Zeppelin's Real Estate Tech

2Q 2013: A Real Estate Newsletter by Zeppelin Real Estate Analysis Limited

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Double stamp duty, in addition to the earlier SSD and BSD, applies whenever real estate is transacted in Hong Kong, regardless of who, whom, and what, with few exceptions. China real estate prices appear to be recovering yet there are concerns on local government debts. The Japanese Yen is down thus making their properties appear attractive, at least from a consumption angle. EU via Cyprus demonstrates a new deficit reduction tool and the USA shows some growth but still weak overall especially in terms of employment. In this issue:

- **Hong Kong Residential: Supply does not really affect prices much**
- **China: The richer the city, the lower the average household size**
- **Population decline alone does not spell lower real estate prices**

"Of course you are not deluded, that is only a delusion on my part."

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**, **21st 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**, and **Commercial Radio**. We also publish monthly articles and analyses in the months in between. This newsletter is now into its **17th year** and **67th** issue.

We also operate a website **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.

Who? Me?

Stephen Chung
Managing Director, Zeppelin Real Estate Analysis Limited
Founder and Editor, Real Estate Tech Quarterly Newsletter
Real Estate Website Developer, 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 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 2 real estate books in Chinese published to date and is completing a 3rd one. The two published are as follows:

Online book = Easy Real Estate Lectures

Hard Copy = Real Estate Investment Know-How above 101

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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: Supply does not really affect prices much

Real Estate Tech, 2Q 2013

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The young (the tall tower), the old (the building on the right), and the restless (homebuyers)

A lack of new supply has often been cited as the reason for the high residential real estate prices seen in recent times. While this may be true, your humble author thinks liquidity due to the various QE strategies adopted by central bankers around the globe appears to be a more convincing factor.

Nevertheless, out of curiosity, we have sought to correlate some residential annual supply numbers with (private) residential price figures. Data sources include www.centanet.com and the Ratings and Valuation Department of the government. Here are the results:

A) From 1982 to 2012, the correlation is not significant = the R value is 0.31 which is not significant and furthermore, it is a positive value, implying both supply and prices go more or less in the same direction. This is contradictory to the notion that the higher the supply, the lower the prices and vice versa.

B) Splitting the 30 year period into shorter ones, the correlations are still not significant = 1) from 1982 to 1997, the value is -0.30 which does indicate supply and prices going in different directions somewhat; 2) from 1997 to 2012, the correlation goes back to 0.33, and 3) the last 10 years show a low 0.05, practically indicating no relationship between the two.

C) Even assuming a time lag of 1 year between supply and prices, and vice versa, yield no significant correlations = refer to the table below.

1982 to 2012	Supply lags 1 year	0.19
1982 to 1997	Supply lags 1 year	(0.53)
1997 to 2012	Supply lags 1 year	0.17
2003 to 2012	Supply lags 1 year	(0.15)
1982 to 2012	Price lags 1 year	(0.27)
1982 to 1997	Price lags 1 year	(0.40)
1997 to 2012	Price lags 1 year	(0.25)
2003 to 2012	Price lags 1 year	(0.40)

The 1982 to 1997 period demonstrates some degree of relationship between supply and prices moving in opposite directions in both supply lag and time lag scenarios, and the same could be said of the 2003 to 2012 period though only in the price lags behind one year scenario.

