

# Zeppelin's Real Estate Tech

**1Q 2012: A Real Estate Newsletter by Zeppelin Real Estate Analysis Limited**

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The EU soap is still unfolding, the USA is taking a breather for now, and China is trying to build up some form of economic defense just in case. Meanwhile, Hong Kong overall is focused on several domestic issues from the D&G saga to insufficient hospital service for expecting mothers. The Home Ownership Scheme is revived too. In this issue:

- **Hong Kong Real Estate: Bricks & Mortar Versus the REITs**
- **Your Home is NOT Unique!**
- **Hong Kong: How Many Homes 1% of Land Area Can Provide**

We would also like to hear from prospective readers / writers who wish to share their real estate experience with us.

**This quarterly (generally published in January, April, July and October) newsletter** is circulated freely via email to over thousands of readers comprising real estate developers, investors, fund managers, financiers, owners, users, top executives, senior managers, prominent academics and related professionals from Hong Kong and abroad. Our content is / has also been published in newspapers and web portals such as the [South China Morning Post](#), [China Daily](#), [Hong Kong Economic Journal](#), [21<sup>st</sup> Century Business Herald](#), [Apple Daily](#), [Sing Tao](#), [Quamnet Magazine](#), [The Standard](#), [MITCRE Alumni Newsletter](#), [Surveying Newsletter](#), [Reidin.com](#), [Centanet.com](#), [Netvigator.com](#), [Hongkong.com](#), [E-finet.com](#), [Red-dots.com](#), [PacificProperties.net](#), [Soufun.com](#) and [House18.com](#). We had also been quoted in the [Asian Wall Street Journal](#) and interviewed by [USA Today](#), [i-Money](#), [Radio Hong Kong](#), and [Commercial Radio](#). We also publish monthly articles and analyses in the months in between. This newsletter is now into its [16<sup>th</sup> year](#) and [62<sup>nd</sup>](#) issue.

**We also operate a website [www.real-estate-tech.com](http://www.real-estate-tech.com)** through which we intend to share some of our real estate knowledge and ideas with interested parties. There are close to 1,000 content items, in English or Chinese, including analyses, articles, charts, and tables, plus spreadsheets, tutorials, e-books, and the like, the majority of which is free with some requiring a token fee. The website is regularly visited by thousands from all over the world and focuses on China / Hong Kong real estate markets.

**Zeppelin Real Estate Analysis Limited** is involved in real estate development, investment, and management with a focus on [independent real estate analysis](#). Together with Zeppelin Property Development Consultants Limited, we offer services related to [real estate asset management](#) [analysis, investment strategy, and portfolio allocation], [project management](#) [architectural design, cost control, and contract administration], and [facility management](#) [facility utility assessment, facility strategy, and building maintenance]. We are part of the Zeppelin Group headquartered in Hong Kong with office operations in Mainland China and we also have access to networks covering Asia, North America, and Europe.

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**Stephen provides relevant real estate market insights and macro-micro assessments** to real estate developers, investors, owners, financiers, funds, and civic organizations, and possesses many years of experience in building economics, project management, facility strategy, marketing, and research.

**Stephen is also a real estate writer** and his articles have been published in both English and Chinese media including the following:

- China Daily
- Hong Kong Economic Journal
- South China Morning Post
- Apple Daily
- Quamnet Magazine
- Real estate and finance websites such as Soufun.com, Finet.com etc
- Journals of professional institutes such as the Hong Kong Institute of Surveyors

**Stephen is also an honorary adjunct professor** with the University of Hong Kong and the City University of Hong Kong and has been invited to speak to audiences from:

- Universities: such as the University of Hong Kong, City University of Hong Kong, York University
- Professional Institutes: such as the Hong Kong Institute of Surveyors, Canadian Institute of Quantity Surveyors, Royal Institute of Chartered Surveyors
- Business Associations: such as the Rotary Clubs

**Stephen has to date compiled 2 books**; one online and one in hard copy format. Both are published in Chinese (with the titles translated into English below):

Online book = Easy Real Estate Lectures

[http://www.real-estate-tech.com/eBook/zeppelin\\_ebook.htm](http://www.real-estate-tech.com/eBook/zeppelin_ebook.htm)

