



REPORT

ANALYSIS OF RESIDENTIAL REAL ESTATE

Investment Attractiveness in Major Global Cities

| 2020-2025 Review
| 2026-2030 Outlook



CastGlobalTrust

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EXECUTIVE OVERVIEW

The global residential real estate market is entering a new phase of development. Following a period of exceptionally accommodative monetary policy that generated unprecedented capital flows into residential assets in 2020–2021, the global financial cycle has begun to shift.

Rising costs of capital, tightening regulatory regimes, and structural transformations of the global economy are gradually reshaping the role of residential real estate in the portfolios of international investors. Under these conditions, the key question is no longer limited to housing price growth, but increasingly concerns the ability of individual cities to sustain long-term investment attractiveness.

Megacities are emerging ever more clearly as nodes of global capital concentration. They combine financial infrastructure, human capital, technological ecosystems, and institutional conditions that underpin the stability and liquidity of housing markets. At the same time, a visible differentiation between cities is taking shape: while some urban centres continue to attract international investment, others face regulatory constraints, demographic challenges, or limited economic growth potential. This divergence is increasingly shaping the geography of global capital flows.

Against this backdrop, the present report offers a comprehensive perspective on the transformation of the global residential real estate market. The analysis covers the period 2020–2025 — a time when the global economy simultaneously experienced large-scale monetary stimulus, a sharp rise in asset prices, and a subsequent tightening of financial conditions. Building on this assessment, the report develops an outlook through 2030, enabling a longer-term evaluation of the investment prospects of major megacities.

This study places particular emphasis on the structural factors that are reshaping the architecture of global housing markets. These factors extend beyond macroeconomic conditions or the trajectory of interest rates. Increasingly important are the infrastructural capacity of cities, the concentration of intellectual and innovative potential, regulatory flexibility, and the ability of urban systems to adapt to emerging economic and technological challenges. These characteristics increasingly determine where residential real estate functions as a strategic investment asset and where it remains primarily a local consumer market.

To analyse these dynamics systematically, the report applies the Infrastructure–Cognitive Resonance (ICR) analytical model. This framework integrates key infrastructural, economic, regulatory, and social factors into a unified analytical structure and enables an assessment of the structural capacity of megacities to support long-term growth in residential asset values. Using this methodology, the report develops a comparative evaluation of leading global megacities, offering a new perspective on the geography of global investment opportunities.

The findings indicate that residential real estate markets are increasingly shaped not by short-term fluctuations in demand, but by the deeper structural characteristics of urban economies. Investors seeking long-term stability and predictable returns must therefore pay closer attention to underlying structural parameters: the quality of infrastructure, the concentration of human capital, institutional reliability, and the strategic role of a city within the global economy.

For this reason, the report goes beyond describing current market trends. Its objective is to outline the broader transformation of the global housing market and to demonstrate how the logic of investment decision-making is evolving within a new macro-financial environment. For investors who view real estate as a long-term portfolio component, these changes provide an opportunity to reassess urban markets as complex economic systems in which the interaction of infrastructure, knowledge, and institutions ultimately determines real investment value.

In this sense, the report offers not only an analytical overview but also a framework for strategic thinking. It explains why certain megacities remain centres of stable investment attraction even during periods of global turbulence, while others gradually lose their appeal for international capital. This divergence will play a defining role in shaping the structure of the global residential real estate market in the coming decade.

Analysis of residential real estate investment attractiveness in major global megacities

2020–2025 Market review | 2026–2030 Outlook

This analytical work presents a comprehensive assessment of the investment attractiveness of the residential real estate market in leading global metropolises for the period 2020–2025, with a forecast for 2026–2030. The study is oriented toward institutional and private investors for whom capital preservation, risk-adjusted returns, and long-term asset liquidity in a global environment of heightened uncertainty are paramount.

The paper applies the proprietary analytical approach, **Infrastructure–Cognitive Resonance (ICR)**, which integrates the assessment of metropolitan infrastructure capacity, cognitive and human concentration, regulatory flexibility, and the socio-economic resilience of the urban environment. Unlike traditional market ratings, the ICR model enables a transition from describing price dynamics to a structural analysis of the ability of urban markets to realize demand and maintain investment attractiveness within a medium-term forecast horizon.

Based on this proprietary methodology, a comparative analysis was conducted for a group of global metropolises serving as key centers of international capital, including cities in North America, Europe, and the Asia-Pacific region. Particular attention is paid to **Tokyo** as one of the most structurally stable and liquid residential real estate markets, given the combination of predictable monetary policy, high institutional quality, and the urban environment's capacity to adapt to increasing investment pressure.

The analytical framework of the study is formed by synthesizing macroeconomic indicators, real estate industry indices, national regulatory statistics, and forecast materials from leading international consulting and financial institutions. The results of the analysis are presented in a format suitable for practical use in investment analysis, portfolio strategy formulation, geographical exposure selection, and risk assessment for the 2026–2030 horizon.



I. Monetary policy and its impact on capital flows

1.1. Global monetary easing and the expansion of residential investment demand (2020–2021)

The role of ultra-low interest rates and excess liquidity in shaping residential investment demand

The investment capital market is inextricably linked to the state of monetary policy, which dictates the cost of money and the volume of available liquidity. It influences the cost of capital, credit availability, and the attractiveness of various asset classes, particularly residential real estate. When financing is inexpensive, investors are more inclined to invest in riskier or less liquid assets. Conversely, rising rates and the tightening of monetary policy forces a reorientation toward conservative strategies, reducing interest in sectors with long payback horizons. Therefore, the dynamics of benchmark interest rates and expectations regarding the monetary policy path directly influence where and in what volume investment capital is directed — both on a global scale and within specific cities or regions.

Over the last decade, monetary policy has remained one of the defining factors in shaping the global architecture of capital flows, specifically within the residential real estate sector. The 2020–2021 period was characterized by an unprecedented scale of monetary stimulus implemented by leading central banks—the US Federal Reserve, the European Central Bank, the Bank of Japan, the Bank of England, and other key financial regulators (Fig. 1).

Policy Interest Rate Dynamics

Central bank benchmark rates, % (2018–2025)

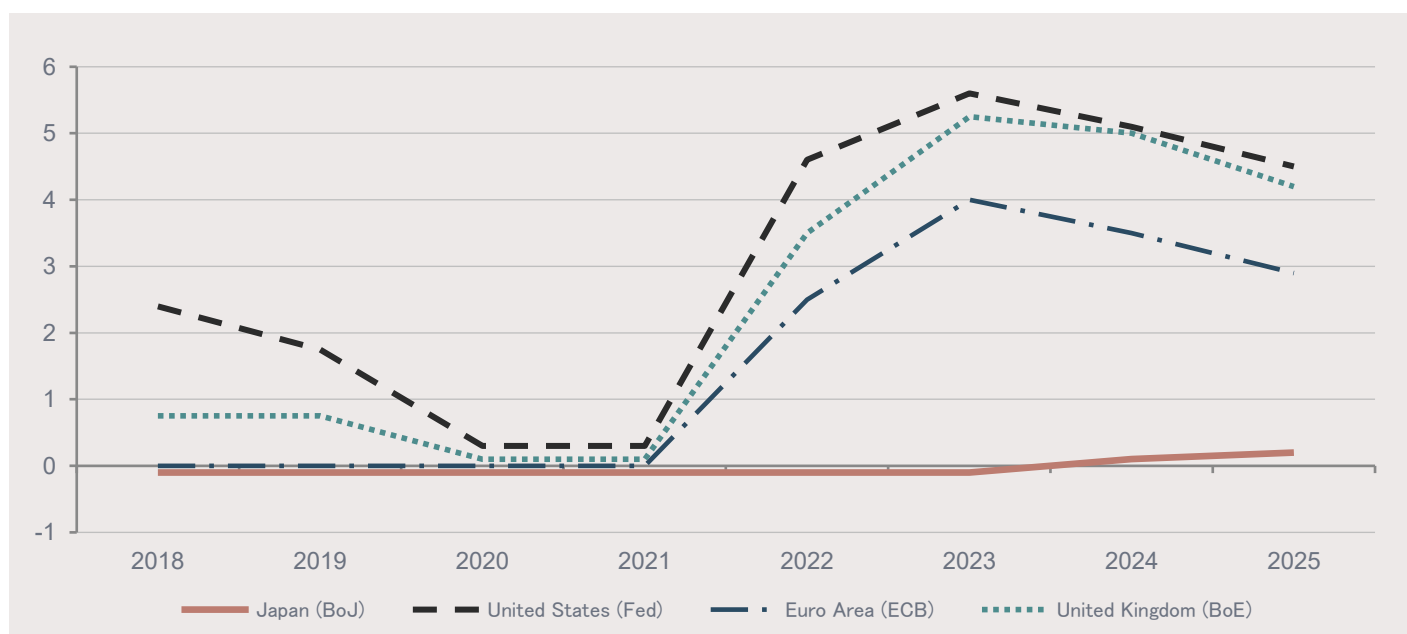


Figure 1. Policy rate dynamics in major global economies, 2018–2025 (United States, Euro area, United Kingdom, and Japan)

A significant reduction in benchmark interest rates to historical lows (2020–2021), the implementation of large-scale quantitative easing (QE) programs, and other monetary stimulus measures led to a sharp surge in global liquidity and a substantial decrease in the cost of capital. This created a unique environment of ultra-low financing costs, which incentivized a search for yield beyond traditional fixed-income instruments specifically toward residential real estate in global metropolises, which combines stability with attractive rental yields.

The period of ultra-cheap financing contributed to record growth in housing prices in 2020–2021 (Table 1). Mortgage rates reached historical lows, making residential assets attractive not only to households but also to institutional players, including REITs, pension funds, and private equity. In several global metropolises, there was an expansion of the build-to-rent model, as well as increased activity in the multi-family housing market as a tool for inflation hedging and capital preservation.

However, the situation changed dramatically in 2022. Amid a global inflationary shock—driven by supply chain disruptions, a spike in energy prices, and rising labor costs—central banks shifted to an aggressive tapering of monetary stimulus. Starting in March 2022, the US Federal Reserve began a cycle of sharp rate hikes, accompanied by similar actions from the ECB, BoE, Bank of Canada, and other central banks. The federal funds rate in the US rose from 0.25% to 5.5% within eighteen months, marking the fastest pace of monetary tightening in over 40 years.

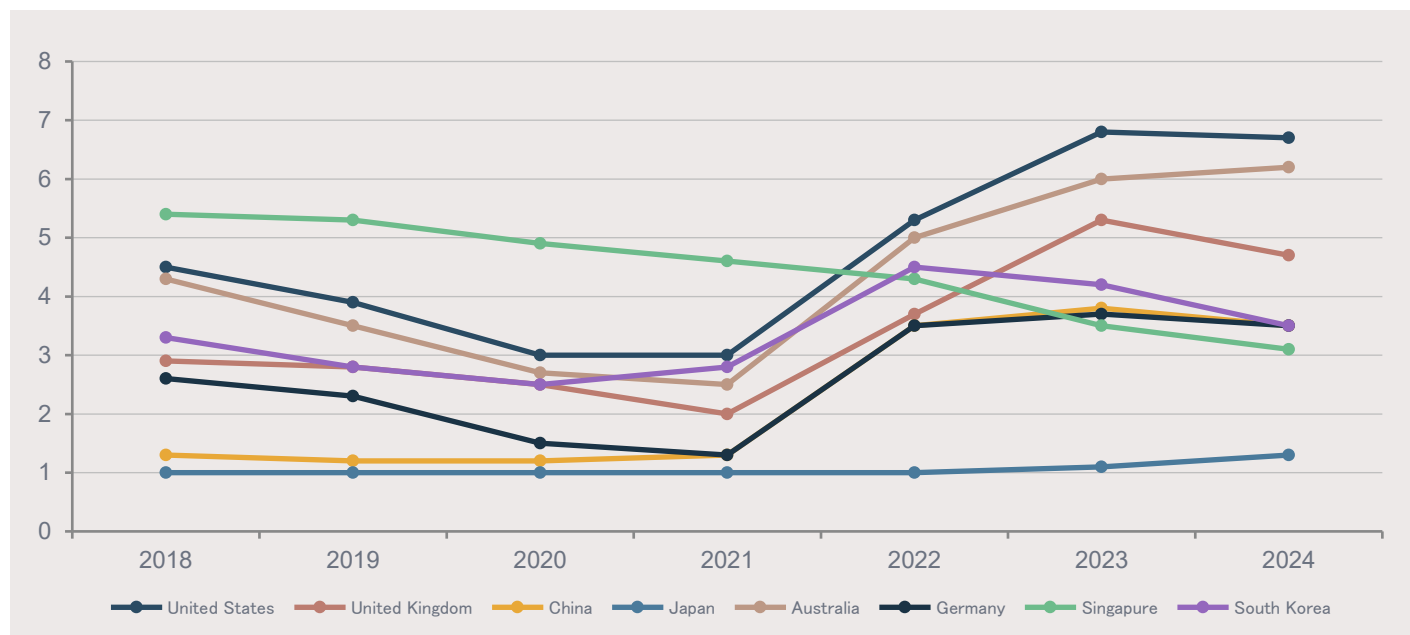
Table 1. Average housing price growth rates in selected countries, 2015–2025 (% year-on-year)

Country	2015	2018	2021	2022	2023	2024	2025 (forecast)
United States	4.8	6.3	18.0	9.0	-2.1	1.8	3.5
United Kingdom	6.0	2.5	9.8	7.8	-4.0	0.5	3.0
Germany	5.5	8.8	11.0	8.0	-10.0	-1.5	1.0
Canada	5.4	1.0	21.0	4.2	-6.0	2.5	4.0
Sweden	10.0	1.0	17.5	-1.5	-11.5	1.0	3.0
New Zealand	12.6	2.5	26.0	-2.0	-8.0	3.0	5.0
South Korea	3.5	4.7	8.0	1.2	-5.0	0.5	2.0
China	4.0	10.5	4.0	-0.5	-2.0	-1.0	-0.5
Japan	2.0	1.5	5.0	5.8	6.0	5.5	5.5
Dubai (UAE)	-10.0	-5.5	11.0	17.0	18.0	12.0	8.0

Sources: Author's compilation and analytical assessment based on official statistics and open macroeconomic data, including Knight Frank Global House Price Index, OECD Housing Prices Database, and national statistical agencies (including Japan's MLIT and the S&P CoreLogic Case-Shiller Index for the United States).

Mortgage Rate Dynamics in Major Countries

Average mortgage rate, % (2018–2024)



Sources: Trading Economics, IMF, OECD, Freddie Mac, Numbeo

Figure 2. Dynamics of average mortgage rates in major global economies, 2018–2024

This shift in monetary policy was rapidly transmitted to mortgage markets, resulting in a sharp increase in borrowing costs across major economies (see Figure 2).

The sharp increase in the cost of capital was immediately reflected in investment dynamics within the residential real estate sector. On the one hand, mortgage rates rose significantly, reducing the affordability of credit for households. On the other hand, the attractiveness of short-term government bonds as low-risk assets increased, intensifying competition for capital and weakening the relative appeal of residential investment instruments. In a number of markets, including Canada, Sweden, New Zealand, and the United Kingdom, downward adjustments in housing prices were observed, particularly during 2022–2023. By contrast, markets with a high share of cash transactions or moderate leverage, such as Dubai and Tokyo, demonstrated greater resilience.

Thus, the transformation of global monetary policy that began after 2021 substantially altered the parameters of access to capital and the structure of returns in financial markets. Rising central bank policy rates became one of the key macroeconomic shocks for the residential sector, directly affecting both financing costs and the reassessment of investment risk. In this context, the policy rate serves not only as an indicator of monetary policy but also as a strategic determinant of capital flows within the residential real estate sector, shaping the long-term configuration of investor priorities.

The persistent sensitivity of the housing market to changes in the cost of capital drives not only cyclical fluctuations in demand but also deeper structural shifts. In response to the new price of money and changes in global financial benchmarks, a clearer trend is emerging toward a shift from quantity-driven to quality-driven demand. Investors and consumers are increasingly shifting their focus towards assets offering a high level of comfort, stable returns, regulatory transparency, and a solid macroeconomic foundation. These new priorities are forming the basis of an updated demand structure, the impact of which on residential real estate markets in leading global megacities is already becoming systemically evident.

1.2. Changes in the structure of housing demand

Structural shift in residential demand towards stability, liquidity, and regulatory transparency amid heightened global uncertainty

The intensification of macroeconomic and regulatory uncertainty within the global environment has necessitated a shift in investment benchmarks in the residential real estate market. Investors are increasingly focusing not on nominal yield levels, but on the ability of markets to ensure risk manageability, currency stability, and the predictability of institutional conditions over the medium term. Under these circumstances, the investment attractiveness of housing is determined by the quality of the macroeconomic environment, the consistency of monetary policy, the transparency of regulatory regimes, and the resilience of local markets to phases of global turbulence. This forms an objective basis for a comparative assessment of the macroeconomic, monetary, and institutional stability of key countries and metropolises as a fundamental factor in the transformation of residential real estate demand in 2023–2024 and throughout the 2026–2030 forecast horizon.

The table below summarizes the results of an expert assessment regarding the levels of macroeconomic, monetary, and institutional stability in key countries as of 2023 a period of active reassessment of global investment risk. Additionally, it reflects the dynamics of investor demand in 2023–2024, allowing for an observation of how global capital responds to structural shifts in the environment. The presented indicators help interpret the logic behind the reallocation of investment specifically, from jurisdictions with increasing regulatory risk (such as the United Kingdom or Germany) toward destinations with greater predictability, stability, and transparent "rules of the game," as seen in the cases of Tokyo, Singapore, or Dubai.

The patterns described above are reflected in a comparative assessment of macroeconomic stability, regulatory predictability, and investor interest across major jurisdictions (Tables 2 and 3).

