



HOUSING PRICE INDEX

SEPTEMBER 2018

ISSUE 15



House Prices Stabilize in Quarter 2 of 2018

There was a 1.76 percent overall increase in house prices during the second quarter of 2018. This represents a marginal decline from the previous quarter's 2.08 percent increase (**Figure 1**), reflecting a sense of price stabilization and therefore non-sustenance of the surge seen in the first quarter.

Whereas the price changes during

the quarter represents a general recovery from a low of 0.42 percent increase during the third quarter of 2017, there is need for a cautious assessment of the implied market recovery.

A true confirmation of the state of the housing market from a price perspective can only be affirmed by the evolution of the index over the

next four quarters. Both the supply and demand conditions currently being influenced by the state of the economy's anticipated recovery from a slow rate of growth in 2017, is likely to hinge on the requisite preparations on investments towards the affordable housing objective of Government under the Big 4 Agenda.

Continued on page 2...

Highlights

1 House prices rose significantly by 1.76 percent during the second quarter of 2018. This was an evidence of some sense of stabilization of house prices.

2 The house price drivers in quarter 2 of 2018 remained largely unchanged compared to the previous quarters. Prices in quarter 2 of 2018 were largely driven by size of the house; parking space; borehole; type of the house; and the floor is in the case of apartments.

3 Apartments retained their dominant share in quarter 2 of 2018 accounting for 37.78% of the total units offered for sale. Bungalows took 33.33 percent with maisonettes taking the remaining 28.89 percent of the total units sold.

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 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.



House Prices stabilize in quarter two of 2018

...continued from page 1

Further, there is an evident move towards increased investments on the demand side, a departure from the delayed decisions that coincided with the political events of 2017. The price recovery seen over the past two quarters is a manifestation of such investments.

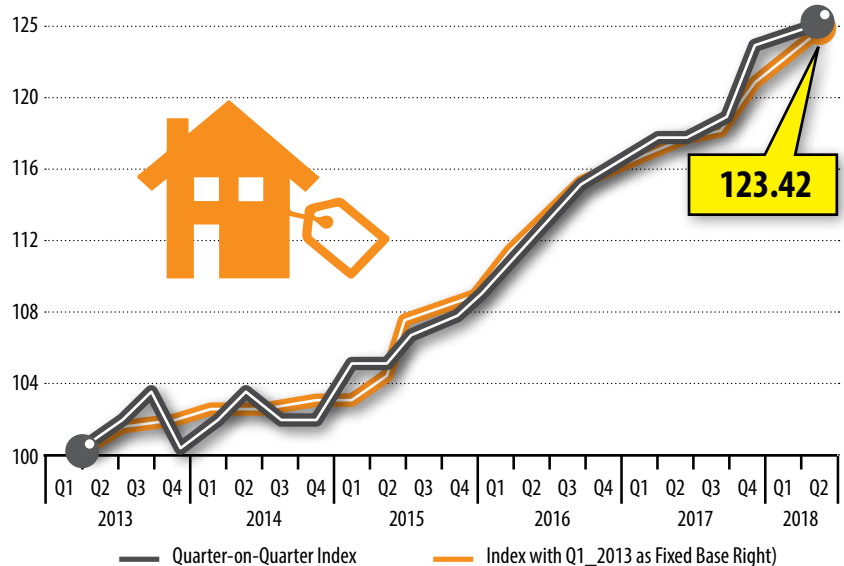
The overall index results based on a fixed base since the first quarter of 2017 represents nearly a 25 percent house prices increase over a five and a half year period (Figure 2).

Table 1: Price Movement Series

Period	Index with a fixed base*	Index with a moving base
Q3_2016	113.05	113.31
Q4_2016	114.91	115.10
Q1_2017	115.92	116.37
Q2_2017	116.67	117.52
Q3_2017	117.59	118.01
Q4_2017	119.19	118.81
Q1_2018	123.83	121.29
Q2_2018	123.42	124.78