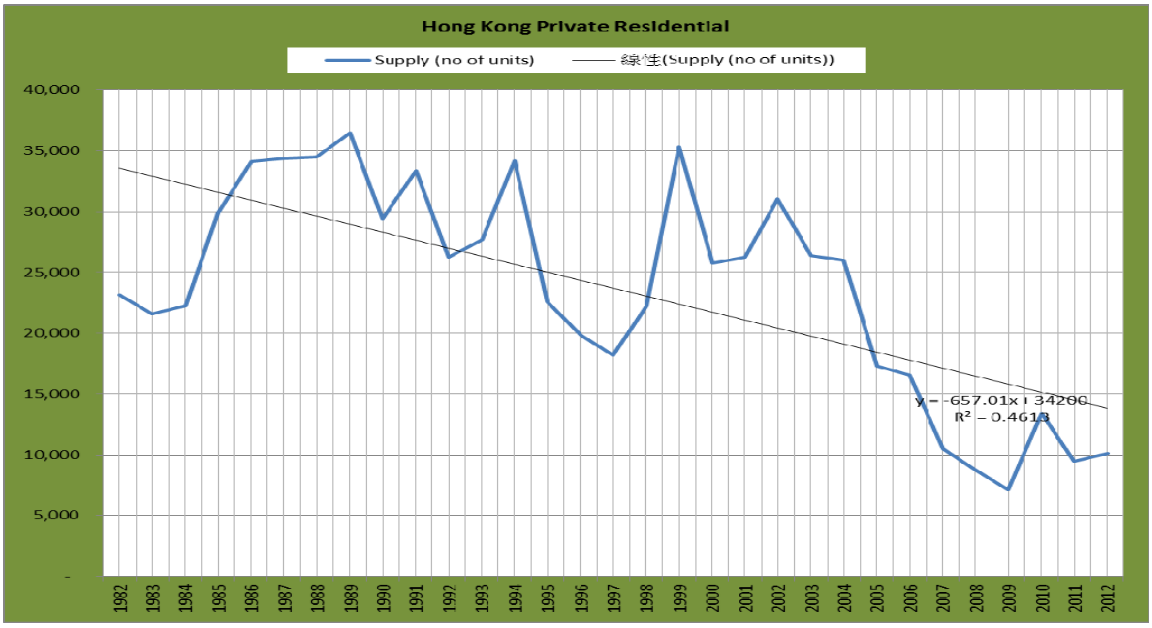
D) Annual changes in supply and prices are also not in synch = refer to the table below.

1982 to 2012	(0.09)
1982 to 1997	0.07
1997 to 2012	(0.18)
2003 to 2012	0.31

The last ten years offer the highest value in the above, yet it is a positive value i.e. supply and prices are more in tandem than following the general expectation of one goes up, the other comes down.

Overall, the relationship between supply and prices appears to be on and off, sometimes married and sometimes divorced, sometimes showing a bit of affection and sometimes not. A major influential factor is unlikely to behave this way.

E) Supply however is on a down (decreasing) trend = there are rises and falls, yet the curve trends downward.



Why do the numbers appear to suggest supply is not very influential on real estate prices, when many intuitively think it does? A couple of speculations:

1) New supply as a % of the total residential stock is becoming smaller = since 1982, the total number of residential properties has been increasing while supply embarks on a downward trend. This means mathematically the denominator is getting bigger while the numerator is becoming smaller. IF supply ever had any influential impact on prices, this influence would have been diminishing anyway. Perhaps the number of sellers in the secondary residential market matters more.

2) Future (anticipated) new supply figures are an educated guess = because a) not all completed residential units are put on the market for sale; b) issued building permits [thus offering some clue of future supply] may not always mean immediate construction [applications to commence works could be better gauges]; c) construction delays are not uncommon. In short, at any one point in time, the market participants collectively may only have a vague idea of how much supply there will be.

Or perhaps this is more psychological?

