



HOUSING PRICE INDEX

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Housing Market Prices in Q1 2024 Signal Recovery After Five Quarters of Slump

Figure 1: Evolution of Sectoral GDP, Overall GDP and House Inflation (Q1-'18 – Q1-'24)



Source: KNBS, CBK and KBA-HPI

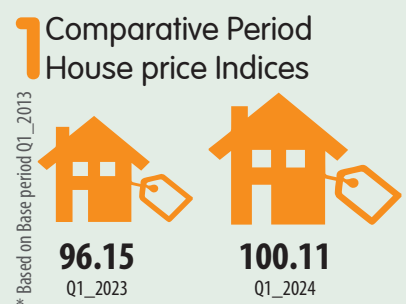
House prices in the first quarter of 2024 rose by 1.93 percent on a quarter-on-quarter basis (Figure 1), reflecting recovery in prices for the first time in the last two years. This was mainly on account of strengthening demand in the housing market and mirroring increased commercial bank loans to the real estate and construction sectors.

Based on the Kenya National Bureau of Statistics latest data, the real estate sector expanded by 6.8 percent in the first quarter of 2024. However, activity in the construction sector moderated over the period, mirroring a slowdown in cement consumption and a

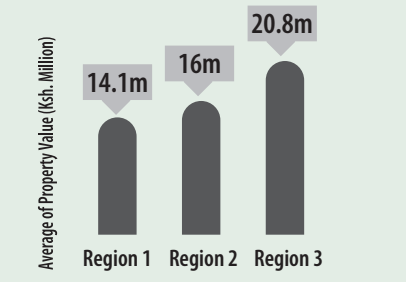
reduction in the volume of imported materials such as iron, steel, and non-ferrous metals. In particular, cement consumption dropped from 2,439,748 metric tonnes in the third quarter to 2,300,249 metric tonnes in the fourth quarter 2023 (Figure 2a) as prices rose in tandem with overall inflation in the economy during the period. Moderation in activity in the construction sector was partly softened by increased government investments in Affordable Housing Program (AHP), as evidenced by a surge in residential buildings completed by the State Department for Housing and Urban Development (SDHUD).

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The Numbers at a Glance



2 Average Property Value by Region in Q1 2024



3 Average Property Value by House Type in Q1 2024

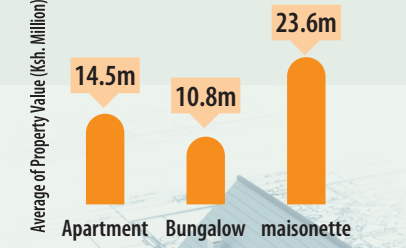
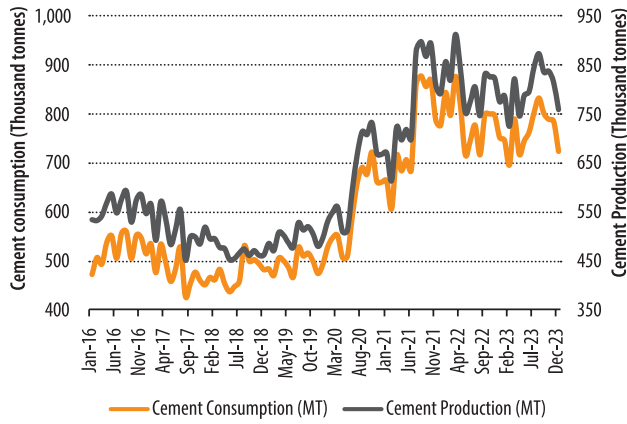
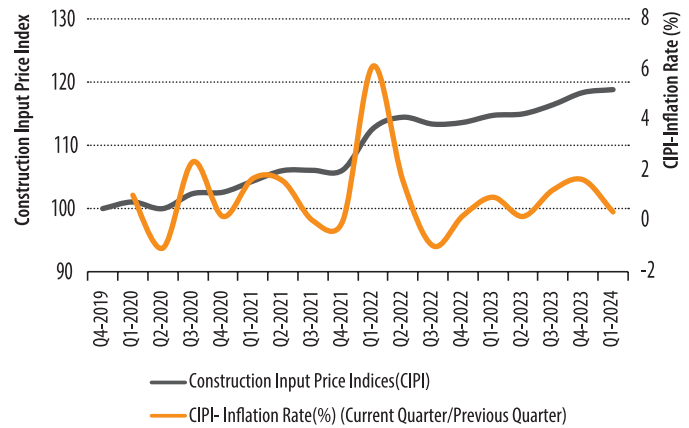


