SIGNIFICANCE OF VOLUME & VALUE

About us

Incorporated in 1982, **Raine & Horne International Zaki + Partners Sdn. Bhd.** is a firm of Chartered Surveyors and Registered Valuers. Our practice covers a wide range of services including property valuation, investment and project management, property management, real estate agency and property consultancy.

The firm currently operates twelve (12) offices in Malaysia: Kuala Lumpur, Petaling Jaya, Subang Jaya, Kelang, Johor Bahru, Melaka, Ipoh, Seremban, Kuantan, Penang, Kota Kinabalu and Kuching.

Since its inception and establishment, Raine & Horne International Zaki + Partners Sdn. Bhd. has enjoyed an outstanding and enviable reputation and success. The firm has received wide recognition from all quarters, nationally and internationally.

Founded in 1883, Raine & Horne is one of the world's largest real estate organisations with offices and affiliates all over the world, including in the major cities of South East Asia, Europe, Canada, USA, Fiji, Australia, New Zealand, Japan and Africa.

Raine & Horne International Zaki + Partners Sdn. Bhd. aims to provide our clients with quality professional service. Raine & Horne International Zaki + Partners Sdn. Bhd. is committed to the Quality Management System required by ISO 9001:2008 Standards.

Our team comprises of highly qualified partners in various expertise which authorize us to offer broad ranges of services in:

- Professional Valuation Services
- Corporate Advisory Services
- Project Management
- Property Management & Maintenance
- Real Estate Agency
- Auctioning
- Market Research & Feasibility Studies
- Property Investment Consultancy
- Building Auditing
- Bio Asset Valuation
- Forensic Valuation

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Summary

Volume & Value

The amount of transaction (volume) and price (average price per transaction) are both vital in determining the health of the property market. YOY changes of both volume and price moved in a cyclical manner and were highly correlated from a graphical point of view. Data in 2013 proved to be a **trend-breaker**, where volume and price diverged the most in the last 10 years.

A lion's share of the market; comprised of residential, commercial, and industrial shared this **trend-breaking** movement in 2013. While properties classified under agricultural, development land, and others were more abiding to the long-term trend.

Difference in prices between the 3-year and 10-year average were mostly positive across the sectors except for 'others'. This depicts that prices were growing faster in recent times compared to the long-term average. Some of the largest gains were witnessed in the commercial sector whereas the price appreciation of residential market were relatively stable over the mid to long-term period compared to other sub-sectors.

Price elasticity of Demand

The overall property market in Malaysia, residential, commercial, industrial, and agricultural showed signs of 'relatively inelastic demand'. While the remaining sub-sectors displayed 'relatively elastic demand'.

R Value

For the 10-year period being studied, the residential and commercial markets showed negative correlation between price and volume, whereas all the other sectors displayed positive correlation. Nonetheless, the R Value was low; suggesting weak correlation. This might be distorted by the **trend-breaking** data in 2013.

R^2 Value

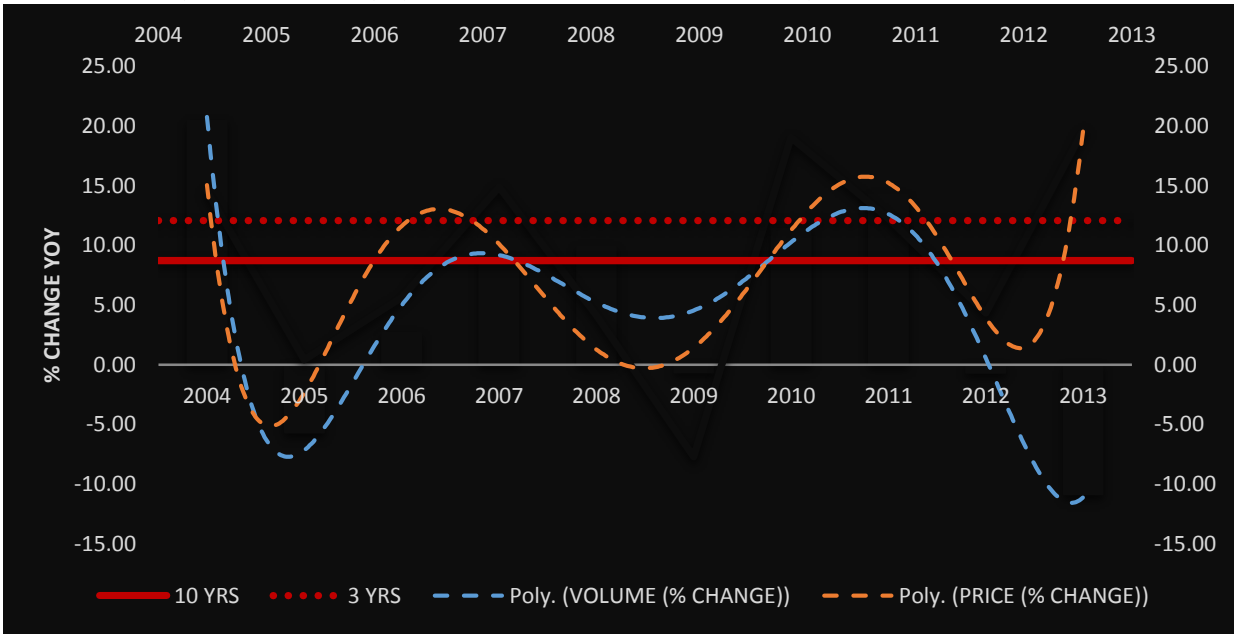
The entire Malaysian property market exhibited R^2 value of less than 0.20; thus limiting the ability to draw conclusion using the R value. From a graphical point of view, volume and price tend to be positively correlated. Hence, the distortion witnessed in 2013 was a depiction of the property market out of balance from the long-term trend. Correction methods to increase volume and reduce the average price per transaction are already underway; such as building more affordable housing and offering smaller units with lower price tags.

