

### Prime or non-Prime?

Recently, the Ministry of Trade and Industry published a very interesting observation about residential property prices. According to the internal model used, MTI is of the view that property prices are at fair value, give or take 1%. What is also very interesting is the observation that residential property price appreciation is correlated with real GDP growth. Fundamentally, we believe that price appreciation is more correlated with nominal GDP growth per capita<sup>1</sup> rather than real GDP growth. Correlation results may be similar because the GDP deflator and population growth have appreciated at the same pace over the observed period.

Moreover, correlating residential price appreciation with real GDP growth leads to a fundamental difficulty, which contradicts conventional-wisdom economics: Real assets such as property appreciate in an inflationary environment, whilst inflation tends to reduce real GDP growth. That is, property should therefore appreciate faster than real GDP growth when inflation ticks up, thus violating the correlation.

In the course of our financial planning and advisory work, clients often enquire about the relative merits of properties, which they already have or are considering for purchase. This has lead us to quantify our thinking into an explanatory model. We emphasize that this is an explanatory macro model and not a predictive micro model. Eventual appreciation of residential property is still very much subject to government land supply and zoning policy, the effects of adjacent developments and other dwelling-specific factors.

The NI Property Model is as follows:

When buying a residential property, one is purchasing two things: the building and the land beneath.

$$P(t) = B(t) + L(t)$$

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<sup>1</sup> In simplified form: nominal GDP growth per capita = real GDP growth + inflation rate – population growth. Assuming that new household formation is balanced with land supply, and barring systemic changes, prices should rise in tandem with nominal income growth or what the population can afford.

whereby  $P(t)$  = property value at any one point in time  
 $B(t)$  = building value at any one point in time  
 $L(t)$  = land value at any one point in time

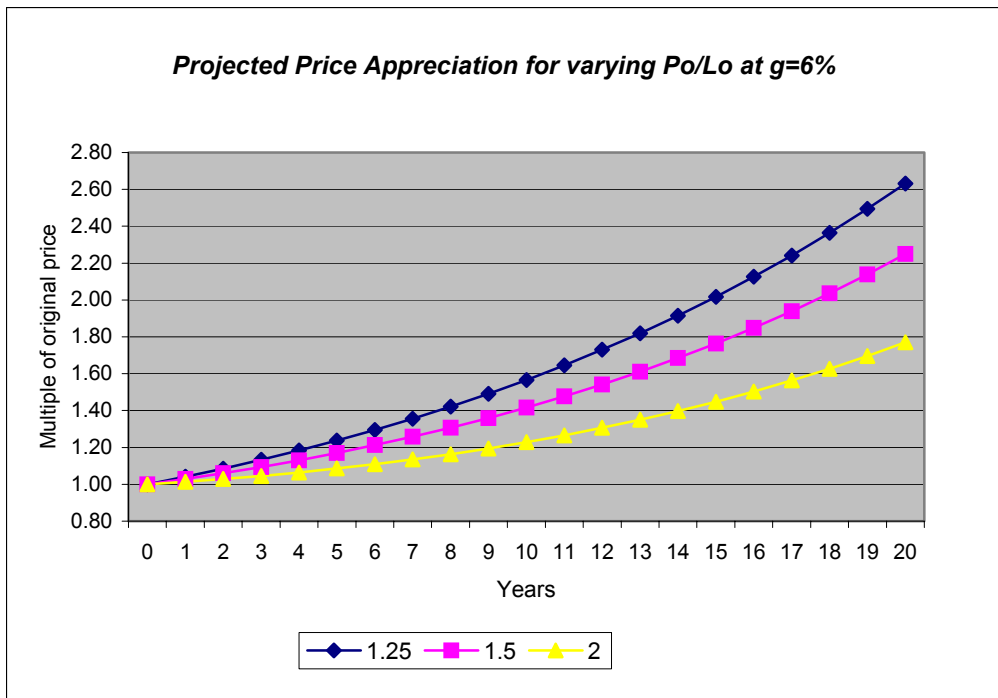
Assuming the building has a useful life of 30 years and land appreciates at a rate of nominal GDP growth per capita,  $g$ , we can express  $P$  as follows:

$$P(t) = B_0 \left( \frac{30-t}{30} \right) + L_0 (1+g)^t$$

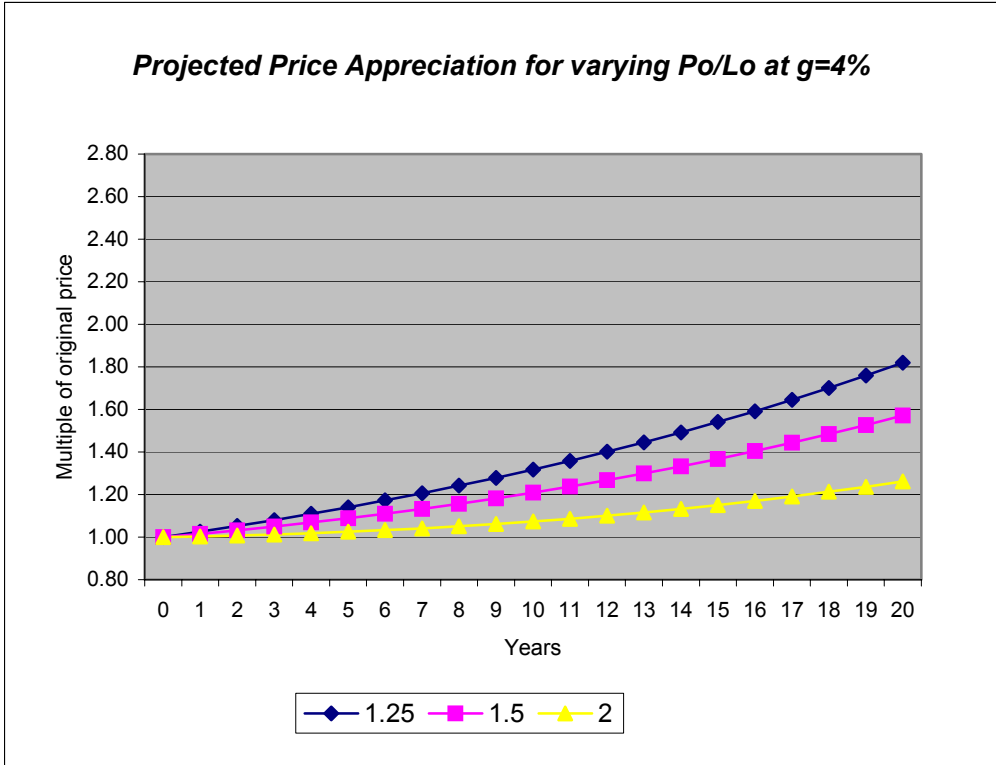
Let's define  $\frac{P_0}{L_0} = R_0$ ; with  $R_0$  = "measure of ruralness". We can re-express  $P(t)$  as follows:

$$P(t) = B_0 \left( 1 - \frac{t}{30} \right) + \frac{B_0}{(R_0 - 1)} (1+g)^t$$

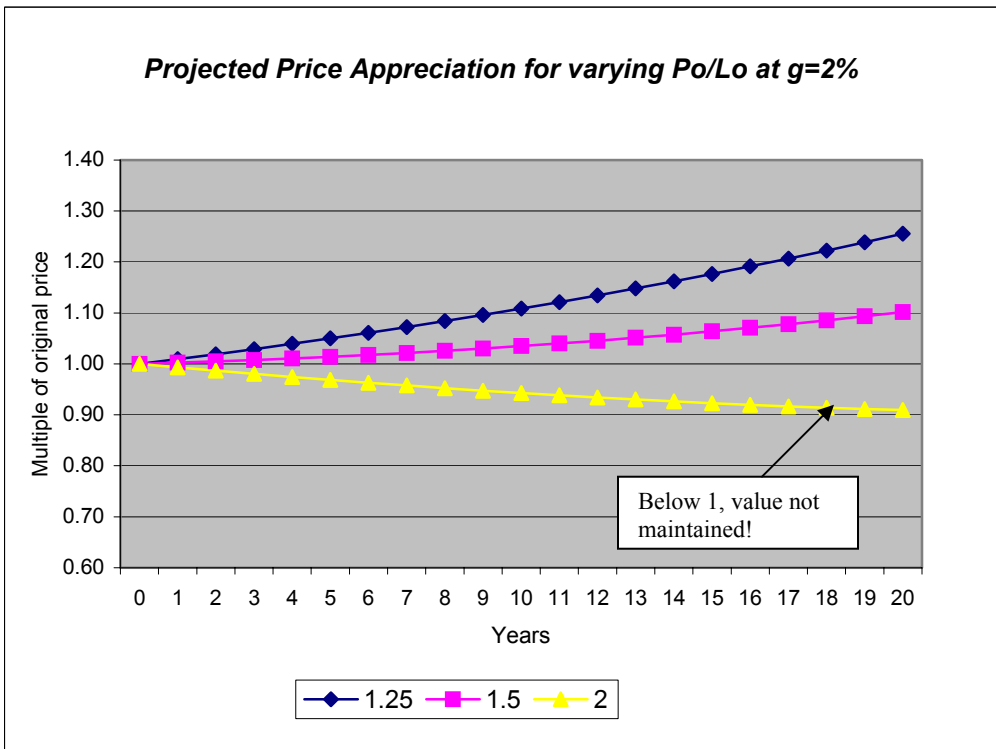
When  $g=6\%$ , price appreciation is expected to be as follows:



When  $g=4\%$ , price appreciation is expected to be as follows:



When  $g=2\%$ , price appreciation is expected to be as follows:



Comparing similar sized freehold properties over the last 15 years in District 5 and District 10, it appears that the above hypothesis is not without merit. Appreciation in the prime areas appears to have been generally greater not only in absolute but percentage terms as well.

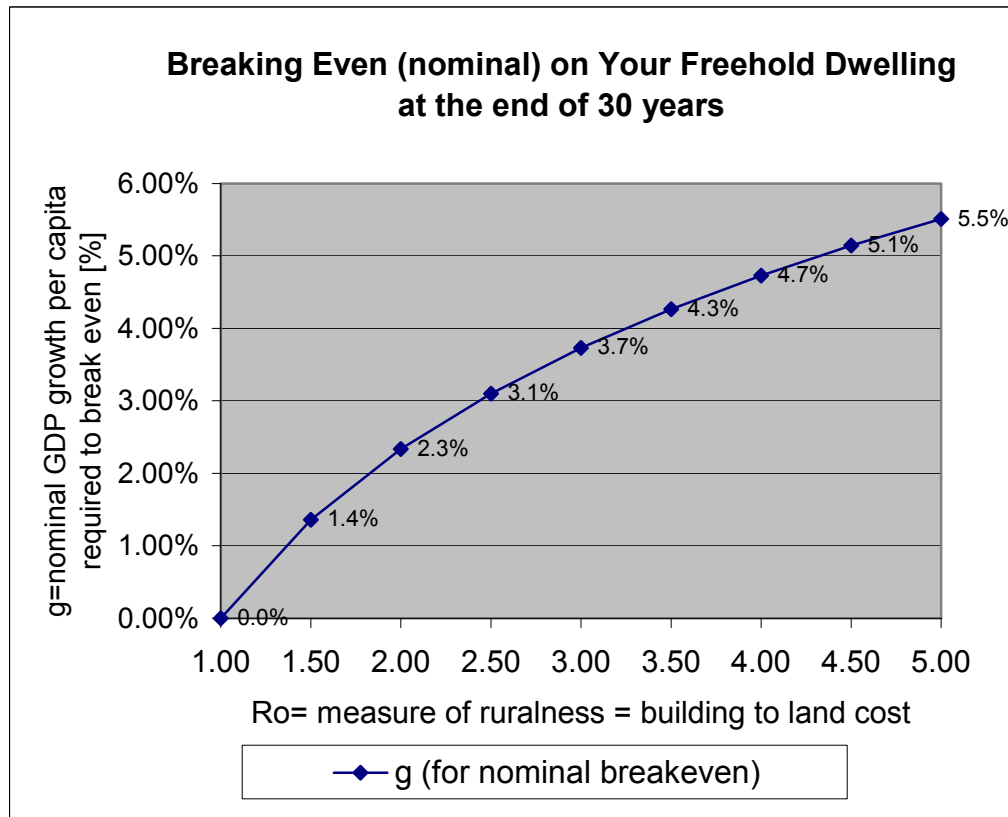
For a freehold property to maintain its nominal value at the end of 30 years:

$$P_0 = P_{30} = \frac{B_0}{(R_0 - 1)} * (1 + g)^t = L_0 (1 + g)^{30}$$

Hence, the nominal breakeven equation is given by:

$$\frac{P_0}{L_0} = R_0 = (1 + g)^{30} \text{ or } g = \sqrt[30]{R_0} - 1$$

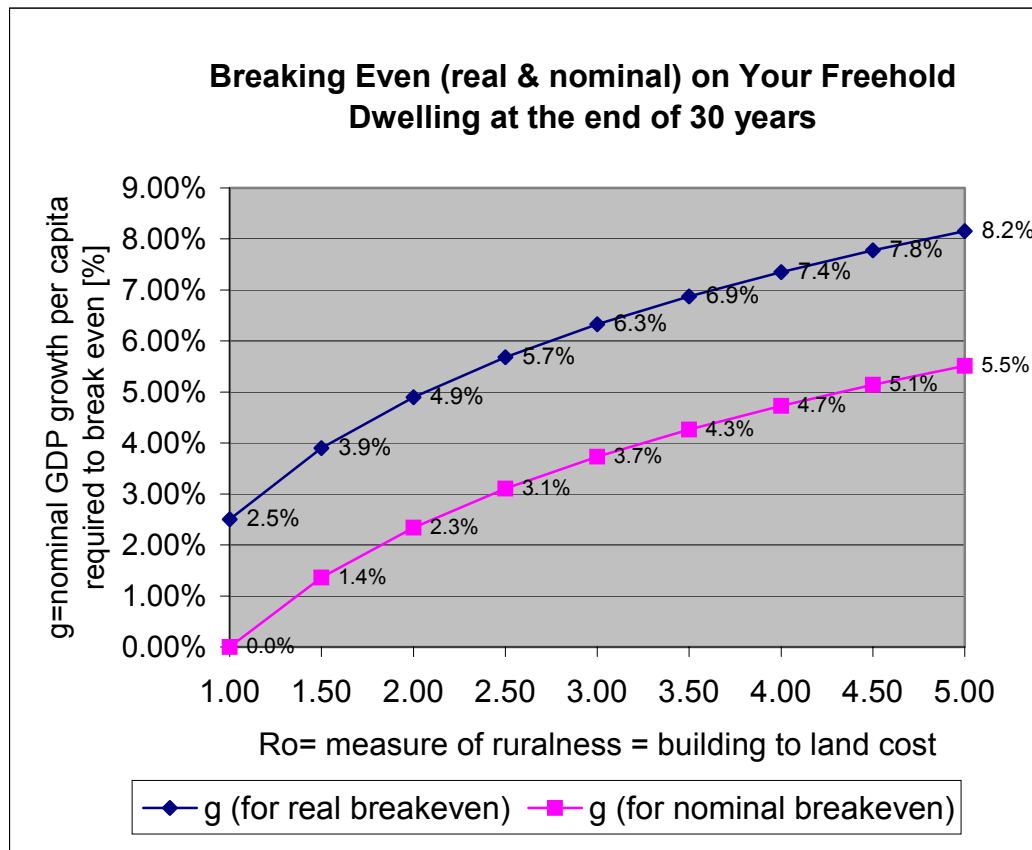
That is, the more rural a freehold property is, the higher economic growth must be in order for the property nominal value to be maintained.



For preservation of value in real terms (i.e. at current dollars), the equation has to be modified for inflation. Assuming an inflation rate of 2.5% over 30 years, then:

$$2.1 * P_0 = P_{30} = \frac{B_0}{(R_0 - 1)} * (1 + g)^t = L_0 (1 + g)^{30}$$

$$g = \sqrt[30]{2.1R_0} - 1$$



Conclusion:

Prime freehold dwellings are expected to maintain their value better than non-prime freehold dwellings because of their higher land content. Even within the prime areas, it might make more sense not to purchase a dwelling, which is brand new. An older, but well-maintained dwelling within a development with a low allowable plot ratio, where the market has already marked down the value of buildings could very well preserve its

value better going forward. The low allowable plot ratio is a potential bonus if plot ratios are eventually increased – something very likely especially in the prime areas. After all, it's the land that we are after.