Figure 2a: Cement production and consumption



Source: KNBS

Figure 2b: Construction Input Price Indices and Inflation Rate



Source: KNBS



Figure 2c: Trends in Construction cost Price Index by Sub-categories

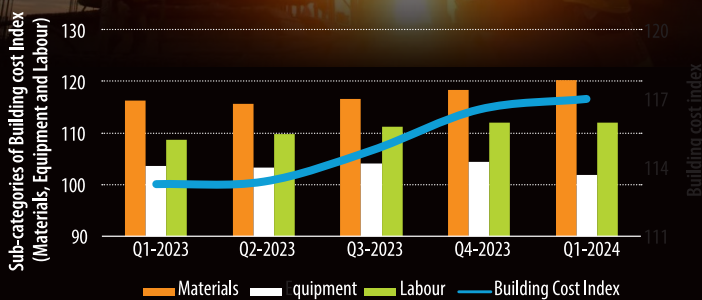
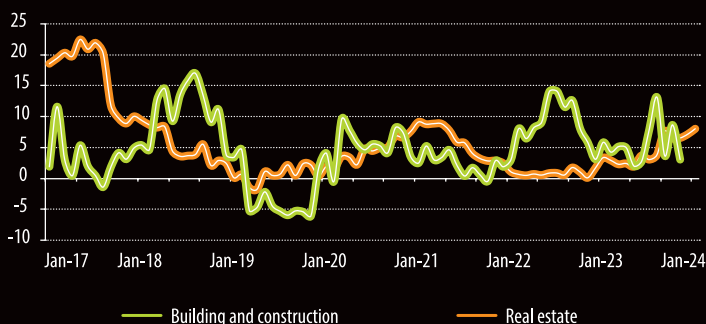


Figure 2d: Sectoral credit to the real estate, building and construction sector (y-o-y, percent)



Source: KNBS & CBK

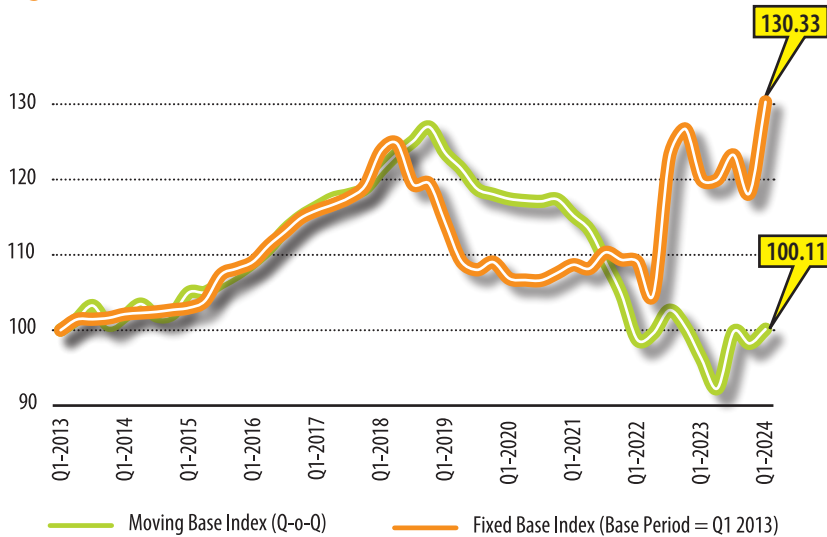
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As such, the Construction Input Price Index (CIPI) continued to rise through the first quarter of 2024, to 118.84 (Figure 2b), driving the year-on-year inflation for the sector to 3.56 percent, mainly on account of a surge in the prices of cement, quarry products and roofing materials. Consequently, the construction Cost Index (that encompasses materials, equipment and labor sub-indices) increased by 0.88 percent to 116.98 in Q1 2024 from 113.39 over a similar period in 2023 (Figure 2c).

