

LEADER'S TAKE



Mr Dhruv Agarwala Chief Executive Officer Housing.com | PropTiger.com | Makaan.com

"The real estate sector – one of the significant contributors to India's gross domestic product (GDP) and source of employment, remains largely unorganized and fragmented. A few reasons being paper-based land records, and organic transaction practices carried out through person-driven or word-of-mouth approaches.

It has only been few years since policies such as RERA and the digitisation of processes in the value chain, have brought in much-needed transparency in the sector. Also, the ongoing pandemic has further altered the industry dynamic due to the emerging work-from-home culture, reinforcing the importance of owning a home. Hence, it becomes imperative for businesses to understand this dynamic and organise the sector in an efficient and transparent manner.

Currently, very few comprehensive databases and indices track the changes in the Indian residential market. To address this gap, Housing.com and the Indian School of Business have jointly developed the 'Housing Price Index', which will aid to gauge the market sentiments and movement in the residential market."

LEADER'S TAKE



Professor Rajendra Srivastava

Dean and Novartis Professor of Marketing Strategy and Innovation, Marketing Dean, Indian School of Business (ISB)

"What gets measured, gets managed. Therefore, having indices to track the economy greatly improves decision-making for businesses and society. What started as an initiative to harness the expertise and experience of ISB's world-class faculty has taken a significant shape in the form of the Housing Price Index (HPI). The HPI is jointly developed by Srini Raju Centre for IT and the Networked Economy (SRITNE), ISB in partnership with Housing.com and brings together the expertise and resources of both brands. This index would help decision-makers in the industry and government by providing relevant information on the real estate market and design effective action and interventions. I wish the HPI team all the best and truly value their commitment to launching the index and white paper on this subject. I hope it will drive further research in one of the most significant sectors of the economy."

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Dr. Niranjan Hiranandani National President, NAREDCO; Founder & MD Hiranandani Group

"The transition of humankind and economies in the Digital Era has been quite phenomenal during an unprecedented global pandemic crisis. It has been a long hauling grind for Indian Real Estate sector to undergo a system reboot and paradigm shift on the back of various structural policies introduced recently. The goal was to revolutionize the opaque sector with a Financially disciplined, Accountable and Compliance friendly system. Real Estate being one of the vital economic growth anchors, introducing data index is a leap forward. The prime objective to launch the 'Housing Price Index' jointly developed by Housing.com and ISB is to bring in transparency and build trust deficit between all the concerned industry stakeholders. The advent of new prop tech enterprises will address the challenge of paucity of well-defined data and foster companies with right business intelligence, market insights, trends, and sentiments to sign off well informed decisions. This new-age methodology will promote Indian Real Estate at global par excellence with global best practices."

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Residential real estate kaleidoscope

Sprawling megacities

Cities are known as powerhouses of economic growth. It can be attributed to the effects of agglomeration and scale economies that prove conducive for the growth of industrial and service sectors. In fact, currently, cities contribute up to 80 percent¹ of the global gross domestic product (GDP). The concentration of economic activity generates demand for skilled and unskilled labour making the cities hotspots for in-migration – attracting regional, national, and international population. The World Bank has estimated that 7 out of 10 people in the world will be living in cities by 2050.



7 out of 10 people in the world will be living in cities by 2050

Source: World Bank, Housing Research

However, the global experiences reveal a disproportionate share of economic and allied activities within the urban areas, as only a few cities emerge and accommodate the burgeoning many. For instance, New York in the US, London in the UK, Paris in France, Tokyo and Osaka in Japan, Beijing and Shanghai in China, and Seoul in South Korea have come to be known as megacities due to extreme concentration of economic activities and population complemented by excellent national and international connectivity. In India, for instance, cities such as Ahmedabad, Bengaluru, Chennai, Delhi and the National Capital Region (NCR), Hyderabad, Kolkata, Mumbai and its metropolitan region, and Pune have emerged as hubs of economic activity and employment opportunities. The social and physical infrastructure development and optimal international and regional connectivity in these cities have proven conducive for several services and industrial sector businesses to set up their operations here. The employment opportunities not only attract the migrants from rural areas but also other urban areas. The Census of India (2011) corroborates this, as more than half of the population in these cities had migrated from other urban areas, except for Ahmedabad.

Currently, 101 million people or 23 percent² of the urban population in India, is concentrated in these major urban centres and the population in these cities is only set to grow. As per Oxford Economics, cities such as New Delhi, Mumbai, Hyderabad and Pune are among the top 50 global cities to see the fastest population growth by 2050.

