HOUSING PRICE INDEX
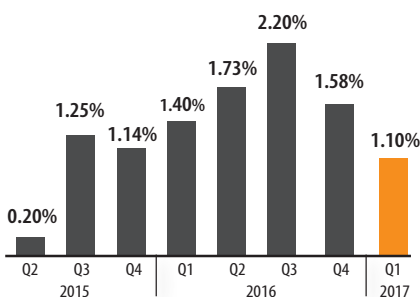
Residential House Prices Stabilizes as Demand Softens in Quarter 1

Figure 1: Overall Price Change (%)

House prices rose by 1.10 percent during the first quarter of 2017 compared to the 1.58 percent rise during the last quarter of 2016 (**Figure 1**). Whereas this supports the observation that house prices are broadly stable, it is increasingly becoming evident that prices are softening.

The house prices evolution since the third quarter of 2016 represents a downward trend in the rate of growth, being a reversal of the rising trend that prevailed from the preceding three quarters starting from the fourth quarter of 2015.

Whereas the supply and demand dynamics have had an equal influenced the general house prices trend, the key driver of the softening

Highlights

1 House prices rose by 1.10 percent during the first quarter of 2017 compared to the 1.58 percent rise during the last quarter of 2016 Whereas this supports the observation that house prices are broadly stable.

2 The house price drivers in Q1 of 2017 remained unchanged. The size of the house as captured by plinth area of the house, number of bedrooms, bathrooms, presence of backyard, garage/ parking lot, master ensuite, balcony and separate dining area were among the core drivers of house prices during the quarter.

3 On the sub regional indices, apartments took the upper hand in terms of the total number of units offered in the market. Apartments accounted for 75.72 percent of the total number of units sold in Q1 of 2017 with maisonettes and bungalows accounting for 16.46 percent and 7.82 percent respectively.

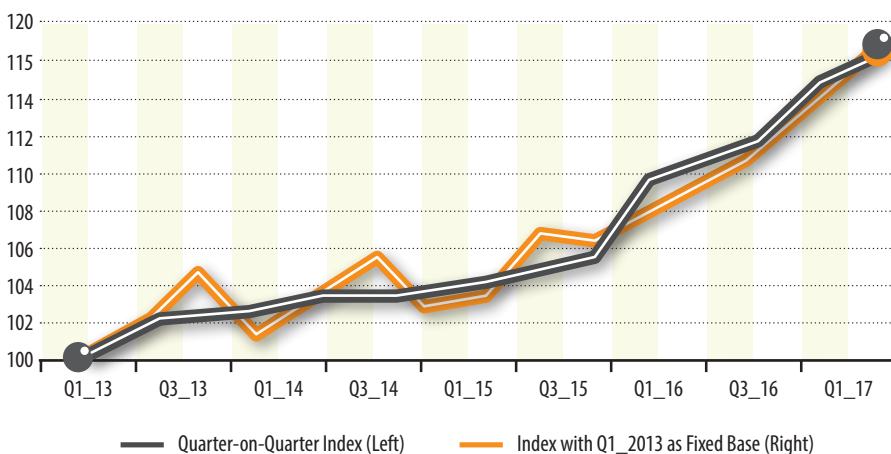# Residential House Prices Stabilizes as Demand softens

...From page 1

seen during the first quarter of 2017 and the preceding two quarters lean more towards market demand conditions.

Demand has somewhat been suppressed principally because of reduced lending by commercial banks following the enactment of interest capping law in the last quarter of 2016.

As **Figure 2** indicates, the Kenya Bankers Housing Price Index (KBA-HPI) has remained on an upward trajectory, with the house prices having risen by 15.95 from the base period of the first quarter of 2013 (fixed base index).

Figure 2: KBA–HPI Evolution

Quarter-on-Quarter Index (Left) ——— Index with Q1_2013 as Fixed Base (Right)

Technical Note

The index follows a Laspeyers index method. In this method, the index is computed by getting the ratio 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 formular:

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

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.

Home Buyers' Tastes Remain Consistent in Q1

The house price drivers in Q1 of 2017 remained unchanged compared the previous quarters. The size of the house as captured by plinth area of the house, number of bedrooms, bathrooms, presence of backyard, garage/ parking lot, master ensuite, balcony and separate dining area were among the core drivers of house prices during the quarter.