From a financing standpoint, while credit growth to the building and construction sector increased by 3.0 percent in January 2024, leading to the real estate sector rose to 8.0 percent over the period (Figure 2d); with the imbalance in favor of demand exerting upward pressure on prices.

Although house prices have recovered to a positive territory, the path has been gradual. Based on the Laspeyres Index methodology (See Technical Note), and base period being first quarter of 2013, the evolution of the KBA Housing Price Index (KBA-HPI) indicates that house prices rose by 0.11 percent in the first quarter of 2024 on the moving-base basis and 30.33 percent on the fixed-base basis (Q1, 2013) as shown in Table 1 and Figure 3. The moving base index sustained upward trajectory, to stand at 100.11, representing a 1.93 percent rise between the fourth quarter of 2023 and the first quarter of 2024. This growth underscores the resilience of the housing market despite the challenging economic conditions, such as high interest rates and protracted inflationary pressure, that prevailed during the period.

Figure 3: Evolution of the KBA House Price Index



Source: KBA-HPI computations from housing prices survey on concluded housing mortgage transactions by banks.

Table 1: House Price Index Series

Period	Index with a fixed base*	Index with a moving base
Q4-2019	109.04	118.04
Q1-2020	106.87	117.44
Q2-2020	106.66	117.20
Q3-2020	106.63	117.11
Q4-2020	107.60	117.37
Q1-2021	108.69	115.23
Q2-2021	108.19	113.32
Q3-2021	110.33	109.13
Q4-2021	109.35	104.77
Q1-2022	109.10	98.69
Q2-2022	104.78	99.58
Q3-2022	123.04	102.64
Q4-2022	126.72	100.35
Q1-2023	120.00	96.15
Q2-2023	120.01	92.25
Q3-2023	123.28	99.75
Q4-2023	118.21	98.22
Q1-2024	130.33	100.11

* Base Period Q1_2013

Notable Shifts in Buyer Preferences in Q1 2024

Further analyses of market trends show that the real estate market depicted notable shifts in buyer preferences across regions and property types.

Analyses based on house types show that, apartments, although still dominating, saw a slight decline in their share of completed transactions, accounting for 37.31 percent in the first quarter compared to 40.19 percent in the fourth quarter of 2023. Bungalows' share also dropped slightly to

26.87 percent, from 29.91 percent, while Maisonettes' and town houses' share grew to stand at 20.90 percent and 14.93 percent respectively (Figure 4a).

Other notable shifts included a decline in housing activity in the low-market segment to account for 41.79 percent in the first quarter of 2024 from 62.26 percent in the fourth quarter of 2023, while activity in the mid-market segment saw a rise from accounting for 20.75

percent to 27.61 percent in the quarter under review. The high-market segment registered a significant increase in activity from accounting for 17.00 percent of the fourth quarter of 2024 to 30.60 percent of all transactions in the first quarter of 2024 (Figure 4b). Despite these shifts, high interest rates continued to challenge both developers and buyers, with banks raising mortgage rates in response to the Central Bank of Kenya's policy (base) rate hike and elevated credit risk in the market.

Figure 4a: Quarterly distribution of house transactions by House Type (%)

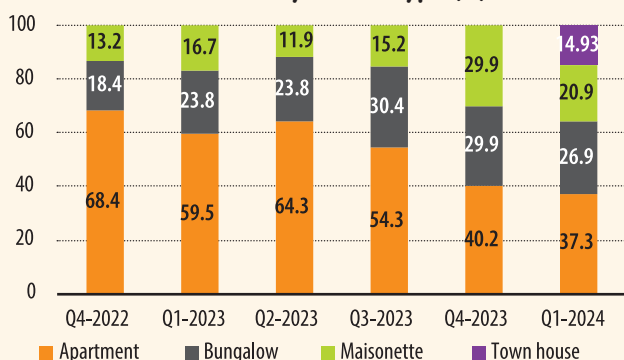
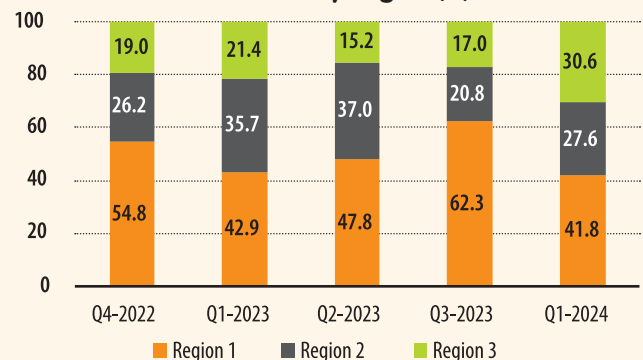


