Zeppelin's Real Estate Tech

3Q 2008: A Real Estate Newsletter by Zeppelin Real Estate Analysis Limited
Phone (852) 2401 6610 Fax (852) 2401 3084 E-mail stephenchung@zeppelin.com.hk Web: www.Real–Estate-Tech.com

Markets and economies worldwide appear to have become a bit more worried than before though the two camps, i.e. one saying the worst is behind us and the other saying the worst is yet to come, are still in heated debate. We, being a humble real estate analytical service, shall leave the debate to experts and professionals, and IF the optimists are right, we can go on partying, and IF the pessimists win the debate eventually, we may look forward to proportionately more business because it seems people are more inclined to use our analytical service in bad times than in good times. **Nonetheless, we think a point made by George Soros in his latest book "The New Paradigm for Financial Markets" deserves some attention. What point is that? Email us for the answer.**

In this Issue:

- **Hong Kong REITS: Not All are Good Shelters from a Falling Stock Market**
- **Effects of Investment Timing on NPV and IRR**
- **Hong Kong Residential Real Estate: Rental Returns & Risks by Location**

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 **China Daily**, **Hong Kong Economic Journal** (a Chinese daily), **21st Century Business Herald** (China), **The Standard** (a Hong Kong English Daily), **MITCRE Alumni Newsletter**, the **Surveying Newsletter** of the Hong Kong Institute of Surveyors, **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 **Radio Hong Kong** and **Commercial Radio**. We also publish monthly articles and analyses in the months in between. This newsletter is now into its **12th year** and **48th** 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 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 assessment], project management [architectural design, cost control, and contract administration], facility management [facility utility assessment, facility strategy, and building maintenance], and marketing management [campaign coordination, leasing, and sales]. We are part of the Zeppelin Group headquartered in Hong Kong with office operations in Beijing and Shenzhen and we have access to networks covering China / Asia, North America, and Europe.