Volume & Value

Referring to the previous article of 'Trading between Risk & Reward"; the property market is becoming an ever important tool in determining the health of a nation's economy. Nonetheless, the property market is inevitably just another asset class and is prone to speculation and to some extent, manipulation. Too much attention has been paid solely on the aspect of price appreciation while neglecting the underlying support of the market; which is volume.

Basically, price appreciation serves as the driver and motivator of potential incoming investments. The degree of how far can this appreciation goes, lies in the underlying support that it receives (volume). In this article, the relationship between volume (measured in number of transactions) and price (measured in average price per transaction) will be reviewed.

Figure 1: YOY changes of Volume and Price for **Malaysian** property market (2004 – 2013) (JPPH, 2014; NAPIC, 2014).



For the 10-year period from 2004 to 2013, it was observed that both YOY changes of volume and price moved in a cyclical manner and were highly correlated. As one variable moved up, the other followed and vice versa. However, this relationship was broken in 2013; with both price and volume diverging in opposite directions at record level. Volume recorded the biggest drop in the last 10 years (-10.85%), while prices surged the most (19.65%). It is yet to be determined that prices at such level could be sustained if volume is not present as the supporting factor.

Volume & Value

Figure 2: YOY changes of Volume and Price for **Residential** market (2004 – 2013) (JPPH, 2014; NAPIC, 2014).

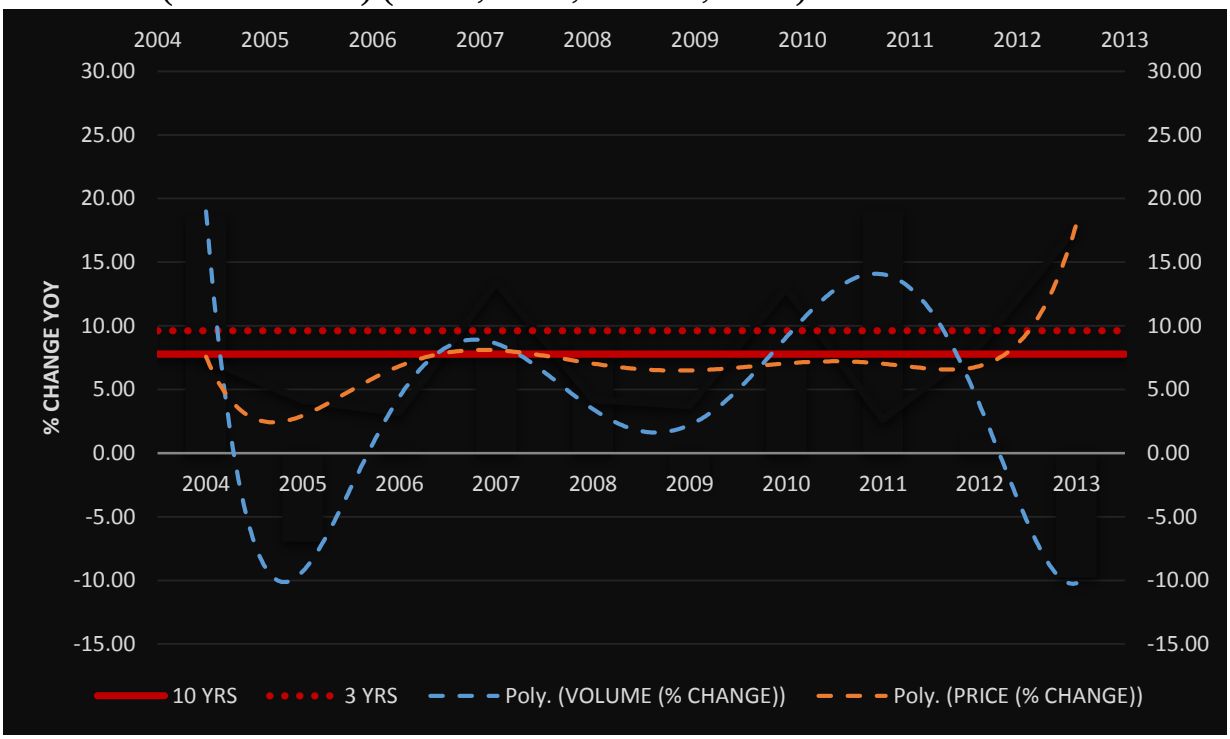


Figure 3: YOY changes of Volume and Price for **Commercial** market (2004 – 2013) (JPPH, 2014; NAPIC, 2014).