* Based on Base period Q1_2013

Figure 2: KBA-HPI Evolution



House Price Drivers Remain Unchanged in Quarter 2

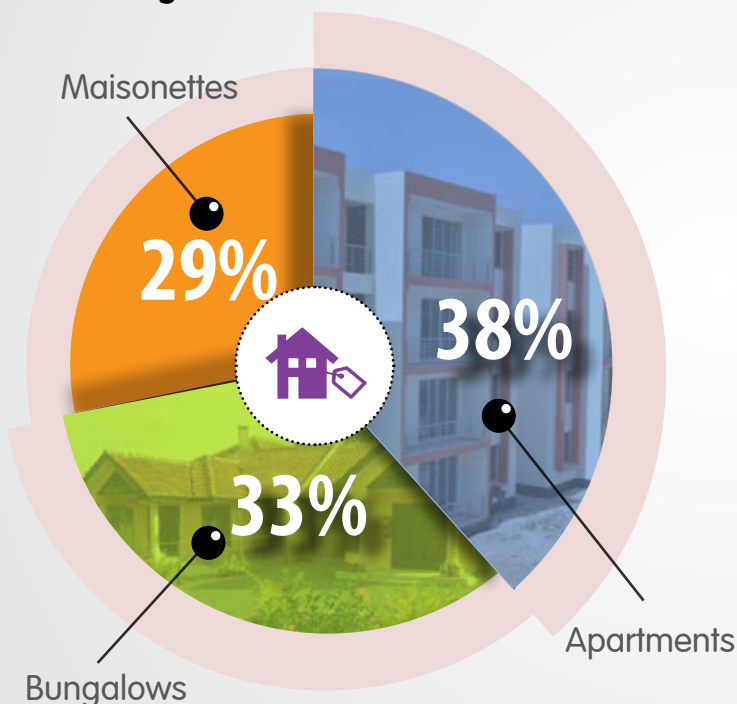


The house price drivers in quarter 2 of 2018 remained relatively unchanged compared to the previous quarters. Apart from the house features relating to the size of the house, prices in Q2 of 2018 were also largely driven by presence of parking space, presence of borehole for guarantee water supply, the type of the house and the floor upon which the house is in case of apartments.

The stability in the attributes that influence the house prices, which has been observed over not just the previous two quarters but even for much of 2017, reflects the long term nature of investments associated with home ownership

Apartments regain lead in Q2 price increase

Figure 3: Total units offered



The houses on offer in the market during the quarter represented a fairly equitable distribution amongst, apartments, bungalows and maisonettes, albeit with apartments taking the bigger share. In quarter 2 of 2018, apartments accounted for 37.78 percent of the total units offered in the market as per the data used for analysis. Bungalows accounted for 33.33 percent with maisonettes accounting for the remaining 28.89 percent of the total units sold as per the data used for this analysis.

Unlike in the previous quarters where the lower market segment has been active compared to the middle and upper segment, the market activity seemed to have been fairly uniform in all market segments. The biases posted in the earlier analysis where the market favours one segment at the expense of the other seems to have been fairly muted in the second quarter of 2018.

Table 2: Housing Price Index Drivers for Quarter 2_2018

Source	SS	df	MS
Model	412.7318	18	22.9296
Residual	0.0298	407	12.1156

Prob > F = 770.27
 # observations = 426
 R-squared = 0.9715
 Adj R-squared = 0.9702

LN VALUE	Coef	Std. Err.	t - stats	P> t	[95% Conf. Interval]	
Plinth area	0.8227	0.0519	15.85	0.000	0.7206555	0.9247546
Number of Bedrooms	-0.0327	0.0305	-1.07	0.283	-0.0925902	0.0271577
Number of Bathrooms	0.0958	0.0281	3.41	0.001	0.0405794	0.1510979
House type	0.8766	0.0717	12.23	0.000	0.7356745	1.01752
Locational Dummy	-0.0008	0.0033	-0.25	0.806	-0.0072477	0.0056356
Number of floors	0.1782	0.0534	3.34	0.001	0.073147	0.2831537
Presence of Backyard	0.8857	0.0964	9.19	0.000	0.6962634	1.075204
Presence of Balcony	0.3809	0.0770	4.95	0.000	0.2294663	0.5322862
Presence of DSQ	-0.3834	0.2491	-1.54	0.124	-0.8730004	0.1062068
Presence of Gym	0.2888	0.0930	3.11	0.002	0.1060066	0.4716663
Swimming pool	-0.5119	0.1236	-4.14	0.000	-0.7548346	-0.2690207
Garage/parking	1.6248	0.2475	0.57	0.000	-2.111349	1.138297
Master ensuite	1.6963	0.2118	8.01	0.000	1.279843	2.112751
Separate dining	-0.3465	0.1795	-1.93	0.054	-0.6993735	0.0064055
Gated community	-0.0253	0.0258	-0.98	0.327	-0.0760263	0.025374
Presence of borehole	0.2787	0.0584	4.77	0.000	-0.3935313	-0.1639539
Presence of geysercloset	-1.1303	0.2968	-3.81	0.000	-1.71367	-0.5468541
Presence of Elevator	0.0436	0.0934	0.47	0.641	-0.1400402	0.2271589
Constant	8.6755	0.3871	22.41	0.000	7.914595	9.436404
Presence of Guestroom	-0.2369	0.2552	-0.93	0.354	-0.7383697	0.2645607
Presence of Elevator	-0.3491	0.2314	-1.51	0.132	-0.8037293	0.1055392
Backup - generator	-0.8324	0.4576	-1.82	0.769	-1.731368	0.0666132
Constant	10.2103	0.5476	18.65	0.000	9.134414	11.28626