Hong Kong REITS: NOT All are Good Shelters from a Falling Stock Market

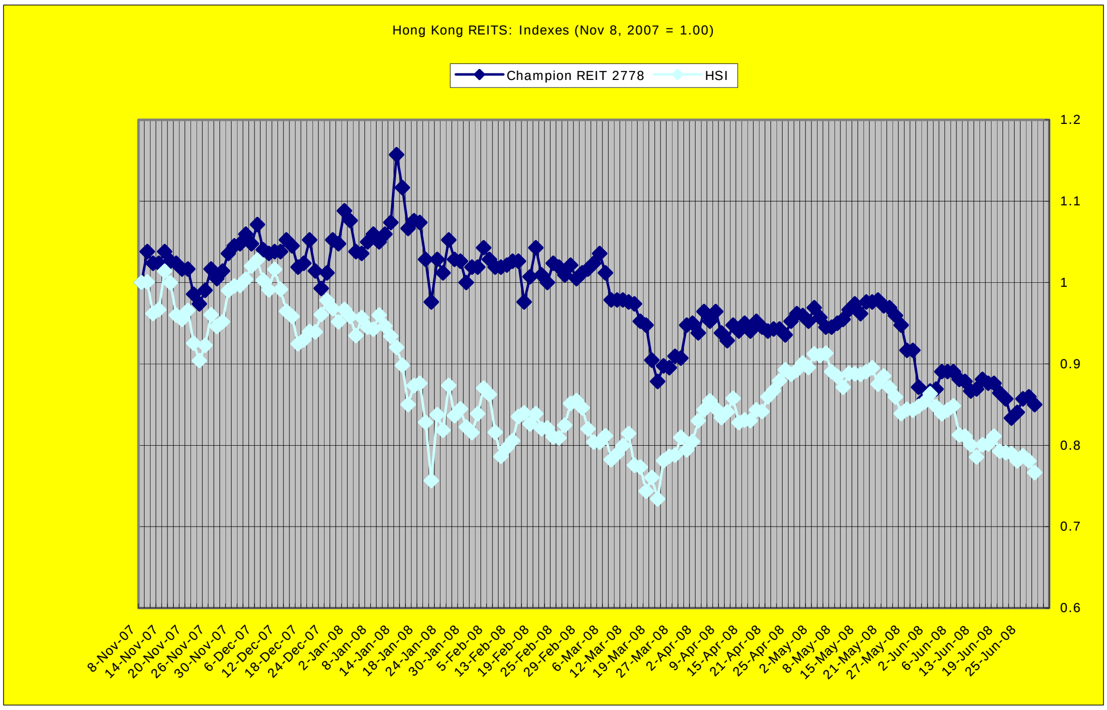
Real Estate Tech, 3Q 2008

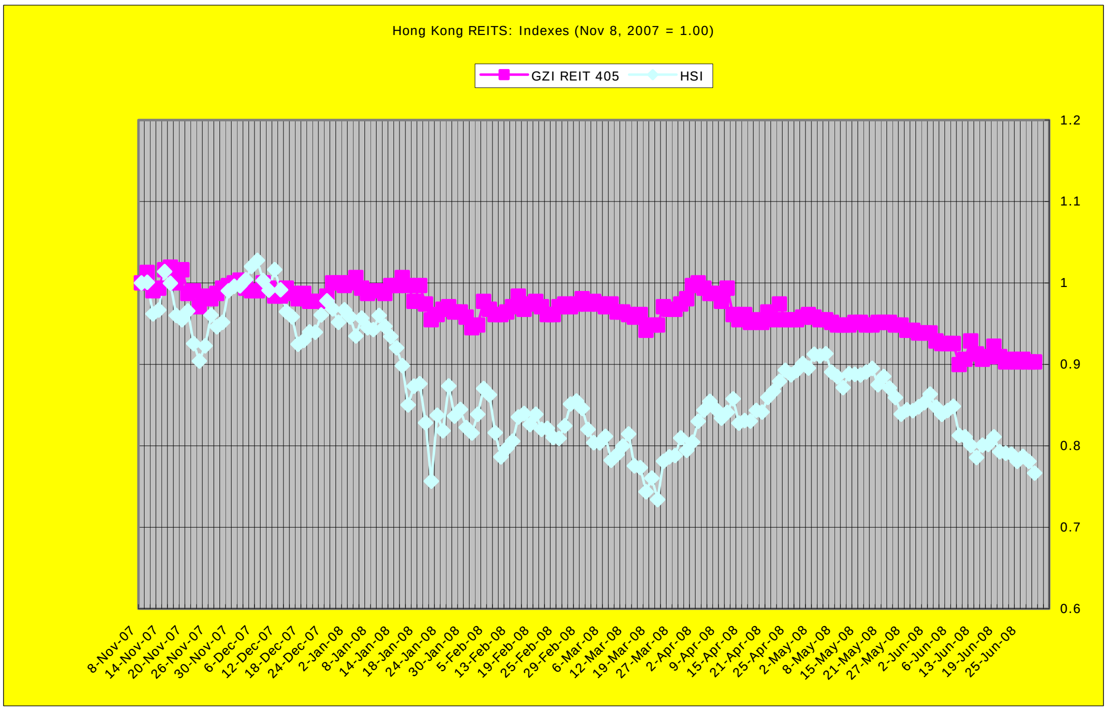
Stephen Chung BS BBldg(HKU) MS in Real Estate(MIT) MRICS MHKIS MAACE NAREIT FPFM PQS RPS(QS)
Zeppelin Real Estate Analysis Limited - Phone (852) 24016610 / Fax (852) 2401 3084 stephenchung@zeppelin.com.hk

Your humble author has recently been asked by a journalist w**ho was doing a report on Hong Kong-registered REITS** for one of the major weeklies on whether REITS offer a good shelter, or better (stock price) resistance in his own words, against a falling stock market as seen when this article is being composed.

Being interested in REITS and involved with a bit of REIT research at the University of Hong Kong, your humble author mentioned that <u>it is NOT appropriate to treat the Hong Kong REIT sector, 7 REIT stocks to date, as one</u>. That is to say, some REIT stocks appear to jive less with the overall Hong Kong stock market and thus may offer a good shelter or better price resistance while others may simply follow the larger trend.

As to which REIT stocks are shelters, one may judge them for oneself via viewing the charts below based on in part the mentioned simple REIT research being undertaken [the <u>charts</u> traces the performance of a REIT to that of the Hong Kong stock market Hang Seng Index and November 8, 2007 = 1.00]:




Hong Kong REITS: Indexes (Nov 8, 2007 = 1.00)
GZI REIT 405
HSI
1.2
1.1
1
0.9
0.8
0.7
0.6
8-Nov-07
14-Nov-07
20-Nov-07
26-Nov-07
30-Nov-07
6-Dec-07
12-Dec-07
18-Dec-07
24-Dec-07
2-Jan-08
8-Jan-08
14-Jan-08
18-Jan-08
24-Jan-08
30-Jan-08
5-Feb-08
13-Feb-08
19-Feb-08
25-Feb-08
29-Feb-08
6-Mar-08
12-Mar-08
19-Mar-08
27-Mar-08
2-Apr-08
9-Apr-08
15-Apr-08
21-Apr-08
25-Apr-08
2-May-08
8-May-08
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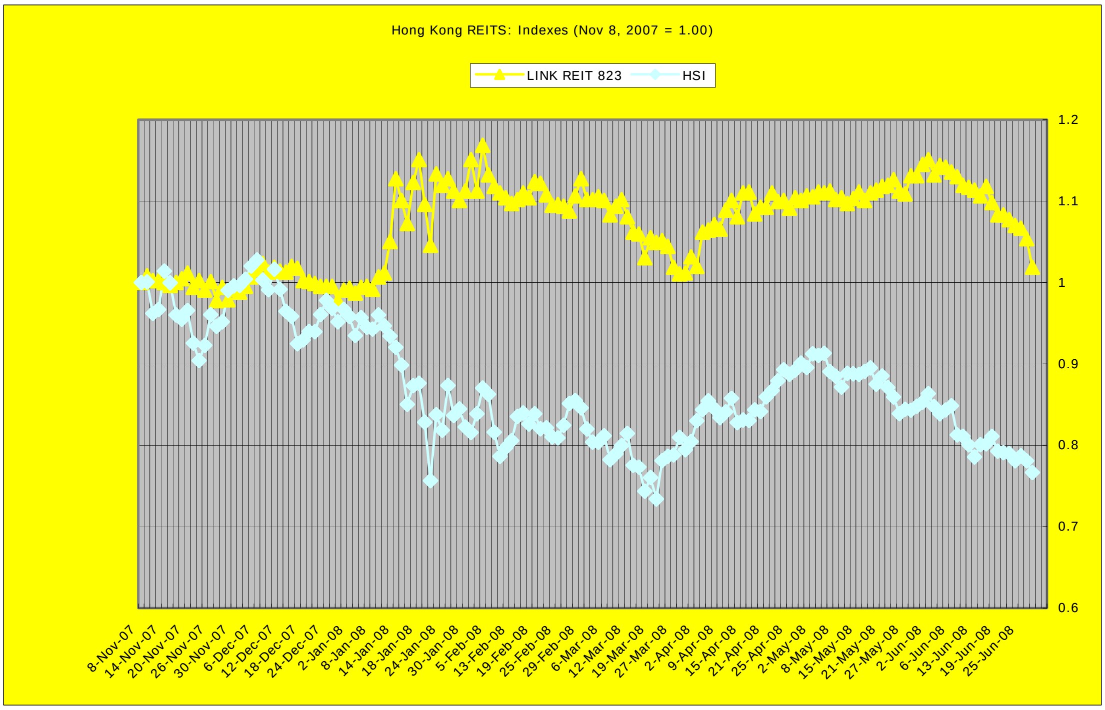
2-Jun-08
6-Jun-08
13-Jun-08
19-Jun-08
25-Jun-08


