leverage and speculative demand targeted	Turnover cooled but price level stayed high
2014-2021	Extended intervention regime	Stamp duties and mortgage regulation altered demand composition	High-price plateau with episodic softening
2024	Completion surge	Supply exceeded take-up in annual flow terms	Vacancy reached 4.5%
2025-2026	High official completion pipeline	Policy focus shifts toward absorption and stability	Inventory digestion becomes central

Which mean, why policy tools exert asymmetric effects across the housing cycle. Demand-side instruments such as transaction taxes and mortgage-prudential rules can rapidly alter turnover and borrowing conditions, yet they cannot instantaneously convert planned supply into completed and absorbed stock. By contrast, when actual supply pipelines expand while

absorption lags, as observed in Hong Kong's 2024-2026 market, vacancy rates emerge as a more direct transmission channel linking physical market conditions to price dynamics. Compounding these asymmetries, policy implementation and impact lags constitute an important determinant of price behaviour; such time lags not only delay the intended stabilising effect of interventions but also tend to amplify cyclical volatility by causing measures to take effect out of phase with underlying market conditions.

Policy transmission table

Policy domain	Main objective	Transmission channel	Lag structure	Analytical implication
Land and supply management	Expand effective availability	Stock completions ryd.gov and	Long ryd.gov	Strong for long-run structure, weak for short-run stabilization ryd.gov
Stamp duties and transaction taxes	Restrain speculative and marginal demand	Transaction cost info.gov	Short info.gov	Changes turnover faster than price level info.gov
Mortgage prudential policy	Limit leverage and debt-service risk	Borrowing capacity info.gov	Short info.gov	Compresses marginal demand under tighter finance info.gov
Forward completion pipeline	Shape expectations about future stock	Anticipated absorption pressure info.gov	Medium info.gov	Matters more when vacancy is already rising info.gov

A policy transmission table explains how a government policy affects the property market. It links the policy instrument to its intended objective, the mechanism through which it works, the time required for its effects to appear, and the conclusion analysts should draw. In this table, the main distinction is between policies that affect physical housing supply, policies that affect the cost of transactions, policies that affect borrowing capacity, and policies that affect expectations about future supply. The policy record above suggests that Hong Kong's housing regime has shifted from one dominated by shortage discourse and anti-speculation measures to one increasingly shaped by inventory management and absorption capacity. This change is important because the appropriate policy metric in an overheating market differs from that in an inventory-adjustment market: the former emphasizes leverage restraint, while the latter emphasizes timing, matching, and expectation management.

Time lag factor

Particularly, the land supply usually lags behind the real situation, so this time-lag factor will affect property prices in HK. Usually, when there is a market boom, the government will push a lot of land supply in order to warm the market situation, which they will not become overheated; but usually when the real land supply actually plumbs into the market, there will be an oversupply in the market, that thrust into the real ones, so the property vacancy rate will be up

rose, than the property market price will be downwards. So, in other words, the policy agent always delays acting in the real situation, which therefore will become time-lag effect, that affect the cycle of the property market in HK. So, as a result the property market in HK usually is boom very largely and bump down very largely, this large fluctuation effect, is usually due to the time lag of the land supply, especially the real ones who become actuate. Particularly for Hong Kong, official stock, vacancy, and take-up data are especially informative because they reveal whether planned supply was actually absorbed by the market [3].

Moreover, in Hong Kong, land supply typically responds to market conditions with a significant time lag, which amplifies property-market volatility. During upswings, the government tends to release more land to cool overheating prices; however, because new sites take years to be planned, tendered, and developed, the additional supply often arrives only after the market has already peaked. By the time these units are completed and enter the market, demand may have softened, creating an effective oversupply. This pushes up vacancy rates and exerts downward pressure on prices, contributing to sharp boom-and-bust cycles. In effect, policy actions are systematically out of phase with real-time market conditions, generating a pro-cyclical “time-lag effect” that magnifies fluctuations in Hong Kong’s property market. Official data on housing stock, vacancy, and take-up are therefore especially informative, as they reveal whether planned supply was actually absorbed by the market or simply added to existing inventory.

Conclusion

Hong Kong’s housing market from the 1980s to 2025-2026 is best understood as a long-run cyclical asset market embedded in a structurally constrained urban land system. Official time-series data show that recent conditions differ from the earlier scarcity narrative, as vacancy has risen, take-up has lagged the supply surge, and the official completion pipeline has remained elevated. The reduced-form regression reinforces the view that looser inventory conditions are associated with weaker subsequent price growth, even though a fuller model would require additional macro-financial controls. In addition, Forecast completions remained elevated from 2022 to 2025 and will gradually rebound from 2026 to 2029, after absorption of housing vacancies. We hope our research can contribute to the gov’t, policymakers, and citizens.

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