Housing Price Index
 Quarter 2, 2018



123.42

Table 3: Housing Price Index Drivers for Quarter 1_2018

Source	SS	df	MS
Model	410.3842	23	22.7991
Residual	13.3508	209	0.0271

Prob > F = 0.000
 # observations = 511
 R-squared = 0.9685
 Adj R-squared = 0.9673

LN VALUE	Coef	Std. Err.	t - stats	P> t	[95% Conf. Interval]	
Plinth area	0.6463	0.0469	13.78	0.000	0.5541608	0.7384159
Number of Bedrooms	0.0160	0.0319	0.50	0.016	-0.0466906	0.0787731
Number of Bathrooms	0.1911	0.0322	5.93	0.000	0.1278157	0.2544234
House type	0.2892	0.0512	5.65	0.000	0.1886779	0.3897655
Age	0.0376	0.0091	4.11	0.000	0.019622	0.0554893
Time dummy (Q1_2018)	0.3341	0.1761	1.90	0.058	-0.6800308	0.011841
Locational Dummy	0.0193	0.0032	-5.94	0.000	0.0129003	0.0256415
Number of floors	0.1365	0.0362	3.77	0.000	0.0654071	0.2076382
Presence of Backyard	0.8655	0.4237	2.04	0.042	0.0330108	1.697952
Presence of Balcony	0.1908	0.4497	0.42	0.672	-0.6928538	1.074409
Presence of DSQ	-0.1263	0.0865	-1.46	0.145	-0.2962409	0.0435569
Presence of Gym	1.5367	0.1983	7.75	0.000	1.147131	1.92624
Swimming pool	0.1041	0.2494	0.42	0.677	-0.385942	0.5941626
Prox. to Social amenities	0.0034	0.0337	0.10	0.920	0.0627787	0.0695739
Master ensuite	0.2939	0.0314	9.34	0.000	0.2321804	0.3555229
Garage/parking	0.0121	0.0010	11.79	0.000	0.0100702	0.0140872
Separate dining	-0.1622	0.1716	-0.95	0.345	-0.4993236	0.174943
Gated community	0.1399	0.1709	0.82	0.414	0.1959449	0.4757226
Presence of Borehole	0.0106	0.0268	0.40	0.692	0.0420165	0.0632237
Presence of Guestroom	-0.2369	0.2552	-0.93	0.354	-0.7383697	0.2645607
Presence of Elevator	-0.3491	0.2314	-1.51	0.132	-0.8037293	0.1055392
Backup - generator	-0.8324	0.4576	-1.82	0.769	-1.731368	0.0666132
Constant	10.2103	0.5476	18.65	0.000	9.134414	11.28626

Housing Price Index
 Quarter 1, 2018 **+ 121.29**

Table 4: Housing Price Index Drivers for Quarter 4_2017

Source	SS	df	MS	Prob > F = 0.000		
Model	80.4199	24	4.2326	# observations = 234		
Residual	18.4003	209	0.0859	R-squared = 0.8138		
				Adj R-squared = 0.7973		

LN VALUE	Coef	Std. Err.	t - stats	P> t	[95% Conf. Interval]	
Plinth area	0.5923	0.1089	5.44	0.000	0.3775475	0.8070209
Number of Bedrooms	0.1223	0.0602	2.03	0.044	0.0035758	0.2410728
Number of Bathrooms	0.1031	0.0535	1.93	0.055	-0.0023016	0.2084422
House type	0.0742	0.1377	0.54	0.590	-0.3456091	0.1971115
Age	-0.2898	0.2279	-1.27	0.205	-0.7390371	0.1595052
Time dummy (Q4_2017)	0.1369	0.1759	0.78	0.437	-0.4836034	0.209845
Locational Dummy	0.0116	0.0065	1.79	0.075	-0.0242906	0.0011563
Number of floors	-0.2337	0.1343	-1.74	0.083	-0.4983459	0.0310299
Presence of Backyard	0.6406	0.2151	2.98	0.003	0.216517	1.064614
Presence of Balcony	0.5032	0.3094	1.63	0.105	-0.1068044	1.113111
Presence of DSQ	0.0245	0.1075	0.23	0.082	-0.1874413	0.2364702
Presence of Gym	2.0245	0.4280	4.73	0.000	1.18087	2.868142
Swimming pool	0.7476	0.3767	1.98	0.048	-1.490074	-0.0051901
Prox. to Social amenities	1.8287	0.4159	4.40	0.000	1.008872	2.648567
Master ensuite	0.1005	0.1726	0.58	0.561	0.239821	0.4407351
Garage/parking	0.0965	0.1506	0.64	0.023	-0.2003881	0.3933272
Dining	0.4370	0.2240	1.95	0.052	-0.0046382	0.8786114
Gated community	0.4671	0.2226	2.10	0.037	0.0283925	0.9058139
Presence of borehole	0.4138	0.2011	2.06	0.041	0.0173394	0.8101952
Presence of Guestroom	-0.0368	0.1457	-0.25	0.801	-0.3241065	0.2504492
Presence of Jacuzzi	-0.3874	0.2914	-1.33	0.185	-0.961748	0.1869315
Presence of Elevator	0.6914	0.2423	2.85	0.005	0.213866	-1.168955
Backup - generator	0.0965	0.1506	0.64	0.523	-0.2003881	0.3933272
Presence of woodedfloor	-0.7371	0.5788	-1.27	0.204	-1.877941	0.4036479
Constant	11.5660	0.7594	15.23	0.000	10.06917	13.06281