Hong Kong REITS: Indexes (Nov 8, 2007 = 1.00)
LINK REIT 823
HSI
1.2
1.1
1
0.9
0.8
0.7
0.6
8-Nov-07
14-Nov-07
20-Nov-07
26-Nov-07
30-Nov-07
6-Dec-07
12-Dec-07
18-Dec-07
24-Dec-07
2-Jan-08
8-Jan-08
14-Jan-08
18-Jan-08
24-Jan-08
30-Jan-08
5-Feb-08
13-Feb-08
19-Feb-08
25-Feb-08
29-Feb-08
6-Mar-08
12-Mar-08
19-Mar-08
27-Mar-08
2-Apr-08
9-Apr-08
15-Apr-08
21-Apr-08
25-Apr-08
2-May-08
8-May-08
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2-Jun-08
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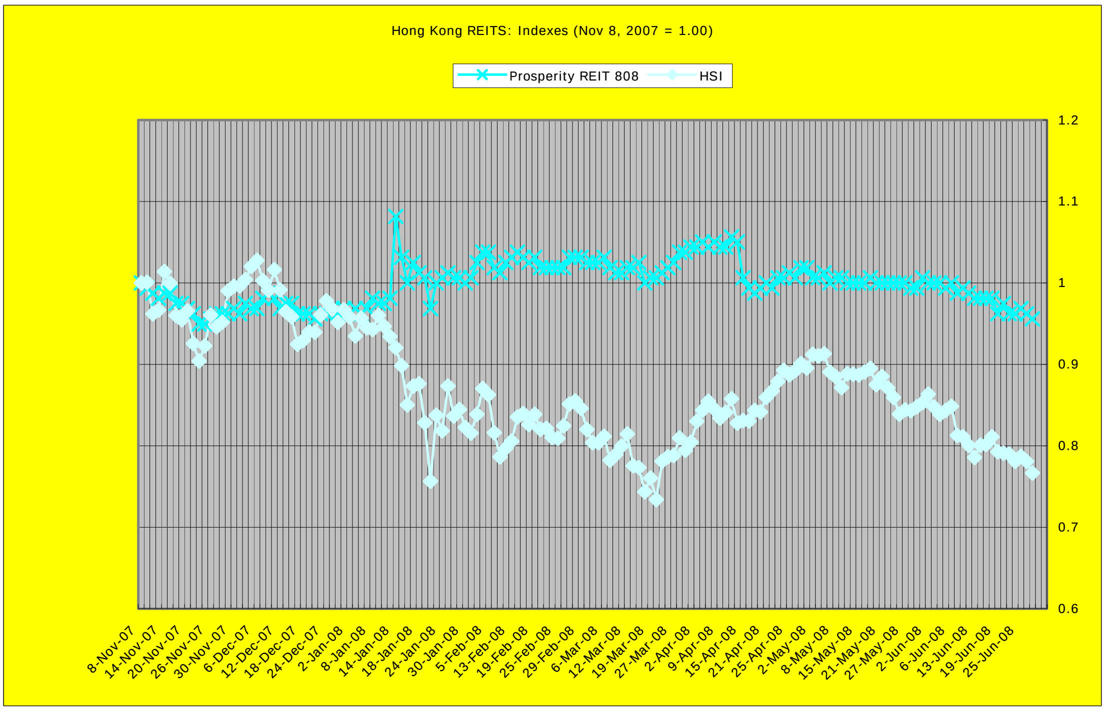
13-Jun-08
19-Jun-08
25-Jun-08


Hong Kong REITS: Indexes (Nov 8, 2007 = 1.00)
Prosperity REIT 808
HSI
1.2
1.1
1
0.9
0.8
0.7
0.6
8-Nov-07
14-Nov-07
20-Nov-07
26-Nov-07
30-Nov-07
6-Dec-07
12-Dec-07
18-Dec-07
24-Dec-07
2-Jan-08
8-Jan-08
14-Jan-08
18-Jan-08
24-Jan-08
30-Jan-08
5-Feb-08
13-Feb-08
19-Feb-08
25-Feb-08
29-Feb-08
6-Mar-08
12-Mar-08
19-Mar-08
27-Mar-08
2-Apr-08
9-Apr-08
15-Apr-08
21-Apr-08
25-Apr-08
2-May-08
8-May-08
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2-Jun-08
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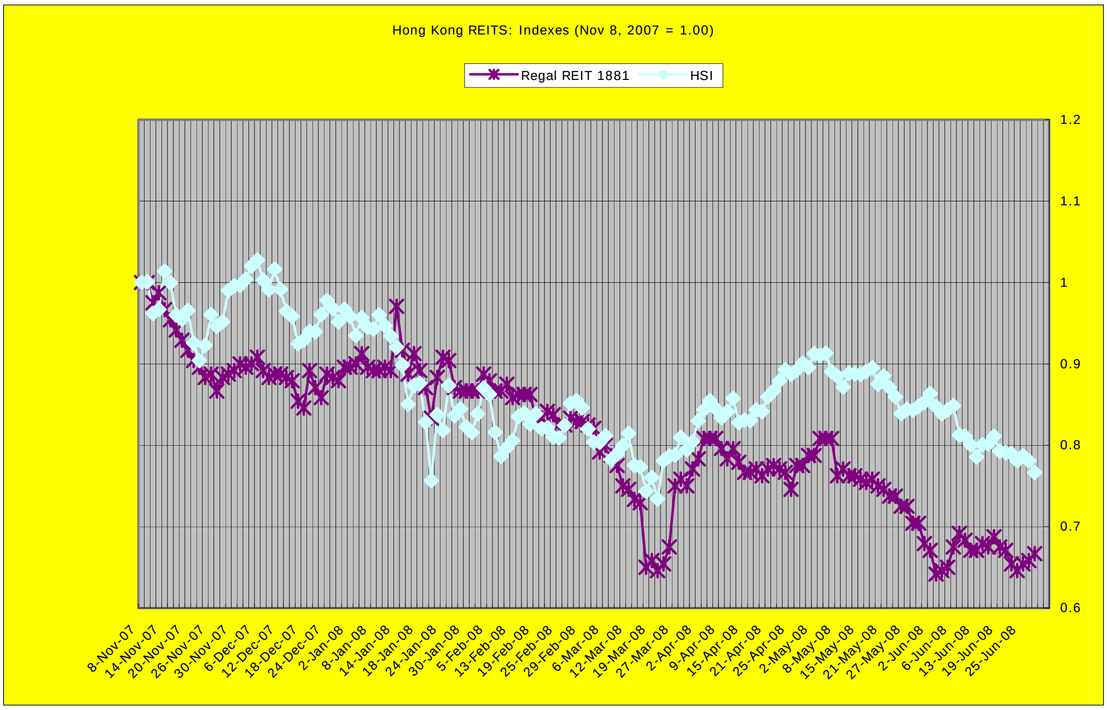
19-Jun-08
25-Jun-08