Table 2. Comparative assessment of investment environment parameters and change in investor interest (2023–2024)

City	Country	Macroeconomic stability	Monetary policy transparency	Institutional attractiveness	Change in investor interest (2023–2024)
London	GBR	3	3	3	-1
New York	USA	4	4	4	-1
Paris	FRA	4	4	3	0
Shanghai	CHN	2	2	2	-1
Hong Kong	CHN	2	2	2	-1
Tokyo	JPN	5	5	5	+1
Singapore	SGP	5	5	5	+1
Seoul	KOR	4	4	3	0
Berlin	DEU	3	3	3	0
Dubai	ARE	4	4	5	+2
Mumbai	IND	3	3	3	+1

Note. The table is based on an author-developed assessment methodology, grounded in a synthesis of macroeconomic indicators, analytical outputs from leading research institutions (OECD, IMF, World Bank, Knight Frank, JLL, UBS), and expert analysis of institutional demand dynamics over the 2022–2024 period.

Table 3. Methodological framework and indicator definitions

Indicator	Description	Sources
Macroeconomic stability (1–5)	Assessment of a country's economic resilience, including low inflation, predictable fiscal policy, and low volatility	IMF, World Bank, OECD
Monetary policy transparency (1–5)	Consistency and clarity of central bank policy, predictability of interest rates, and quality of communication with financial markets	BIS, national central banks
Global capital demand (1–5)	Degree of investor activity in the market, based on assessments by Knight Frank, Savills, and JLL	Knight Frank, Savills, JLL
Change in investor interest (-1, 0, +1, +2)	Change in investor demand for the city during 2023–2024	Based on transaction volume dynamics and frequency of references in analytical reports

In parallel with the shift in geographical investment focus, a deeper structural change is occurring within the demand itself: the emphasis is gradually moving from quantitative accumulation to the qualitative selection of assets. This trend is most clearly manifested in the prime residential segment of leading metropolises. The dynamics of transactions in the super-prime segment (\$10M+) between 2021 and 2024 marked by a correction in 2022 and a subsequent recovery in 2023–2024 demonstrate the resilience of this asset class amidst the general cooling of the mass market.

According to Knight Frank data, in most key cities - Dubai, London, New York, Tokyo, and Singapore - the prime segment has either maintained its position or even strengthened its share of total sales volume. For instance, in London in 2023, sales of residential properties valued over £5 million reached £5.7 billion, surpassing pre-pandemic levels. In Dubai, the number of \$10M+ transactions surged from 23 in 2019 to over 430 in 2023, with the prime segment's share approaching 20%.

These shifts are accompanied by qualitative changes in the buyer profile. There is a growing share of international capital, cash transactions, and family offices. In London, for example, only 10% of super-prime deals in 2024 involved British buyers, while the remainder were foreign purchasers, primarily from the US, Middle East, and Asia. Similar trends in Dubai and Singapore confirm the global nature of demand and the diversification of capital sources.

Particular attention should be paid to yield dynamics. Although prime assets traditionally demonstrate lower rental yields compared to the mass market (~2.5% vs. ~4% in London), in 2023–2024, rental yields in the prime segment actually increased in several jurisdictions notably in Dubai (6–8%) and New York (5.3%). This indicates stable cash generation of the asset alongside the defensive properties valued during periods of financial instability.

Thus, the demand structure is increasingly gravitating toward a strategic approach: capital is oriented not toward maximizing short-term returns, but toward long-term stability, environmental transparency, and predictable price dynamics. Markets that combine macroeconomic balance, legal certainty, and high-quality prime housing infrastructure such as Tokyo, Singapore, or Dubai are increasingly accumulating global capital interest, becoming new "anchors of trust" in the transformed architecture of demand.

The resilience of the super-prime sector against the broader market cooling is further evidenced by the record transaction volumes and the subsequent price recovery observed through 2024 (see Figure 3).

One of the visual indicators of the increasing role of the prime segment in the new demand structure is the price dynamics in the world's leading metropolises. According to the Knight Frank Prime Cities Index, despite cyclical fluctuations, prime residential real estate in most global cities demonstrates value growth that significantly outpaces the mass market rates. This is particularly noticeable in jurisdictions such as Dubai and Tokyo markets with high macroeconomic stability, transparent regulatory regimes, and a growing influx of foreign capital.

In Dubai, for example, luxury real estate prices rose by over 190% from 2020 to 2024, representing the largest increase among all leading markets. Tokyo, meanwhile, exhibits a more moderate but steady upward trend, reflecting the specifics of the Japanese market, which combines low leverage levels, predictable monetary policy, and a high share of cash transactions.

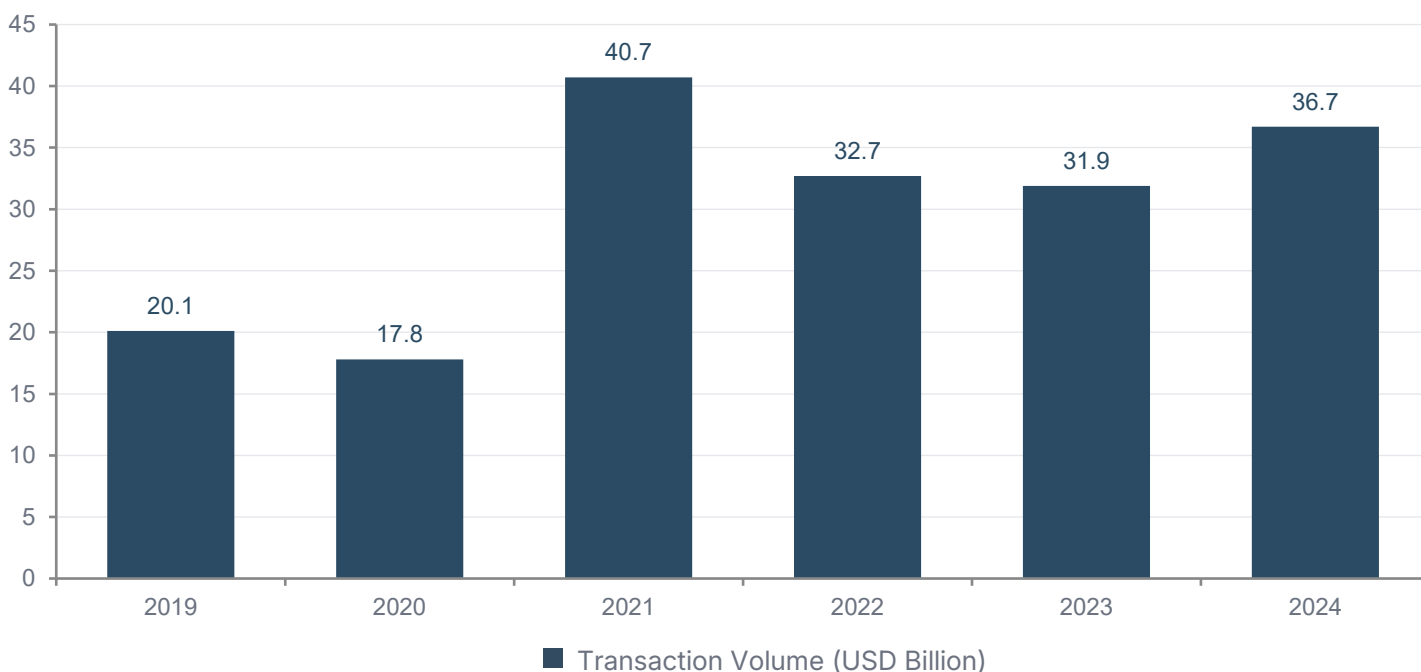


Figure 3. Global volume of super-prime residential transactions, 2019–2024 (USD billion)

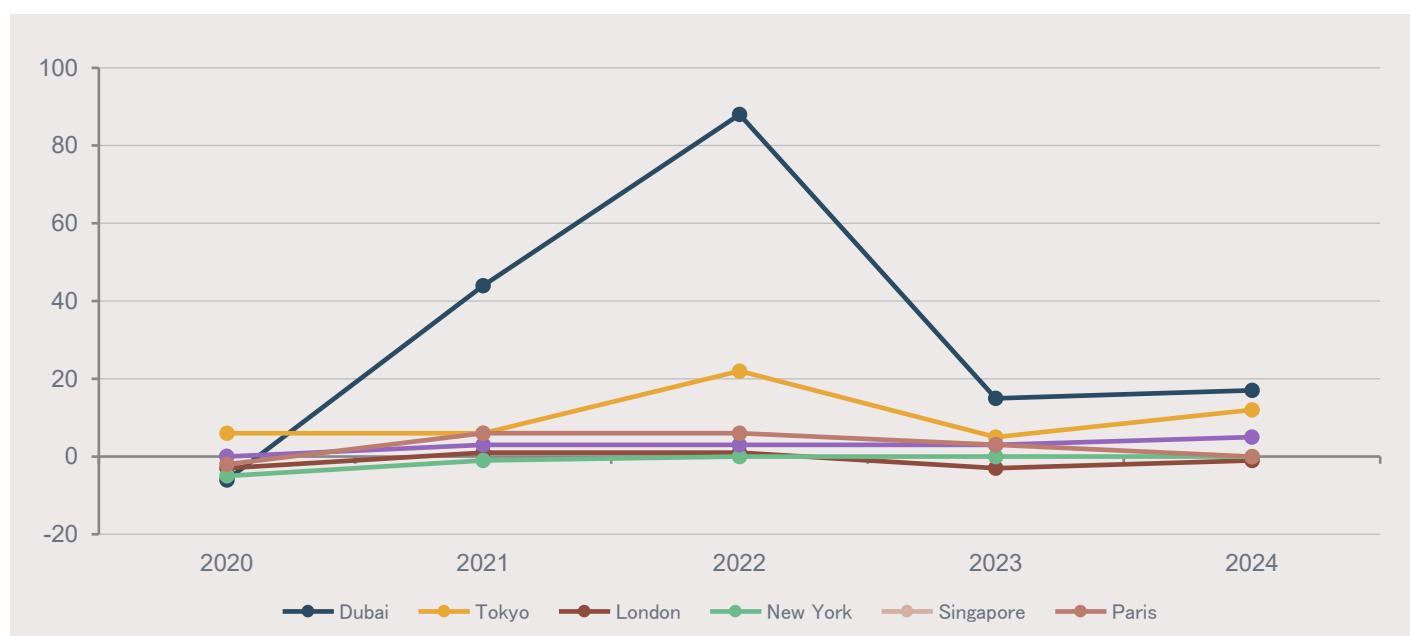
For comparison, in London, Paris, or New York, prices grew significantly slower or showed corrections as a reaction to the tightening of monetary policy and regulatory uncertainty. Singapore maintains a moderate growth trajectory, supported by a shortage of high-quality supply and its role as the region's financial hub.

These patterns are reflected in the comparative price dynamics of prime residential property across key global cities over 2020–2024 (Figure 4).

These differences confirm a shift in investment logic: the price trend in the prime segment is increasingly determined less by general macro-cycles and more by the quality of the environment and the structural characteristics of the market.

Annual Change in Prime Residential Prices by City

Year-on-year change, % (2020–2024)



Source: Knight Frank Prime Global Cities Index

Figure 4. Change in average prices for prime residential property in key Global Cities (2020–2024)

These long-term price trends (Figure 5) are essential for understanding the strategic reallocation of capital. At the same time, short-term price dynamics in 2025 (Figure 5) allow for a deeper assessment of the relevance of these trends at the current stage. According to data from the first two quarters of 2025, price growth in the prime segment continues in jurisdictions with the most resilient institutional characteristics. Tokyo, Dubai, and Singapore demonstrate leadership both in terms of absolute growth rates and the stability of their trajectories. This underscores that demand from global capital is increasingly sensitive to predictability, regulatory transparency, and environmental quality, rather than potential yield alone.

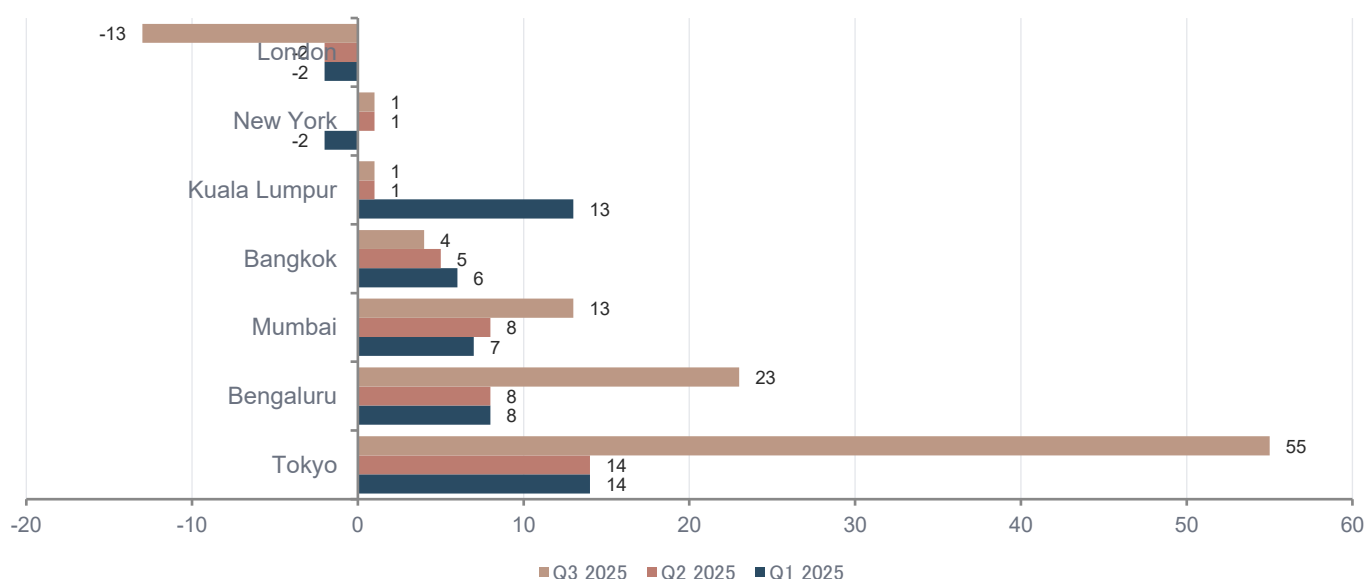
Another fundamental change complementing the aforementioned transformation of the demand structure is the shift by most buyers away from speculative, short-term strategies in favor of long-term ownership. As Knight Frank data indicates, price dynamics in the prime residential segment across major global metropolises show moderate but predictable growth. This signifies a reassessment of risks by investors: instead of focusing on cyclical fluctuations or attempting to "time the market," demand is increasingly directed toward stable jurisdictions with low volatility, predictable rules of the game, and fiscal discipline.

This trend is confirmed by analytical reports from JLL, UBS Global Real Estate, and PwC, which record an increase in the average hold period for prime residential assets and a decrease in the share of short-term, speculative deals within the total transaction volume. This indicates a shift in investment behavior within the high-net-worth real estate segment: investors are increasingly viewing housing not as a tool for tactical play on the cycle, but as an asset for longer-term ownership with predictable risks and stable cash flow.

Thus, in 2023–2024, residential real estate in leading global metropolises acquired a new role within the structure of global capital. Prime properties were primarily utilized not for short-term resale, but as long-term stores of value, combining defensive properties with predictable cash flow. Investment decisions in this segment were based primarily on the stability of the macroeconomic environment, the transparency of regulatory rules, and the institutional reliability of the jurisdiction, rather than a pursuit of maximum short-term yield.

12-Month Prime Residential Price Change by City

Quarterly comparison, % (2025)



Source: Knight Frank Prime Global Cities Index

Figure 5. Year-on-year price growth in Prime Residential markets by city, Q1–Q3 2025 (%)

1.3. Monetary tightening and the reversal of global capital flows (2022–2024)

Investment capital is gradually reallocating away from traditional Western residential markets due to deteriorating risk-adjusted returns.

The recorded changes in investment behavior have directly influenced the spatial configuration of global capital flows within the residential real estate segment. The reorientation of investors toward a longer ownership horizon and heightened requirements for institutional predictability have led to a re-evaluation of the role of specific regions within international portfolios. Consequently, traditional Western European financial centers, which long served as key destinations for high-value investments, have gradually seen their share of global transactions in the high-net-worth residential segment decline since 2022.

The diminishing role of traditional Western markets during 2020–2025 has become systemic, resulting from the accumulation of structural imbalances within the premium residential sectors of Europe, the USA, and Canada. At the core of these shifts is a reassessment of the investment viability of assets where the combination of historically high entry prices, compressed current yields, and rising non-financial risks increasingly fails to meet HNWI expectations for long-term capital preservation.

Most developed Western markets are characterized by several fundamental factors.

Common Structural Pressures (2020–2025)

Shared across Europe, the US and Canada

- Price overheating during the previous cycle
- Compression of net investment yields
- Higher cost of capital
- Rising importance of liquidity risk

REGION-SPECIFIC MECHANISMS

EUROPE

- Regulatory and fiscal constraints
- Rent controls
- Mandatory future capex (energy efficiency, building upgrades)

UNITED STATES

- High market cyclicality
- "Frozen" housing supply due to fixed-rate mortgages
- Strong regional fragmentation
- Rising operating and insurance costs

CANADA

- Credit vulnerability (floating/short-term mortgage rates)
- Policy volatility in housing regulation
- Demand dependence on immigration flows

COMMON STRUCTURAL OUTCOME

- Declining risk-adjusted attractiveness
- Lower income predictability
- Higher entry and exit barriers
- Loss of "safe allocation asset" function

First, the previous cycle saw a disconnect emerge between residential real estate prices and the assets' ability to generate stable operating income. Second, the rising cost of capital after 2022 catalyzed a reassessment of assets with low current yields. Third, investor focus on liquidity risks and the predictability of exit strategies has intensified significantly. While these factors are common across Western jurisdictions, their manifestations and investment implications differ substantially by region.

In Europe, the primary constraint is a structural misalignment between price levels and net investment yields, exacerbated by regulatory and fiscal pressure. In metropolises such as London, Paris, Zurich, and Berlin, prolonged price growth in an ultra-low-rate environment led to a chronic compression of net yields. Following the normalization of monetary policy, this imbalance became particularly acute: the potential for compensation through rental income growth is limited by rent controls, complex development procedures, and high tax burdens. An additional factor is the increase in future capital expenditures related to energy efficiency mandates and housing stock modernization, further deteriorating the long-term investment profile of these assets. Consequently, European prime residential real estate is increasingly perceived as an asset with low risk-adjusted returns and heightened regulatory uncertainty.