Housing Price Index
Quarter 4, 2017 **+118.81**

Table 5: Inter quarter Sub-regional indices (Moving base): Q4-2014 - Q2-2018

	Region 1			Region 2			Region 3		
	Apartments	Bungalows	Maisonettes	Apartments	Bungalows	Maisonettes	Apartments	Bungalows	Maisonettes
Q4-2014	97.48	99.29	105.21	97.82	101.98	99.61	104.54	104.36	100.62
Q1-2015	95.2	101.54	100.95	98.67	102.01	100.25	104.67	104.92	100.71
Q2-2015	102.92	102.78	100.53	101.11	102.05	100.77	105.23	104.91	102.51
Q3-2015	103.54	103.04	101.02	104.81	102.99	101.51	105.54	105.43	104.08
Q4-2015	105.23	104.57	104.66	104.84	103.47	102.43	106.25	105.37	105.26
Q1-2016	105.56	106.49	104.87	104.22	103.3	102.58	107.05	105.96	105.37
Q2-2016	103.48	104.08	102.96	100.19	100.3	100.93	101.23	100.96	100.27
Q3-2016	104.81	104.92	104.02	103.62	101.51	102.62	103.07	102.59	104.29
Q4-2016	106.82	105.05	104.83	105.04	102.61	103.6	105.72	102.94	105.94
Q1-2017	108.63	105.81	104.96	106.75	102.81	104.27	107.49	103.27	106.24
Q2-2017	109.73	105.97	105.22	107.86	102.96	104.79	108.65	103.83	106.7
Q3-2017	110.04	106.08	105.63	107.93	103.17	105.08	109.38	103.94	107.08
Q4-2017	111.53	106.86	106.04	108.61	103.51	105.84	110.63	104.04	107.75
Q1-2018	112.39	107.16	108.82	110.07	105.58	108.03	111.41	107.04	110.08
Q2-2018	113.30	107.92	109.49	110.96	106.33	108.70	112.31	107.80	110.76

Table 6: Inter quarter Sub-regional indices (Fixed base): Q4-2014 - Q2-2018

	Region 1			Region 2			Region 3		
	Apartments	Bungalows	Maisonettes	Apartments	Bungalows	Maisonettes	Apartments	Bungalows	Maisonettes
Q4-2014	99.74	100.52	98.93	100.48	100.19	102.15	100.07	104.09	99.41
Q1-2015	95.39	101.32	100.19	100.13	100.741	101.67	100.05	104.52	99.5
Q2-2015	99.41	102.95	101.41	101.9	100.81	100.01	103.23	104.7	100.95
Q3-2015	100.74	102.77	101.3	103.37	101.65	103.03	105.21	106.76	104.87
Q4-2015	100.92	103.01	103.09	105.75	101.98	102.62	109.31	110.61	105.32
Q1-2016	101.85	104.88	103.06	106.29	101.18	104.99	109.99	110.9	105.97
Q2-2016	102.11	105.85	104.21	103.69	101.38	105.12	112.57	110.97	106.82
Q3-2016	103.01	106.21	104.97	105.61	102.6	106.31	114.41	112.06	108.49
Q4-2016	104.29	106.93	105.07	106.73	102.94	106.96	116.23	112.73	108.95
Q1-2017	106.4	107.04	105.79	108.64	102.99	107.29	118.69	113.48	109.05
Q2-2017	107.2	107.85	106.03	110.41	103.39	107.51	119.79	113.74	109.79
Q3-2017	107.91	107.94	106.84	111.49	103.81	107.86	108.05	113.79	110.7
Q4-2017	108.58	108.17	107.03	112.27	103.97	108.18	109.72	113.85	111.08
Q1-2018	109.36	110.05	108.59	112.83	105.62	110.69	110.27	115.07	113.75
Q2-2018	109.75	110.40	108.89	113.23	105.95	110.99	110.67	115.43	114.06

* Definition of the Sub-regions listed overleaf ** Based on Base period Q1_2013

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, Membley, 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.

© Kenya Bankers Association Centre for Research on Financial Markets and Policy®

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



KENYA BANKERS
ASSOCIATION

One Industry. Transforming Kenya.