Hong Kong REITS: Indexes (Nov 8, 2007 = 1.00)
Regal REIT 1881
HSI
1.2
1.1
1
0.9
0.8
0.7
0.6
8-Nov-07
14-Nov-07
20-Nov-07
26-Nov-07
30-Nov-07
6-Dec-07
12-Dec-07
18-Dec-07
24-Dec-07
2-Jan-08
8-Jan-08
14-Jan-08
18-Jan-08
24-Jan-08
30-Jan-08
5-Feb-08
13-Feb-08
19-Feb-08
25-Feb-08
29-Feb-08
6-Mar-08
12-Mar-08
19-Mar-08
27-Mar-08
2-Apr-08
9-Apr-08
15-Apr-08
21-Apr-08
25-Apr-08
2-May-08
8-May-08
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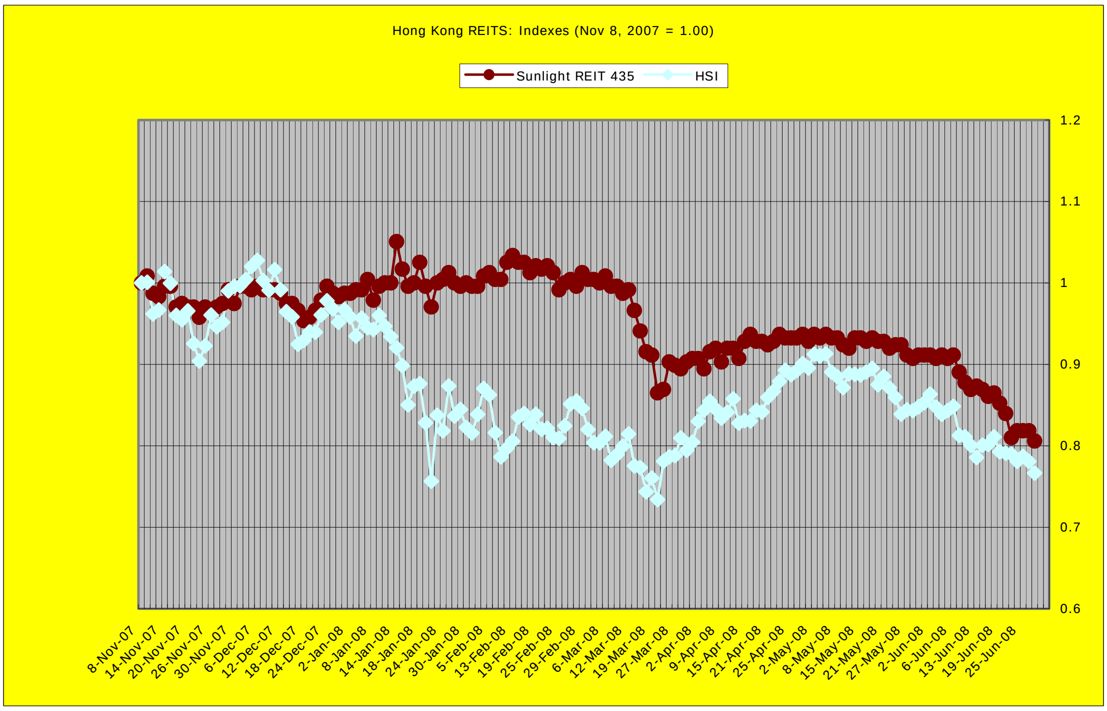
19-Jun-08
25-Jun-08