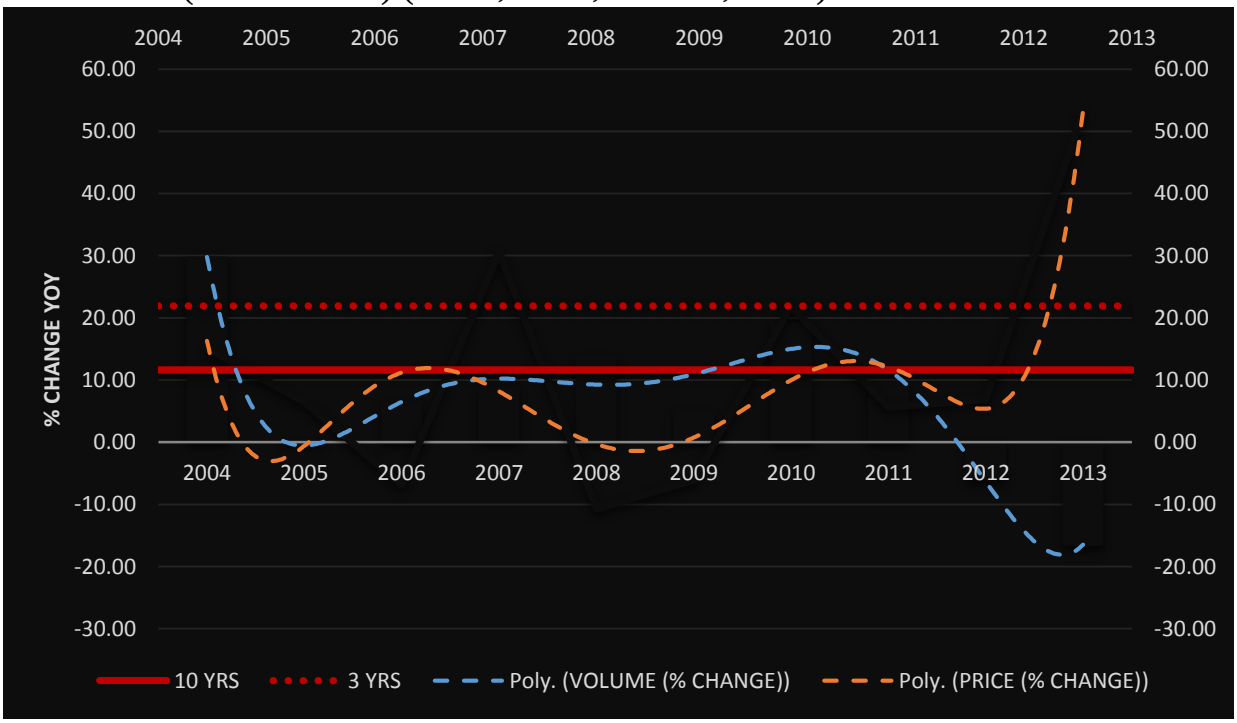


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Figure 4: YOY changes of Volume and Price for **Industrial** market (2004 – 2013) (JPPH, 2014; NAPIC, 2014).

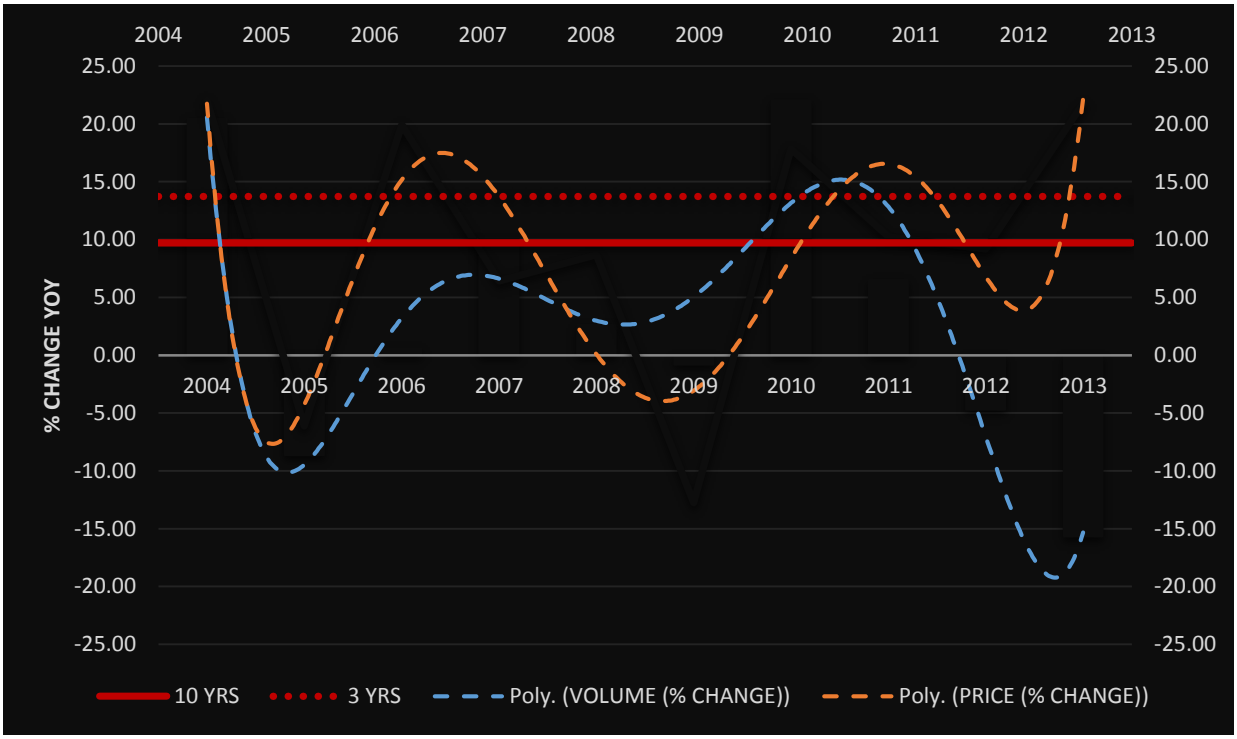
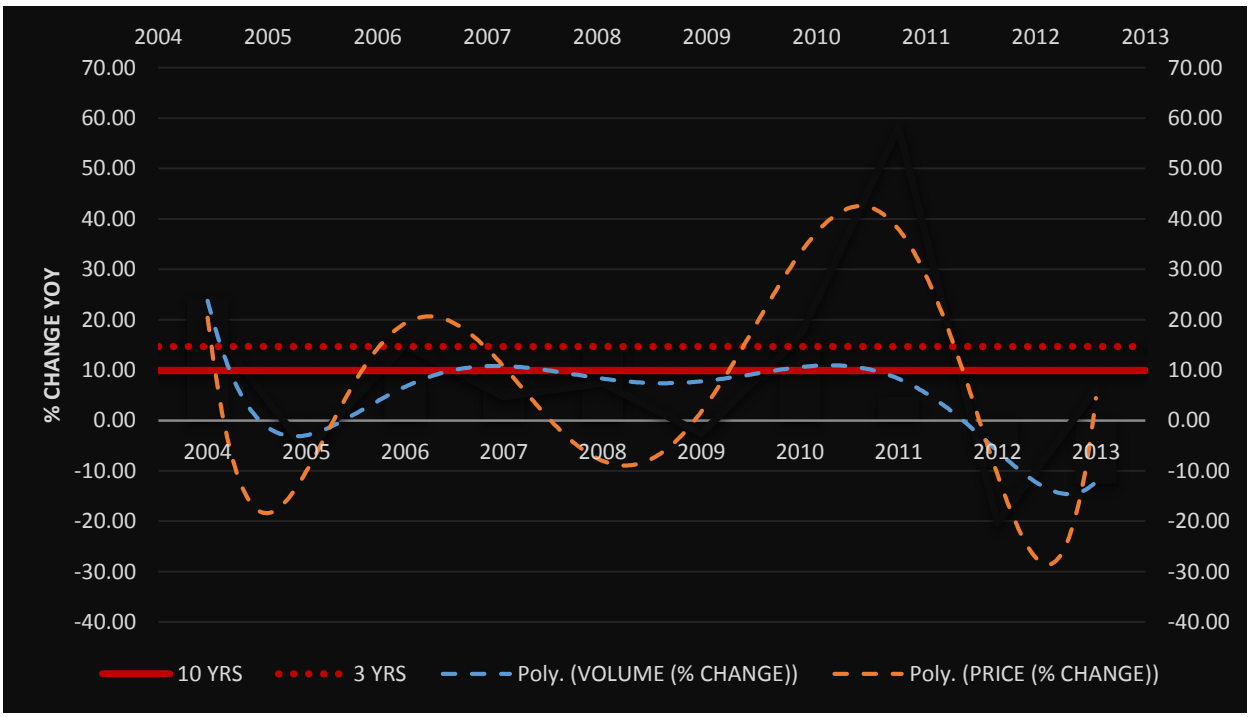