The growing population and economic activity in these cities have also translated into higher demand for residential, office, retail, hospitality and allied sectors compared to other cities. As maximum real estate activity is concentrated in the top-eight cities, these urban areas have emerged as dynamic residential real estate markets in India with 12.2 lakh homes sold between 2017 and 2020, at an estimated value of 9.1 lakh crore. At the end of 2020, these cities held a residential stock of 7.5 lakh units.

The real estate industry plays a significant role in contributing to the economy of India. The sector ranks second in the country in terms of generating employment for the people of India. Presently, real estate accounts for about 5 percent of India's GDP. In addition, in 2019–20, real estate activities generated foreign direct investment (FDI) inflows of USD 564 million, as per the Reserve Bank of India (RBI) estimates. However, despite its key role in the economy, the sector still remains highly organic and fragmented due to heavy dependence on intermediaries and the unstructured fashion of functioning.

Evolving residential real estate scenario

India's residential real estate sector is still evolving, with buying and selling still taking place more through the internal resources of the stakeholders, which involves a word-of-mouth approach. Also, the sector is highly disorganised, as land records are primarily paper-based and ill-maintained, which often lead to ownership and litigation issues.

Moreover, the economic slowdown in recent years coupled with steep capital values, delayed projects and the liquidity crisis induced by the Non-Banking Financial Company (NBFC) debacle have lowered the consumer and investor confidence in the residential real estate market. This is apparent from the investment scenario in the real estate asset classes which include the warehousing, residential, commercial, and mixed-use development segments. The real estate sector has received close to USD 36 billion of investments between 2015 and 2020. However, while the share of the commercial segment increased to 62 percent in 2020 from 25 percent in 2015, the share of residential segment reduced to a mere 2 percent in 2020 compared to 61 percent in 2015.

Sluggish demand, steep capital values and the liquidity crisis have kept investors away from the residential segment



Share of investments in real estate sector as per asset class

Source: Venture Intelligence, Housing Research

Government policies such as RERA have been taken up to regulate the unorganised Indian real estate sector

Recent policy changes in the Indian real estate sector



Source: Housing Research

To instill consumer confidence and streamline the sector, several policy interventions such as the Real Estate (Regulation and Development) Act, 2016 (RERA), Goods and Services Tax, 2016 (GST) and digitisation of land records under Digital India Land Records Modernization Programme (DILRMP) have been introduced in the past few years.

However, our analysis suggests that while 1.22 million units were sold during 2017 and 2020, only 44,000 brokers were registered under RERA, indicating that most sales are still taking place in a traditional and unorganised manner or through unregistered brokers³. This often poses a challenge in tracking and monitoring the market.

Also, while RERA has put some checks and balances for recording the sales and increasing the accountability of buyers and sellers, a parameter such as prices, which guides the market and sets the consumer sentiment, still remains unaccounted for in the current scenario. Unlike the western countries, where one can easily track the transaction values, the price transparency in India is still vague.

Moreover, prices in a city vary as per the micro markets, depending on its social and physical development, transit

corridors, accessibility to commercial zones, socio-economic factors such as income levels, access to education facilities, healthcare, etc. and upcoming major infrastructure projects.

For instance, Gurugram, located in Delhi NCR, which was primarily an agrarian area, saw growth post setting up of a Maruti Suzuki plant in the 1980s, which acted as an economic anchor. The proximity to Delhi, the international airport, and large land parcels made the city an attractive option for several global companies to set up their operations. This catapulted the commercial and residential real estate demand in the city in the early 2000s, with localities such as Golf Course Road and the MG road coming into the limelight. The confidence of developers and consumers in these areas and upcoming transit corridors such as Dwarka Expressway (Northern Peripheral Road) resulted in a triple-digit appreciation in the residential real estate prices in this city during this period.

By 2031, one in five urban dwellers will be living in these top-eight cities. Given the impending growth, it is imperative that the prices in the sector be tracked in a transparent and organised manner.

The need for a housing price index

Despite the key role the real estate sector plays in the economy, there are very few aggregate indices to monitor real-time changes in the housing market. To overcome this problem, "Srini Raju Centre for IT and the Networked Economy (SRITNE)" and "Housing.com" have come together to build the "Housing Price Index (HPI)" for India. It is an index of economic activity in the real estate sector using big data analytics at the highest spatial and temporal resolution.

The HPI would enable policymakers, banks, finance companies, real estate developers, investors, and retail homebuyers to track housing prices at an aggregate level, as well as across different cities in India. Our vision is to establish the HPI as a transparent and trustworthy source to monitor the inflation/deflation in housing prices and quantities in India.