Figure 4b: Quarterly distribution of house transactions by Region (%)



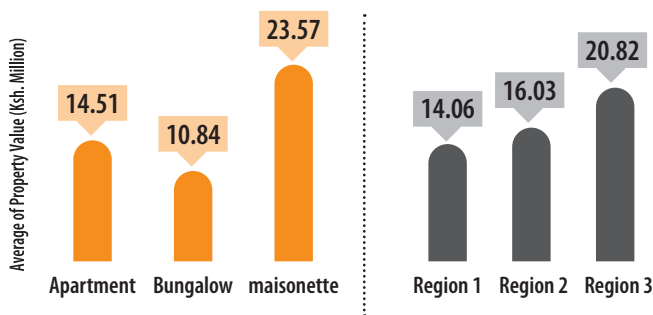
Source: KBA computation from housing prices survey

Q4 Property Price Analysis show Varied Trends amid Economic Challenges

An analysis of property prices, considering both regional and structural factors, revealed substantial variations. First, there was a clear disparity in prices of concluded transactions based on house type: Maisonettes averaged the highest price at Kes. 23.57 million, closely followed by townhouses that averaged Kes. 22.92 million, compared to apartments that were priced at Kes. 14.51 million, and bungalows at Kes. 10.84 million on average over the first quarter of 2024.

Second, cost differences were also evident across various market segments. Houses in the high-market segment averaged Kes. 20.82 million, compared to Kes. 16.03 million in the mid-market segment and Kes. 14.97 million in the low-market segment (Figure 5); an indication that lenders concluded transactions of high-end property listings irrespective of the region. These variations highlight the segmented nature of the housing market, influenced by both region and house type, and the intersection between region/house type and the emerging consumer preferences for high-end and modern units.

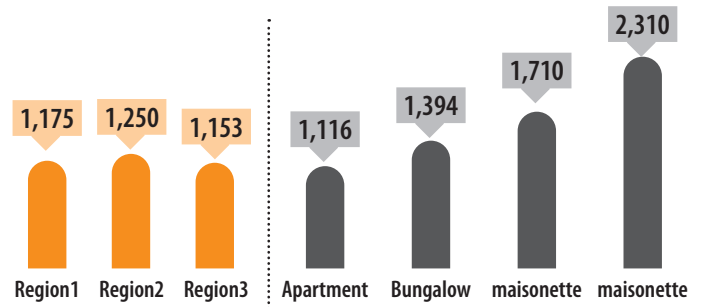
Figure 5: House Prices By Region and Type of House



Source: KBA computation from housing prices survey

As depicted in Figure 6 and Figure 7, a complex, but consistent interplay between region-specific demand factors and structural preferences is revealed through a deeper examination of property

Figure 6: Average plinth across the region & by house type



values and plinth areas across various house types and regions during the quarter.

For instance, looking at low-market segment, the concluded apartments had an average property value of Kes. 8.61 million, whereas bungalows and maisonettes were at Kes. 10.51 million and Kes. 23.50 million respectively. Meanwhile, the plinth areas varied significantly, with maisonettes having the largest area (1,623.90 square feet), followed by apartments (1,216.34 square feet) and bungalows (1,176.50 square feet). In mid-market segment, apartments had an average property value of Kes. 8.86 million, bungalows Kes. 14.06 million and maisonettes Kes. 18.50 million. By plinth area, bungalows had the largest area (2,264.14 square feet), followed by maisonettes (1,803.25 square feet) and apartments (1,177.29 square feet).