Figure 5: YOY changes of Volume and Price for **Agricultural** market (2004 – 2013) (JPPH, 2014; NAPIC, 2014).



Volume & Value

Figure 6: YOY changes of Volume and Price for **Development Land** (2004 – 2013) (JPPH, 2014; NAPIC, 2014).

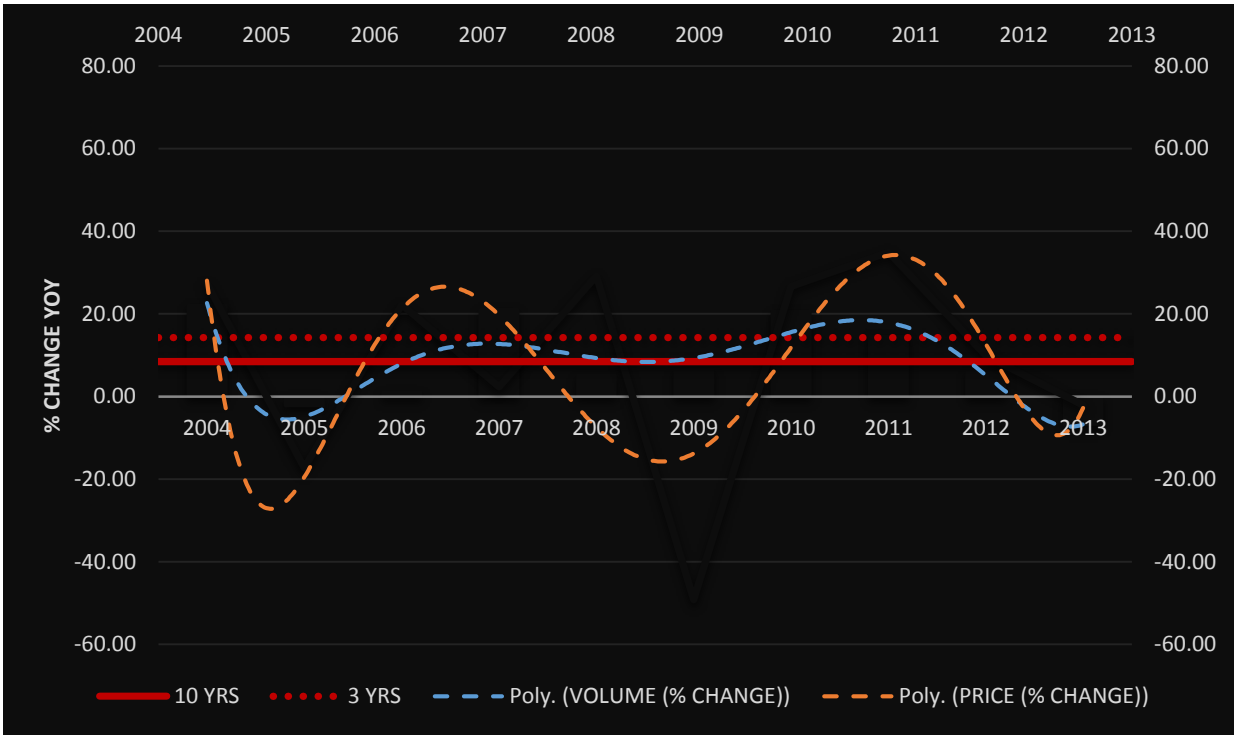
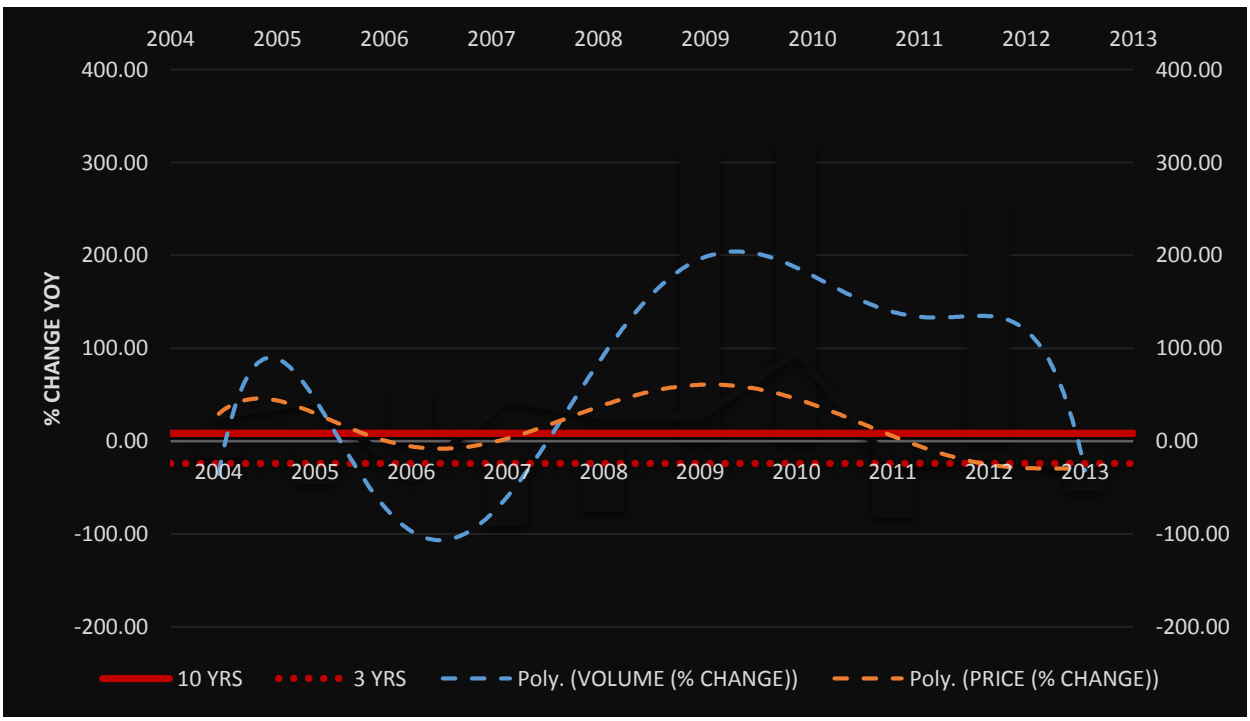


Figure 7: YOY changes of Volume and Price for **Others** (2004 – 2013) (JPPH, 2014; NAPIC, 2014).



Volume & Value

Residential
The YOY price changes was fairly stagnant around the 10 years' average (7.79%). An exception was witnessed in 2013 (17.76%). Whereas volume was highly cyclical, with a new bottom at 2013 (-9.70%). Divergence between price and volume was the highest in 2013 (27.46%).

Commercial
The relationship between volume and price was mildly correlated; with both moving within a subtle bandwidth. However, prices in 2013 broke through the 10 years' average to record a staggering YOY growth of 53.27%. Whereas volume decreased the most by -16.51%. The spread between price and volume widened to 69.78% in 2013.

Industrial
Volume and price were observed to be quite strongly correlated; moving within a wide bandwidth around the 10 years' average. YOY change for price was 21.79% in 2013, whereas volume was -15.69%. Divergence was the widest at 37.48% in 2013.