Many developed nations have created housing price indices across the globe, which are used by developers, industry stakeholders, lending institutions, as well as potential buyers. However, computing the index with feet-on-street data available with industry experts and to provide an accurate measure on a real-time basis is a complex exercise involving many factors. From the timely collection of data to choosing an appropriate methodology, there are multiple

ways to create an index. The "Housing Price Index" aims to serve as a tool that tracks changes in residential home prices across the top-eight markets in India. It demonstrates the increase or decrease of prices and number of units sold over a period of time. HPI can help a potential homebuyer assess the opportune time to invest in a property. Policymakers and financial analysts can also use it as a reliable estimate to keep track of the trends in the sector.

Data and methodology

The Index is based on a survey of 13 cities⁴ across India from 2017 to the present day. The survey is conducted every quarter by Housing.com. The data collected includes information on price per square foot, quantity, and the total value of transactions in the last three months for various sub-localities within each city. It also includes other details such as the number of bedrooms, construction status, and the number of inventory units.

To capture the aggregate movement in prices (per square feet) over time, we construct a "Laspeyres Price Index", where we use granular prices from each locality and their corresponding weights based on transaction value share of that locality in India. The weights are based on 2019 data. We have considered only the 1, 2, and 3-BHK apartments for our Index, as they are the most significant contributors to the housing market in each city. Finally, within each city, we have restricted our sample to the set of localities that report prices for more than a threshold level of months. This leaves us with 841 localities for the India index⁵. We use a similar methodology to construct the city-wise indices.

To capture the latest price movement, the locality level prices used for constructing the price index are an average of sale and inventory prices. It is possible that some localities might not witness any sale in the month under consideration. In such cases, inventory prices serves as the most updated proxy for sale prices. Finally, the quantity index is derived from the monthly price index as the total sales value normalised by the price index for that month. Additional details on index construction are provided in the Annexure.

How to interpret the Index

We now describe the recent trends in the Indian housing market using our indices.

The aggregate market trends

India-level prices



Figure 1: India-level Price Index

The above graph (Figure 1) exhibits the evolution of the aggregate "Price Index" for India with a baseline value of 100 in January 2017. The cumulative price growth has been 13 percent over 2017–2020. While the growth has been slow relative to the previous decade, the growth has further

plummeted since mid-2019. Since the COVID-19 induced lockdown, there has been a minimal increase in the prices. Quantitatively, the prices increased by only 1 percent during 2020, and the growth rate still has not returned to the pre-pandemic levels.

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India-level quantity



Figure 2: India-level Quantity Index

The "Quantity Index" (Figure 2) captures the change in units sold over the period 2017–2020, with a baseline value of 100 in January 2017. The Quantity Index mostly fluctuated within the range of 100–120 before the onset of the pandemic. The Index remains at around 120 between January 2018 to March 2019, illustrating a 20 percent growth in the units sold relative to January 2017. However, the sales witnessed a drastic fall in March 2020 after the imposition of lockdown in the country. The Quantity Index declined by more than 75 percent (from 112 to 27) in April 2020. The sales exhibited signs of recovery after the lockdown restrictions were lifted.

However, they have still not reached the pre-pandemic levels yet. The figures in March 2021 are 25 percent lower vis-a-vis March 2020.

Overall, the prices have not witnessed any downward revision after the pandemic. They are growing slowly or have been mostly stagnant across all regions of the country. Fall in disposable income of households and stable prices might be one of the factors why the quantity sold has not recovered. Next, we describe how our indices provide a granular view of housing at the city and size level.

The granular view

City-level indices



Figure 3: City-level Price Indices

We use city-level indices (Figure 3) to track the changes at the city level. The above graph depicts price indices for Bengaluru, Mumbai, and Hyderabad, with a baseline value of 100 in January 2017 for each city. This figure allows comparison of price growth across the three cities. The figure shows a divergence in the growth rate across the three cities. The slowest price increase is observed in Mumbai, with a cumulative 10 percent increase in the past four years. Bengaluru has witnessed a cumulative growth of 17 percent. Until the beginning of 2019, prices in Mumbai were increasing at a faster rate than in Bengaluru. However, since then, the prices have completely stagnated in Mumbai. Among these three cities, Hyderabad has witnessed the most significant growth of 45 percent during this period.



Figure 4: City-level Quantity Indices

The "Quantity Indices" (Figure 4) in the three cities do not diverge like the price indices and almost mimic the aggregate India-level trends. The indices remain at around 120 between 2018 to early 2020, with a sharp fall in value after the lockdown. However, the recovery rates have been marginally different across the three cities. Mumbai continues to be the city with the slowest recovery, followed by Bengaluru. Only

Hyderabad has recovered to the pre-pandemic level of sales. The "Quantity Indices" indicate that Bengaluru and Mumbai are still operating around 25 percent lower than the pre-lockdown level.