Figure 6. Structural drivers of declining investment attractiveness in Western residential real estate markets (2020–2025)

In the United States, the decline in investment attractiveness is of a different nature, primarily linked to the market's high cyclical nature and its close correlation with the domestic macroeconomic and financial cycles. The pandemic period saw a sharp surge in prices that significantly outpaced rental income dynamics. Following rate hikes, the market entered a phase of limited price upside, with yields becoming heavily dependent on the overall state of the economy. A specific feature of the US market is the "locked-in supply" effect: asset owners with fixed low mortgage rates have little incentive to sell, reducing liquidity and complicating entry and exit for new investors. The situation is further complicated by high regional market fragmentation and rising costs for asset maintenance and insurance, particularly due to climate risks. Ultimately, US residential real estate is increasingly viewed as an asset with heightened dependence on the domestic US cycle rather than a universal global portfolio stabilizer.

The Canadian market represents a distinct model of declining attractiveness. Its key characteristic is an exceptionally high price-to-income and price-to-rent ratio, particularly in Toronto and Vancouver. A significant reliance on credit with floating or short-term fixed rates has made this market especially vulnerable to interest rate hikes. Meanwhile, active and often reactive government intervention—through foreign buyer restrictions, tax measures, and attempts to curb prices—creates an environment of policy volatility difficult for long-term investors. High demand sensitivity to migration flows remains an additional factor, amplifying the risks of asymmetric scenarios. Combined with limited liquidity, this reduces Canada's appeal as a jurisdiction for the international allocation of premium capital.

Collectively, these processes indicate that the declining investment attractiveness of European and North American markets stems from different regional mechanisms but leads to a common result: prime residential real estate is increasingly failing to serve its function as a long-term capital preservation tool with a predictable risk profile. This transformation creates the basis for a reassessment of investment geography and a strengthening interest in alternative metropolises, primarily in Asia, where investors more frequently find a combination of predictability, yield stability, and controlled risks.

Against the backdrop of these structural constraints in Western markets, the rising role of Asian metropolises in global premium capital allocation appears logically grounded rather than reactive.



The investment attractiveness of cities such as Tokyo, Singapore, and Seoul is built not on accelerated price growth, but on a combination of macroeconomic stability, regulatory predictability, and functional market efficiency. In these jurisdictions, residential real estate better meets the updated requirements of global capital regarding risk manageability and long-term predictability.

A key differentiator for most Asian metropolises is a higher level of institutional consistency and a lower frequency of retrospective regulatory changes, which directly impacts the stability of cash flows and investment expectations. Unlike many Western markets, prime residential real estate in Asia maintains a positive balance between rental yields and financing costs, forming an asset profile similar to infrastructure or quasi-bond instruments. This enhances its attractiveness during periods of global volatility.

An additional role is played by the institutional maturity of Asian markets and the shifting geography of the professional and personal presence of HNWIs, for whom Tokyo, Singapore, or Seoul are increasingly not just investment targets, but centers of lifestyle and business activity. Together, these factors explain the growing interest in Asian metropolises and form the basis for their subsequent comparative analysis by economic and market parameters, as presented in the next section.

II. Comparative analysis of megacities: economic and market parameters

2.1. Macroeconomic context and the investment function of residential real estate in metropolises

Comparative framework and macroeconomic context of selected megacities

To correctly interpret the transformations emerging in the global residential real estate market, generalized macroeconomic or regional conclusions are insufficient. Real differences in investment attractiveness manifest at the level of specific urban markets, where national economic conditions, local regulatory regimes, and the actual structure of supply and demand converge.

A comparative analysis of metropolises allows for a transition from describing general trends to understanding exactly how different investment environments respond to changes in the cost of capital, macroeconomic shocks, and the revision of investor priorities. This approach enables an assessment not only of price dynamics or nominal yields but also of the relationship between cash flow stability, market liquidity, and regulatory predictability factors that directly influence global capital decisions.

Therefore, the subsequent analysis focuses on metropolises that effectively compete with one each other for the allocation of premium capital. The focus is on the differences between urban markets in terms of their ability to ensure asset value preservation, income stability, and the possibility of a controlled exit from investments during various phases of the market cycle.

The selection of cities is based on practical investment criteria: openness to international capital, predictability of the institutional environment, market depth, and the potential for scalable allocation. This allows for a transition from general regional assessments to an analysis of specific investment environments that actually shape the modern geography of the prime residential real estate market.

For a structured comparison of key investment environments, a summarized characterization of the selected metropolises is provided below.

Table 3. Macroeconomic positioning of megacities and the investment role of residential real estate

City (Country)	Macroeconomic role of the city	Economic cyclicity	Sensitivity to global shocks	Investment role of residential market
London (UK)	Global financial centre	High	High	Status preservation with declining capital efficiency
Paris (France)	Administrative and economic centre	Medium	Medium	Price stability driven by regulatory constraints

Zurich (Switzerland)	Financial and corporate hub	Low–Medium	Low	Conservative store of value with limited liquidity
Berlin (Germany)	Political and administrative centre	Medium	Medium	Heavily regulated investment environment
Vienna (Austria)	Administrative and cultural centre	Low	Low	Socially oriented market with weak investor function
New York (USA)	Global financial and business hub	High	High	Highly liquid but strongly cyclical residential market
Los Angeles (USA)	Lifestyle and entertainment-driven economy	Medium–High	Medium	Income- and tax-sensitive residential segment
Miami (USA)	Migration and lifestyle hub	High	High	Capital inflow–driven and volatile market
Dubai (UAE)	International financial and investment hub	Medium	Medium	High accessibility for global capital
Tokyo (Japan)	Economic and managerial centre	Low	Low	Stable anchor market for capital preservation
Seoul (South Korea)	Technology and corporate hub	Medium	Medium	Increasing institutional attractiveness
Sydney (Australia)	Asia-Pacific financial centre	Medium	Medium	Mature but tightly regulated investment market
Kuala Lumpur (Malaysia)	Regional business hub	Medium	Medium–High	Accessible emerging market with elevated risk profile

Table 3 is an author's analytical synthesis based on publicly available macroeconomic data, global real estate benchmarks and comparative market assessments, including international consultancy reports and central bank statistics. The classification reflects relative positioning rather than absolute rankings and is intended to support cross-city comparison within a unified analytical framework.

The comparative framework presented in the table demonstrates that the differences between metropolises are shaped not only by the level of economic development but, primarily, by the risk structure, cyclical, and the role of residential real estate within the city's investment model. For a further assessment of capital allocation viability, it is necessary to proceed to an analysis of the market fundamentals that determine the balance of supply and demand, price dynamics, and the adaptability of housing markets.



2.2. Market fundamentals of metropolitan housing markets

Comparison of structural market fundamentals that drive divergent investment performance between Western and Asia-Pacific megacities

The fundamental characteristics of a housing market determine the extent to which an asset's price aligns with its actual investment function. For the prime segment, the key factors are not absolute value levels, but the balance between supply and demand, buyer demographics, market flexibility, and the ability to adapt to changes in the macroeconomic environment without a loss of liquidity.

In traditional Western metropolises, the fundamental model of the housing market underwent a gradual deterioration between 2020 and 2025. Limited supply, driven primarily by regulatory factors, sustained high prices for a long period; however, it simultaneously reduced market adaptability. Rigid zoning laws, complex redevelopment procedures, and political restrictions on new construction have created a situation where housing shortages do not translate into increased investment efficiency but merely raise the barrier to entry for new capital.

The demand structure in these cities has also shifted. Within the prime segment, the share of investors focused on long-term ownership has decreased, while a significant portion of historical demand was driven by status-driven or quasi-speculative purchases. Amid rising financing costs and intensifying non-financial risks, this model proved less resilient, negatively impacting liquidity in the upper market segment.

In contrast, the market fundamentals of several Asian and non-European metropolises demonstrate greater structural balance. Supply in these cities is shaped within more flexible urban policies, allowing for a combination of density control and the continuous renewal of housing stock. Consequently, shortages are manageable and do not become a factor of systemic imbalance between prices and effective demand.

A vital differentiator is also the buyer profile. In a number of Asian metropolises, the prime segment is largely supported by end-users and institutional investors focused on stable ownership. This reduces market sensitivity to short-term shifts in sentiment and strengthens the link between the residential asset and the city's real economic environment.

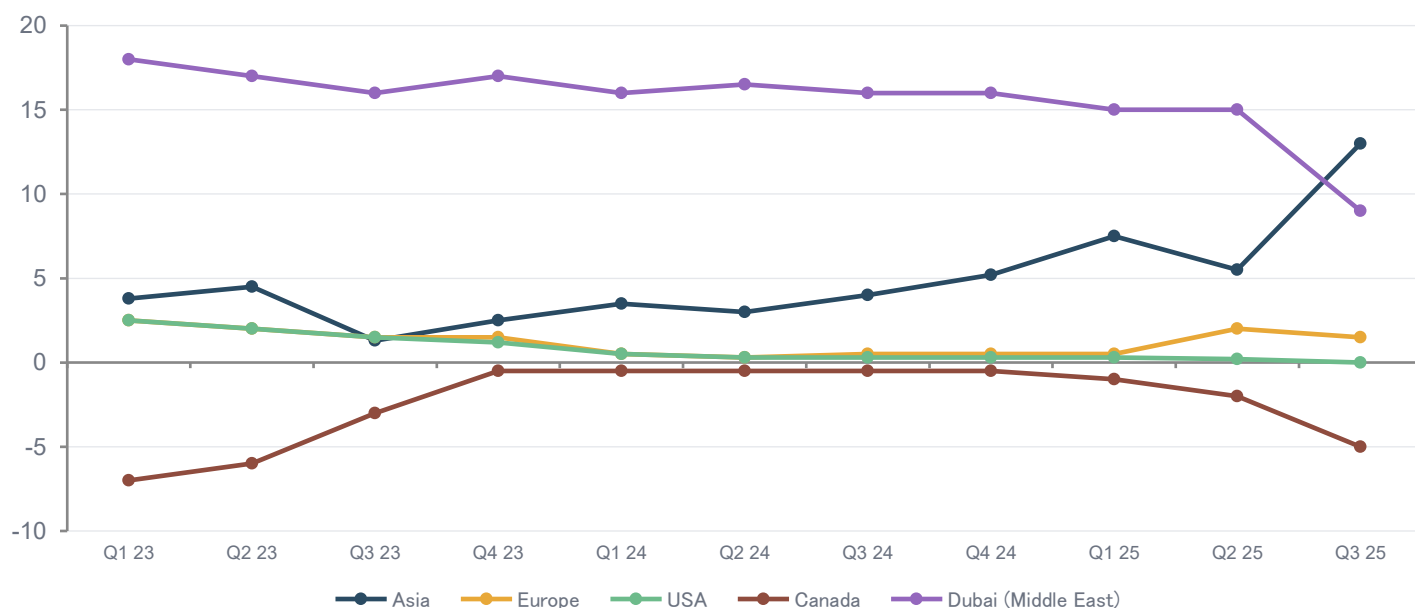
Another fundamental factor is the state of the rental market. In cities with deep and liquid rental markets, residential real estate retains its alternative income-generating function even during periods of limited price appreciation. Conversely, in markets where the prime segment has historically been dominated by owner-occupiers or status-driven buyers, this function remains limited, reducing the asset's overall investment flexibility.

Collectively, the fundamental differences between metropolises explain why cities of similar scale and development levels demonstrate varying capacities to retain global premium capital. These parameters form the basis for assessing market resilience during economic cycle shifts and determine the potential of residential real estate as a long-term investment instrument.

The following figure illustrates the regional dynamics of prime residential real estate markets in 2023–2025 based on Prime Global Cities Index data. The visualization clearly demonstrates the growing asymmetry between regions, which emerged not as a short-term market anomaly but as a result of persistent structural differences.

Regional Dynamics of Prime Residential Markets

Average 12-month price change, % (Q1 2023–Q3 2025, PGCI-based)



Source: Knight Frank, Prime Global Cities Index (quarterly editions, 2023–2025)

Figure 7. Regional dynamics of prime residential markets, 2023–Q3 2025

Average 12-month price change (%), regional aggregation based on Prime Global Cities Index.

Author’s calculations based on city-level year-on-year price changes aggregated into regional indicators using a simple arithmetic mean.

Regional groupings include: Asia (Tokyo, Seoul, Singapore, Hong Kong); Europe (London, Paris, Berlin, Zurich, Vienna); USA (New York, Los Angeles, Miami); Canada (Toronto, Vancouver); Middle East represented by Dubai as the sole regional market included in the index.

Asian metropolises maintain a consistently positive growth trajectory throughout the entire observation period. Despite a gradual deceleration, price dynamics remain significantly higher than those of Western markets, indicating robust demand resilience and effective market adaptation to changing monetary conditions.

European cities exhibit a gradual but persistent decline in growth rates, reflecting limited supply flexibility, intensifying regulatory pressure, and diminishing investment yields. While the market remains functional, it increasingly serves as a tool for value preservation rather than active income generation.

US markets are characterized by the most subdued dynamics, with signs of stagnation toward the end of the period. This confirms a high sensitivity to the cost of capital and constraints on scaling investments within the prime segment under tight monetary policy.

Canada stands out with a sustained negative trend, reflecting a combination of post-overheating correction from previous years, structural demand constraints, and heightened regulatory uncertainty.

Dubai stands apart as the sole Middle Eastern representative in the index, consistently demonstrating the highest growth rates. This underscores its role as an alternative global hub for prime residential capital, combining high liquidity, a favorable tax regime, and a robust influx of international demand.

Collectively, the chart confirms that the reallocation of global residential capital is systemic in nature, reflecting a shift in investor priorities toward markets with higher adaptability and a superior risk-return balance.

2.3. Profiles of key metropolises in the Asia-Pacific region: portfolio role and risks

Assessment of city-specific investment profiles shaped by capital inflows, demand composition, and market resilience across Asia-Pacific megacities

A deeper understanding of the structural shifts between 2020 and 2025 necessitates analysis at the city level. It is at this granularity that the critical distinctions often obscured in broader regional aggregates come into focus. Examining specific metropolises reveals the key structural parameters that directly shape the investment profile of prime residential real estate: the resilience and composition of demand, the participation and behavioral patterns of foreign capital, supply responsiveness, institutional and regulatory constraints, and the role of the prime segment in the market's capacity to retain capital over the medium to long term.

Following this logic, the subsequent analysis moves beyond generalized comparisons to a sequential examination of the investment profiles of individual metropolises. This approach allows us to trace how distinct combinations of market, regulatory, and macroeconomic parameters give rise to differentiated behavioral models for prime residential capital.

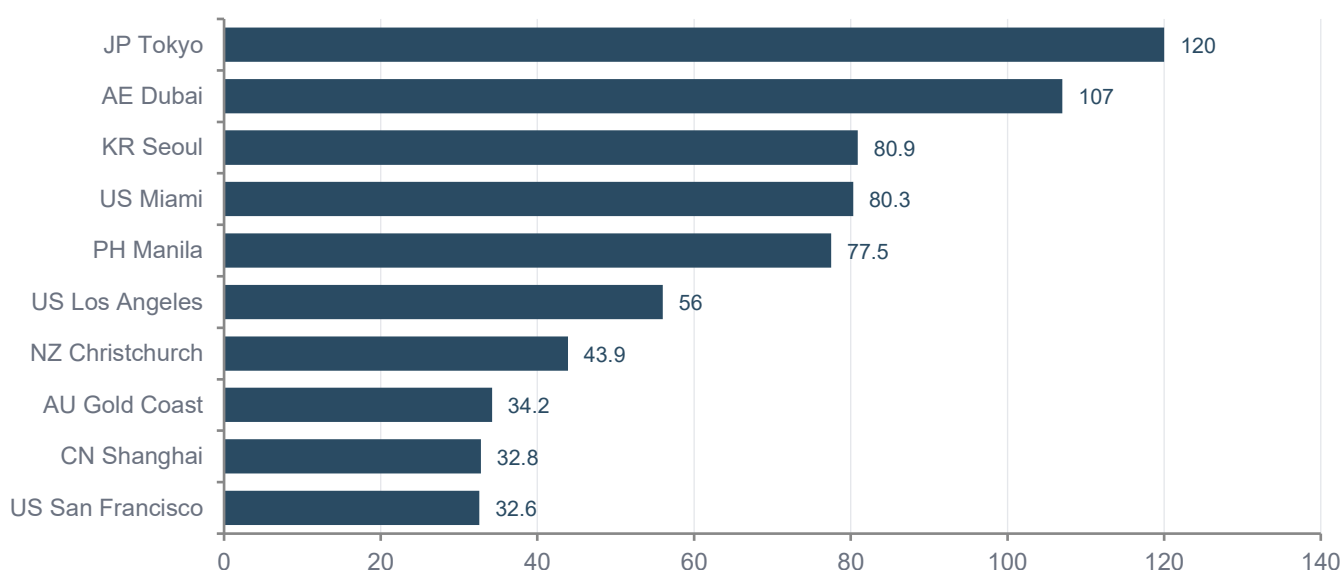
Tokyo: A Model of Predictability in Prime Residential Market Development

Tokyo occupies a unique position in the global prime residential segment as a market that combines scale, liquidity, and high institutional predictability. Unlike many other global hubs, Tokyo's investment appeal is not driven by short-term price spikes but is underpinned by systemic, measurable dynamics rooted in fundamental supply and demand factors.

The five-year price trend places Tokyo among the global leaders in the prime segment, with values in the upper tier appreciating by approximately +120% cumulatively over five years (data through Q2 2025). Significantly, this performance was achieved not in an environment of speculative overheating, but against a backdrop of gradual domestic demand recovery, constrained new supply in central districts, and steady interest from long-term, patient foreign capital.

Top Global Residential Markets by Price Growth

Five-year cumulative change, % (to Q2 2025)



Source: Knight Frank Research, based on Prime Global Cities Index data (five-year price growth to Q2 2025)

Figure 8. Five-year cumulative change, % (to Q2 2025)

Over a shorter time horizon, the market exhibits clear signs of established price momentum. In Q2 2025, annual price growth in Tokyo's prime segment reached +16.3% year-on-year, accelerating from the previous quarter, while quarterly growth stood at +7.9% quarter-on-quarter. For investors, this represents a critical signal: the market is transitioning into a phase of more vigorous growth while maintaining a controlled and orderly price trajectory.