Hong Kong REITS: Indexes (Nov 8, 2007 = 1.00)
Sunlight REIT 435
HSI
1.2
1.1
1
0.9
0.8
0.7
0.6
8-Nov-07
14-Nov-07
20-Nov-07
26-Nov-07
30-Nov-07
6-Dec-07
12-Dec-07
18-Dec-07
24-Dec-07
2-Jan-08
8-Jan-08
14-Jan-08
18-Jan-08
24-Jan-08
30-Jan-08
5-Feb-08
13-Feb-08
19-Feb-08
25-Feb-08
29-Feb-08
6-Mar-08
12-Mar-08
19-Mar-08
27-Mar-08
2-Apr-08
9-Apr-08
15-Apr-08
21-Apr-08
25-Apr-08
2-May-08
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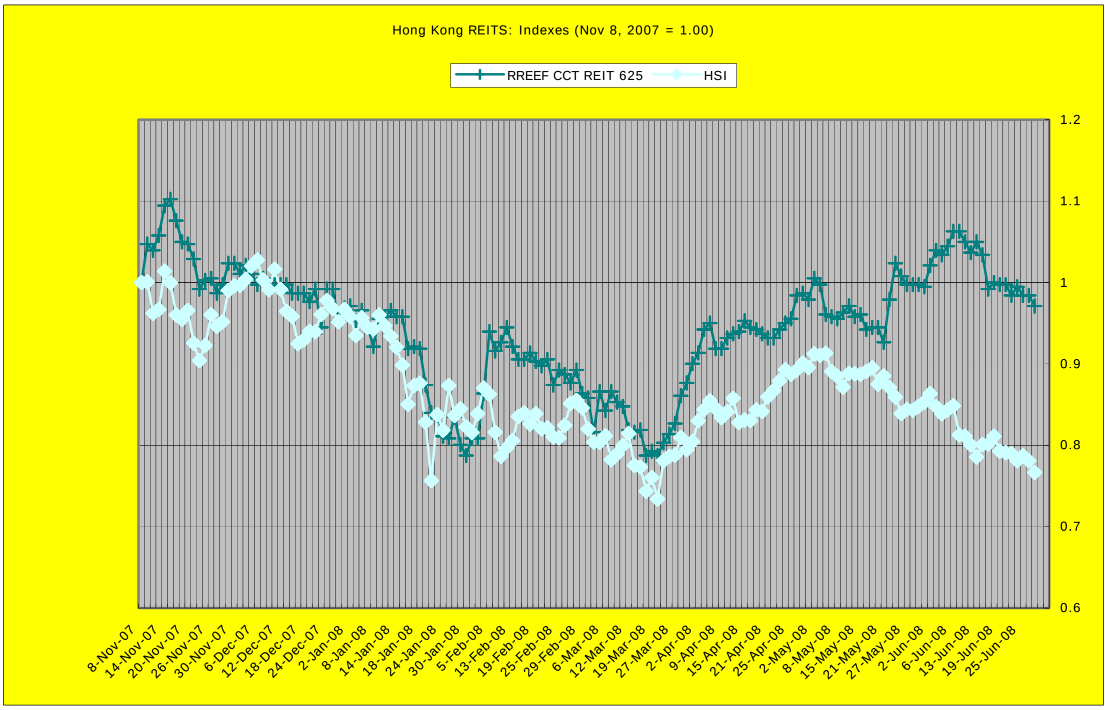
19-Jun-08
25-Jun-08


Hong Kong REITS: Indexes (Nov 8, 2007 = 1.00)
RREEF CCT REIT 625
HSI
1.2
1.1
1
0.9
0.8
0.7
0.6
8-Nov-07
14-Nov-07
20-Nov-07
26-Nov-07
30-Nov-07
6-Dec-07
12-Dec-07
18-Dec-07
24-Dec-07
2-Jan-08
8-Jan-08
14-Jan-08
18-Jan-08
24-Jan-08
30-Jan-08
5-Feb-08
13-Feb-08
19-Feb-08
25-Feb-08
29-Feb-08
6-Mar-08
12-Mar-08
19-Mar-08
27-Mar-08
2-Apr-08
9-Apr-08
15-Apr-08
21-Apr-08
25-Apr-08
2-May-08
8-May-08
15-May-08
21-May-08
27-May-08
2-Jun-08
6-Jun-08
13-Jun-08
19-Jun-08
25-Jun-08

The simple observations are that:

1) **All the REITS except the Regal REIT have performed better,** in varying degrees, to the overall stock market as reflected by the Hang Seng Index (HSI).

2) **As of June 27, 2008 = the better performed REITS,** judging by their non-adherence to the HSI, include the LINK, Prosperity, and RREEF REITS.