Unit-level indices



Figure 5: Unit-level Price Indices (Bengaluru)

The above graph (Figure 5) depicts the "Price Indices" for 1-BHK, 2-BHK, and 3-BHK apartments, as well as for all units combined together for Bengaluru. Once again, the baseline value is 100 for January 2017. The indices remain in the range of 100–105 levels until mid-2018 and show an uptick after

that. However, there has been divergence in growth across the three different segments. The growth has been slowest for 3-BHK, closely followed by 1-BHK. On the other hand, 2-BHK has seen a 21 percent increase over the four-year period.



Figure 6: Unit-level Price Indices (Delhi)

In case of NCR (Figure 6), the "Price Indices" suggest slowdown in the overall market. For most of the period, 2-BHK and 3-BHK indices have been below 100, therefore, registering a decline in the prices. In contrast, 1-BHK prices have witnessed some growth during this period. 2-BHK prices have had the worst performance among the three units and continues to remain below the baseline value of 100.

In summary, the city and unit level indices can be used for understanding the local market dynamics. The trends in the last four years show a divergence across the cities as well as across the units within them, suggesting a role for local policy in the housing market.

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The way forward

The COVID-19 pandemic has changed the industry dynamics in a way never imagined before. The emerging structure of "work-from-home" is expected to play a crucial role in the demand for residential housing. Prolonged confinement and the rise of remote working have re-established the importance of owning a home. This, coupled with growing urbanisation, and affordable housing options, may encourage people to view real estate as a viable investment option once again. Our indices show that the industry has witnessed a slowdown in the last few years, but, the change we have been waiting for may be just around the corner. The implementation of RERA across all states has bolstered the confidence among homebuyers by increasing transparency. The gains from the digitisation of land records and other reforms would accrue and slowly show their impact on the overall housing market. In this backdrop, the HPI project would play a crucial role and provide reliable and most updated information on housing trends in India.

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Annexure

The two indices are based on granular survey data collected by Housing.com every quarter. The survey collects information on monthly prices, quantity, and the total value of transactions of the real estate units from real estate developers and brokers. Units are grouped into sold and inventory, sold by name suggests units sold to the buyers and inventory units are units available for sale which are yet to be sold. The price here refers to the per square feet prices rather than the complete housing unit's price. The construction statuses and the bedroom details (BHK type) of the units are captured in the survey as well. The construction status includes: completed, under-construction and pre-launch. Units that are a part of the builder's project plans, where construction has not yet started, fall under pre-launch units. The survey covers 13 cities across India, namely Ahmedabad, Bengaluru, Chennai, Faridabad, Gandhinagar, Ghaziabad, Greater Noida, Gurugram, Hyderabad, Kolkata, Mumbai, Noida, and Pune. To obtain the India-level indices, information from Ahmedabad, Bengaluru, Chennai, Hyderabad, Kolkata, Mumbai, NCR (Ghaziabad, Greater Noida, Gurugram, and Noida), and Pune are used. We exclude Faridabad and Ghaziabad from the analysis due to their insignificant contribution to the housing market in our data. The below table shows the count of localities covered in the cities considered.

Table 1

CITY	NO. OF LOCALITIES	WEIGHT
Ahmedabad	69	3.72
Benagluru	129	8.96
Chennai	108	3.66
Hyderabad	83	6.17
Kolkata	78	2.36
Mumbai	121	51.15
NCR	136	5.04
Pune	117	18.63

To construct the indices, we begin by subgrouping the data to localities which reported realty status in all the survey periods. We consider only 1, 2, and 3-BHK units with under construction and completed construction status, as they are the most significant contributors to the housing market in each city.

To capture the change in prices over time, we will build a Laspeyres Price Index. The Laspeyres Price Index analyses the change in prices to a specified base period weighting.

Laspeyres Price Index =
$$\frac{\sum_{i=1}^{N} p_{i,t} q_{i,0}}{\sum_{i=1}^{N} p_{i,0} q_{i,0}} = \sum_{i=1}^{N} w_i \frac{p_{i,t}}{p_{i,0}}$$

Where $p_{i,0}$ is the price of the unit at the base period and p_{it} is the price of the unit at the observation period. $q_{i,0}$ is the quantity of units sold in the baseline period. The index *i* is grouped at City*Locality*BHK type*Construction Status level. We use 2019 as the base year to construct the weights w_i that remain unchanged for the whole period. The weights are based on share in the total value sold. Table 1 shows the weights for each city, indicating their contribution to the aggregate housing market in India. We can see that in terms of value, Mumbai constitutes more than 50 percent of the overall market in India.