In the high-market segment, and focusing on the mortgage transactions that were concluded, the highest property values were carried by town houses at Kes. 30.0 million, while Maisonettes stood at Kes. 22.92 million, apartments at Kes 19.87 million as bungalows stood at Kes 15.19 million. However, by plinth area, maisonettes took the lead with approximately 5,295.07 square feet, followed by bungalows (4,080.93 square feet), apartments (2,988.69 square feet) and town houses (2,337.16 square feet).

Figure 7: Average property value area across the region and plinth area

Figure 7a: Average Property Value Across Regions by House Type (Kes in Millions)

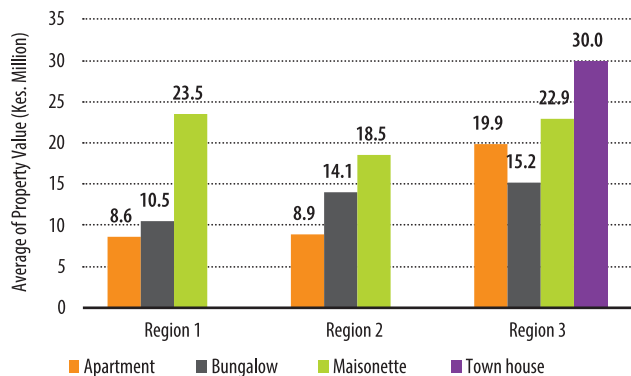
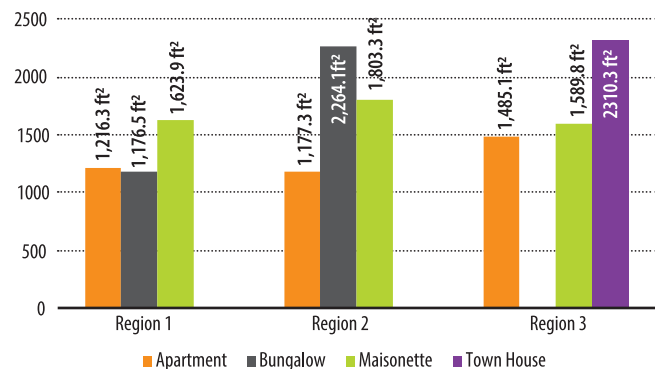


Figure 7b: Average Plinth Area Across Region by House Type (Sq feet)



House Price Variations Driven by Plinth Area, Ensuite Bedrooms and Location

The computation of the Kenya Bankers Association Housing Price Index (KBA-HPI) relies on estimating weights and shadow prices, which are updated on a quarterly basis using the information from concluded house mortgage transactions.

Quantitative attributes, such as plinth area, utilize averages as weights, while qualitative attributes, like house type and region, use proportions. We identify factors which drive house price changes, based on a hedonic regression model.

The results of the hedonic regression analyses, presented in **Table 2**, highlight that a significant portion of house price variations can be attributed to a number of fundamental movements. The model's goodness of fit, indicated by the F-statistic ($F(8, 88) = 12.93$), shows a satisfactory fit with the data, explaining 48.6% of the observed price variations. In the first quarter of 2024, the regression estimates reveal three key patterns regarding shadow price attributes.

First, the structural characteristics continue to impact house price movements. Here, we focus on the factors that depict statistical

significance. The results suggest that a 1% increase in the plinth area (in square feet) leads to a 0.05 percent price increase. An extra bathroom in a house increases the house price by 0.77 percent. Compared to a maisonette (reference category), a bungalow's price was 0.31 percent lower during the quarter. Additionally, house prices in region 3 (high market segment) were 0.42 percent higher than in region 2 (mid-market segment), reflecting regional disparities in house prices particularly evident between the two regions that predominantly share client base.

“ The hedonic regression analyses highlight that a significant portion of house price variations can be attributed to a number of fundamental movements, with the model explaining 48.6% of the observed price variations.



The computation of the KBA-HPI is underpinned by estimating the weights and the shadow prices. The weighting scheme applied to the shadow prices varies from one quarter to another and relates to the units transacted during the quarter (See **Technical Note** for details).