However, presence of Domestic Servant Quarters (DSQ) seems to have been insignificant in determining the price implying that potential home owners are less inclined to make a decision to buy based on the availability of a DSQ either as an additional bedroom or as rentable accommodation.

Attributes such as presence of swimming pool and gymnasium also seem to have had an insignificant effect on the prices in Q1 of 2017. This can be attributed to the fact that these facilities are mainly associated with an additional service charge especially in gated areas and apartments which potential homes owners wish to forego.

FACTORS AFFECTING THE HOUSE PRICE

- Number of bedrooms
- Number of bathrooms
- Type of the house
- Number of floors
- Location of the house
- Presence of DSQ
- Swimming pool
- Age of the house
- Garage
- Proximity to a mall
- No. of parking bay(s)
- Balcony(s)
- Gymnasium
- Master ensuite
- Borehole
- Fire place
- Garden/ backyard
- Separate dining

Apartments still take a lions share of units sold in Q1-2017

On the sub regional indices, apartments took the upper hand in terms of the total number of units offered in the market. Apartments accounted for 75.72 percent of the total number of units sold in Q1 of 2017 with maisonettes and bungalows accounting for 16.46 percent and 7.82 percent respectively.

Across all the market segments (Lower market segment, middle and upper market segments) prices of apartments registered the highest rise compared to prices of bungalows and maisonettes. The lower price of apartments compared to bungalows and maisonettes brings an element of affordability to potential home buyers given the lower cost of construction per unit on the developersí side.

More market activity appears to be skewed on the lower end of the market compared to the middle and the upper market segment. This points out to two possible reason: First, the affordability aspect; and second, more supply of units in the lower segment given the availability of land compared to the upper market segment.

Table 2: Housing Price Index Drivers for Quarter 1_2017

Source	SS	df	MS
Model	120.135033	24	5.0056264
Residual	51.094788	341	0.14983809

Prob > F = 0.0000
observations = 366
R-squared = 0.7016
Adj R-squared = 0.5469

LN VALUE	Coef	Std. Err.	t - stats	P>|t|	[95% Conf. Interval]	
Plinth area	0.2036	0.0426	4.78	0.000	0.1198816	0.2873931
No. of Bedrooms	0.0575	0.0437	1.32	0.089	-0.143507	0.0284387
No. of Bathrooms	0.2823	0.0463	6.09	0.000	0.1911736	0.3733919
House type	0.4064	0.1221	3.33	0.001	0.06465191	0.1662084
Age	0.4189	0.1102	-3.80	0.000	-0.6356136	-0.2021257
Time dummy Q1_17	0.6734	0.1122	6.00	0.000	0.4527811	0.8939682
Locational Dummy	0.0037	0.0049	0.76	0.051	-0.0132322	0.0058915
Number of floors	-0.0207	0.0245	-0.84	0.400	-0.0688262	0.0275138
Backyard	0.5119	0.1168	4.38	0.000	0.2821203	0.7416686
Presence of Balcony	0.7110	0.1555	4.57	0.000	0.4052001	1.016819
Presence of DSQ	0.0577	0.0752	0.77	0.444	-0.0902376	0.2055608
Presence of Gymn	0.1739	0.1347	-1.29	0.198	-0.438758	0.0910385
Swimming pool	0.0374	0.1183	0.32	0.752	-0.1952183	0.2700741
Prox. to Social amenities	0.2315	0.1026	2.26	0.025	0.0297598	0.4332167
Master ensuite	-0.2245	0.1134	-1.98	0.049	0.0014119	0.4475159
Garage/parking	0.3233	0.1060	3.05	0.002	0.114794	0.5319028
Separate dining	0.3138	0.1062	2.95	0.003	0.1048421	0.522766
Gated community	0.0922	0.1007	0.92	0.361	-.1058562	0.2902172
Borehole	0.0808	0.0931	0.87	0.060	-.2640054	0.1023596
Guestroom	1.0025	0.2281	4.40	0.000	0.553898	1.451102
Jaccuzi	0.7836	0.2574	3.04	0.003	-1.289838	-0.2772664
Elevator	0.4565	0.1188	3.84	0.000	0.2228469	0.69018
Backup - generator	0.0432	0.1064	0.41	0.085	-.1661001	0.2524474
Presence of woodedfloor	0.2787	0.0954	2.92	0.004	0.0911823	0.4663034
Constant	14.8686	0.4046	36.75	0.000	14.07276	15.66438