Before constructing the final index, we will also pre-process the data to remove any outliers. It is possible that some index *i* may not witness any sale in a given month under consideration. Therefore, to get the most updated price information, we use inventory prices as a proxy in that category. Finally, the quantity index would be derived from the price index as the total sales value normalised by the price index for that month. In the last step, we re-normalise the price and quantity indices to keep the index value equal to 100 at the beginning of our data sample, i.e. January 2017.

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Founded in 2012 Housing.com is owned by Elara Technologies, the country's only full stack real estate platform that also owns Makaan.com and PropTiger.com. Elara Technologies is controlled by Australia-based Real Estate Australia (REA) Group Limited. Housing.com is India's most innovative real estate advertising platform for homeowners, landlords, developers, and real estate brokers. The company offers the largest selection of verified listings for new homes, resale homes, rentals, and co-living spaces in India through a trained team of data collectors, analysts, and auditors. Backed by strong research and analytics, the company's experts provide comprehensive real estate services that cover advertising and marketing, sales solutions for real estate developers, personalised search, virtual viewing, AR&VR content, home loans, end-to-end transaction services and post-transaction services to consumers for both buying and renting. Elara has a national presence with 14 offices across India. It's corporate office is located in Gurugram, Haryana.

Housing Research is part of Housing.com. As the dynamicity of the Indian residential real estate sector solicits a keen understanding of the market, both on the online and offline platforms, Housing Research, aims to bring matchless insights through its unparalleled database and market intelligence, to unfold the nuances of the Indian real estate sector in its sought-after periodic industry insights and publications.

For further details about the Company, please visit www.housing.com.



Srini Raju Centre for IT and the Networked Economy (SRITNE) is a multi-disciplinary research centre at the Indian School of Business aimed at fostering rigorous and relevant research, education and outreach that advances our understanding of how Information and Communication Technologies (ICT) create value for business and society. The core activities of SRITNE are across the areas of: a. Research that addresses practical and policy questions related to the effective ICT selection, adoption, & exploitation, b. Education that trains future leaders to leverage ICT for competitive success, and c. Dialogue with academics, industry, government, and students though speaker series, conferences and symposia.

To know more about SRITNE, please visit: www.isb.edu/sritne.



National Real Estate Development Council (NAREDCO) was established as an autonomous self-regulatory body in 1998 under the aegis of Ministry of Housing and Urban Affairs, Govt. of India. It is in this year that the Government of India redrafted the National Housing & Habitat Policy, giving due importance to the Housing and Real Estate sector, thereby declaring housing for all citizens by the year 2010. The Indian housing and real estate sectors and the allied industries hailed the establishment of NAREDCO, as the apex national body for the real estate industry and visualized it as a single platform where Government, industry and public would discuss various problems and opportunities face to face which would result in speedy resolution of issues. It was formed with the mandate to induce transparency and ethics in real estate business and transform the unorganized Indian real estate sector into a matured and globally competitive business sector.

The National Real Estate Development Council functions as Development & Promotion Council for housing & real estate sector in India and strives to be the collective force influencing and shaping the real estate industry. It seeks to be the leading advocate of developing standards for efficient, effective, and ethical real estate business practices, valued by all stakeholders of real estate sector and viewed by them as crucial to their success. NAREDCO works to create and sustain an environment conducive to the growth of real estate industry in India, partnering industry and government alike through advisory and consultative processes.

For More info : www.naredco.in/index.asp

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The analysis presented on real estate trends in India are indicative of market trends. The data has been tracked and collected across eight cities for nearly 20,000 projects. Utmost care has been taken to provide the complete market picture however these trends present the best case scenario and should not be relied upon in anyway. The data for sales is collected through primary survey carried out by our field agents and the data for new launches is as per the projects registered under the Real Estate Regulatory Act (RERA). The report published is for general information only. Although high standards have been used for analysis in this report, no responsibility or liability whatsoever can be accepted by Housing.com, Indian School of Business (ISB) and National Real Estate Development Council (NAREDCO) for any loss or damage resulting from any use of, reliance on or reference to the content of this document. As a general report, this material does not necessarily represent the views of Housing.com and Indian School of Business in relation to particular properties or projects. Reproduction of this report in whole or in part is nor allowed without prior written approval of Housing.com, Indian School of Business (ISB) and National Real Estate Development Council (NAREDCO) to the form and content within which it appears.