China: The richer the city, the lower the average household size

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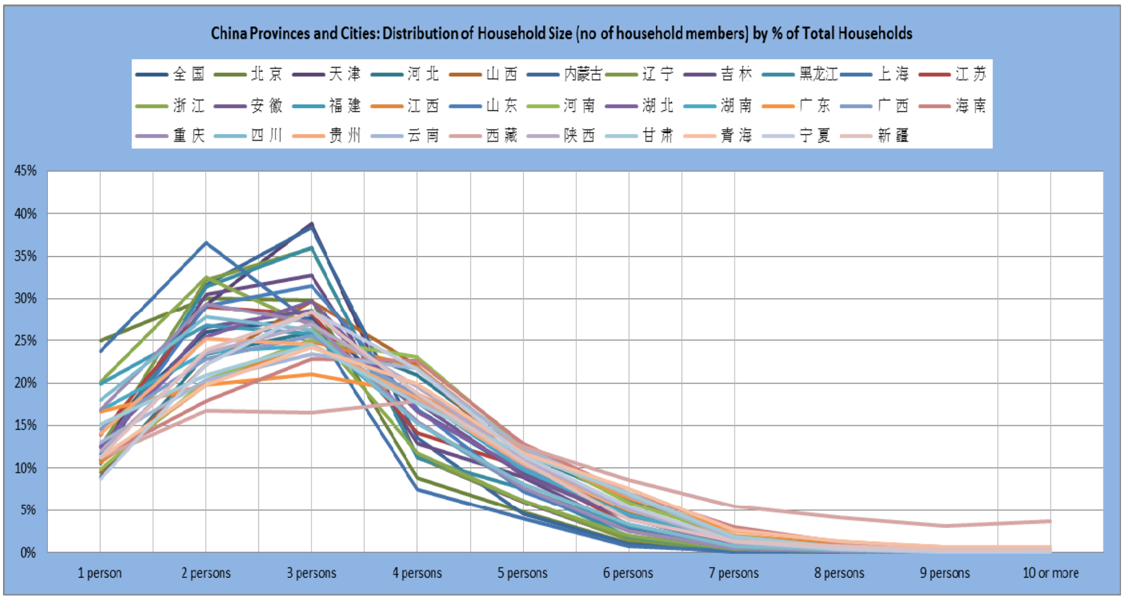
An old apartment building in Shanghai

Not too long ago (about 100 years or so), many Chinese households had a pyramid-like demographic structure = 1 head of household + several wives + many children + their wives + the grandkids. Sometimes, the household could include the siblings of the head and wives, the cousins, and the not so close relatives too.

Time flies and have changed! Today, most households have just a few family members, and 3 or more generations living under one roof are not very common either.

Here we look at the distribution of household size in various provinces and cities in terms of the number of members per household. Data comes mostly from the China Statistics 2012 booklet:



A few observations:

A) 3 member households are the most common = occupying 28% of the total households, followed by 2 member households standing at 26% of total, and 3rd and 4th places go to 4 member households and 1 member households, with percentages at 17% and 15% respectively.

In short, more than 85% families are 4 people or fewer.

B) 2 member households are most common in Shanghai = and so do Jiangsu, Zhejiang, Chongqing, Sichuan etc. Note Beijing and Shanghai also have many single member households, being at 25% and 24% respectively.

We have also done a few rough correlations to see if there is any relationship between income level and the household size:

C) The economically better off provinces and cities tend to have more 1 member and 2 member households = whether by using income or consumption figures.

D) Speculating on why the better off places tend to have smaller household size = 1) migrants constitute a significant portion of the population; 2) many such migrants 'come alone' leaving their families behind; 3) comparatively high real estate prices and rents; and 4) financially challenging to form families; 5) even the well to do, especially the younger ones, prefer to live alone [more freedom and could be seen as 'cool'].

As such, perhaps 2nd / 3rd / 4th tier cities with excellent prospects may attract migrants and the educated, thus providing the demand for smaller residential units.

Even the national policy is to shoot for more middle class households (小康).

Population decline alone does not spell lower real estate prices

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Small country, cozy houses, but pricey nonetheless

Your humble author has recently been invited to deliver a talk to the business school students at Tsinghua University. In the process, there were discussions that if the population of a place declines, its real estate prices may tumble.

This is certainly a possibility, and a likely one at that, yet it is still just one of the possibilities, and the notion of fewer people lower property prices is not destiny.

Here's why:

A) Population does not have a significant correlation with real estate prices = for instance, India has a population very close to (and is expected to one day exceed that of) China, and in terms of population density even much higher, however its real estate prices are below that of China. Another example would be the Scandinavian countries; very lowly populated but with very high property prices.

