HOUSING PRICE INDEX

Highlights

1 *House prices registered a positive but mild growth during the first quarter of 2015, albeit faster than the growth realised during the last quarter of 2014.*

2 *The price movements were characterised by the softening of the prices for bungalows and maisonettes, with demand and supply dynamics of apartments therefore being key driver of the quarter's index.*

3 *The specific house attributes and amenities underlying price movements during the quarter, just like the previous quarter, pointed towards an increasingly discerning households seeking comfort and security. This is an indication that the market supply conditions are constraining for low income households that are seeking housing simply as a basic need of shelter.*
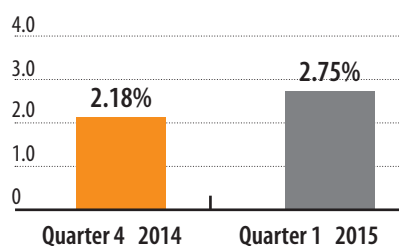
House price movements

The house prices were characterised by mild increase during the first quarter of 2015, albeit faster than the increase realised during the last quarter of 2014. As **Figure 1** indicates, there was an overall house price increase of 2.75 percent during the first quarter compared to the previous quarter's 2.18 percent increase.

time when the prices of bungalows and maisonettes depicted a stability at best, otherwise softening. The decomposed price movements during the quarter represented a reversal of what prevailed during the last quarter of 2014 when bungalows were the main drivers of price movements and prices maisonettes and apartments being stable.

Figure 1: Overall Price Change (%)

Underlying the observed trend were market dynamics where apartments accounted substantially to the price movements at a

Table 1: Price Movement Series

Period	Q-on-Q Index*	Index with Q1_13 as Fixed Base
Q1-2013	100.00	100.00
Q2-2013	101.42	101.42
Q3-2013	103.25	101.46
Q4-2014	100.66	101.63
Q1-2014	101.86	102.13
Q2-2014	103.45	102.29
Q3-2014	101.87	102.44
Q4-2015	102.18	102.71
Q1-2015	104.99	102.97

* Index with a moving base

Figure 2: KBA–House Price Index

Quarter-on-Quarter Index (Left)   Index with Q1_2013 as Fixed Base (Right)
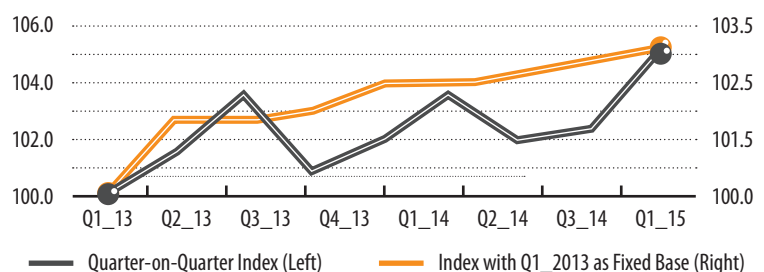
House price movements

The house price movements reveal the underlying demand-supply market dynamics, with instances of price increase implying increased effective demand for the given units available in the market. They also reveal the linkages between bungalows and apartments especially in the high end of the market where the demand for the former hinges on the desire to redevelop the property into apartments. That accounts for the prices swinging from an increase in bungalow prices during one quarter (in this case the fourth quarter of 2014) to a decline in the following quarter that is accompanied by a rallying of apartment prices. In essence there is a lag of at least two quarters during the re-development stage.

The reported change in prices are based on a Laspayers Index (See **Technical Note**) with the base for a given quarter being the previous quarter. The overall quarterly housing price index is given in **Table 2**.

Table 2: Overall Quarterly Index

	Index	Change (%)
Quarter 4_14	102.18	2.18
Quarter 1_15	104.99	2.75

Drivers of the Price Changes

Estimates of the Hedonic Function (**Table 3 & 4**) enable the determination of the relative importance of the various parameters – including house characteristics – to price changes.

- During the first quarter of 2015, the size of the house was a key price driver. This can be inferred from demand for the houses offered in the market was influenced by a significant extent on number of bedrooms, bathrooms, and whether a house has a backyard and domestic staff quarters. The same attributes featured prominently in influencing house prices during the fourth quarter of 2014, except that demand for houses available in the market then re-vealed a preference of less bathrooms if that will result in an additional bedroom.

- There is evidence that demand for houses on offer was influenced by the taste of the increasingly discerning households. Ease of access to social amenities and preference of gated communities speak to the search for convenience and security by home owners.

- Unlike during the last quarter of 2014 when age of the house had a huge influence on the price movements – where bungalows, usually old and therefore occupying a large land area were in high demand owing to their amenability for re-development – the first quarter of 2015 saw this attribute to be less significant. The high cost that such houses attract – often associated with speculative tendencies around land and the anticipation that re-development to apartments will yield high returns – could be confronting the reality that it could be compromising on the financial viability of the ensuing investment.

- The outlined drivers of prices point towards the fact that the supply side of the market has been more responsive to households looking at a house beyond the fact that it provides the basic need of shelter. In essence, the lower income households that is simply seeking for owned shelter remain constrained by supply.

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.

