

# Zeppelin's Real Estate Tech

4Q 2014: A Real Estate Newsletter by Zeppelin Real Estate Analysis Limited

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Interesting times these are. First, there's ISIS, then there is the continued saga of Ukraine, and the just settled Scottish Vote, and then the apparent spreading of EBOLA. Just when one thinks that's probably it, we have had our Occupy Central. Hmm...what's next...?

- **Hong Kong residential real estate needs good upside to be worth investing**
- **USA: Boston is better value for money**
- **Global: Pricy homes are not unique to Hong Kong**

**"IF the creator had wanted us to invest alike, AI-less robots would have been made."**

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](#), [Ming Pao](#), [Radio Hong Kong](#), [Cable TV \(Money Café\)](#), [DBC Radio](#), and [Commercial Radio](#). We also publish monthly articles and analyses in the months in between. This newsletter is now into its [19<sup>th</sup> year](#) and [73rd](#) 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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# Who? Me?

## **Stephen Chung**

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Real Estate Website Developer, [www.Real-Estate-Tech.com](http://www.Real-Estate-Tech.com)

**Stephen is an independent real estate analyst – number cruncher and chartered surveyor** and has been involved in real estate development, investment, and management in Hong Kong / China / Asia and North America.

**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 regular real estate writer - columnist** 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 an honorary adjunct professor** of the 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 3 real estate books in Chinese published to date as follows:**

Online book = Easy Real Estate Lectures

Hard copy = Real Estate Investment Know-How above 101

Most recent and hard copy = The Real Estate Market Turning Point

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**Our services can be obtained and delivered via** a) tailor-made professional consultation; b) online report purchases; c) emailed discussions and advice; and / or d) phone discussions.

## Hong Kong residential real estate needs good upside to be worth investing Real Estate Tech, 4Q 2014

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Up, up, and away...?

What is good upside? Hard to say, even if one is to define upside as real estate price appreciation. Different people would have different demarcations of what good upside is. 10% price appreciation per annum? 20%? 30%? Or 100%?

Despite all the math formulae and applied quantum physics in economics, the minimum acceptable percentage for average annual price appreciation could vary from investor to investor, depending in part on perceived risks and in part on individual character and circumstance. For instance, if the perceived risks are low, then people may tolerate a lower annual asset price appreciation (and thus a lower overall return). Or if someone aspires to become the world's wealthiest person in 30 years, then he or she would have to shoot for a very high appreciation rates unless, of course, he or she has really wealthy parents with whom to begin.

Leaving aside the price appreciation rate for the time being, your humble author thinks almost all investors in Hong Kong real estate could agree on this: that few investors, practically none, would invest in Hong Kong properties SOLELY for the rental income, especially given today's meager net rental yields. If so, it would probably mean having to collect at least 40 years of rent, discounted to today's value, before one starts earning some real profit.

Putting it another way, IF you have a crystal ball which tells you the nominal price of a property will remain unchanged for 40 years (\$100 in, \$100 out), and that you can only look forward to receiving around 2% to 3% rental yield discounted to today's level per annum during that 40

year period, will you still pay \$100 for the property today? Yes? You will? Really? Great. Call me, I have great investment deals for you.

Here we attempt to make some rough calculations to gauge the likely investment returns under various assumptions for real estate price appreciation (starting from none) and rental growth (starting from today's levels). We have taken 4.50% - the rough average inflation rate (CPI) for the past 5 years – as the discount rate and the purchase price is set at \$10M. Rentals are adjusted every 2 years. Investment holding periods are 3 year, 5 year, and 10 year. For simplicity, real estate transaction taxes, professional fees, financing (leverage) and the like are not included. Here we go:

**1) Assume no real estate price appreciation at all, net rental yield at 2.50% with token increments** = nominally, there are profits and no losses, however, all the discounted scenarios show losses.

No price appreciation:	3 year holding period	5 year holding period	10 year holding period
Internal rate of return IRR	2.64%	2.76%	3.06%
Net present value NPV	(\$476,369)	(\$714,874)	(\$1,066,663)
Nominal profit or loss	\$773,000	\$1,344,116	\$3,004,303

**2) Assume no price appreciation, how much rental would have to grow every two years just to break even with the CPI?**

How much rents need to grow?	3 year holding period	5 year holding period	10 year holding period
Every 2 years:	227%	80%	30%

**3) 4 hypothetical price change scenarios** = a) Very bad i.e. prices drop 50% overall; b) Bad i.e. prices drop 25%; c) Good i.e. prices go up by 50%; and d) Very good i.e. prices go up by 100%. Matching rental growths accompany each of the 4 scenarios. Note the scenarios are asymmetrical i.e. the downside percentages are half of their counterpart upside percentages.