Hard Copy = Real Estate Investment Know-How above 101

<http://www.edpress.com.hk/Product.asp?id=6282>

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## Hong Kong Real Estate: Bricks & Mortar Versus the REITs

Real Estate Tech, 1Q 2012

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Imagine all the sand, pebbles, rocks, metals, and timber which went in them

As this piece is being written, the Hong Kong real estate market appears to have turned a bit more optimistic, with people touting as factors foreseeable low interest rates (till 2012 according to the Fed), more QEs, and Greece becoming either not a problem or a problem which nobody takes into account anymore.

As such, IF you think the real estate market is to shoot up, then apart from investing in the real thing i.e. the bricks and mortar real property type, you can also consider some of the locally listed REITs. Reasons:

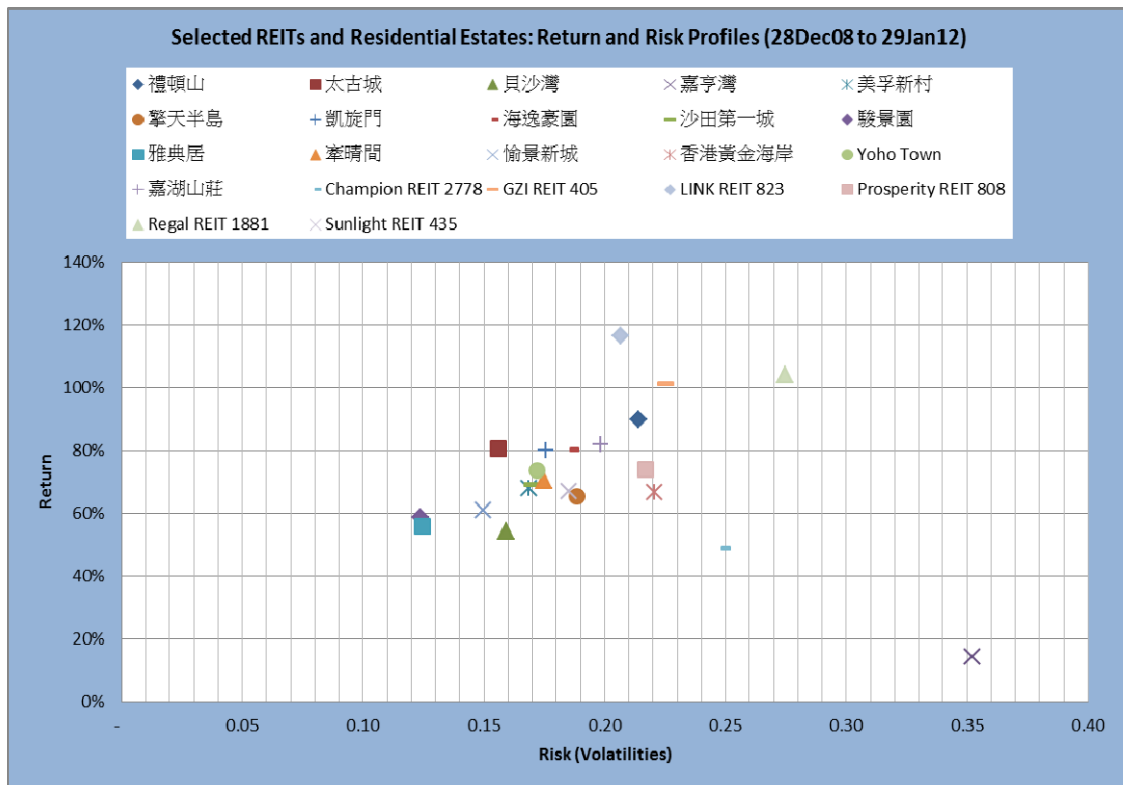
**1) REITs jive with the broad real estate market trend** = while it is not a surprise that the price trends of the popular residential housing estates would walk in tandem with Centaline's residential price index, given that the index is based on those estates, it is not a given that REIT prices would synch with the index, especially when such REITs are more into commercial properties and sometimes in out of town realty. However, they do. Your humble author suspects the fact that both the housing estates and REITs correlate with the index means they may share one or more common factors e.g. the increased liquidity seen in recent years.