Now the above are only concerned of the + or – in the REIT share prices compared to the HSI, yet in terms of being good shelters or better price resistance, one aspect which needs to be inspected is their (REITS) correlation with the HSI. The less correlated a REIT is to the HSI, the better the chance that it may offer some shelter or resistance in a generally falling market. The following tables may help:

Correlation R: using closed $	HSI
Champion	0.59
GZI	0.65
LINK	(0.59)
Prosperity	(0.45)
Regal	0.70
Sunlight	0.43
RREEF	0.57
Cheung Kong	0.95
SHKP	0.77

Correlation R2: using closed $	HSI
Champion	0.35
GZI	0.42
LINK	0.35
Prosperity	0.20
Regal	0.49
Sunlight	0.19
RREEF	0.32
Cheung Kong	0.90
SHKP	0.59

Again, a few observations are as follows:

a) **From the Correlation R table** = the ones marked RED and in (brackets), indicating a negative correlation, are perhaps good shelter candidates to begin with as this means they generally go the opposite way.

b) **From the Correlation R2 table** = one may add REITS which have a low correlation with the HSI e.g. Champion, Sunlight, RREEF REITS in addition to the LINK and Prosperity REITS.

An investor looking for shelter in REITS may also wish to avoid the GZI and the Regal REITS as these two are relatively correlated to the HSI.

Note we have include the correlations of 2 popular publicly listed (generally perceived to be) real estate developer stocks, Cheung Kong Holdings and Sun Hung Kai Properties, to the HSI for comparison. They demonstrate higher correlations to the HSI though in part this may be due to the fact that they are also the component stocks in the HSI.

In short, generalized market opinions such as "REIT stocks offer (price) resistance in a falling stock market" are to be read with caution. On an individual REIT basis, they could be quite misleading.

Effects of Investment Timing on NPV and IRR

Real Estate Tech, 3Q 2008

Stephen Chung BS BBldg(HKU) MS in Real Estate(MIT) MRICS MHKIS MAACE NAREIT FPFM PQS RPS(QS)
Zeppelin Real Estate Analysis Limited - Phone (852) 24016610 / Fax (852) 2401 3084 stephenchung@zeppelin.com.hk

We all know timing the market, whatever market, is a tough if not impossible task, and this is assuming that there is a way to time it though such a way appears illusive to date and those which exist work at best only in certain circumstances.

Throughout recorded history, there have probably been more cases of bad timing than cases of good timing (else we would not have financial crises, would we?), and the few blessed with extremely good timing are acknowledged as gurus.

It is not the intent of this article to debate whether markets can be timed and opinions in the investment world range from those opting for luck, randomness* etc all the way to those claiming some form of certainty and predictability via sophisticated concepts and / or mathematical models.

Instead, your humble author wishes to <u>illustrate the effects of investment timing</u>, i.e. irrespective of whether one could actually time the market, on the return prospects:

A) **Base hypothetical scenarios** = Say an investment asset is bought in year 0 for $1,000,000, appreciates in price by 12% each year, and is sold after 10 full years for around $3,100,000. Its NPV (Net Present Value using a discount rate of 10%) and IRR (Internal Rate of Return) are thus calculated and 4 more scenarios of holding the asset for only 8, 6, 4, and 2 years are done too. Refer to the NPV and IRR table below.

Holding Years:	NPV	IRR	NPV Diff% pr-pr
10	179,490	12.00%	
8	140,959	12.00%	127%
6	103,792	12.00%	136%
4	67,941	12.00%	153%
2	33,358	12.00%	204%

The "NPV Diff% pr-pr" stands for the difference between the NPV of 2 neighboring investment-holding periods e.g. the NPV obtained via holding for 4 years is twice (204% = $67,941 / $33,358) the NPV obtained via holding for 2 years. As one may observe, the contribution to the NPV via holding for a longer period generally diminishes as the holding period lengthens e.g. going from an 8-year holding to a 10-year holding only adds another 27% to NPV (from $140,959 to $179,490).

B) **Base hypothetical scenarios BUT with a reduced acquisition price** = Say of $800,000 instead of $1M and all else, including the disposition-sale prices, remain the same as in (A). Here are the corresponding NPV and IRR.