3 year holding period

Price changes:	Very bad -50%	Bad -25%	Good +50%	Very good +100%
IRR	-18.01%	-6.45%	17.42%	29.27%
NPV	(\$4,689,330)	(\$2,565,762)	\$3,805,820	\$8,108,164
Nominal	(\$4,250,000)	(\$1,719,000)	\$5,875,000	\$11,000,000

5 year holding period

Price changes:	Very bad -50%	Bad -25%	Good +50%	Very good +100%
IRR	-9.94%	-2.73%	11.23%	17.83%
NPV	(\$4,632,405)	(\$2,662,147)	\$3,243,445	\$7,265,007
Nominal	(\$3,750,000)	(\$1,189,100)	\$6,487,656	\$11,708,056

10 year holding period

Price changes:	Very bad -50%	Bad -25%	Good +50%	Very good +100%
IRR	-3.40%	0.18%	6.86%	10.02%
NPV	(\$4,510,205)	(\$2,858,284)	\$2,079,524	\$5,549,765
Nominal	(\$2,500,000)	\$154,568	\$8,095,373	\$13,641,121

**4) Comparing “Very Good” to “Very Bad”, and “Good” to “Bad”,** we can work out a rough return to risk ratio for each of the investment holding periods:

Return to Risk:	3 year holding period	5 year holding period	10 year holding period
NPV, Very Good to Very Bad	1.73	1.57	1.23
NPV, Good to Bad	1.48	1.22	0.73
Nominal, Very Good to Very Bad	2.59	3.12	5.46
Nominal, Good to Bad	3.41	5.46	Not applicable

**5) Analysis**

**a) IRR angle** = The IRR shown here have taken both rental income and price appreciation, if any, into account. Subjectively and with an element of bias, let’s say we use an IRR of 10% as the minimum return required. If so, and stating the obvious, the above shows that i) the shorter the investment holding period, the more likely it is to achieve 10% or more; and ii) the higher the overall price appreciation is within the period, the likelier the 10% or more.

Spelling it out, and referring to the tables in point (3), these 5 scenarios make the grade; namely 3 year period of Good and Very Good, 5 year period of Good and Very Good, and the 10 year of Very Good (the latter barely makes it).

**b) Return to Risk angle** = while there is no fixed or universally accepted ratio, let’s use 2 i.e. for every potential loss of \$1, \$2 profit can potentially be made from the investment and for the same or very similar probability of losing \$1.

Referring to the table in point (4), essentially all discounted (NPV) scenarios fail to make the grade. However, all nominal cases show higher than 2.

Does this mean the scenarios are viable? Not really. Technically, the NPV scenarios are a better guide, yet for those not wanting to face certain reality and wishing to go ahead with investing come whatever, a very reluctant maybe to referring to the nominal values. And in this case, try not to leverage too much. You will sleep better.

Also, there is no need to be overly obsessed on Hong Kong properties.

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## USA: Boston is better value for money

### Real Estate Tech, 4Q 2014

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The river fronting upscale neighborhood of Back Bay in Boston and MIT is just across the bridge on the far side (courtesy of wikimedia.org)

Your humble author has been looking at some data on USA real estate markets, including the residential sector of New York City (NYC), Los Angeles (LAG), Boston (BOS), and San Francisco (SFG). Of these four residential markets, Boston seems to be (relatively) better value for money. Here is why:

**1) Market data sources** = mostly from these two websites, namely [www.trulia.com](http://www.trulia.com) and [www.bea.gov](http://www.bea.gov). Note some data are not exactly in synch, e.g. there could be a time lag between the real estate price data and the income data. Nonetheless, for a rough preliminary observation, such imperfections may not matter too much at this stage. Please refer to the summarized table below.

Cities:	New York City	Los Angeles	Boston	San Francisco
Av RE Price US\$	1,140,000	570,000	429,000	950,000
Av Income US\$	119,347	44,474	57,033	80,014
Price / Income	9.55	12.82	7.52	11.87
Price US\$/ft <sup>2</sup>	1,402	484	576	848
RE Price [NYC=1.00]	1.00	0.50	0.38	0.83
Income [NYC=1.00]	1.00	0.37	0.48	0.67
Price +/- % since 2009	19%	66%	22%	41%

**2) Boston has the lowest average home price of the four** = standing at US\$429K, compared to New York City's US\$1141K, Los Angeles' US\$570K, and San Francisco's US\$950K. Yeah, I know, a low price says nothing about investment viability, yet read on.

**3) Boston has the lowest average home price to average personal income ratio** = and its ratio is, rounded, 8, while NYC is 10, LAG 13, and SFG 12. Money speaks a bit more in BOS than in the other three cities.

Note also BOS is the only city here which, when compared to NYC, has a lower home price proportion [to NYC home price, at 0.38] than its income proportion [to NYC income, at 0.48] whereas the other two California cities harbor just the opposite.

**4) Boston has a low average price per square foot of floor area (on a net basis) =** around, rounded, US\$600/ft<sup>2</sup>. Only LAG is lower at US\$500, while NYC and SFG stand at US\$1400 and US\$800 respectively.