Correlations between:	Estates or REITs	R
Centaline CCL Index and	禮頓山	0.98
	太古城	0.98
	貝沙灣	0.94
	嘉亨灣	0.96
	美孚新村	0.97
	擎天半島	0.94

	凱旋門	0.96
	海逸豪園	0.96
	沙田第一城	0.98
	駿景園	0.94
	雅典居	0.99
	牽晴間	0.99
	愉景新城	0.97
	香港黃金海岸	0.94
	Yoho Town	0.99
	嘉湖山莊	0.99
	Champion REIT 2778	0.75
	GZI REIT 405	0.91
	LINK REIT 823	0.96
	Prosperity REIT 808	0.88
	Regal REIT 1881	0.88
	Sunlight REIT 435	0.92

**2) REITs > bricks & mortar in =** a) flexibility, Hong Kong REITs have to be listed in the stock exchange and as such, they are traded like equities, and this in turn means they can be bought or sold almost instantly, not the case with bricks and mortar; b) transaction fees, stocks are usually traded at a fraction of 1% based on value transacted but real estate transactions involve 1% or so; c) asset management, REITs have management teams to take care of dozens if not hundreds of properties and one is not dependent on one or a few tenants, not when one buys a residential unit; d) rents, REITs can offer around 5% or so while real estate rental yield is 3% on average based on current market situation; e) taxes, REIT dividends are generally not taxed while rental revenues are.

We have selected 16 popular residential estates across Hong Kong and 6 of the listed REITs for return and risk comparison:



**A) Data sources** = the data have mostly been abstracted from the websites of Centaline and Yahoo! Finance. Prices on the housing estates are expressed in HK\$ / floor area while those for the REITs are their stock prices. The data date from December 2008 to January 2012.

**B) How to read the chart?** = each plot on the chart represents either a housing estate or a REIT and reflects the return (Y axis) and risk (X axis) of the estate or REIT. Stating the obvious, the higher the plot is on the Y axis, the better the return. Meanwhile, on the X axis, it is better to lean more to the left than to the right. While there is no plot which gives a high return with low risk, there are only ones which offer low return for high risk.

**C) Which are the better performers?** = LINK REIT offers the best combination of return and risk followed by another REIT GZI. As for the housing estates, Tao Koo Shing appears to offer the best result being the middle return and risk levels. For the very conservative, Royal Ascot could be a viable choice with lower return but also for lower risk. Note though some of the worst performers in the period are also REITs.

In any event, and based on the above observations, there is no need to have a one-track mind when pursuing real estate investment by acquiring only the tangible and touchable stuff.

**Note 1:** for the English names of the above housing estates, one may cross-refer to these 2 web pages:  
[http://hk.centadata.com/cci/cci\\_e.htm](http://hk.centadata.com/cci/cci_e.htm)  
<http://hk.centadata.com/cci/cci.htm>

**Note 2:** the above observations are not to be comprehended as predictions, and whatever trends they exhibit could change.