The currency and monetary policy context warrants particular attention. Despite the gradual normalization of its ultra-loose monetary policy, Japan remains one of the few developed economies with relatively low financing costs. The weakened yen continues to act as an additional catalyst for foreign demand within the prime segment, mitigating the impact of globally rising capital costs and sustaining investment activity in Tokyo.

However, Tokyo's market dynamics are not linear. The market experienced sharp quarterly corrections throughout 2023, including a notable decline of -12% quarter-on-quarter in Q3 2023. Crucially, these volatility episodes did not trigger a structural market shift. On the contrary, Tokyo demonstrated a pronounced capacity for rapid price level recovery – a clear indication of the market's underlying depth and the highly discerning nature of demand within the prime segment. The key practical implication for investors is that **asset quality, precise micro-location, and entry timing are paramount**, whereas the market's long-term fundamentals remain robust.

A further dimension of Tokyo's investment appeal lies in its capital efficiency. Measured by the square meters of prime residential real estate obtainable for USD 1 million, Tokyo significantly outperforms most other global financial hubs. An investment of this amount translates to approximately 64 sq. m – a considerably larger area than comparable investments in London, Singapore, or Hong Kong. This dynamic effectively lowers the entry barrier for acquiring high-quality prime assets and enhances the property's functional flexibility for leasing, reconfiguration, and future resale.

Collectively, these factors allow Tokyo to be interpreted not merely as another successful Asian market, but as a cornerstone element of a global residential portfolio. The city combines predictable dynamics, high liquidity, and a relatively moderate cost of entry into the prime segment, making it particularly attractive to investors with a long-term horizon and an emphasis on risk manageability.

Against the backdrop of other Asia-Pacific metropolises, Tokyo stands as a benchmark for a balanced investment model, where value growth is not accompanied by excessive volatility or regulatory unpredictability. In this role, Tokyo forms the baseline reference point for the further analysis of other Asian markets, whose investment logic differs significantly in terms of risk profile, cyclical, and sources of growth.

How Many square metres of Prime Property US\$1m Buys

Prime residential real estate by city

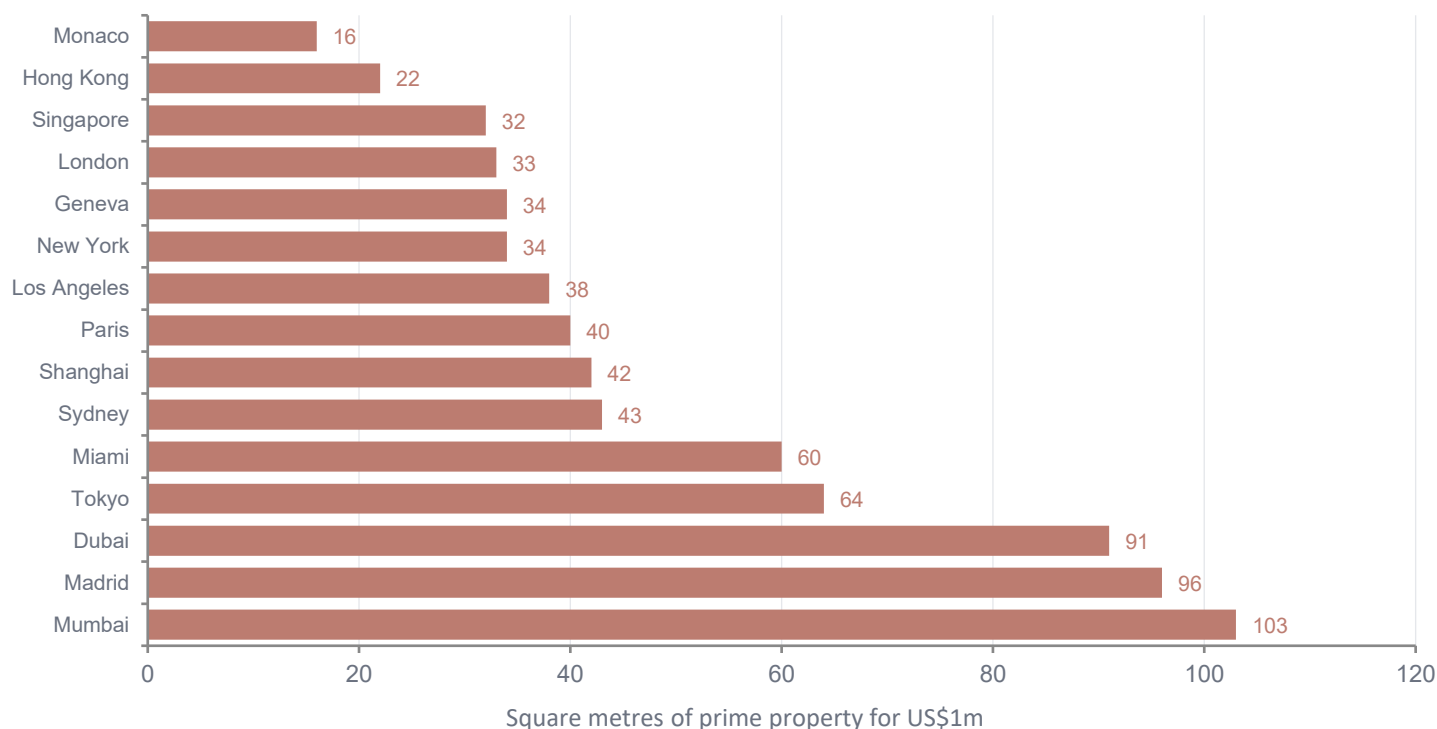


Figure 9. Prime Residential space acquired for USD 1 million (m²)

One of the fundamental advantages of the Tokyo market is the controlled nature of its price dynamics. Even during periods of global volatility, Tokyo's prime segment demonstrates moderate but stable growth rates, which substantially reduces the risk of sharp corrections. For an investor, this signifies a shift in focus from short-term capital appreciation toward capital preservation and predictable total returns.

The monetary environment remains a crucial structural factor. Japan's prolonged period of low interest rates has created a unique situation where the cost of financing residential investments remains among the lowest across developed economies. Even accounting for gradual shifts in monetary policy, the overall cost of capital in Japan continues to support investment activity in the residential sector, particularly in Tokyo's prime districts.

The demand structure deserves special attention. Tokyo's prime residential market is characterized by a diversified buyer base, combining domestic demand, corporate investment, and foreign capital. Furthermore, the share of speculative transactions remains limited, which mitigates the risk of overheating and contributes to maintaining market equilibrium.

From a regulatory perspective, Tokyo is distinguished by a high level of transparency and predictability. The absence of strict restrictions on foreign investors, clear property ownership rules, and a stable tax system create a favorable environment for long-term investment. Combined with a sophisticated rental market, this ensures that Tokyo's prime residential real estate serves not only as a store of value but also as a generator of stable cash flow.

In summary, Tokyo does not compete for the status of the most dynamic market in terms of price growth. Instead, the city fulfills another strategically vital role serving as a core element of a global residential portfolio that provides stability, liquidity, and low volatility in the medium to long term.

While Tokyo serves as a stabilizing, low-volatility element within the global residential portfolio structure, Seoul represents a different model of investment attractiveness within East Asia. Both cities function within comparable institutional frameworks of developed economies; however, they differ in the nature of their market dynamics, sensitivity to cycles, and sources of growth. It is this distinction that makes Seoul an essential addition to the analysis of Asian metropolises attracting global prime capital.

Seoul: A cyclical market with high institutional mobilization and structurally limited supply

The prime residential market in Seoul is distinguished by higher rates of price dynamics compared to Tokyo; however, this dynamics is of a different nature and is accompanied by increased volatility. Over the five-year period ending in Q2 2025, the cumulative growth in prime residential property values in Seoul amounted to approximately +80.9%, formally securing the city's place among global leaders. At the same time, a significant portion of this growth was concentrated in short phases of market upsurge, resulting in a less uniform investment trajectory compared to the more stable markets of East Asia.

A structural feature of Seoul remains the limited supply in central and most attractive locations. Rigid zoning regulations, complex redevelopment procedures, and active state participation in shaping housing policy constrain the emergence of new premium projects. Amid stable domestic demand, this supports price levels but simultaneously heightens the market's sensitivity to any regulatory or monetary changes.

Demand for prime residential real estate in Seoul is predominantly domestic. High-income households and corporate buyers play a key role, while the participation of foreign capital remains limited. This structure reduces the market's dependence on global financial flows but also narrows its international liquidity and makes market dynamics more dependent on domestic economic cycles.



A critical factor in the investment environment is the high sensitivity to monetary policy. The Bank of Korea's hike of the base rate from 0.5% to 3.5% during 2021–2023 was accompanied by a noticeable price correction in the prime segment, which in certain districts reached 15–20%. Significant household debt exceeding 100% of GDP further amplifies the cyclical nature of the market and increases its dependence on the cost of financing.

Regulatory policy in Seoul plays an active and often counter-cyclical role. Periodic market-cooling measures—tax adjustments, credit restrictions, and rules on multi-property ownership—are aimed at curbing price growth but do not eliminate the fundamental imbalance between supply and demand. Consequently, the market retains potential for growth recovery, albeit in a wave-like dynamic that is less suited for long-term passive capital allocation.

From an investment perspective, Seoul may be attractive as a market for opportunistic or tactical growth, but its appeal for global HNWIs and institutional investors is limited by elevated regulatory and cyclical risks. At the same time, it is this active regulatory role of the state that reduces the likelihood of uncontrolled systemic imbalances and ensures the rapid correction of market disparities. Unlike Tokyo, where prime residential real estate serves as a stabilizing portfolio element, Seoul requires more active management and precise entry timing.

In summary, Seoul illustrates a different model of investment attractiveness within East Asia—one with an emphasis on domestic drivers and structural supply shortages, but with less predictability regarding long-term outcomes.

Sydney: A highly capitalized market with limited investment upside

Sydney is traditionally regarded as one of the key financial hubs of the Asia-Pacific region and one of its most mature prime residential markets. However, unlike leading Asian metropolises, its investment attractiveness is increasingly defined not by growth potential, but by a combination of high capitalization levels, a stringent regulatory regime, and limited investment flexibility.

According to the Knight Frank Prime Global Cities Index, cumulative price growth for prime residential real estate in Sydney over the five-year period ending in Q2 2025 amounted to approximately +34%, a moderate figure compared to other Asia-Pacific markets. This result is further corroborated by assessments from CoreLogic and Savills, which point to a slowdown in price dynamics within the prime segment against a backdrop of a high base and rising financing costs.

A key structural constraint of the market remains the high barrier to entry. According to the Savills World Cities Prime Residential Report, Sydney consistently ranks among the region's most expensive cities in terms of absolute price levels. This significantly diminishes the potential for further capital appreciation without a substantial expansion of demand or a shift in regulatory conditions. Consequently, the prime segment is characterized by high capital intensity and relatively low asset turnover.



The regulatory environment is a decisive factor for foreign investors. In accordance with Foreign Investment Review Board (FIRB) requirements, foreign buyers are generally restricted from purchasing existing residential property and must instead focus on new developments, undergoing complex approval procedures. Additionally, according to government and tax authorities in New South Wales and Victoria, tax surcharges for non-residents (stamp duty surcharges and land tax surcharges) can increase the total investment cost by 8–9% or more, substantially reducing net investment yields.



On the demand side, the Sydney market relies primarily on domestic sources. Data from the Australian Bureau of Statistics and the Reserve Bank of Australia indicate that high household income levels and stable migration dynamics support underlying housing demand. Meanwhile, foreign demand, which played a prominent role in previous cycles, has become more selective and sensitive to regulatory policy changes, thereby reducing liquidity in the prime segment and limiting opportunities for rapid investment scaling.

From an investment perspective, Sydney is increasingly positioned as a market with limited capital appreciation potential and moderate rental yields in the prime segment. According to CBRE and JLL, residential real estate in Sydney's central districts effectively serves as a tool for long-term capital preservation within a jurisdiction of high legal standards; however, it does not offer an attractive risk-return profile for investors focused on active portfolio growth.

Compared to Seoul, Sydney is characterized by lower volatility but also weaker price dynamics. Compared to Tokyo, it presents higher regulatory barriers and less predictable conditions for foreign investors. Therefore, its role in a global residential portfolio is auxiliary: it serves as an instrument for diversification and legal stability, rather than a core element of a long-term investment strategy.

Singapore: A politically stabilized prime market with limited capital efficiency

Singapore is traditionally regarded as one of the most stable and predictable jurisdictions for prime residential real estate investment on a global scale. Its investment attractiveness is based on a combination of macroeconomic stability, a high-quality institutional environment, and strictly controlled government housing policy. At the same time, it is precisely this political and regulatory manageability that shapes a specific investment profile, which differs significantly from other Asian metropolises.

A key characteristic of the Singaporean prime market is the high degree of regulatory intervention. The **Additional Buyer's Stamp Duty (ABSD)** system, restrictions on multiple acquisitions, and the state's active role in balancing supply and demand substantially constrain both speculative activity and the scalability of investment strategies. For foreign investors, this translates into a market that is formally open but functionally high-barrier, where entry costs and tax burdens significantly impact net yields.

From a pricing perspective, Singapore remains one of the most expensive residential markets in the Asia-Pacific region. According to Knight Frank and Savills, price appreciation in the prime segment between 2020 and 2025 was moderate and largely regulated, which reduces the risk of sharp corrections but simultaneously limits the potential for real capital upside. Combined with a high base, this forms an investment profile with low upside and an increased dependence on political decisions.



In terms of cash flows, prime residential real estate in Singapore is characterized by stable but relatively low rental yields. According to CBRE and JLL, net yields in the prime segment fall behind those of Tokyo and several other Asian markets, further reducing Singapore's attractiveness for investors focused on a balance between capital preservation and operational efficiency.



In portfolio logic, Singapore serves as a defensive, politically stabilized asset with minimal volatility but limited investment flexibility. It aligns well with capital preservation goals in a jurisdiction with high standards of legal protection; however, it is less suitable for developing scalable or dynamic strategies for prime residential capital allocation. This distinguishes it from Tokyo, as a more functionally balanced "anchor" market, and from Seoul, as a market with higher cyclical potential.

Kuala Lumpur: An early-stage market with limited depth and asymmetric risk profile

In recent years, Kuala Lumpur has begun to appear in international prime residential market reviews as a distinct investment destination. However, its presence in global benchmarks reflects an expansion of the geographical scope of observation rather than a shift in the hierarchy of Asia's key urban markets. Unlike the established metropolises of East Asia, investment interest in Kuala Lumpur is centered not on market maturity or stable liquidity, but on entry affordability and expectations of gradual development.

The city's prime residential segment is characterized by a significantly lower price base than the region's leading metropolises. Even at the upper end of the market, capitalization levels remain moderate, which lowers the initial barrier to entry for investors but simultaneously signals the market's limited ability to generate significant capital appreciation without structural changes. In this sense, Kuala Lumpur aligns more with the logic of emerging-market exposure than that of a fully-fledged prime market.

The city's institutional environment is relatively open to foreign capital. The absence of strict restrictions on property ownership and formally clear acquisition procedures create favorable conditions in terms of access. However, this openness is not accompanied by a high level of market selectivity, leading to significant variations in project quality and complicating the formation of a homogeneous prime segment.

The primary constraining factor remains the supply structure. Overbuilding in certain sub-segments, uneven development quality, and a poorly developed secondary market reduce asset liquidity and complicate investment exits without a discount. This limits Kuala Lumpur's appeal to investors focused on predictability and the scalability of operations.

Demand in the prime segment is fragmented and largely dependent on foreign private buyers, residency programs, and regional capital mobility. The lack of a powerful domestic base of stable demand makes the market more sensitive to changes in external conditions and regulatory signals.

From a portfolio logic perspective, Kuala Lumpur fulfills the role of neither a stabilizing element nor a reliable growth driver. Its role is limited to niche diversification with the possibility of entry at an early stage of prime segment formation, provided the investor is willing to accept heightened liquidity risks and a long-term investment horizon.

In the broader context of the Asia-Pacific region, Kuala Lumpur demonstrates an alternative development trajectory; however, this trajectory remains secondary to mature and institutionally predictable metropolises. For a global investor, the city may complement a portfolio but cannot form its foundation.

Hong Kong: structural loss of safe haven status

For decades, Hong Kong remained one of the world's most expensive and liquid prime residential markets. However, between 2020 and 2025, its position underwent a systemic weakening. Unlike the cyclical corrections typical of mature markets, Hong Kong's current dynamics bear distinct signs of a structural decline in investment attractiveness.

According to CBRE and Savills, prime residential property prices in Hong Kong decreased by approximately 18–22% from their 2021 peak levels by the end of 2024. Throughout 2023–2024, the city consistently ranked among the group of global metropolises with negative or near-zero dynamics in the Prime Global Cities Index, sharply contrasting with the performance of most Asian competitors.

The contraction in demand has both a financial and a demographic dimension. According to estimates from the Hong Kong Census and Statistics Department and Bloomberg analysis, between 2020 and 2023, the city lost over 200,000 residents, a significant portion of whom were high-earning professionals and international business representatives—the key audience for the prime segment. This directly impacted the rental market: despite a partial recovery in 2024, rental rates remain below pre-pandemic levels, and vacancy rates in premium projects have risen.

From an investment perspective, the drop in transaction volumes serves as another critical signal.

According to JLL, between 2022 and 2024, the number of transactions in the high-end segment contracted by more than 30% compared to the average figures for 2017–2019, indicating diminished liquidity and more cautious buyer behavior.

The fundamental factor in the reassessment of Hong Kong's investment logic remains the shift in institutional and regulatory perception of the city. The weakening of autonomy and rising geopolitical risks have led to a situation where the traditional "safe jurisdiction" premium is no longer fully priced in. For an investor, this means that high asset values are increasingly poorly compensated by predictability and stability.

In summary, the risk-to-expected-return ratio in Hong Kong's prime segment appears less attractive than in previous decades. A high entry point, reduced liquidity, and limited visibility of long-term institutional conditions create an environment in which residential real estate increasingly fails to serve as a capital protection tool.

From a portfolio perspective, Hong Kong is gradually shifting from the category of a core stabilizer to a tactical or selective market, where investment decisions depend on a shorter horizon and higher risk tolerance. This shift explains why a portion of global prime capital is reorienting toward alternative Asian metropolises with higher levels of institutional predictability and a better balance between price and risk.