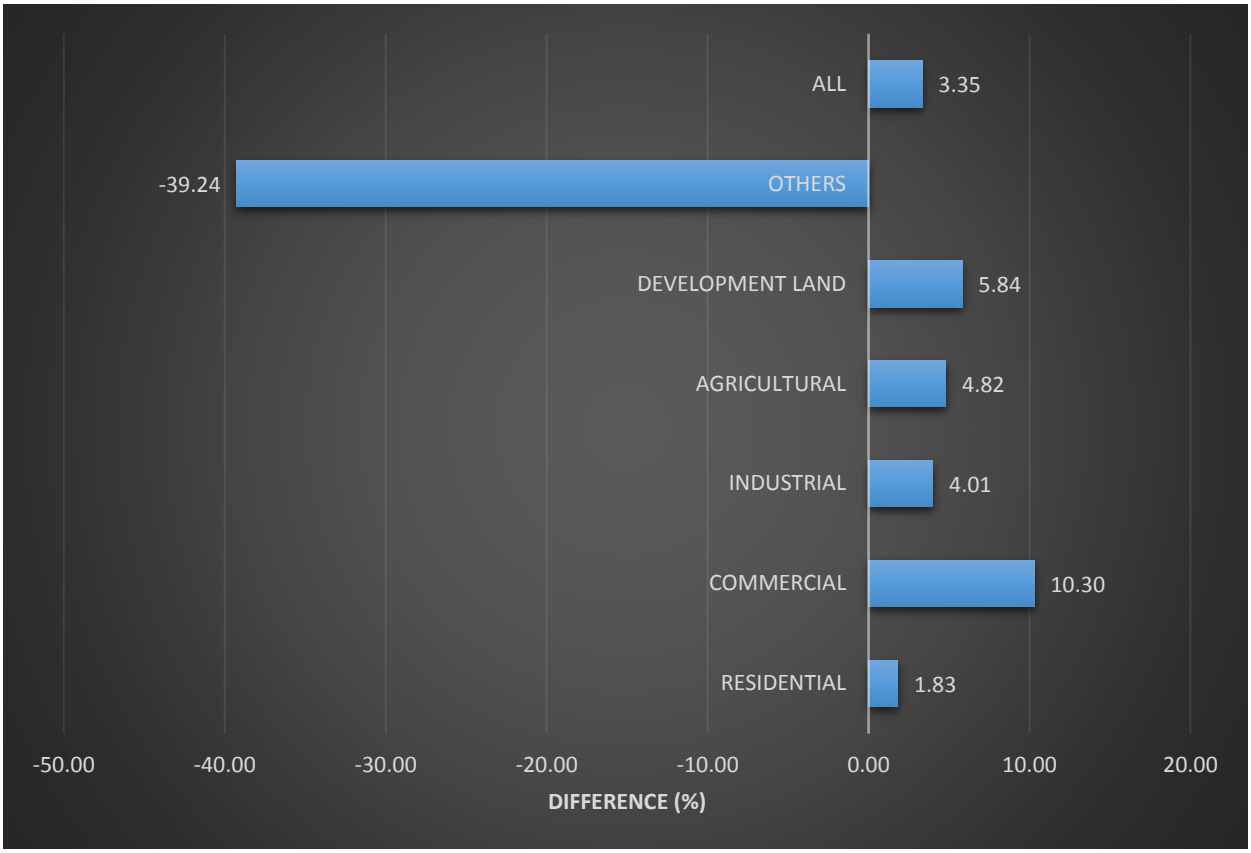
Agricultural
Volume was relatively stable except for the last 2 years, where volume recorded 2 consecutive years of declining readings (-4.78% and -12.37% respectively in 2012 and 2013). Price underwent the largest correction in 2012 declining by -20.34% and then bounced back by 6.16% in the following year. Spread was quite moderate at 18.53% in 2013.

Development Land
The relationship between volume and price was somewhat correlated; with prices fluctuating within a wide bandwidth around the 10 years' average. Both volume and price underwent a modest correction in 2013 and spread was observed to be low at 4.77%.

Others
Due to its small amount of quantity transacted, this sub-sector is highly random and speculative. However, there was tendency between price and volume to move in the same direction although at varying degree.

Volume & Value

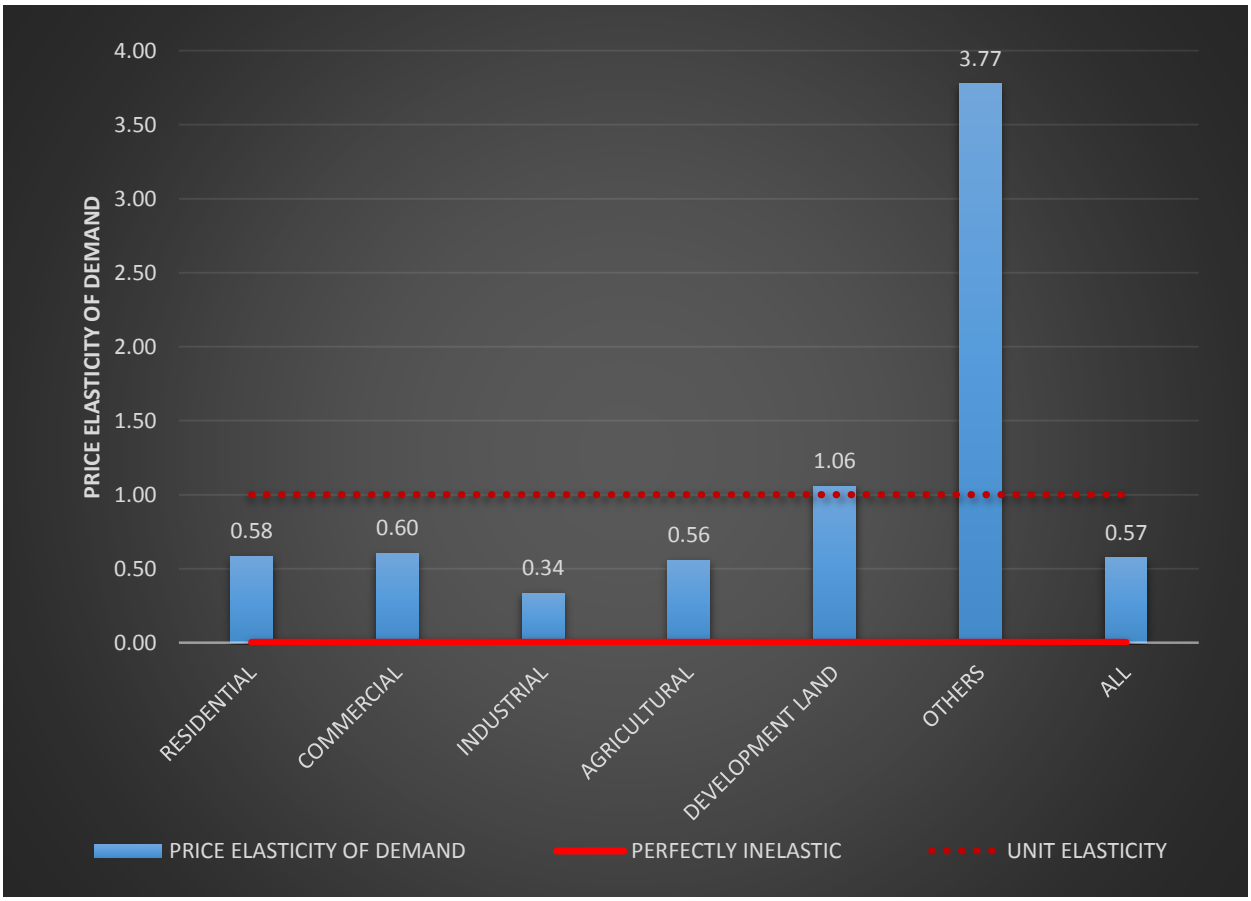
Figure 8: Difference between 3-year and 10-year average for price (2004 – 2013).