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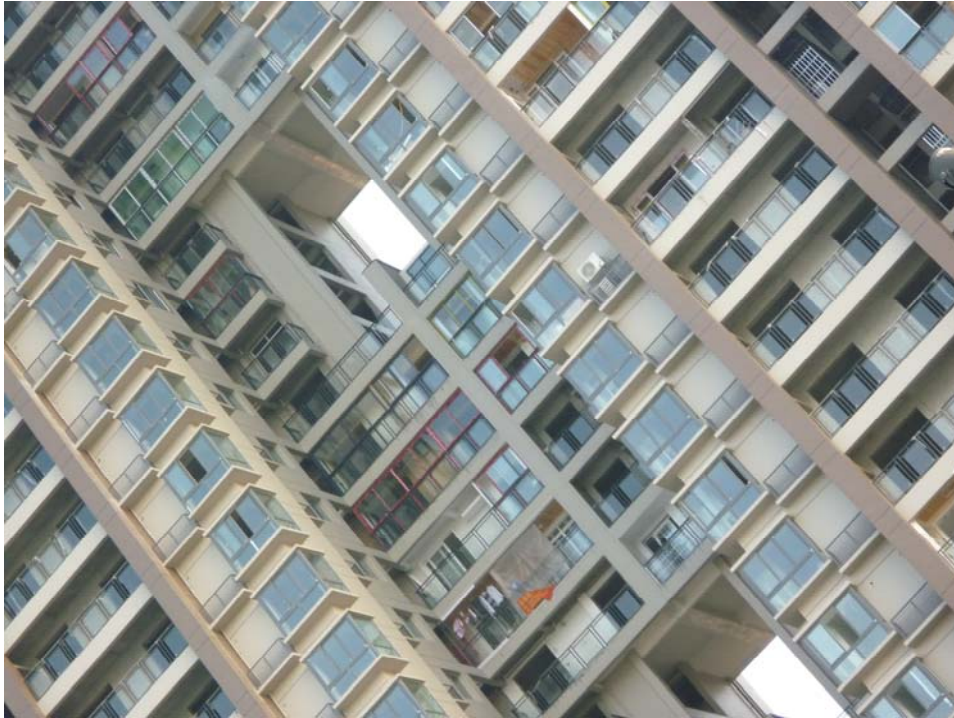
## Your Home is NOT Unique!

### Real Estate Tech, 1Q 2012

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Which one is yours?

**Many people think stocks are uniformly alike while each unit of real estate is very unique** e.g. there is only one Unit 007 at James Bond Court along Money Penny Road (obviously this address is made up).

**But this view is basically wrong for real estate is generally highly substitutable.** For starters, someone who cannot rent or buy the above mentioned 007 unit at JB Court would simply go for another unit in the same complex, or even one at another project.

This feeling of uniqueness, however, is understandably derived from the following aspects:

**1) The address / legal description of the property** = put simply, the identification of the property and naturally it has to be one and only in the whole world for practical purpose, else a property may end up with 2 conflicting owners or some homebuyer may end up buying a mistaken one.

Nonetheless, this sense of uniqueness is man-made.

**2) The unique 3D space coordinates of the property** = think of a property as a box with length, width, and height, and place some coordinates to the space. It may have latitude and longitude readings, or even an altitude, being so many meters above some principal datum.

Yes, there is an element of uniqueness if one maps the whole Earth (or even the whole universe) with spatial coordinates. However, if one cannot acquire unit 007 at JB Court, one

can always consider unit 006 or 008 at the same address. These units share the same location, building quality, architectural design, property management etc.

**One can contemplate the issue via comparing real estate to items like a Van Gogh painting.** Not only are Van Gogh paintings different from and not quite comparable to Renoir's, even comparing one Van Gogh to another Van Gogh could be difficult. In short, it is doubtful if one could price his 'still life' based on his 'portrait' via measuring the differences between the two such as the size of the canvasses, the number of colors used, the number of brush strokes, and the like.

**Now, can we compare real estate this way?** Yes we can and have been doing so for a long time. The approach is called the market comparison method. Using our fictitious unit 007 at JB Court, an appraiser would collect the details on relevant and recent transacted properties and compared them to the fictional unit. After the necessary pluses and minuses, presto, a market price for unit 007 is estimated.

As such, IF one thinks or still insists real estate is inherently unique, then one cannot adopt and use the market comparison approach anymore for this would be professionally wrong. The market comparison method assumes (similar) properties can be compared which in turn implies the properties are not really too unique.

They are in fact highly substitutable thus making comparison possible and technically acceptable.

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## Hong Kong: How Many Homes 1% of Land Area Can Provide

Real Estate Tech, 1Q 2012

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Nice to have garden path like this, right?

One of the candidates in the Chief Executive election mentioned that simply by utilizing just 1% of our land mass, 1M people could be accommodated.

Out of curiosity, let's see if and how this may be realized:

**1) Hong Kong has 1,104 km<sup>2</sup> (square kilometers)** = and you can refer to the government website at <http://www.gov.hk/en/about/abouthk/facts.htm>.

**2) 1% of the above means 11.04 km<sup>2</sup>** = which in turn equals to 11,040,000 m<sup>2</sup>.

**3) Hong Kong still likes using the square feet** = and so 11,040,000 m<sup>2</sup> x 10.76 = 118,790,400 ft<sup>2</sup> (square feet).