Table 3:
Housing Price Index Quarter 4 _2014

SS (Model) = 175.7482   df (Model) = 23   R-squared   = 0.7901
SS (Residual) = 46.703   df (Residual) = 462   Adj R-squared = 0.7796
MS (Model) = 7.64122   Prob > F   = 0.0000
MS (Residual) = 0.10108   obs   = 486

LN VALUE	Coef	Std. Err.	t - stats	P>|t|	[95% Conf. Interval]	
LN Area	0.1250	0.0717	1.74	0.082	0.0158	0.2658
Bedrooms	0.2724	0.0439	6.21	0.000	0.1861	0.35861
Bathrooms	-0.0535	0.0550	-0.97	0.332	-0.1616	0.0546
Type	0.0189	0.0582	0.32	0.746	-0.0954	0.1332
Age	0.1869	0.0744	2.51	0.012	.04069	.3331
DQ_1	0.3064	0.1590	1.93	0.054	-0.0059	0.6188
Location	0.0194	0.0070	2.75	0.006	0.0055	0.0331
Floors	0.0801	0.0227	3.54	0.000	0.0356	0.1246
Back-yard	0.3110	0.1372	2.27	0.024	0.0413	0.5806
Balcony	-0.3532	0.2230	-1.58	0.114	-0.7914	0.0849
Detached S quarters	0.7245	0.0782	9.26	0.000	0.5708	0.8781
Gymn	0.2573	0.2430	1.06	0.290	0.2201	0.7347
Swimming pool	0.7780	0.0982	7.92	0.000	0.5851	0.9709
Social ammenities	0.1284	0.1461	0.88	0.380	0.1586	0.4154
Garage parking	0.2473	0.0735	3.37	0.001	0.1029	0.3916
Master en-suite	0.2336	0.0986	2.37	0.018	0.0399	0.4273
Separate dining	-0.0785	0.1163	-0.68	0.500	-0.3070	0.1499
Gated Community	0.0568	0.2986	0.19	0.849	-0.5300	0.6436
Guest room	0.3231	0.1772	1.82	0.069	-0.0251	0.6713
Jaccuzi	1.3829	0.3427	4.03	0.000	0.7093	2.0563
Elevator	-0.0390	0.1238	-0.31	0.753	-0.2823	0.2043
Back-up generator	0.5544	0.2991	1.85	0.064	0.0333	1.1421
Wooden floor	15.3888	0.4723	32.58	0.000	14.4606	16.3168
Constant	15.8070	0.344012	45.95	0.000	15.13167	16.48223

Housing Price Index
Quarter 4, 2014   **+102.18**

Table 4:
Housing Price Index Quarter 1 _2015

SS (Model)   = 474.31577 df (Model)   = 22   R-squared   = 0.9209
SS (Residual) = 40.720436 df (Residual) = 794   Adj R-squared = 0.9187
MS (Model)   = 21.559808 Prob > F   = 0.0000
MS (Residual) = 0 .05128 obs   = 817

LN VALUE	Coef	Std. Err.	t - stats	P>|t|	[95% Conf. Interval]	
LN Area	0.0436	0.0507	0.86	0.3910	-0.0560	0.1431
Bedrooms	0.1247	0.0228	5.48	0.0000	0.0800	0.1694
Bathrooms	-0.2129	0.0450	-4.73	0.0000	-0.3012	-0.1245
Type	-0.0079	0.0440	-0.18	0.8580	-0.0943	0.0786
Age	-0.2982	0.1821	-1.64	0.1020	-0.6556	0.0592
DQ_1	0.1861	0.1139	1.63	0.0000	0.7626	1.2097
Location	0.0136	0.0094	1.45	0.1470	-0.0048	0.0320
Floors	0.0935	0.0166	5.62	0.0000	0.0609	0.1261
Back-yard	-0.5335	0.1781	-3.00	0.0030	-0.8831	-0.1838
Balcony	-0.8108	0.1153	-7.03	0.0000	-1.0371	-0.5844
Detached S quarters	0.7534	0.0726	10.38	0.0000	0.6109	0.8959
Gymn	-0.4471	0.1603	-2.79	0.0050	-0.7619	-0.1328
Swimming pool	0.7755	0.0976	7.94	0.0000	0.5838	0.9671
Social ammenities	0.7637	0.0747	10.22	0.0000	0.9104	0.6170
Garage parking	0.2289	0.1415	1.62	0.1060	-0.0488	0.5067
Master en-suite	0.0569	0.0618	0.92	0.3580	0.0645	0.1783
Separate dining	0.5519	0.1108	4.98	0.0000	0.3344	0.7694
Gated Community	-0.2268	0.1321	-1.72	0.0860	-0.4860	0.0324
Guest room	0.0333	0.1675	0.20	0.8430	-0.2955	0.3620
Jaccuzi	1.5442	0.2466	6.26	0.0000	1.0601	2.0283
Elevator	0.0358	0.0960	0.37	0.7090	-0.1525	0.2242
Back-up generator	0.1223	0.1598	0.77	0.4440	-0.1914	0.4360
Wooden floor	0.7613	0.2672	2.85	0.0050	0.2367	1.2858
Constant	15.8070	0.3440	45.95	0.0000	15.1317	16.4822

Housing Price Index
Quarter 1, 2015   **+104.99**