B) GDP or income is generally the more influential factor in determining real estate prices = whether it is looking at a single market across different time spectrums, or looking at a single moment across different markets, the real estate prices generally reflect and jive with the earning power (income). Other factors such as supply generally do not come close in terms of price influence.

C) Population and demographic change, whether up or down, may not only alter the scale of the demand, but also its nature bringing in sometimes new demand = A city where the population is decreasing is likely to see some real estate surpluses.

However, the demand and supply structure (pricings included) is also altered, and sometimes new demand may arise because of this. That is, even assuming a price drop scenario, it may not be as bad as expected provided the market has enough flexibility in it to adapt.

For instance, (part of the) real estate surpluses, where accompanied by price drops and / or income rises, may entice some users-occupants-buyers-investors to acquire more floor space or units, thus reducing the anticipated amount of vacant space and units.

Also, the land on which some of the real estate surpluses sit on may be redeveloped-altered to suit the change in demand. Even turning a former building site into a public park would enhance the environmental quality of the remaining properties which in turn may even see a price rise because of this.

In short, the demand side is not an inflexible constant and when supply changes altering the pricing equilibrium, demand may respond to restore it or reduce the supply impact.

However, in order for such market adjustments to work themselves out, we need the next aspect.

D) The land / real estate system needs to be flexible enough to facilitate such demand and supply interaction = while ensuring sufficient, fair, and legal protection of private property rights and so on.

By no means would this be easy as private interests often collide with public interest, not to mention the possibility of excessive government influence and / or lack of proper negotiation process and compensation. The search for the right mix will take decades via trial and error and it is prudent to start contemplating while the population is still growing.

The key to prevent a major real estate price tumble is not in having more babies, but in enhancing economic competence and income earning capability.

Note: read the supplement following this article too.

A rough table on the different stages of household evolution in Hong Kong accompanied by the broad economics and real estate sentiment at the time:

Period	Household structure	Typical household size	Economy	Residential demand
A) 1950s, 1960s, early 1970s	3 generations sunder 1 roof	Around 6-8, population 3M to 4M, influx of refugees from Mainland China	Low GDP per capita, poor compared to world	Having a decent roof was the focus, not home buying, low nominal home prices
B) Late 1970s, 1980s, 1990s	2 generations under 1 roof	Around 4-5, population rising to 6M, influx of people from MC discontinued, 150 daily quota of MC immigrants began	GDP per capita rose fast, started to be on par with world, periods of high inflation, Mainland economy opened up	Baby boomers household formation, demand for homes rose, and home prices gained overall too despite the 1997 drop
C) 2000s	2 to 1 generations under 1 roof	Around 3, population reached 7M, apart from daily quota, there are also investor and skilled immigrants	GDP per capita comparable to most of 1^{st} world, Global QEs since 2008, historically low (mortgage and bank deposit) rates, Mainland economy fast growth	Keen home buying sentiment, nominal prices shot through 1997 level, become one of the world's priciest market

Referring to the above, one may observe that:

a) Stage A shows that despite having a rapidly increasing population due to the influx of refugees, the society as a whole was too poor overall to create any meaningful demand for private residential housing.

b) Stage B shows that increased economic income + baby boomers forming households, against a background of rising population, were positive catalysts to fast rising demand for private housing and residential prices.

c) Stage C shows that even as population growth slows down, rapidly increased liquidity (accompanied by much lowered deposit and mortgage rates) + change in social aspiration (e.g. the young preferring to live alone where possible), not to mention the increased participation in the market by Mainland and foreign buyers, can also be catalysts for rising residential demand and prices.

While there may be cross-influence among the major factors of population, household size (due to changes in family structure and social norms), and economics (income earning capacity, interest rates and so on), it is felt that latter is the more significant influence on (residential) real estate demand and prices.

Why? Ask this hypothetical question: assuming you are charged with making sure real estate prices to ideally keep rising, or more practically to be maintained, or at least not to drop too much, and assuming you can only retain one of the factors above (population growth, drop in household size, or enhanced economics as described), which one would you select for the job?

Me picks enhanced economics any day.

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