So far as good, but how many people and households can this 118,790,400 ft<sup>2</sup> accommodate? This actually depends on a few assumptions:

**a) Plot ratio** = to the uninitiated, say a plot of land has a plot ratio of 5 and if the plot is 10,000 ft<sup>2</sup> in size, that means 50,000 ft<sup>2</sup> of building could be constructed. As such, it takes no rocket scientist to realize that the higher the overall plot ratio for this 1% of land, the more building floor area can be constructed, and thus the more the people and households could be accommodated.



b) % Portion of land required for the necessary infrastructure and amenities = residential buildings and estates cannot exist alone. They have to be accessed by roads, highways, and rails, and to be accompanied by hospitals, parks, malls, offices, and the like in order to make living and livelihood comprehensible and comprehensive.

As such, the % portion required for the above depends on whether the 1% land is already adjacent to some infrastructures and amenities. If so, the % portion required would be smaller. If not, much of the new 1% land will be taken up by the related infrastructure and amenities.

**c) The average floor size of the residential units to be built** = generally people prefer larger units yet the larger the average size of the unit, the lower number of units which can be built, and thus the lower number of people and households who could be accommodated.

Next, we shall randomly select a few combinations of (a), (b), and (c) above and assuming a household size of 3 [it is slightly lower than 3 based on the 2011 census statistics], and let's see if housing 1M people is feasible:

Assumptions:	(a) Plot ratio	(b) Portion for residential estates%	(c) Average unit size	No of units possible	Population accommodated
Combination 1	1.00	100%	700	169,700	509,101
Combination 2	0.50	*50%	700	42,425	127,275
Combination 3	0.50	*50%	900	32,997	98,992
Combination 4	3.00	*50%	700	254,550	763,652
Combination 5	3.00	*50%	900	197,984	593,952
Combination 6	8.00	*50%	700	678,802	2,036,406
Combination 7	3.93	*50%	700	333,333	1,000,000

Comprehending the above:

**Combination [1]** = is purely for reference and it shows how many people could be accommodated if all the 1% land can be used for building residences with a plot ratio of 1. No, this will not work as it could house only around half a million people.

**Combination [2] and [3]** = are there to ascertain, given today's preferences for very low plot ratios, sometimes less than 1, and higher unit size [not the typical is around 600 to 700 ft2 on a gross basis], how many could enjoy such new housing. Also, instead of assuming 100% utility for residences, 50% is adopted here i.e. half of the 1% land is assumed for infrastructures and amenities. Naturally, only a privileged few, ranging from around 100000 to 130000, could benefit from the new 1% land IF low plot ratios and higher floor size prevail.

**Combination [4] and [5]** = toy with higher plot ratios (3 in this instance) and as such work better than very low plot ratios. They could accommodate from around 600000 to over 3/4 million people depending on the unit size.

**Combination [6]** = adopts the urban core plot ratio of 8 and presto, 2M could benefit. Naturally, it is not quite conceivable that the new 1% land, most likely to be found in the New Territories, could entertain plot ratios as high as the traditional urban core.

**Combination [7]** = is a reverse calculation i.e. instead of assuming a plot ratio for the calculation, we work backwards to see what plot ratio is required for housing 1M people given a 50% assumption for residential land usage and 700 ft2 average unit size. It seems an overall plot ratio of close to 4 is required.

Naturally, the above is not comprehensive research and more detail analysis is needed. Nonetheless, it may imply that in order to house 1M folks in 1% of land area:

i) The plot ratio cannot be too low despite preferences for lower numbers.

ii) The average unit size cannot be much larger than what we have now, again notwithstanding the preference for higher flat size.

iii) The new land sites may need to be adjacent to some existing infrastructures and amenities else the % portion left for residential building could be too low for housing 1M.

Naturally, there will be potential tradeoffs in terms of natural forestry, environment, and even the wild.

**Note\*:** the 50% is just a guessed figure and we have not ascertained if it is sufficient (too high or too low) for meaningful development of required infrastructures and amenities.

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