Housing Price Index
Quarter 1, 2017 **+116.37**

Table 3: Housing Price Index Drivers for Quarter 4_2016

Source	SS	df	MS
Model	81.0211181	24	3.37587992
Residual	58.0313011	280	0.207254647

Prob > F = 0.0000
\# observations = 305
R-squared = 0.5827
Adj R-squared = 0.5469

LN VALUE	Coef	Std. Err.	t - stats	P>|t|	[95% Conf. Interval]	
Plinth area	0.4568	0.0565	8.09	0.000	.3456114	.5680614
No. of Bedrooms	0.0028	0.0420	0.07	0.047	-.0798434	.0853753
No. of Bathrooms	0.3303	0.0484	6.82	0.000	.23493	.4255881
House type	0.0667	0.0710	-0.94	0.348	-.2065292	.0730503
Age	-0.1253	0.1756	-0.71	0.476	-.4709742	.2203887
Time dummy Q4_16	0.1772	0.1621	1.09	0.075	-.141917	.4962836
Locational Dummy	0.0028	0.0063	0.44	0.057	-.0152385	.0096285
No. of floors	-0.1388	0.0286	-4.85	0.000	-.1952339	-.0824444
Backyard	0.0200	0.1014	0.20	0.043	-.2196089	.1795102
Balcony	0.4095	0.1682	2.44	0.150	.0785168	.7405408
DSQ	0.0073	0.1208	0.06	0.052	-.2305085	.2451243
Gymn	0.1873	0.1703	1.10	0.272	-.1480678	.5225743
Swimming pool	0.0955	0.1653	0.58	0.564	-.2298678	.4209067
Social amenities	0.0059	0.1220	0.05	0.061	-.2341202	.2460074
Master ensuite	0.0545	0.1006	0.54	0.088	-.1434468	.2525039
Garage/parking	0.5998	0.4815	1.25	0.014	-1.547648	.3480157
Separate dining	0.1085	0.1249	0.87	0.086	-.1374083	.3543824
Gated community	0.0686	0.0934	0.73	0.063	-.252526	.1152386
Borehole	0.0143	0.1070	0.13	0.014	-.1963922	.2250048
Guest room	0.0874	0.2034	0.43	0.668	-.3130504	.4878135
Jaccuzi	0.4061	0.2580	1.57	0.117	-.9140071	.1018951
Elevator	0.6378	0.1893	3.37	0.001	-1.010351	-.2651601
Backup - generator	0.3131	0.1788	1.75	0.081	-.0389632	.6651159
wooden floor	0.6531	0.1812	3.6	0.000	.2963381	1.009867
Constant	12.5607	0.7191	17.47	0.000	11.14527	13.9762

Housing Price Index
Quarter 4, 2016 **+115.10**

Table 4: Housing Price Index Drivers for Quarter 3_2016

Source	SS	df	MS
Model	123.998514	25	5.16660473
Residual	143.391518	402	0.150034062