Bangkok: A Yield-driven market with elevated structural and operational risks

The prime residential market in Bangkok presents a different investment logic compared to the mature metropolises of East Asia. Its appeal to investors is centered not on capital preservation or low volatility, but on relatively high yields and a lower barrier to entry. This positions Bangkok as a market for tactical, rather than strategic, investments within the Asia-Pacific region.

From a pricing perspective, Bangkok remains one of the most affordable major metropolises in the region. According to Knight Frank, CBRE, and Savills, the average cost of prime apartments in Bangkok's central districts fluctuated between USD 6,000–8,000 per sq. m in 2024–2025, which is significantly lower than similar indicators in Tokyo, Singapore, or Seoul. At the same time, price dynamics over the last five years have been uneven: following a correction in 2020–2021, the market entered a phase of slow recovery, showing limited real growth when adjusted for inflation.

The primary factor driving investor interest remains the focus on rental income. According to estimates by CBRE Thailand and JLL, gross rental yields in Bangkok's prime condo segment averaged 4.5–6.0% per annum in 2023–2025, surpassing the figures of most mature Asian markets. However, this yield is accompanied by higher operational risks, including occupancy fluctuations and a heavy dependence on external demand.

The demand structure in Bangkok differs substantially from that of Tokyo or Singapore. Foreign buyers primarily from China, Hong Kong, Singapore, and the Middle East play a significant role. According to REIC Thailand, the share of foreigners in new condo projects in central districts exceeded 25–30% in the pre-pandemic period and gradually recovered after the downturn in 2023–2024. This increases market sensitivity to changes in global capital flows and regional mobility.

Simultaneously, Bangkok faces several structural constraints that hamper its long-term investment quality. Overbuilding in the middle and upper-middle segments, heterogeneous development quality, and limited transparency in the secondary market reduce asset liquidity. According to Savills Thailand, the level of unsold or low-liquidity properties remains elevated in several central locations, even during the demand recovery phase.

The regulatory environment also shapes a specific risk profile. Foreign investors are restricted from land ownership and can only purchase apartments within defined quotas, complicating the scaling of investment strategies. Furthermore, the legal environment and investor protection mechanisms are perceived as less predictable compared to jurisdictions in Northeast Asia or Australia.

Table 4. Comparative investment Profiles of selected Asia–Pacific Prime Residential markets

City	Portfolio Role	Price Dynamics (5 years)	Volatility	Accessibility for Foreign Buyers	Liquidity	Regulatory Risk	Growth Potential	Key Constraint
Tokyo	Core stabilizer	High, controlled ($\approx +120\%$)	Low–medium	High	High	Low	Moderate, resilient	Limited speculative upside
Seoul	Controlled growth driver	High ($\approx +80\%+$)	High	Limited	Medium	High (active interventions)	High, cyclical	Regulatory unpredictability
Singapore	Defensive quality asset	Moderate	Low	Limited (taxes, ABSD)	High	Medium	Low–moderate	High tax burden
Sydney	Legally stable diversification	Moderate	Low	Limited	Medium	High	Limited	High entry barriers
Hong Kong	Market with eroded confidence	Negative / flat	High	High (formally)	Reduced	High (political)	Limited	Structural loss of status
Kuala Lumpur	Early-stage / optional allocation	Low–moderate	Low	High	Low	Low	Potential	Excess supply
Bangkok	Tactical yield-oriented market	Uneven	High	Relatively high	Medium–low	Medium	Selective	Dependence on tourism

From an investment standpoint, Bangkok is a market with an asymmetric profile: relatively high current income is combined with limited capital appreciation potential and heightened non-financial risks. For a global HNWI, this means that Bangkok can only play an auxiliary role in a portfolio—as a tool for yield enhancement or diversification, but not as a core element of capital preservation.

In the Asia-Pacific context, Bangkok stands in sharp contrast to the region's mature markets. Its analysis underscores that the regional shift of capital is not uniform: alongside "anchor" cities, there are markets with a different investment logic, where the ability to manage risk and operational complexity becomes key, rather than stability and predictability.

An examination of individual metropolises shows that even within a single region, the investment logic of prime residential real estate varies significantly by portfolio role, risk nature, liquidity, and regulatory predictability. To systematize these differences and transition from descriptive profiles to an applied investment assessment, the following comparative table outlines the key characteristics of the selected metropolises relevant for prime residential capital allocation decisions.

The comparative analysis of urban profiles demonstrates that the investment attractiveness of prime residential real estate is shaped not by price levels or individual yield indicators, but by a combination of structural factors: cash flow stability, institutional predictability, market depth, and the nature of regulatory intervention. Even within a single region, these parameters combine differently, forming fundamentally distinct roles for assets within a global investor's portfolio. This underscores the necessity of assessing urban markets not in isolation, but as part of an integrated system which infrastructure, regulatory, and behavioral characteristics determine the actual viability of an investment strategy.



III. Institutional constraints and structural risks of investing in prime real estate

3.1. Global structural drivers of investment attractiveness in prime real estate

An assessment of the investment attractiveness of prime real estate is impossible without considering the structural conditions within which global urban markets operate. Price dynamics, rental yields, or transaction liquidity gain practical significance only when combined with the underlying factors that shape demand stability, institutional predictability, and the

assets' ability to preserve value across different macroeconomic regimes. It is these factors that determine whether residential real estate can fulfill the role of an investment asset, rather than merely a consumer or status-driven good.

Table 5. Structural drivers shaping investment realizability of prime real estate in global megacities

Structural factor	Economic essence	Why it matters for investors	Impact on prime residential
Concentration of economic activity	Agglomeration of capital, talent, HQs and decision-making	Sustains non-cyclical demand and liquidity even during downturns	Structural demand floor, reduced downside risk
Accumulation of private & institutional capital	High concentration of wealth and long-term capital holders	Shifts investment logic from speculation to capital preservation	Lower volatility, longer holding periods
Supply constraints in core locations	Land scarcity, zoning limits, long approval cycles	Limits overbuilding and supports price resilience	Structural imbalance in favour of existing assets
Functional transformation of space	Flight-to-quality across residential, office and hotel assets	Narrows investable universe to top-tier assets only	Premium for quality, widening gap vs secondary stock
Quality-of-life and lifestyle premium	Demand driven by liveability, services, environment	Anchors demand beyond pure financial return	Higher stickiness of demand
ESG and sustainability requirements	Energy efficiency, climate resilience, governance standards	Directly affects liquidity, operating costs and exit options	Long-term value differentiation
Macro fiscal & monetary conditions	Cost of capital, leverage availability	Acts as accelerator or brake, not as root driver	Cyclical amplitude, not structural viability

The provided structural framework demonstrates that the investment attractiveness of prime residential real estate is shaped not by isolated market indicators, but by a combination of interconnected factors that define the boundaries for implementing investment strategies. The concentration of economic activity, supply constraints in key locations, the nature of capital accumulation, regulatory stability, and asset quality requirements form a long-term hierarchy of urban markets, independent of short-term cycles. In this context, the difference between metropolises lies not in their growth rates, but in the market's ability to ensure risk manageability, liquidity, and value preservation over time.



3.2. Key regulatory and fiscal constraints for non-resident capital in Prime Real Estate

Investment accessibility of prime real estate in global metropolises is determined not only by market parameters of demand and pricing but also by the institutional architecture regulating the participation of non-resident capital. In practical terms, it is the regulatory and fiscal regimes that shape the level of transactional complexity, the predictability of asset holding, and the manageability of investment exits.

Unlike cyclical market factors, regulatory constraints are structural in nature and as a rule, operate asymmetrically across real estate segments. The highest level of friction is concentrated in the residential segment, whereas office and hotel real estate in most jurisdictions are perceived as economically productive assets and are regulated much more leniently.

In global practice, regulatory and fiscal barriers for non-residents are formed through five basic mechanisms, the combination of which determines the actual investment accessibility of the market.

1. Direct and quasi-direct access restrictions

A number of jurisdictions apply formal or permit-based regimes that restrict non-resident participation in the residential segment. Such restrictions may take the form of total bans, quotas, administrative permits, or temporary moratoria. Generally, they are aimed at curbing domestic price pressure and protecting local demand. At the same time, even within such regimes, commercial real estate—offices and hotels—more frequently remains accessible, provided approval procedures are met. This forms a clear distinction between segments in terms of institutional openness.

2. Tax Surcharges and fiscal friction

Fiscal instruments are the most common mechanism for regulating the participation of non-resident capital in prime residential real estate. These involve additional transaction taxes, surcharges on standard rates, increased annual holding taxes, or special capital gains tax regimes for non-residents. In practice, such surcharges significantly alter the effective cost of entry and reduce the risk-adjusted return, especially in the segment of residential assets with limited rental yields. For office and hotel real estate, the tax burden is more often formed through general corporate and operational rules, without specific discrimination based on non-resident status.

3. Restrictions on ownership forms and asset types

In many Asian and emerging jurisdictions, non-resident access is differentiated by asset type. A typical model is one where foreign investors are permitted to own apartments in multi-unit complexes but are restricted or prohibited from owning land and landed properties. Such regimes create different profiles of liquidity, legal complexity, and investment scalability depending on the asset structure. For commercial real estate, these restrictions are usually less stringent; however, they may be offset by requirements for corporate structuring or the participation of local partners.

4. Currency/capital rules and repatriation of income

The regulation of capital movement determines the practical possibility of repatriating income from rentals and asset sales. In jurisdictions with liberal currency regimes, these processes are procedural and predictable. Conversely, in countries with stricter controls, requirements for special accounts, currency declarations, or time limits on conversion, may apply.

This factor is of particular importance for office and hotel real estate with regular operating income, where the timing profile of cash flows directly affects investment attractiveness.

5. Special regimes for institutional participants

Many jurisdictions apply a differentiated approach toward private and institutional investors. Funds, developers, and collective investment structures are often granted exemptions from non-resident surcharges or simplified access regimes, particularly in cases where investments are directed toward creating new supply or developing infrastructure. This allows states to simultaneously curb speculative demand in the residential segment and support the influx of long-term institutional capital.

Regulatory and fiscal regimes create a heterogeneous investment environment in global metropolises, significantly impacting the practical viability of non-resident capital strategies. Prime residential real estate experiences the highest level of regulatory friction, while office and hotel assets remain relatively accessible provided that structural and corporate requirements are met. The decisive factor is not formal market openness, but the actual transactional complexity and the predictability of regulatory policy over time, which determine the stability of cash flows and risk manageability over the medium to long term.



3.3. Comparative investment accessibility of global metropolises for foreign investors

The regulatory and tax rules described above directly determine how realistic and convenient it is for an investor to enter the real estate market in a given jurisdiction. Investment accessibility implies not only the possibility of acquiring an asset but also how easily and predictably an investor can enter the market, hold the asset, and exit the investment without excessive costs or regulatory complications.

To compare metropolises, an approach is used where accessibility is viewed not on an "allowed or prohibited" basis, but as a scale ranging from markets with minimal restrictions to jurisdictions with substantial regulatory and tax barriers. The assessment is based on simple and practical criteria: the presence of additional taxes for non-residents, permitted forms of property ownership, the complexity of purchase procedures, the possibility of free transfer of funds, and the stability of regulatory rules over time.

Below is a comparative profile of the investment accessibility of prime real estate segments in selected global metropolises based on key regulatory and fiscal parameters.

Table 6: Comparative profile of investment accessibility of prime real estate segments

Region	City	Prime Residential	Office
North-East Asia	Tokyo	Low	Low
	Seoul	Medium	Low
	Taipei	Medium	Medium
South-East Asia	Singapore	Very High	Medium
	Bangkok	Medium	Medium
	Kuala Lumpur	Medium	Medium
Europe	London	Medium	Low
	Paris	Low	Low
	Berlin	Medium	Low
	Zurich	High	Medium
North America	New York	Low	Low
	Los Angeles	Low	Low
	Toronto	Very High	Medium
Middle East	Dubai	Low	Low
	Abu Dhabi	Low	Low
Oceania	Sydney	High	Medium
	Melbourne	High	Medium
Emerging Asia	Bangalore	High	Medium
	Mumbai	High	Medium

The presented comparative profile demonstrates that the investment accessibility of prime real estate varies significantly across metropolises, even under similar macroeconomic conditions. These differences are driven not by market factors per se, but by a combination of regulatory, fiscal, and procedural decisions that impact the residential, office, and hotel segments in different ways. For a correct interpretation of the resulting profiles, it is advisable to separately examine the structure and intensity of these institutional barriers.



3.4. Comparative Assessment of Regulatory and Fiscal Barriers in Global Metropolises

Regulatory and fiscal regimes form the fundamental framework for the viability of investment strategies in prime real estate markets. Even under similar macroeconomic conditions and price dynamics, differences in access rules for foreign capital, tax burdens, and procedural requirements create significantly different investment risk profiles across metropolises. These factors determine not the nominal attractiveness of the market, but the practical feasibility of effective entry, ownership, and exit from an asset.

To systematize these differences, a comparative qualitative assessment of the intensity of regulatory and fiscal barriers is applied across three key segments of prime real estate residential, office, and hotel. The assessment reflects the cumulative effect of asset accessibility for foreign investors, special tax regimes, administrative procedures, ownership form restrictions, and the stability of regulatory policy over time. The use of gradations Low / Medium / High / Very High allows for a comparison of jurisdictions without being tied to formal legal differences, focusing instead on the actual level of institutional friction.

The result of the comparison of regulatory and fiscal conditions in key metropolises is provided below.

Table 7. Comparative matrix of regulatory and fiscal barriers across global megacities (by real estate segment)

Region	City	Prime Residential	Office	Hotel	Overall Barrier Profile
North-East Asia	Tokyo	Low	Low	Low	Open, Low-barrier
	Seoul	Medium	Low	Low	Selective, Admin-heavy
	Taipei	Medium	Medium	Medium	Moderately restricted
South-East Asia	Singapore	Very High	Medium	Medium	Highly restricted (residential)
	Bangkok	Medium	Medium	Medium	Quota-based access
	Kuala Lumpur	Medium	Medium	Medium	Threshold-driven
Europe	London	Medium	Low	Low	Tax-heavy but open
	Paris	Low	Low	Low	Open, high transaction costs
	Berlin	Medium	Low	Low	Tenant-protection bias
	Zurich	High	Medium	Medium	Quota-controlled
North America	New York	Low	Low	Low	Fully open
	Los Angeles	Low	Low	Low	Fully open
	Toronto	Very High	Medium	Medium	Temporary ban / cooling

Middle East	Dubai	Low	Low	Low	Freehold zones
	Abu Dhabi	Low	Low	Low	Expanding access
Oceania	Sydney	High	Medium	Medium	FIRB-controlled
	Melbourne	High	Medium	Medium	FIRB-controlled
Emerging Asia	Bangalore	High	Medium	Medium	Restricted for individuals
	Mumbai	High	Medium	Medium	FX & ownership limits

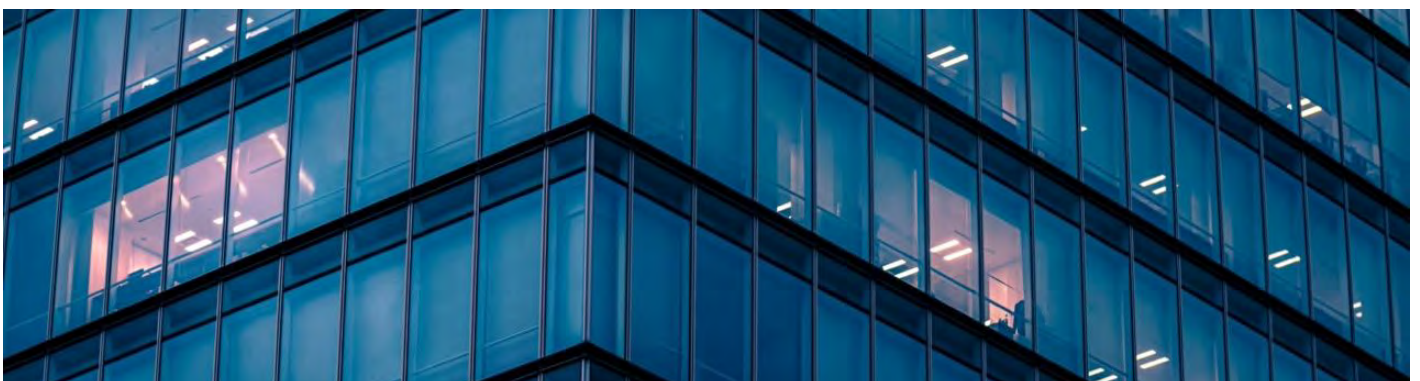
The comparative matrix demonstrates that the highest level of regulatory and fiscal barriers is concentrated in the residential segment of prime real estate. It is this segment that states most frequently use as an instrument of social and macroprudential policy, manifested in the form of tax surcharges for foreign investors, quotas, bans on purchasing specific types of housing, or complex permit procedures. Consequently, access to residential assets is increasingly determined not by the investor's financial capabilities, but by regulatory decisions at the local level.

Office real estate in most global metropolises is characterized by a lower level of institutional friction. Restrictions in this segment are primarily structural in nature and are related to requirements for corporate ownership forms, compliance, and transaction transparency. The absence of significant non-resident surcharges makes office assets more predictable in terms of total returns, while simultaneously increasing competition from institutional capital.

The hotel segment remains relatively neutral toward the origin of capital in most jurisdictions. Direct regulatory restrictions are applied less frequently here, as hotel assets are viewed as a component of tourism and service infrastructure. At the same time, investment complexity in this segment is determined not so much by access barriers as by operational and cyclical risks that shape a different profile of investment viability.

A comparison of metropolises shows that the level of regulatory and fiscal barriers does not have a direct correlation with the level of economic development or financial center status. Markets such as Tokyo combine low institutional friction across all three segments simultaneously, forming a structural advantage in terms of liquidity, scalability, and predictability of the investment environment. Conversely, Singapore, Sydney, or Toronto demonstrate high access selectivity, where regulatory instruments significantly restrict the participation of foreign capital specifically in the residential segment.