To offer a slightly global angle, US\$600 / ft<sup>2</sup> equals around (Hong Kong) HK\$4500 per square foot net. Today (12<sup>th</sup> October 2014) there is practically no residential unit which can be bought for that unit price in Hong Kong. Even the remoter and rather “uninspiring” residential high rise homes – called ‘flats’ here - require at least US\$800 / ft<sup>2</sup>, just to start the negotiation.

**5) Boston offers a steadier and less volatile price trend =** depending on individual appetite for market risks, Boston works for those who treasure less price fluctuation. In fact, BOS and NYC, which are East Coast cities, seem to exhibit less price volatilities than the two West Coast cities of LAG and SFG in the last several years. Naturally, from a speculative angle, the latter cities had offered investors – who bought at the recent dip – better price appreciation.

**6) Boston is on par with San Francisco =** albeit on different coastlines. Both SFG and BOS have similar population and land scales. Both are engaged in high tech – in the broadest sense of the word - notwithstanding perhaps different sectors of high tech. Both have premium research and academic institutions supporting such high tech, for instance, Harvard and MIT for BOS, and Stanford and UC Berkeley for SFG (Palo Alto). Both cities are deemed more open and liberal than most in the States. Naturally, BOS has colder winters than SFG yet your humble author doubts the weather can explain the home price gap fully.

Perhaps the West Coast advantage over the Eastern Seaboard in terms of access to capital from today's well to do Asia and the general European economic demise – to which access the East Coast has an advantage over the West Coast – might explain things a bit better. Asian / Chinese migrants to the USA also seem to like the West Coast more. Experts in global investment and immigration flows might enlighten us on this.

As for rental income yield, Boston hovers around 4% to 5% and the other three cities are not known for high rental yields either. For higher rental yields, go south and / or center to places like Florida, Texas etc.

Yet, for investors who appreciate an element of history and culture in their assets, Boston is **THE** place...lots of hundreds year old buildings.

By the way, tea, anyone?

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## Global: pricey home prices are not unique to Hong Kong

Real Estate Tech, 4Q 2014

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Norway: Nice apartments, nice prices too...to the owners, that is...

**Hong Kong has very pricey real estate.** For the uninitiated (or the ignorant if you happen to be local), most, i.e. 99%, of the 7M plus population reside in some form of high rise apartments, be these public rental housing, public assisted ownership housing, or private ownership housing, ranging from the very basic to the very plush. 99% of the remaining one percent reside in some form of townhouse or semi-detached. Only perhaps 1% of the 1% can afford to have a detached house. Wooden huts on the hillside don't count, though these are now rare too.

While nearly half the population reside in public rental or assisted ownership housing, with the remaining half living in privately owned accommodations, there are tens of thousands of households, many of whom are younger individuals and couples with or without children, who are not poor enough to qualify for public housing, yet who do not have sufficient savings to even contemplate buying the very basic private homes, especially when overall prices have increased 100% since 2009. **As to why there are such increases? The simple answer is QE**, which means low mortgage rates, which in turn means the 'qualified' households can take advantage of them, and which on the other hand means the 'unqualified' households are priced out of the market.

**You can imagine the societal grudge**, whether rightly or wrongly, and which is not the point here anyway, circulating in some quarters of the population, especially among the non-homeowners. Even homeowners could find upgrading immensely difficult if not impossible. Just a few years ago, a couple who claimed to be doctor and lawyer complained in a radio show that they couldn't afford the home which they liked or which they thought might properly reflect-



match their social status and lifestyle. Coupled with the somehow restrictive supply conditions, oil has been thrown to the fire to create more flame.

**Despite** all these, the above phenomena are not unique to Hong Kong. Many cities have similar pricey beyond general affordability homes.

Your humble author has recently come across **an OECD 2013 report on home prices** in selected countries. The researchers compared the typical home prices to the a) respective country income and b) the rental level. Beyond and above certain ratios, the researches would classify the countries as having less than affordable home prices. A positive percentage infers overpricing while a negative percentage suggests the opposite. There are two percentages for each country, one based on income and the other on rental level. No verification has been done either on the method or data on our part. So, use it as a very rough reference only (with a grain of salt too). Note also positive percentages do not imply (immediate) demises; nor do negative percentages mean immediate investment gains:

<b>Countries</b>	<b>Compared to income</b>	<b>Compared to rental level</b>
Germany	-21%	-15%
Japan	-36%	-38%
USA	-15%	-1%
UK	22%	31%
Canada	30%	64%
Australia	21%	37%
New Zealand	23%	61%
Switzerland	-9%	-2%
France	33%	35%
Spain	15%	8%
Netherlands	23%	11%
Belgium	49%	63%
Denmark	10%	12%
Sweden	23%	32%
Ireland	-15%	-12%

Watch out! Belgium! And Canada, and Sweden, and New Zealand, France, UK...

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