Prob > F = 0.0000
observations = 427
R-squared = 0.6728
Adj R-squared = 0.6728

LN VALUE	Coef	Std. Err.	t - stats	P>|t|	[95% Conf. Interval]	
Plinth area	0.1790	0.0367	4.87	0.000	.1067819	.2511197
No. of Bedrooms	0.1662	0.0330	5.03	0.000	.1011995	.2311017
No. of Bathrooms	0.3147	0.0466	6.76	0.000	.2231484	.4061828
House type	0.2037	0.0531	3.83	0.000	-0.3081246	-0.0992523
Age	0.0376	0.0091	4.11	0.014	.019622	.0554893
Time dummy Q3-16	0.2110	0.1870	1.13	0.060	-.1566147	.5785724
Locational Dummy	0.0112	0.0057	1.98	0.049	.0000576	.0222844
Number of floors	-0.1086	0.0069	-15.64	0.000	-0.1222016	-0.0949174
Backyard	0.0318	0.1000	0.32	0.750	.1647508	.2284135
Balcony	0.6475	0.1217	5.32	0.000	.4082317	.8867309
DSQ	0.0990	0.1018	0.97	0.032	-.10117	.2990911
Gymn	0.0164	0.1232	0.13	0.894	-.2258687	.2586648
Swimming pool	0.5768	0.1186	4.86	0.000	.3435938	.8100548
Social amenities	0.0578	0.1676	0.35	0.030	.3873087	.2716305
Master ensuite	0.1530	0.0757	2.02	0.044	.0041293	.3018952
Garage/parking	1.0055	0.2148	4.60	0.000	.5833139	1.42771
Separate dining	0.4016	0.0894	4.49	0.000	.2259418	.5772986
Gated community	0.0056	0.0871	0.06	0.049	-.1655814	.1767184
borehole	0.2899	0.0844	3.43	0.001	.1238876	.4558723
Guestroom	0.0358	0.1649	0.22	0.828	-.2883562	.3599067
Jaccuzi	0.6903	0.1848	3.74	0.000	.3270037	1.053522
Gyser Closet	0.7403	0.2371	3.12	0.002	.2741214	1.206412
Elevator	0.1508	0.1891	0.80	0.426	-.5225579	.2209798
Backup - generator	0.7126	0.1216	5.86	0.000	0.4736028	0.9516206
Wooden floor	0.4708	0.1919	2.45	0.015	.0935822	.8480636
Constant	14.0523	0.3287	42.75	0.000	13.406	14.69852

Housing Price Index
Quarter 3, 2016 **+113.31**

Table 5: Inter quarter Sub-regional indices (Moving base): 2013 - 2017

	Region 1			Region 2			Region 3		
	Apartments	Bungalows	Maisonettes	Apartments	Bungalows	Maisonettes	Apartments	Bungalows	Maisonettes
Q1-2013	100	100	100	100	100	100	100	100	100
Q2-2013	100.063	100.04	100.60	100.05	100.61	100.10	100.01	100.93	100.03
Q3-2013	99.67	100.40	99.40	102.44	100.99	100.49	98.56	105.20	102.09
Q4-2013	100.74	102.82	99.38	101.80	100.82	98.81	103.75	103.95	100.32
Q1-2014	100.45	99.38	99.67	101.63	100.91	100.91	97.70	102.58	102.58
Q2-2014	100.50	99.67	99.54	100.75	101.75	101.27	96.70	102.74	103.32
Q3-2014	99.41	100.31	100.33	100.63	101.27	99.91	98.90	102.98	100.56
Q4-2014	97.48	99.29	105.21	97.82	101.98	99.61	104.54	104.36	100.62
Q1-2015	95.20	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	103.30	102.58	107.05	105.96	105.37
Q2-2016	103.48	104.08	102.96	100.19	100.30	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

Table 6: Inter quarter Sub-regional indices (Fixed base): 2013 - 2017

	Region 1			Region 2			Region 3		
	Apartments	Bungalows	Maisonettes	Apartments	Bungalows	Maisonettes	Apartments	Bungalows	Maisonettes
Q1-2013	100	100	100	100	100	100	100	100	100
Q2-2013	100.06	100.04	100.60	100.05	100.61	100.11	100.01	100.93	100.03
Q3-2013	99.02	99.67	99.67	100.09	102.44	102.44	99.65	104.13	98.10
Q4-2013	99.86	100.74	100.74	98.88	101.53	101.80	100.32	103.45	103.45
Q1-2014	99.57	100.55	100.55	99.41	101.46	101.01	100.24	102.20	100.11
Q2-2014	99.62	100.34	97.76	100.98	102.07	101.39	100.82	102.18	101.47
Q3-2014	99.94	100.04	97.88	100.51	101.06	104.15	99.19	102.29	99.74
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	99.50
Q2-2015	99.41	102.95	101.41	101.90	100.81	100.01	103.23	104.70	100.95
Q3-2015	100.74	102.77	101.30	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	110.90	105.97
Q2-2016	102.11	105.85	104.21	106.69	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

* Definition of the Sub-regions listed overleaf

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.

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