In aggregate, the comparative assessment of regulatory and fiscal barriers forms the institutional framework within which all other market parameters from yield and liquidity to the holding period of the asset and the manageability of the investment exit are implemented.



IV. Forecast 2026-2030: prospects for the global residential market development

4.1. Structural reassessment of global residential real estate markets (2026–2030)

In the forecast horizon of 2026–2030, global residential real estate markets will operate within a new investment regime, distinct from the cycles of the previous decade. Assessments consistently used in forecasts by Knight Frank, Savills, CBRE, and JLL indicate a gradual transition from a model of broad price growth to an environment of selective revaluation. In this environment, the quality of the urban environment, institutional stability, and the market's ability to ensure the predictable translation of demand will play key roles.

Even under conditions of easing monetary policy following the peak values of 2023–2024, base scenarios embedded in macro-financial forecasts by UBS, BlackRock Investment Institute, and PGIM anticipate that the real cost of capital will remain higher compared to the 2010s. Consequently, residential real estate in global metropolises will increasingly be viewed less as a tool for financial leverage and more as a real asset with structurally limited upside and heightened risk-profile quality requirements.

Forecast reviews from global consulting firms also agree that the key differentiating factor between metropolises will not be the level of nominal demand, but rather the urban environment's ability to transform economic concentration into stable residential markets. In cities with limited supply, complex regulatory procedures, and high barriers to new development, the shortage of quality housing will persist, supporting long-term price resilience, though not necessarily high growth rates.

At the same time, during the forecast period, the impact of infrastructural and energy constraints on the economics of residential markets will intensify. According to estimates used in strategic materials from global investment houses, competition for urban resources between residential, commercial, and infrastructural development will create additional pressure on the cost of new supply and widen the gap between prime locations and peripheral segments.

Regulatory activity by states will remain a distinct element of the forecasting environment. Analytical reviews by Savills, Knight Frank, and CBRE emphasize that residential real estate will continue to be a focus of social and macroprudential policy. This will increase the significance of after-tax indicators, regulatory predictability, and the stability of the "rules of the game" for investors.

In aggregate, the forecast for 2026–2030 indicates a transition of global residential markets into a phase of **structural selection**. Metropolises with high institutional quality and manageable constraints will maintain their role as primary markets for value preservation, while less adaptive urban environments will increasingly demonstrate a gap between nominal demand and actual investment viability.



4.1.1. Key macroeconomic and structural drivers of global housing market transformation in 2026–2030

In the 2026–2030 forecast horizon, the transformation of the global housing market will be determined not by the emergence of fundamentally new macroeconomic impulses, but by a shift in the relative weight of factors formed in previous periods and the gradual manifestation of new structural constraints. Some of the drivers that shaped market dynamics in the 2010s and early 2020s will maintain their influence, albeit in a weakened form; others will acquire systemic importance precisely within the forecast period.

First and foremost, factors related to the concentration of economic activity in global metropolises, the accumulation of private and institutional capital, and the structural supply constraints in central locations will persist. At the same time, their effect will increasingly translate less into broad price growth and more into differentiation between cities and segments based on the quality of the environment and institutional conditions.

In parallel, the role of factors that were key in previous cycles - specifically the availability of cheap financing and universal price support through monetary easing will weaken. The rising cost of capital, increased yield requirements, and the regulatory sensitivity of housing markets limit the ability of these factors to serve as primary drivers of investment performance.

Instead, the forecast period will see the increasingly clear emergence of new structural factors that were previously either undervalued or had only a local impact. These include infrastructural and energy constraints, rising operating costs, stricter requirements for energy efficiency and digital readiness of the housing stock, and regulatory asymmetry between cities in response to housing affordability issues. It is these factors that will shape the new logic for selecting markets and assets within a global residential portfolio.

To systematize these changes, a generalized matrix is provided below, reflecting the evolution of key factors influencing the global housing market in the 2026–2030 forecast horizon.

Table 8. Structural drivers of global residential market transformation (2026–2030 outlook)

Factor Group	Driver	Direction of Impact	Structural Meaning
Capital & Finance	Cost of capital	Persisting, structurally higher	Higher selectivity of projects and markets
Capital & Finance	Availability of leverage	Weakening	Reduced reliance on price appreciation
Urban Economics	Concentration of high-income employment	Persisting	Structural support for leading megacities
Urban Economics	Migration to secondary cities	Weakening	Lower relative investment relevance
Infrastructure & Energy	Energy capacity and grid reliability	Emerging, strengthening	Premium for infrastructure-ready locations
Infrastructure & Energy	Digital and connectivity readiness	Emerging, strengthening	Differentiation of residential quality

Regulation & Policy	Housing affordability interventions	Strengthening	Higher regulatory dispersion between cities
Regulation & Policy	ESG and building standards	Strengthening	Rising capex and asset stratification
Demand Structure	Rental-oriented households	Persisting	Stable cash-flow demand
Demand Structure	Speculative buyer activity	Weakening	Lower cyclical volatility

In aggregate, the presented matrix reflects the transition from cyclically-driven growth to structurally differentiated development of the global housing market.

In 2026–2030, investment performance will increasingly be determined by the ability of urban markets to combine institutional predictability, infrastructural capacity, and adaptation to new environmental quality requirements, rather than solely by historical price dynamics or the scale of demand.

4.1.2. Technological transformation as a structural driver: artificial intelligence, the digital economy, and capital-intensive growth

Technological shifts associated with the scaling of artificial intelligence and the digital economy are reshaping not only demand structures but also the physical operating conditions of global megacities. Unlike previous waves of digitalization, the current phase is characterized by a sharp increase in the material and energy intensity of economic development, directly affecting urban environments and residential real estate markets.

The expansion of AI is underpinned by the deployment of capital-intensive infrastructure, including data centers, computing clusters, power grids, cooling systems, and backup energy capacity. These elements are spatially fixed, subject to stringent reliability requirements, and demand substantial volumes of electricity and advanced engineering readiness. As a result, the growth of the digital economy is increasingly constrained not by a lack of demand or capital, but by the physical and infrastructural capacity of individual cities.

In a number of global megacities, the additional load on energy systems associated with data centers and digital infrastructure already represents a significant share of total consumption. This creates competition for resources between business, urban infrastructure, and the residential sector, while also leading to delays in grid connections or administrative limits on further capacity expansion. For residential real estate markets, these dynamics translate into higher development costs, longer project timelines, and rising requirements for energy efficiency within the housing stock.

A defining feature of the current technological cycle is the asynchrony between investment outlays and economic returns. Substantial investments in energy, digital, and engineering infrastructure are required upfront, while the positive effects on incomes, employment, and solvent demand materialize with a time lag. Under these conditions, a critical factor becomes the ability of the urban environment to absorb this additional burden without undermining economic efficiency, market liquidity, or overall investment attractiveness.

This fundamentally alters the nature of competition between megacities. Over the 2026–2030 forecast horizon, competitive positioning will be shaped less by symbolic factors or short-term demand cycles and increasingly by the institutional and infrastructural capacity of cities to support capital-intensive growth. Cities facing constrained access to energy, slow connection procedures, or restrictive regulatory frameworks risk a loss of investment momentum even where human capital concentration remains high.

For residential real estate, these processes exert a systemic, albeit indirect, impact. The concentration of high-productivity employment supports demand for quality housing while simultaneously increasing pressure on infrastructure and operating costs within the residential stock.

In the medium term, this widens the gap between megacities capable of scaling energy-digital infrastructure and those where such capacity is structurally constrained.

In this context, technological transformation over 2026–2030 functions not as a cyclical factor, but as a structural driver of the residential market. It introduces new constraints and points of differentiation that are not captured by traditional indicators of price dynamics or transaction volumes, yet directly determine the capacity of megacities to realize solvent demand and sustain investment returns under the evolving economic regime.

4.2. Application of the proprietary Infrastructure–Cognitive Resonance (ICR) model for the forward-looking ranking of megapolises

In an environment where traditional real estate market drivers are increasingly supplanted by structural constraints, standard approaches to assessing investment attractiveness are losing their predictive power. Methodologies that rely exclusively on retrospective indicators such as historical price dynamics, absorption volumes, or GDP growth rates are effective in describing past cycles, but prove inadequate for identifying and interpreting a new class of risks. These include infrastructure, energy, and institutional constraints that are not captured in backward-looking data, yet critically determine cities' ability to translate solvent demand into realized transactions, sustain asset liquidity, and deliver stable risk-adjusted returns over future periods.

Today, the key limitations facing urban real estate markets are shifting away from cyclical demand dynamics toward the structural capacity of urban systems themselves. As a result, investment analysis can no longer be confined to evaluating already realized market outcomes. Instead, it becomes essential to assess whether a given city is capable of absorbing successive waves of technological, infrastructural, and regulatory change without accumulating systemic bottlenecks that erode liquidity, extend investment cycles, and increase outcome volatility. It is precisely this transformation of the operating environment that necessitates the refinement of analytical approaches to the evaluation of global megacities.

To address this analytical gap, the present study introduces a proprietary analytical framework the Infrastructure–Cognitive Resonance (ICR) model.

The core logic of the model lies in a deliberate shift in analytical focus: from assessing “how many people want to buy” toward evaluating “whether the city is structurally capable of delivering.” In an era of global energy transition and accelerated digitalization, investment performance depends not only on the availability of capital, but also on the absence of structural barriers that constrain its effective deployment. The analytical logic of the ICR model is based on the integration of four interrelated dimensions which together form an implicit “immune system” of the urban residential real estate market.

Energy–digital capacity reflects the ability of the urban environment to scale its energy and digital infrastructure in response to rising loads generated by economic activity, residential demand, and technological adoption. In the context of accelerated digitalization and increasingly capital-intensive growth models, this dimension is becoming a primary structural constraint on demand realization, irrespective of the nominal strength of that demand.

Cognitive–Economic Potential captures the concentration of human capital, knowledge, innovation activity, and economic complexity. This dimension underpins the quality and durability of solvent demand for residential real estate by determining whether a city possesses endogenous sources of long-term economic dynamism, rather than relying solely on short-term demographic or financial impulses.

Regulatory adaptability characterizes the institutional capacity at both municipal and national levels to ensure decision-making speed, predictability of rules, and practical implementability of infrastructure and development projects. Over the long term, regulatory rigidity or, conversely, regulatory adaptability defines execution risk, investment timing, and the market's ability to respond to structural challenges without accumulating delays or imbalances.

Socio-economic and physical resilience of the urban environment reflects the capacity of residential assets and urban infrastructure to preserve functionality, liquidity, and attractiveness under conditions of demographic change, climate-related risks, and evolving standards of living. This dimension forms the long-term foundation for value preservation across market cycles.

Taken together, these dimensions provide a holistic assessment of whether an urban system is capable not only of generating economic demand, but also of realizing that demand in a stable manner without accumulating critical infrastructural, institutional, or socio-economic stress.

This constitutes the core applied value of the ICR framework. The model does not negate the relevance of traditional macroeconomic and market indicators; rather, it complements them by evaluating whether the urban environment is structurally capable of sustaining those indicators across future phases of development.

A further important advantage of the ICR model lies in its adaptive architecture. The framework is not tied to a fixed set of proxy indicators or a specific time horizon. As new technologies emerge, energy systems evolve, or regulatory regimes change, individual proxies can be refined or replaced without undermining the overall analytical logic. This makes ICR suitable for repeated application across different temporal horizons 10, 20, or 30 years as a tool for long-term structural assessment of urban real estate markets.

The full formal specification of the model, the algorithm used to calculate the composite index, and the rationale for proxy selection are presented in detail in Appendix B.

Building on this methodological framework, a series of model-based calculations was conducted as part of the study, forming the basis for the strategic benchmarking of global megacities presented in this section.

The resulting structural ranking reflects neither current market conditions nor the inertia of past cycles, but rather the deeper institutional and infrastructural readiness of cities to sustain the investment viability of residential real estate under conditions of accelerated technological and systemic change.



Table 9. Structural ranking of global megacities based on the ICR model

Rank	City	ICR_final	Commentary (for investors & decision-makers)
1	Seoul	0.73	The most structurally balanced market in the sample: strong human capital, sufficient infrastructure capacity, and absence of critical bottlenecks support stable demand realization and low outcome volatility.
2	Tokyo	0.69	High concentration of human capital and economic activity; once energy and digital capacity are properly accounted for, the city shows no binding structural constraints, supporting strong liquidity in the prime residential segment.
3	Singapore	0.69	A highly managed institutional market with strong regulatory predictability and robust infrastructure; investment attractiveness is largely driven by governance quality and policy consistency.
4	New York	0.59	One of the strongest global centers of affluent demand and talent; infrastructure constraints are present but not yet binding, slightly limiting further structural upside.
5	Toronto	0.57	A well-balanced market with relatively low regulatory friction; absence of pronounced structural weaknesses makes it suitable for capital preservation and stable income strategies.
6	Paris	0.55	Energy stability (nuclear base) and institutional continuity provide predictability, though with limited flexibility; investment appeal remains solid but with moderate growth potential.
7	London	0.55	Strong financial and regulatory ecosystem combined with constrained energy and infrastructure capacity, increasing sensitivity to costs, delays, and regulatory frictions.
8	Berlin	0.52	High cognitive density offsets part of the risk, but the ongoing energy transition introduces structural uncertainty that requires careful risk management.
9	Sydney	0.51	A strong resource base supports baseline stability; however, geographic remoteness and market scale limit liquidity and speed of demand realization.
10	Hong Kong	0.50	Reliable network infrastructure combined with high dependence on imported resources; investment profile remains sensitive to external shocks.
11	Shanghai	0.48	Economic scale mitigates part of the risk, but regulatory rigidity constrains effective demand realization and liquidity.
12	Beijing	0.47	Significant infrastructure capacity paired with regulatory constraints, resulting in lower liquidity and a higher structural discount to assets.
13	Dubai	0.46	Strong energy availability supports baseline resilience, but limited cognitive density reduces the durability of long-term demand.
14	Kuala Lumpur	0.41	Moderate infrastructure capacity combined with limited human capital concentration leaves the market vulnerable to external shifts.
15	Mumbai	0.29	Structural constraints across energy, infrastructure, and social resilience materially limit the market's ability to realize demand in a stable manner.

Interpretation of the structural ranking of megapolises based on the ICR methodology

The resulting values of the Infrastructure–Cognitive Resonance (ICR) index should not be interpreted as indicators of maximum capital appreciation potential, nor as substitutes for traditional price-based rankings. A high ICR score primarily reflects the degree of structural coherence of the urban system—that is, a megapolis’s ability to translate existing solvent demand into realized transactions without impairing asset liquidity in response to future technological, infrastructural, and institutional shifts. The focus is therefore not on growth velocity, but on the **quality of demand realization** and the systemic resilience of the investment environment.

The distribution of ICR values across the sample allows for the identification of three stable clusters of megacities, each corresponding to a distinct investment logic and structural risk profile.

1. Structural resonance cluster (Seoul, Tokyo, Singapore)

Megacities with the highest ICR values (above 0.65) exhibit a rare combination of cognitive–economic density, infrastructural capacity, and institutional predictability. Their defining feature is the absence of critical **binding constraints** that could disrupt the transmission of demand into stable cash flows.

Seoul (ICR = 0.73) ranks first due to a balanced configuration across all four structural dimensions. A high concentration of human capital is matched by an already adapted energy–digital infrastructure, minimizing the risk of systemic bottlenecks under increasing load. This configuration results in low volatility of investment outcomes and a high degree of predictability in demand realization.



Tokyo (ICR = 0.69), despite demographic constraints at the national level, maintains exceptionally high cognitive–economic density within its metropolitan area and shows no binding constraints in the energy–digital dimension. The absence of structural bottlenecks allows the prime residential segment to remain deeply liquid even under moderate price growth, making the market particularly resilient during periods of external turbulence.

Singapore (ICR = 0.69) distinguishes itself not by scale, but by the quality of its institutional architecture. High regulatory predictability and administrative efficiency compensate for physical constraints of the market, reducing execution risk and supporting long-term investment realizability.

From an investment perspective, this cluster functions as a “**new-generation safe haven**”—not due to the inertia of global financial center status, but because of the systemic capacity of the urban environment to absorb future shocks without erosion of asset value.

2. Institutionally strong but frictional markets (New York, Toronto, Paris, London, Berlin)

Megacities with ICR values in the range of 0.52–0.59 are characterized by strong cognitive–economic potential that is partially offset by infrastructural or regulatory frictions.

New York and Toronto remain global hubs for capital concentration and high-income demand, yet face physical network constraints and high capital intensity of infrastructure modernization. While this does not undermine their core investment attractiveness, it limits structural upside and increases sensitivity to rising operating costs.

European megacities (Paris, London, Berlin) demonstrate institutional stability and legal certainty, but are undergoing energy and regulatory transitions that introduce timing risks to project execution. Within the ICR framework, this manifests not as critical vulnerability, but as accumulated friction that slows adaptive capacity under new structural pressures.

For investors, this cluster aligns with Core Plus strategies: stable baseline cash flows with limited accelerated growth potential and heightened requirements for execution risk management.

3. Asymmetric potential cluster (Dubai, Kuala Lumpur, Mumbai)

Megacities with ICR values below 0.50 exhibit pronounced imbalances across structural dimensions, increasing the likelihood of abrupt liquidity shifts in response to internal or external shocks.

Dubai (ICR = 0.46) benefits from strong energy and physical infrastructure, but its long-term investment resilience is constrained by low cognitive density and demand dependence on external economic cycles and migration flows. This creates elevated demand volatility during periods of global slowdown.

Mumbai (ICR = 0.29) exemplifies a market with substantial demographic and economic scale that fails to translate into stable investment realizability due to critical constraints in energy, infrastructure, and social resilience. In this context, low entry prices in the prime segment reflect not “undervaluation,” but a structural risk discount associated with realization uncertainty.

The investment logic of this cluster is opportunistic: potentially high returns during growth phases are coupled with significant risks during holding and exit phases, requiring shorter planning horizons and elevated risk premia.

Strategic Implications

The key contribution of the ICR framework lies in shifting the focus of investment analysis from the question of “where growth is fastest” to “which urban systems are structurally capable of functioning reliably under future structural change.” In an environment where traditional macroeconomic cycles are increasingly overlaid by infrastructural and technological constraints, this capability becomes a new currency of investment reliability.