It was noted that the 3-year average was higher than the 10-year average for all categories except 'others'. This suggests that most sectors were growing at a faster pace in the mid-term than the long-term period. The highest positive mover was the commercial sector with a difference of 10.30%. On the contrary, the residential sector has the lowest difference between 3-year and 10-year average; posting only a meagre 1.83%. In addition, this shows that the price appreciation of residential units was relatively stable over the mid to long-term period, compared to the other sub-sectors.

Price elasticity of Demand

Figure 9: Price elasticity of demand for different sub-sectors (2004 – 2013).



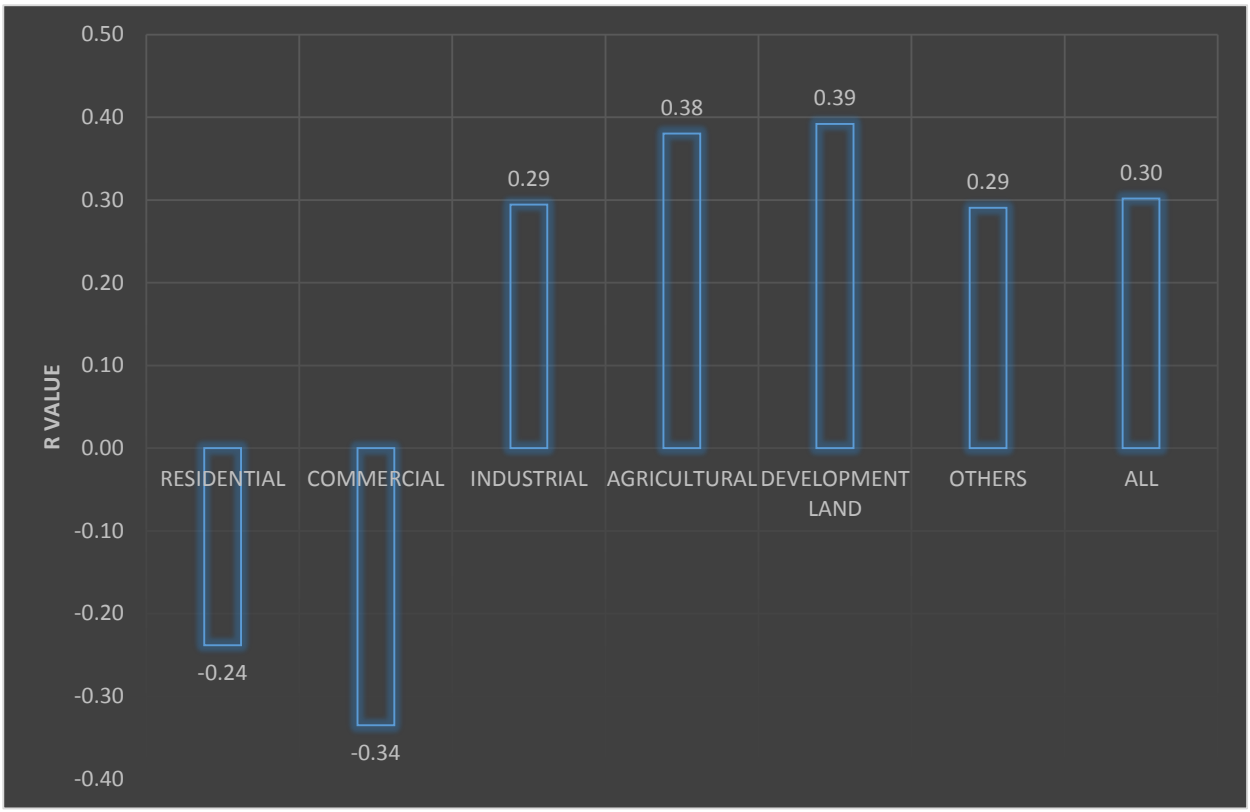
Generally, the value for perfectly inelastic demand is 0 and unit elasticity is 1. Any demand that falls within the range of 0 – 1 is classified as 'inelastic or relatively inelastic demand'. Whereas value above 1 is branded as 'elastic or relatively elastic demand' (Economics Online, 2014).

The overall property market in Malaysia, residential, commercial, industrial, and agricultural showed signs of 'relatively inelastic demand'; where a percentage change in quantity demanded is less than the percentage change in price. This indicates that they displayed the characteristics of necessity goods, where the influence of price on quantity demanded was less crucial.