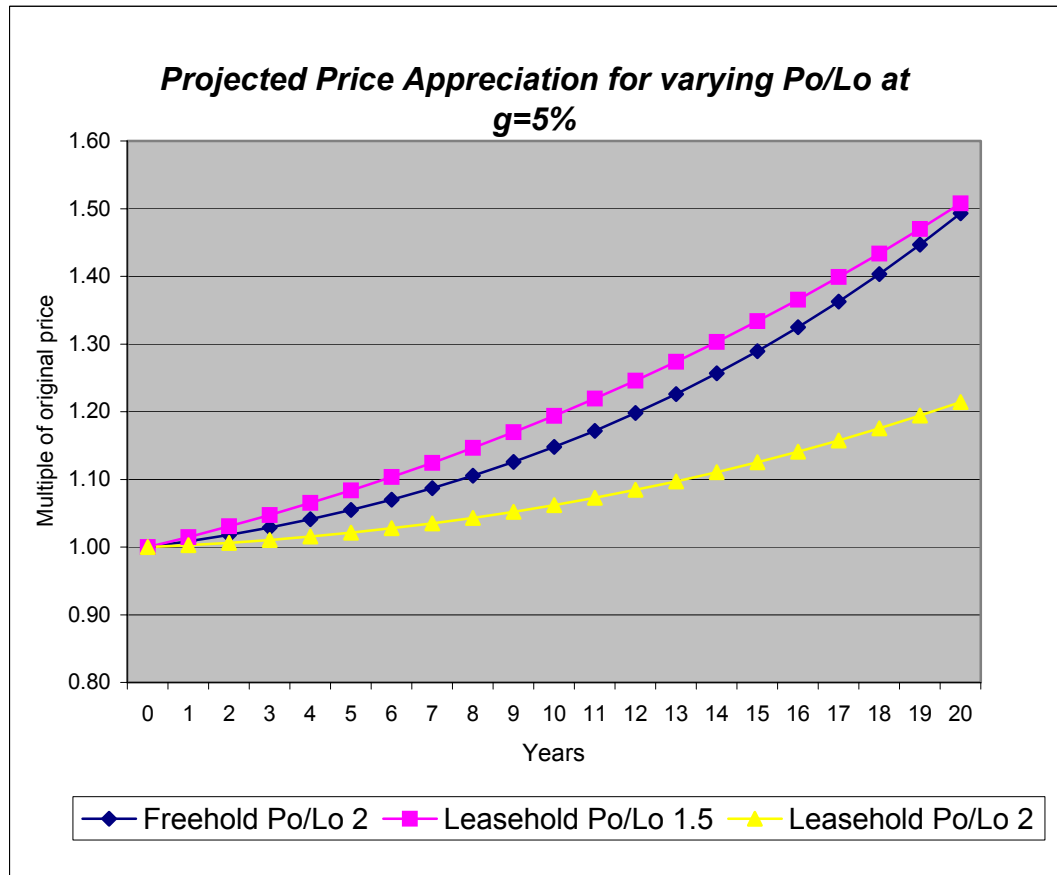
## Difference Between Freehold and Leasehold

For a leasehold property, we need to amend the equation as follows:

$$P(t) = B_0 \left( \frac{30 - t}{30} \right) + L_0 (1 + g)^t * \frac{(95 - t)}{95}$$

or

$$P(t) = B_0 \left( 1 - \frac{t}{30} \right) + \frac{B_0}{(R_0 - 1)} (1 + g)^t * \left( 1 - \frac{t}{95} \right)$$



The above graph illustrates the projected price appreciation if g were 5% over the next 20 years. Non-prime leasehold is expected to under-perform prime leasehold by 20% at the

end of twenty years. What is interesting is the projection that prime leasehold is expected to have a performance comparable to non-prime freehold.

Conclusion

It would appear that there is truth to the old adage of always buying prime (whether freehold or leasehold) if one is buying a property. The caveat is to assess whether prime, at that point of time, is overvalued (or undervalued) relative to non-prime. This, however, is the subject of another article.