Accordingly, ICR does not replace classical real estate market analysis, but complements it by enabling investors to identify risks and constraints that remain invisible in retrospective data, yet decisively shape the long-term quality of assets and portfolio resilience.



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APPENDIX A

A.1. Approach to Assessing Investment Attractiveness in 2025

In Section 3.1, a methodological approach is applied to develop a structured and comparative assessment of the investment attractiveness of prime residential real estate across leading global megacities as of 2025. To this end, a unified evaluation framework is employed, integrating five key groups of indicators, each reflecting a distinct dimension of the investment decision: potential return, macroeconomic and market stability, liquidity and market depth, tax and regulatory constraints, and medium-term growth potential. The combined application of these parameters provides a comprehensive view of the relative attractiveness of cities for long-term investment in the prime residential segment.

The structure of the evaluation framework is based on five core groups of indicators, each assigned a specific weight within the overall composite score and representing a distinct dimension of prime residential investment attractiveness:

1. Market performance (25%)

Prime gross rental yield and annual capital growth.

Sources: Knight Frank Prime Global Cities Index Q3 2025; Savills World Cities Prime Residential Index H2 2025.

2. Macroeconomic stability (20%)

Price volatility, inflation, currency stability, and sensitivity to global shocks.

Sources: Knight Frank PGCI (price volatility, 2020–2025); OECD Economic Outlook, November 2025.

3. Liquidity and market depth (20%)

Prime rental vacancy rate, transaction volumes, and average time-on-market.

Sources: Savills World Cities Prime Residential Index H2 2025; Knight Frank Wealth Report 2025.

4. Tax and regulatory environment (20%)

Effective tax burden for non-residents (including stamp duty, capital gains tax, and recurrent property taxes), restrictions on foreign ownership, and regulatory predictability.

Sources: UBS Global Real Estate Bubble Index 2025 (regulatory component); Knight Frank Wealth Report 2025.

5. Growth potential for 2026–2030 (15%)

Assessment based on demographic trends, urbanisation dynamics, and the projected structural supply deficit.

Sources: World Bank Global Economic Prospects, June 2025; UN World Population Prospects 2024 (rev. 2025).

Each metric is normalised to a scale from 0 to 100, where a value of 100 represents the strongest performance among the cities included in the sample, ensuring comparability across indicators of different nature and scale. The overall score (Investment Attractiveness Score) is calculated as a weighted sum:

Total Score

$$= 25\% \times \text{Market performance} + 20\% \times \text{Stability} + 20\% \times \text{Liquidity} + 20\% \times \text{Tax/Regulation} + 15\% \times \text{Growth potential}$$

The applied weighting structure reflects the priorities of a long-term investor in the prime residential segment, for whom market stability and liquidity are of greater importance than short-term price appreciation.



Table A-1. Indicator groups, key metrics and data sources used in the investment attractiveness assessment

Indicator group	Key metrics included	Weight	Primary data sources (2025)
Market performance	Prime gross rental yield; annual capital growth (nominal, local currency)	25%	Knight Frank Prime Global Cities Index Q3 2025; Savills World Cities Prime Residential Index H2 2025
Macroeconomic stability	Price volatility (2020–2025); inflation rate; currency stability; sensitivity to global shocks	20%	Knight Frank PGCI (historical volatility); OECD Economic Outlook, November 2025
Liquidity and market depth	Prime rental vacancy rate; transaction volume; average time-on-market	20%	Savills World Cities Prime Residential Index H2 2025; Knight Frank Wealth Report 2025
Tax and regulatory environment	Effective tax burden for non-residents; foreign ownership restrictions; regulatory predictability	20%	UBS Global Real Estate Bubble Index 2025 (regulatory component); Knight Frank Wealth Report 2025
Medium-term growth potential (2026–2030)	Demographic trends; urbanisation dynamics; projected supply pipeline and structural undersupply	15%	World Bank Global Economic Prospects, June 2025; UN World Population Prospects 2024 (rev. 2025)

The applied approach ensures comparability of results across individual markets and enables the assessment of investment attractiveness in relative terms rather than in isolation. The methodology does not claim full determinism of forecasts, as certain risks—particularly geopolitical shocks and discrete regulatory changes—are not amenable to formalised quantitative measurement; however, it provides a transparent, reproducible and practically relevant analytical framework for investment decision-making in the prime residential segment.

Data sources used in this methodology (as of January 2026):

- Knight Frank Prime Global Cities Index Q3 2025: <https://www.knightfrank.com/research/report-library/prime-global-cities-index-q3-2025-12571.aspx>
- Savills World Cities Prime Residential Index H2 2025: https://www.savills.com/research_articles/255800/380040-0

- UBS Global Real Estate Bubble Index 2025: <https://www.ubs.com/global/en/wealthmanagement/insights/global-real-estate-bubble-index.html>
- World Bank Global Economic Prospects June 2025: <https://www.worldbank.org/en/publication/global-economic-prospects>
- OECD Economic Outlook November 2025: <https://www.oecd.org/en/publications/economic-outlook.html>

APPENDIX B

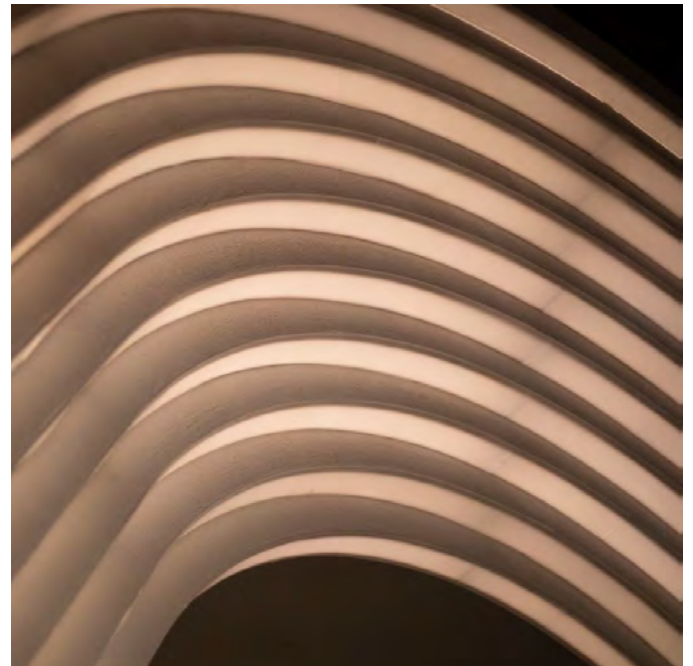
INFRASTRUCTURE–COGNITIVE RESONANCE (ICR): AN ANALYTICAL MODEL FOR ASSESSING URBAN STRUCTURAL CAPACITY

B-1. Background and rationale for methodology development

Following the 2008–2009 global financial crisis, analytical approaches to assessing the residential real estate market in international practice were formed under conditions of prolonged macro-financial stabilization. This was driven by accommodative monetary policies, accessible credit, and a relatively low cost of capital. In such an environment, methodologies based on retrospective indicators and cyclical variables dominated: historical price and rental rate dynamics, vacancy levels, mortgage affordability metrics, and basic macroeconomic aggregates such as GDP growth rates, household income, and employment levels. The applicability of these approaches was supported by the fact that the key constraints on urban development energy, infrastructure, and regulatory were relatively predictable, and global liquidity fostered a convergence of investment attractiveness across different jurisdictions.

From a methodological standpoint, this led to the widespread use of linear scoring models and rating systems, where individual factors were evaluated additively, and the weakness of one parameter could be offset by the strength of another. This logic was acceptable under conditions where critical development resources (energy, network capacity, access to finance, speed of permitting procedures) did not form rigid threshold barriers to demand realization, and risks were primarily cyclical rather than structural. Consequently, the investment attractiveness of metropolises was often assessed through the lens of past growth rates and current yields, without a systematic accounting of factors capable of radically altering the market trajectory over a medium-term forecasting horizon.

The macroeconomic and structural context of 2026–2030 differs significantly from this development model. It is expected that the cost of capital will remain structurally higher than in the 2010s, and risk premiums will be more differentiated across regions and sectors. This means that residential real estate in global metropolises is once again acquiring heightened sensitivity to discount rates, lending conditions, and refinancing risks; asset revaluation will increasingly occur due to shifts in capitalization expectations rather than inertial demand growth.



At the same time, leading institutional think tanks, in their medium-term forecasts, consistently point to the transformational nature of technological changes associated with the accelerated development of digital infrastructure and the large-scale implementation of artificial intelligence technologies. These forecasts emphasize that technological growth is capital-intensive and accompanied by a significant burden on the physical infrastructure of cities. Resources such as available electricity, network bandwidth, the ability to quickly connect to infrastructure, the availability of suitable land plots, labor resources in the construction sector, and administrative capacity to implement projects within tight timeframes are coming into focus.

In this context, cities are beginning to compete not only for human and financial capital but also for the basic resources required for the functioning of the digital economy. Institutional-level analytical reviews indicate that limited energy capacities, delays in network expansion, infrastructure deficits, and lengthy permitting procedures can turn into systemic "bottlenecks," constraining the realization of economic potential even in cities with a high concentration of demand and innovative activity.

For the residential real estate market, these processes have a dual, often contradictory effect. On the one hand, the concentration of high-productivity employment, innovative sectors, and income in so-called "winner cities" strengthens demand for prime segment housing, supports rental growth, and forms relative price resilience even amidst a general economic slowdown. The international mobility of highly skilled professionals and capital further bolsters this trend, narrowing the circle of cities capable of consistently accumulating solvent demand.

On the other hand, the same factors of technological growth increase the infrastructural and operational pressure on the urban environment. Forecasts from leading institutional investors highlight that the demand for electricity and digital capacity may outpace network expansion rates, leading to rising operating costs, higher tariffs, and increased capital expenditures to ensure energy efficiency and compliance with new standards. In such conditions, the real investment return on residential assets may turn out lower than expected, even in the presence of high and stable demand.

An additional structural factor is the strengthening regulatory role of the state and municipalities in the housing sector. The social sensitivity of the housing affordability issue in metropolises increases the likelihood of interventionist policies, including rent controls, tax measures targeting specific categories of owners, stricter building energy efficiency requirements, and restrictions on short-term rentals. Such measures create not only traditional regulatory risk but also the risk of asymmetric shocks that can rapidly alter after-tax yields, liquidity, and the speed of asset revaluation.

Parallel to this, climate and insurance factors are transitioning from long-term considerations into the realm of medium-term costs and risks. The increasing frequency of extreme weather events, rising insurance premiums or limited coverage, and the acceleration of requirements for the decarbonization of the housing stock increase the importance of the physical resilience of assets and the risk of additional capital expenditures. For investment strategies focused on stable cash flow and value preservation, these factors are becoming critical.

The combination of these changes means that the investment attractiveness of metropolises in the 2026–2030 period will be determined not so much by historical price dynamics as by a city's ability to simultaneously ensure: first, structural infrastructural capacity; second, high-quality solvent demand; third, institutional and regulatory adaptability; and fourth, the physical and energy resilience of the housing stock. Moreover, key constraints are threshold-based: upon reaching them, they do not reduce the result proportionally but are capable of sharply narrowing investment optionality and degrading the market's risk-adjusted profile.

It is this shift in the hierarchy of drivers that necessitates an analytical approach that goes beyond linear additive ratings, allows for the identification of structural "bottlenecks," accounts for scenario uncertainty, and enables the differentiation of various investment strategies within a single urban market. In response to these challenges, this analytical report introduces for the first time the **Infrastructure–Cognitive Resonance (ICR)** an analytical model for assessing urban structural capacity, aimed at formalizing the interaction between the infrastructural capacity of the urban environment and the quality of solvent demand. The model is forward-looking and risk-adjusted in nature, designed for a more accurate structural selection of metropolises for residential real estate investment on the 2026–2030 horizon.

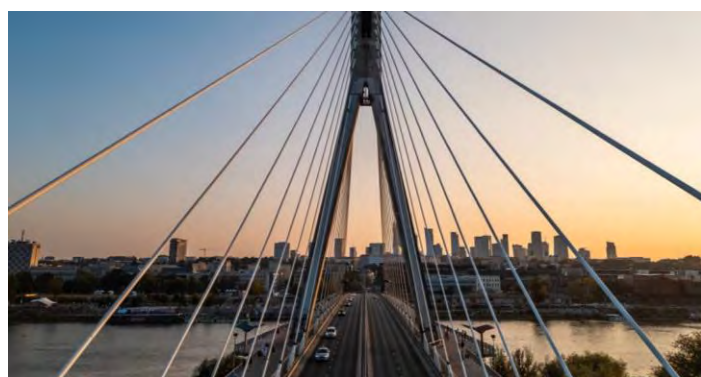


B-2. Conceptual logic of the infrastructure–cognitive resonance (IRC) model

Conceptually, the Infrastructure–Cognitive Resonance (ICR) model is based on the premise that the investment attractiveness of residential real estate in global metropolises is shaped by the interaction between the quality of economic demand and the physical and institutional capacity of the urban environment to facilitate its realization. Within this logic, the defining factor is not the absolute level of individual indicators, but the degree of their alignment and mutual reinforcement.

The term 'resonance' in the model's title describes a situation where the concentration of cognitive growth drivers — human capital, innovative activity, and solvent demand — finds adequate infrastructural, regulatory, and physical support. When such resonance exists, demand growth transforms into stable rental dynamics, relative price stability, and a favorable risk-adjusted investment profile. In its absence, even high demand may lead to rising costs, regulatory delays, and a decline in actual investment returns.

Traditional real estate analysis models assume a high degree of factor substitutability: for example, strong demand is thought to compensate for institutional sluggishness or supply constraints. The ICR model rejects this assumption, positing that certain factors act as necessary conditions, the violation of which creates threshold effects. In such cases, a weakness in infrastructural or regulatory capacity does not gradually decrease investment outcomes; instead, it sharply limits the possibilities for demand realization, impacts liquidity, and increases risk asymmetry.



This logic is particularly relevant in the context of technological transformation and structurally higher costs of capital. Institutional-level analytical forecasts indicate that investments in the digital economy and artificial intelligence infrastructure are front-loaded, while economic returns materialize gradually. For the urban environment, this means a simultaneous increase in housing demand from high-productivity employment and a rising burden on energy grids, engineering infrastructure, and administrative processes. Under these conditions, a city's ability to adapt to structural changes determines whether demand will be transformed into stable investment yields.

From this perspective, the ICR model views the city as a complex system with limited resources, where investment attractiveness results from a balance between four core dimensions: energy-digital capacity, cognitive-economic potential, regulatory adaptability, and physical and environmental resilience. Each of these dimensions reflects a specific aspect of the city's ability to support residential investment over the medium term.

A key feature of the ICR conceptual logic is the rejection of a universal approach to all residential real estate market segments. The model assumes that the investment characteristics of the existing premium housing stock (focused on value preservation and stable cash flow) differ fundamentally from those of new development or adaptive reuse. Accordingly, the same urban system may be attractive for one strategy but constrained for another. This segmentation is an integral part of the ICR concept and avoids the aggregation errors inherent in many generalized ratings.

Thus, the Infrastructure–Cognitive Resonance model interprets the investment attractiveness of metropolises as a function of the alignment between demand and the possibility of its realization. It does not seek to replace traditional real estate market indicators; rather, it serves as a structural filter that identifies cities with a high probability of preserving and increasing asset value in an environment of heightened macroeconomic and infrastructural uncertainty.

B-3. Comparison of the ICR model with alternative approaches to assessing the investment attractiveness of metropolises

B-3.1. Limitations of price-led models

Traditional price-led models for analyzing the residential real estate market are based on the extrapolation of historical price dynamics, rental rates, and transaction volumes. Such approaches are widely used in market monitoring and short-to-medium-term forecasting, as they allow for the timely tracking of cycle phases and the relative attractiveness of markets based on observable data.

At the same time, the fundamental limitation of price-led models is their retrospective nature. They proceed from the assumption that past trends represent future ones, or at least contain sufficient information for a correct assessment of prospects. In the context of 2026–2030, this assumption is becoming increasingly less valid. Structural changes - rising costs of capital, infrastructure constraints, energy deficits, regulatory shifts, and climate risks are formed outside the boundaries of price series and often do not reflect in historical data until the moment their impact has already materialized in the form of a correction.

Furthermore, price-led approaches are poor at identifying risk asymmetry. Cities with a long history of growth may appear attractive in terms of average indicators but, at the same time, possess high sensitivity to structural "bottlenecks" that sharply degrade the risk-adjusted profile of investments. Thus, price-led models are useful for describing the market but are insufficient for the strategic selection of metropolises in an environment of heightened structural uncertainty.

B-3.2. Limitations of ESG-oriented and one-dimensional sustainability models (ESG-only approaches)

Another common approach is the use of ESG ratings or sustainability indices as a proxy for long-term investment attractiveness. Such models play an important role in the context of regulatory requirements, non-financial risk management, and the formation of responsible investment strategies.

However, ESG-only approaches have several methodological limitations when applied to the residential real estate of metropolises. First, they often aggregate regulatory, social, and environmental indicators into a single composite score without distinguishing between factors that affect operating costs, liquidity, or investment implementation time horizons. Second, ESG ratings usually assess the state of the system "on average," failing to account for the heterogeneity of the investment stock and differences between market segments.

As a result, a city's high ESG score may mask the presence of critical physical or infrastructural risks, while a low score does not automatically mean low investment attractiveness for certain strategies. The ICR model, unlike ESG-only approaches, views sustainable development not as an end in itself, but as one of the structural dimensions of investment viability, integrated into a broader context of demand, infrastructure, and regulatory adaptability.



B-3.3. Limitations of linear scoring and rating models

Most comprehensive city ratings utilize linear additive scoring schemes, where diverse factors are weighted and summed into a single index. This approach has the advantage of transparency and ease of interpretation; however, it is based on the assumption of full factor substitutability.

In the real conditions of metropolitan development, this assumption often does not hold. Infrastructural or regulatory incapacity does not decrease investment outcomes gradually; instead, it can create threshold effects where the realization of demand becomes physically or institutionally impossible. Linear models are unable to correctly reflect such non-linearities, leading to a systematic overvaluation of cities with strong demand but limited adaptability.