Development land and properties classified as 'others' displayed a value of 'relatively elastic demand'; where a percentage change in quantity demanded is greater than the percentage change in price. This indicates that price played an important role in determining the quantity demanded.

R Value

Figure 10: Correlation of coefficient (R Value) (2004 – 2013).



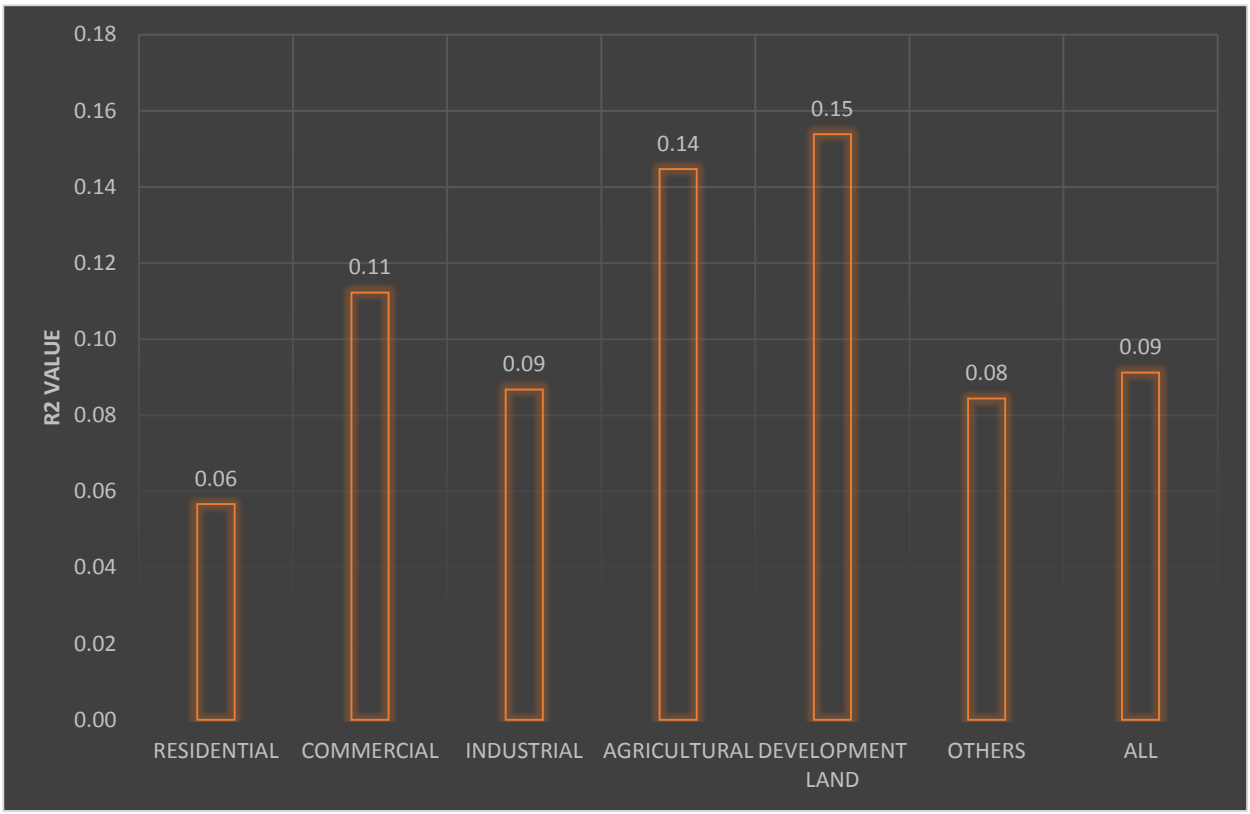
The R value measures the strength and direction of a linear relationship between two variables. The value of R is such that $-1 < R < +1$, whereas a value near zero means that there is a random, non-linear relationship. A correlation greater than 0.80 is generally described as strong, whereas a correlation of less than 0.50 is generally described as weak (Mathsbit.com, 2014).

For the 10-year period being studied, the residential and commercial markets showed negative correlation between price and volume, whereas all the other sectors displayed positive correlation. A negative correlation means that as price increases, volume tend to decrease and vice versa. However, all of the readings were below 0.50, which suggests that the correlation were weak and not a good predictor.

Due to the great divergence of price and volume in 2013, the R value for Malaysian property market was distorted as a whole. From 2003 – 2012, there was a strong positive correlation between price and volume (0.75). Whereas the reading from 2004 – 2013 posted a weak reading of 0.30. Thus the reading for **2013** would be described as a **trend-breaker**, which does not abide by the long-term trend.

R^2 Value

Figure 11: Coefficient of determination (R^2 Value) (2004 – 2013).



The R^2 value measures the fitness of a linear graph and allows the certainty in making predictions from the model or graph. The coefficient of determination is such that $0 < R^2 < 1$, and denotes the strength of the linear association between X (volume) and Y (price). A R^2 value of 1 indicates a complete fit; in which 100% of the total variation in Y can be explained by the linear relationship between X and Y (Mathsbit.com, 2014).

For the 10-year being examined, the entire Malaysian property market exhibited R^2 value of less than 0.20. This suggests that the ability to draw conclusion using the R value is very weak.

Nonetheless, as mentioned earlier; the trend-breaking data from 2013 has distorted the entire data set, and thus reduced the ability to draw conclusion from this model. A substantial drop of volume from the cheaper segment and a superficial increase in more expensive segment of the market might have caused the distortion in 2013. By building more affordable houses and offering smaller units with lower price tags, this would directly increase volume and reduce average price per transaction at the same time; thus bringing the market back to equilibrium.

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