The weights applied in the case of quantitative attributes (i.e., plinth area, number of bedrooms, number of bathrooms, and number of floors) are their respective averages, and proportions are applied as weights in the case of the qualitative attributes (i.e., type of house, and the region). The qualitative and quantitative parameters, that drive the house price change and

feed into the construction of the KBA-HPI, are based on an estimation of a hedonic regression. The regression generates the shadow prices or marginal contributions, taking cognizance of the heterogeneous nature of housing goods best characterized by their attributes.

The hedonic regressions recognize that a dwelling is composed of a bundle of characteristics for which no market for them exists, as they cannot be sold separately, so the prices of the characteristics are not independently observed. The demand and supply for the properties implicitly determine the characteristics' marginal contributions to the prices of the properties.

Technical Note

The index follows a Laspeyres index method. In this method, the index is computed by getting the ratio of the estimated current quarter price from the hedonic method (multiplied by the weights of the preceding quarter) to the price of the preceding quarter (multiplied by the respective weights of that quarter).

The weights of the quantitative variables are obtained by getting their respective mean values. For the dummy variables however, their weights are computed as the proportions of the number of houses possessing a certain attribute to the total number of houses. Thus the index is computed by the formula:

$$Index = \sum_{i=1}^n w_i \frac{\hat{P}_1}{\hat{P}_0} = \frac{\sum_{i=1}^n w_0 \hat{P}_1}{\sum_{i=1}^n w_0 \hat{P}_0}$$

Where; \hat{P}_1 is the shadow price from the estimated hedonic function for the current quarter;

\hat{P}_0 is the shadow prices from the estimated hedonic function for the preceding quarter;

And w_0 are the weights of the respective variables for the preceding quarter.



Table 2: Housing Price Index Drivers for Quarter 1 of 2024

Source	SS	df	MS
Model	25.38	8.0	3.14
Residual	22.29	93.0	0.24
Total	47.66	101.00	0.47

Number of obs = 102.00
 F(8, 88) = 12.93
 Prob > F = 0.00
 R-squared = 0.527
 Adj R-squared = 0.486
 Root MSE = 0.493

	Coef	Std. Err.	t - stats	P> t	[95% Conf. Interval]	
Constant	14.451	0.443	2.510	0.014	13.572	15.330
Log(Plinth Area)	0.055	0.030	1.830	0.070	-0.005	0.760
No. of Bedrooms	0.200	0.282	0.710	0.480	-0.360	0.760
No. of Bathrooms	0.772	0.203	3.810	0.000	0.370	1.175
No. of Floors	0.085	0.079	1.080	0.282	-0.071	0.241
House Type Dummy						
Town house	0.024	0.530	0.050	0.964	-0.103	1.077
Apartment	-0.081	0.136	-0.600	0.553	-0.350	0.189
Bungalow	-0.315	0.189	-1.670	0.099	-0.690	0.060
Regional Dummy						
Region 1	-0.160	0.124	-1.280	0.202	-0.407	0.087
Region 3	0.419	0.150	2.790	0.006	0.121	0.717

Notes:

1. All the Quantitative variables (Plinth Area, No. of Bedrooms, No. of Bathrooms, No. of Floors) enter the hedonic regression function in their natural logarithm. The house price is also expressed in its natural logarithmic form.
2. Reference categories for the dummy variables for house types and region were maisonettes and region 2, respectively.



Housing Price Index
 Quarter 1, 2024  **100.11**

Table 3: Housing Price Index Drivers for Quarter 4 of 2023

Source	SS	df	MS
Model	26.14	8.0	3.27
Residual	21.61	88.0	0.25
Total	47.75	96.00	0.50

Number of obs = 97.00
 F(8, 88) = 13.31
 Prob > F = 0.00
 R-squared = 0.547
 Adj R-squared = 0.506
 Root MSE = 0.496