The ICR model fundamentally rejects this logic, introducing a non-linear adjustment mechanism that reflects the role of "bottlenecks" and reduces the final score if critical thresholds are reached, regardless of the strength of other factors.

B-3.4. Distinction between ICR and analytical products by Knight Frank, Savills, and CBRE

The analytical products of international consulting firms such as Knight Frank, Savills, and CBRE play a pivotal role in the global real estate market. They provide high-quality market data, deep expertise in local markets, and detailed analysis of price and rental dynamics.

At the same time, these analytical platforms primarily perform the functions of market monitoring and comparative analysis of current conditions. Their indices and reports are oriented toward describing how markets behave or have behaved, and to a lesser extent, toward the formalization of structural constraints on future growth. The ICR model does not seek to duplicate these products. On the contrary, it utilizes similar sources as an informational foundation but transforms them into a different analytical plane assessing a city's capacity to support residential investment under conditions of structural change.

Thus, ICR should be viewed not as an alternative, but as a superstructure built upon traditional market analytics, allowing for the reinterpretation of obtained data from the perspective of medium-term viability and risks.

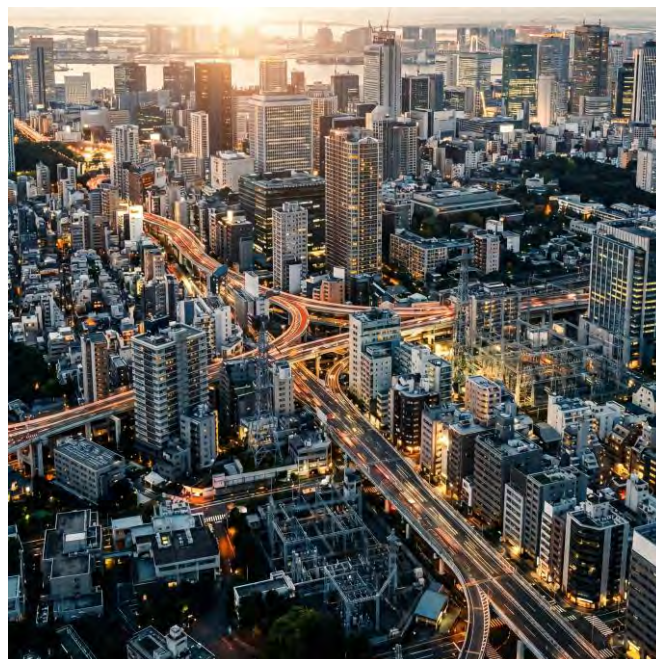
B-3.5. Unique added value of ICR as a structural lens

The key distinction of the ICR model lies in its positioning as a structural lens an analytical tool that focuses on the fundamental constraints and opportunities for urban development. Unlike models that answer the question "where has the market grown" or "where does it look attractive today," ICR answers the question "where is the market capable of supporting investment tomorrow."

In this sense, the model allows for:

- Identifying metropolises with a structural advantage in conditions of increased cost of capital and infrastructure deficits;
- Separating cities with high nominal potential from cities with high risk-adjusted quality;
- Formalizing the asymmetry between demand and a city's ability to realize it;
- Supporting strategic capital allocation between the core portfolio and optional investments.

Thus, ICR does not replace existing approaches to residential real estate market analysis but complements them, performing the function of a structural filter and a strategic selection tool for metropolises during the 2026–2030 period.



B-4. Formal structure and mechanism of the Infrastructure–Cognitive Resonance (ICR) model

B-4.1. General model architecture

The Infrastructure–Cognitive Resonance (ICR) model is designed as a multidimensional analytical system intended to assess the structural capacity of the urban environment to support residential real estate investment over the medium term. Its architecture is based on a combination of multi-criteria analysis, non-linear adjustment mechanisms, and a scenario-based approach, allowing it to move away from linear additive ratings and reflect the threshold nature of key constraints on urban market development.

Unlike generalized indices focused on measuring "city quality" or current market attractiveness, ICR views the city as a complex system with limited resources. Within this framework, investment outcomes are determined not by the average values of individual indicators, but by the degree of their mutual consistency and the urban environment's ability to transform demand into sustainable investment returns. In this logic, the weakness of specific elements is not automatically compensated for by the strength of others; instead, it can form structural "bottlenecks" that disproportionately affect liquidity, costs, and the risk profile of investments.

Formally, the model architecture consists of two interconnected levels:

1. **Level one: Base weighted scoring** – Ensures the systematization of key structural dimensions of the urban environment according to their relative importance for the residential real estate market.
2. **Level two: Structural adjustment mechanism** – Accounts for non-linear effects and threshold constraints, where reaching critical values of certain parameters sharply narrows investment optionality regardless of the overall level of demand.

Although the ICR model is applied at the level of the urban environment, its analytical logic is primarily oriented toward the prime residential real estate segment and institutional investment strategies. The model does not aim to assess housing affordability or mass-market dynamics; rather, it focuses on the urban environment's ability to support investment in high-quality housing stock focused on capital preservation and stable risk-adjusted income over the medium term.



B-4.2. Structural dimensions of the model and their analytical content

The Infrastructure–Cognitive Resonance (ICR) model is based on four interconnected structural dimensions, each reflecting a distinct aspect of the urban environment's capacity to support residential real estate investment over the medium term. The selection of these specific dimensions is driven by the logic of a new risk hierarchy characteristic of the 2026–2030 period, in which physical and institutional capacity increasingly define the boundaries of demand realization.

The first dimension — **Energy-Digital Capacity** — reflects the city's ability to ensure the stable functioning of the housing stock amidst growing pressure from the digital economy. In the context of the prime segment, this dimension is of fundamental importance, as high-quality housing is more energy-intensive in terms of comfort standards, security, climate control, and digital integration. Limited energy capacity or high energy cost volatility translates directly into rising operating expenses, negatively impacting net yields and asset competitiveness. Within the ICR framework, this dimension is interpreted not as a country's macro-energy balance, but as the local infrastructural capacity of the urban environment to support the intensive use of high-quality housing stock without structural failures.

The second dimension — Cognitive-Economic Potential — characterizes the quality and resilience of solvent demand. Unlike general demographic or income indicators, this dimension focuses on the concentration of high-value-added human capital, innovative activity, and the international mobility of professionals and capital. For the prime residential real estate segment, this factor determines not only rental rates or price levels but also market depth, liquidity, and demand resilience in the face of economic shocks. High cognitive potential reduces cyclical volatility and increases the probability of asset value preservation even during phases of macroeconomic slowdown.

The third dimension — Regulatory Adaptability — reflects the city's institutional capacity to respond to structural changes through the flexibility of planning decisions, the speed of permitting procedures, and the possibility of adaptive reuse of the existing stock. In the prime segment, this aspect has a dual significance. On one hand, regulatory sluggishness limits the ability to modernize or reposition assets in response to changing demand standards. On the other hand, excessive regulatory rigidity increases the risk of asymmetric interventions that can negatively affect after-tax yields and liquidity. Within ICR, regulatory adaptability is treated not as general "institutional quality," but as the applied ability of urban governance to ensure the timely transformation of the residential environment.

The fourth dimension — Physical and Environmental Resilience — reflects the ability of the housing stock to maintain investment viability under conditions of climate, insurance, and environmental risks. For prime housing, this dimension is critical, as a high asset class is accompanied by increased requirements for construction quality, energy efficiency, and long-term performance characteristics. Rising insurance premiums, modernization costs, or the risk of physical damage to assets can disproportionately affect risk-adjusted yields, even in cities with strong demand. In ICR logic, resilience is interpreted not as compliance with formal sustainable development standards, but as the ability of assets to adapt to structural changes without loss of value.

A key methodological feature of ICR is that none of these dimensions are considered in isolation. Investment attractiveness arises only under the condition of their mutual consistency. High cognitive potential without sufficient infrastructural or regulatory support does not guarantee stable yields, just as infrastructural capacity without solvent demand does not create a basis for asset value growth. It is this interaction that forms the core of the resonance concept embedded in the ICR model.

Thus, the structural dimensions of the model form an analytical framework that allows for a transition from describing market characteristics to assessing a city's ability to support investment in the prime residential segment within an environment of heightened macroeconomic, infrastructural, and regulatory uncertainty.

B-4.3. Calculation mechanism and non-linear evaluation logic

The analytical logic of the Infrastructure–Cognitive Resonance (ICR) model involves combining weighted multi-factor assessment with a non-linear adjustment mechanism that reflects the threshold nature of key structural constraints on urban development. This approach avoids the methodological error of linear compensation inherent in many traditional ratings and formalizes the impact of "bottlenecks" that disproportionately affect the investment viability of residential assets.

In the first stage, a base structural scoring is formed, aggregating assessments across the model's four dimensions: energy-digital capacity, cognitive-economic potential, regulatory adaptability, and physical and environmental resilience. Each dimension is evaluated on a normalized scale based on a comparative analysis of a group of global metropolises, allowing for the removal of the influence of absolute values and focusing on the city's relative position in an international context.

The weighting of indicators reflects the shifted risk hierarchy of the 2026–2030 period. Greater weight is assigned to factors that form the physical and institutional boundaries of demand realization, while factors characterizing current market dynamics play an auxiliary role. This approach is fundamentally important for assessing the prime residential real estate segment, where even minor structural constraints can significantly impact liquidity, operating costs, and after-tax yields.

In the second stage, a non-linear adjustment mechanism is applied, reflecting the concept of structural thresholds. The logic of this mechanism is that certain elements of the urban environment serve as necessary conditions. In their absence, investment attractiveness does not decrease gradually but is sharply restricted, regardless of the strength of other parameters. Within the ICR framework, this means that weak infrastructural or regulatory capacity cannot be fully compensated for by high demand or cognitive potential.

It is important to emphasize that non-linear adjustment is not punitive or normative in nature. It is not intended to "punish" specific cities for the presence of objective constraints; rather, it serves as a tool for a realistic assessment of the extent to which these constraints affect investment optionality in a specific segment. For highly developed cities, such as Tokyo, this mechanism allows for a clear distinction between strengths—related to stability, institutional predictability, and asset quality—and factors that may limit aggressive growth strategies without reducing the attractiveness of capital preservation strategies.

An additional element of the calculation mechanism is a **scenario-based approach**, which accounts for the uncertainty of medium-term forecasts. Instead of a fixed assessment, the model generates a range of possible outcomes depending on base, optimistic, and adverse development scenarios. This is particularly crucial in conditions of increased cost-of-capital volatility, regulatory changes, and climate risks, which can have an asymmetric impact on different urban markets.

In summary, the ICR mechanism allows for a transition from a static assessment of "city attractiveness" to a dynamic assessment of its structural capacity to support various investment strategies. For the prime residential real estate segment, this means the ability to clearly separate cities where investment logic is based on stability and value preservation from those where growth potential is accompanied by elevated structural risks. It is this property that makes the ICR model suitable for use as an analytical tool for strategic capital allocation during the 2026–2030 period.

B-4.4. Interpretation of results and application of the model for investment strategies

The results obtained from the **Infrastructure–Cognitive Resonance (ICR)** model should not be interpreted as a universal ranking of "best" or "worst" cities for investment. The analytical purpose of the model is to structurally differentiate urban markets according to the type of investment strategies they are capable of supporting in an environment of heightened macroeconomic, infrastructural, and regulatory uncertainty. Thus, ICR serves as a tool for strategic navigation rather than a mechanism for normative assessment.

For the prime residential real estate segment, the model's results possess a specific interpretative logic. High ICR values in this segment typically correlate not with maximum price growth potential, but with a combination of institutional predictability, high housing stock quality, stable solvent demand, and the urban environment's ability to mitigate negative shocks. Cities demonstrating such a combination of characteristics are attractive to investors focused on asset value preservation and low volatility of risk-adjusted returns.

At the same time, cities with high cognitive-economic potential but limited infrastructural or regulatory adaptability may appear less attractive in the aggregate assessment without losing interest for selective or opportunistic strategies. In such cases, the model signals not an absence of investment opportunities, but a need for narrower asset targeting, active management, and an increased risk premium.

Particularly important is the ability of ICR to correctly interpret markets with a high level of development and a mature institutional structure, such as Tokyo. Within the model, such cities may not demonstrate maximum values across all dimensions simultaneously; however, this does not imply a decrease in their attractiveness for the prime residential segment. On the contrary, the combination of a stable energy base, high physical and seismic resilience of buildings, a predictable regulatory environment, and a deep market of solvent demand forms a city profile optimal for capital preservation and long-term ownership strategies.



In practical application, ICR results can be utilized at several levels:

- At the macro level, the model allows for the formation of a preliminary pool of metropolises that align with a given risk profile and investment objectives.
- At the meso level, it serves as a tool for comparative analysis between cities with similar economic potential but different infrastructural or regulatory capacities.
- At the micro level, the model's results create an analytical foundation for the subsequent verification of specific sub-markets and assets within the chosen city.

Thus, the Infrastructure–Cognitive Resonance model functions as a structural filter, enabling an investor or analyst to move from general perceptions of "city attractiveness" to a deeper understanding of which types of investment strategies are viable in a specific urban environment on the 2026–2030 horizon. Combined with traditional market analytics and local research, ICR provides a more robust basis for decision-making in the prime residential real estate segment amidst structural changes in the global economy.

B-4.5. Formal specification and non-linear calculation mechanism of the infrastructure–cognitive resonance (ICR) model

The Infrastructure–Cognitive Resonance (ICR) model is built as a multi-level analytical system that combines weighted multi-factor assessment with a special non-linear adjustment mechanism. The purpose of this design is to eliminate a key methodological flaw of linear ratings—the assumption of full factor substitutability—and to formalize structural constraints that have a threshold rather than a gradual impact.

B-4.5.1. Base weighted index (Weighted Structural Score)

In the first stage of the calculation, a base index is formed, which aggregates assessments across the structural dimensions of the model. Each dimension is pre-normalized and weighted according to its relative significance for residential real estate investment in the medium term.

In general form, the base index takes the form of a weighted sum:

$$ICR_{weighted} = w_E \cdot E + w_C \cdot C + w_R \cdot R + w_S \cdot S$$

where:

- E — energy-digital capacity,
- C — cognitive-economic potential (quality of solvent demand),
- R — regulatory adaptability,
- S — physical and environmental resilience,
- w_i — weights of the respective dimensions, determined analytically.

This stage allows for a generalized structural assessment of the city; however, by itself, it does not yet account for the fact that certain factors serve as necessary conditions for demand realization.

B-4.5.2. Transition from linear to non-linear logic: the gating mechanism

The key conceptual step of the ICR model is the rejection of the assumption that all structural factors can mutually compensate for one another. In a real urban environment, certain parameters—primarily infrastructural and regulatory—form rigid boundaries for the realization of investment potential. In their absence, investment attractiveness does not decrease gradually but is sharply restricted.

To formalize this effect, a corrective viability coefficient G is introduced into the model, applied as a multiplicative constraint to the base index:

$$ICR_{final} = ICR_{weighted} \cdot G(E, R)$$

Thus, the final score cannot exceed the base score and always decreases if critical structural constraints are identified.

B-4.5.3. Formal specification of the viability coefficient

The coefficient G is defined as the minimum value of three variables:

$$G = \min \left(1, \frac{E}{T_e}, \frac{R}{T_r} \right)$$

E and R - normalized scores of energy-digital capacity and regulatory adaptability, respectively,

T_e and T_r - structural adequacy thresholds, set on the same scale.

B-4.5.3. Formal specification of the viability coefficient (continued)

The mathematical logic of this expression has a clear economic interpretation:

- if $E \geq T_e$ and $R \geq T_r$, then both fractions exceed unity, and $G = 1$;
- if at least one parameter is lower than the threshold, then the corresponding ratio becomes less than 1, and it is this ratio that determines the value of G ;
- consequently, it is the weakest necessary condition that determines the scale of the adjustment.

Thus, a high level of demand or physical asset quality cannot fully compensate for a deficit in energy or regulatory capacity.

B-4.5.4. Interpretation of threshold values

The threshold parameters T_e and T_r are not normative in nature and do not reflect an "ideal" level of development. Instead, they are interpreted as the minimum sufficient levels of structural capacity required for an investment strategy to remain viable without a disproportionate increase in risks and costs.

A decline in the corresponding indicator below the threshold signifies not merely a worsening of conditions, but a transition into a structural constraint mode, characterized by:

- Decreased asset liquidity;
- Increased time risk;
- Heightened sensitivity to regulatory and macroeconomic shocks.

B-4.5.5. Analytical significance of non-linear adjustment.

The Gating mechanism within the Infrastructure–Cognitive Resonance (ICR) model is not a normative tool and does not serve a restrictive or punitive function. Its purpose is to provide a realistic assessment of the extent to which an urban environment is actually capable of translating existing economic and demographic demand into realized outcomes under conditions of infrastructure, energy, and regulatory constraints.

Unlike linear rankings that aggregate factors without accounting for critical bottlenecks, the Gating mechanism formalizes the impact of structural constraints that may limit investment realizability even when individual indicators score highly. In doing so, the model shifts the analytical focus from abstract potential to the practical capacity of an urban environment to sustain stable cash flows, liquidity, and value preservation of assets.

For mature megacities with high institutional stability, including cities such as Tokyo, the application of non-linear adjustment makes it possible to:

- preserve high assessments for capital preservation and stable income strategies;
- simultaneously reflect limitations on aggressive growth scenarios that require substantial infrastructure scaling;
- avoid artificial downgrading of investment attractiveness due to the absence of "explosive" upside potential.

Overall, the non-linear architecture of the ICR model enables a transition from a generic notion of "city attractiveness" to a formalized assessment of structural resilience as an investment environment. This allows the results to be interpreted not as a short-term forecast, but as an indicator of a city's capacity to adapt to long-term technological, infrastructural, and institutional changes under conditions of elevated uncertainty.





Tetiana Honcharenko

Consultant

Legal Profession Corporation CastGlobal

tetiana@castglobal-law.com

Tetiana Honcharenko, PhD, is a Doctor of Economic Sciences with over 20 years of experience in economic analysis and strategic management.

Her expertise encompasses investment analytics, with a particular focus on real estate market assessment, financial modeling of investment projects, and the development of analytical frameworks to support strategic decision-making. She works in an international professional environment, applying structured analytical approaches to assess investment returns, costs, and risks.

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