	Coef	Std. Err.	t - stats	P> t	[95% Conf. Interval]	
Constant	14.716	0.420	3.280	0.002	13.881	15.550
Plinth Area	0.004	0.030	0.130	0.897	-0.056	0.063
No. of Bedrooms	0.823	0.278	2.960	0.004	0.271	1.375
No. of Bathrooms	0.469	0.175	2.680	0.009	0.121	0.818
No. of Floors	0.032	0.070	0.450	0.652	-0.107	0.171
House Type Dummy						
Apartment	-0.032	0.147	-0.220	0.826	-0.326	0.261
Bungalow	-0.364	0.147	-2.480	0.015	-0.655	-0.072
Regional Dummy						
Region 1	-0.418	0.202	-2.070	0.042	-0.821	-0.016
Region 3	0.056	0.214	0.260	0.795	-0.370	0.481

Notes:

1. All the Quantitative variables (Plinth Area, No. of Bedrooms, No. of Bathrooms, No. of Floors) enter the hedonic regression function in their natural logarithm. The house price is also expressed in its natural logarithmic form.
2. Reference categories for the dummy variables for house types and region were maisonettes and region 2, respectively.



Housing Price Index
 Quarter 4, 2023 **98.22**

Table 4: Housing Price Index Drivers for Quarter 3 of 2023

Source	SS	df	MS
Model	17.72	8	2.21
Residual	12.32	37	0.33
Total	30.03	45	0.67

Number of obs = 46.00
 $F(8, 37) = 6.65$
 Prob > F = 0.00
 R-squared = 0.590
 Adj R-squared = 0.501
 Root MSE = 0.577

	Coef	Std. Err.	t - stats	P> t	[95% Conf. Interval]	
Constant	13.339	1.038	0.000	0.999	11.263	15.442
Plinth Area	0.269	0.134	2.010	0.052	-0.003	0.541
No. of Bedrooms	0.784	0.629	1.250	0.220	-0.490	2.059
No. of Bathrooms	0.585	0.445	1.320	0.196	-0.316	1.486
No. of Floors	0.105	0.106	0.980	0.331	-0.111	0.320
House Type Dummy						
Apartment	0.206	0.301	0.680	0.498	-0.403	0.815
Bungalow	-1.065	0.369	-2.880	0.007	-1.813	-0.317
Regional Dummy						
Region 1	-0.509	0.638	-0.800	0.430	-1.800	0.783
Region 3	-0.846	0.680	-1.240	0.222	-2.224	0.533

Notes:

1. All the Quantitative variables (Plinth Area, No. of Bedrooms, No. of Bathrooms, No. of Floors) enter the hedonic regression function in their natural logarithm. The house price is also expressed in its natural logarithmic form.
2. Reference categories for the dummy variables for house types and region were maisonettes and region 2, respectively.



Housing Price Index
 Quarter 3, 2023

 **99.75**

THE DEFINITION OF THE SUB-REGIONS

REGION 1

Athi River, Mlolongo, Mavoko, Nakuru, Ngong, Ruaka, Syokimau, Embakasi, Kahawa Wendani, Thika, Mtwapa, Utange, Kitengela, Kiembeni, Nyeri, Likoni, Eldoret, Ruiru, Kilifi, Thika road (Kasarani, Roysambu, Ruaraka), Meru, Bungoma.

REGION 2

Thindigua (Kiambu Road), Kiambu, South B, South C, Kabete, Komarock, Imara Daima, Membedley, Buruburu, Rongai, Waiyaki Way (Uthiru, Regen, Kinoo, Kikuyu), Mbagathi road, Ngong Road, Langata.

REGION 3

Kileleshwa, Kilimani, Lavington, Westlands, Spring Valley, Riverside, Milimani (Kisumu), Milimani (Nakuru), Runda, Karen, Garden Estate, Parklands, Ridgeways, Muthaiga, Loresho, Kitisuru, Adams Arcade, Nyali, Mountain View, Nyari.



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Kenya Bankers Association

13th Floor, International House, Mama Ngina Street
P.O. Box 73100– 00200 NAIROBI
Telephone: 254 20 2221704/2217757/2224014/5
Cell: 0733 812770/0711 562910
Fax: 254 20 2221792
Email: research@kba.co.ke
Website: www.kba.co.ke



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