Holding Years:	NPV	IRR	NPV Diff% pr-pr
10	361,308	14.53%	
8	322,777	15.17%	112%
6	285,610	16.24%	113%
4	249,759	18.43%	114%
2	215,177	25.22%	116%

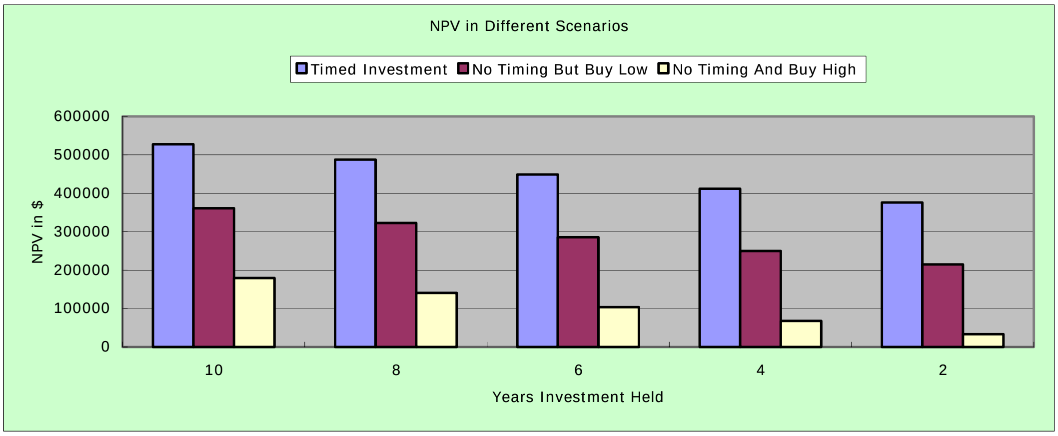
Both the NPV and the IRR have greatly improved especially for the shorter holding periods and this is assuming only a 20% reduction in purchase price from $1M to

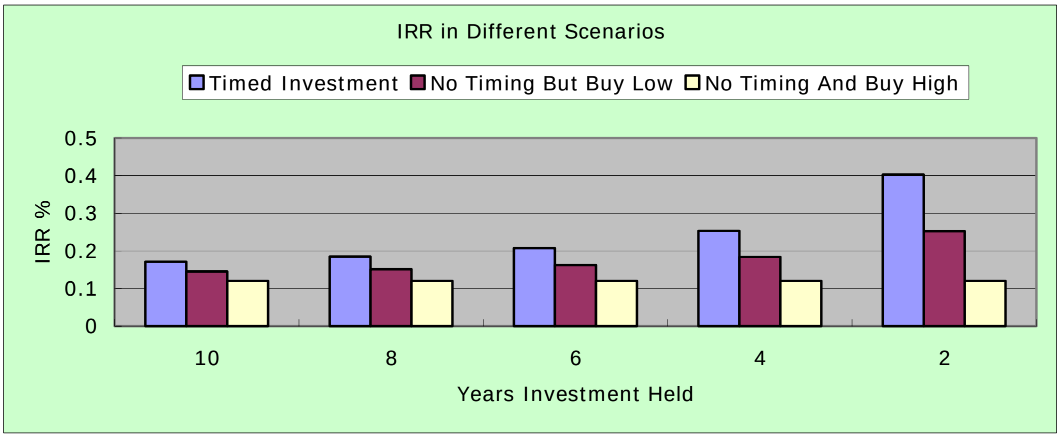
$800,000. Note the IRR also diminishes as the investment-holding period lengthens apart from the incremental contribution toward the NPV.

C) **Make investment sense to hold out and not rush into buying = IF,** and this is a very big IF, one is relatively confident, irrespective of how this confidence is derived (by guesswork, luck, intuition, superstition, or state-of-the-art modeling), that the market is to have a (significant) downward adjustment. Here we assume holding out for 2 years and seeing a price drop from $1M to $800,000 in year 2 when the acquisition is made i.e. a 10-year investment holding period would mean a 12-year process. All else remain the same including the sale prices. Here is the table.

Holding Years:	NPV	IRR	NPV Diff% pr-pr
10	527,474	17.15%	
8	487,529	18.48%	108%
6	448,998	20.72%	109%
4	411,831	25.33%	109%
2	375,980	40.25%	110%

The NPV and IRR numbers have been boosted even when compared to (B) scenarios in part due to the purchase price being discounted for 2 years due to the holding out. Here are the summarized NPV and IRR in the above scenarios for ease of reference:





Admittedly, the above are simplified scenarios without regard to rental income streams, taxes, transaction costs, and the like. We do not even assume the dispositions-sales are also made in good timing. Nonetheless, the effects or implications of timing are illustrated.

It would be wonderful, financially speaking, to be able to hit the right time and preferably each and every time.

*Your humble author suggests reading "Fooled by Randomness" written by Nassim Nicholas Taleb.

Hong Kong Residential Real Estate: Rental Returns & Risks by Location
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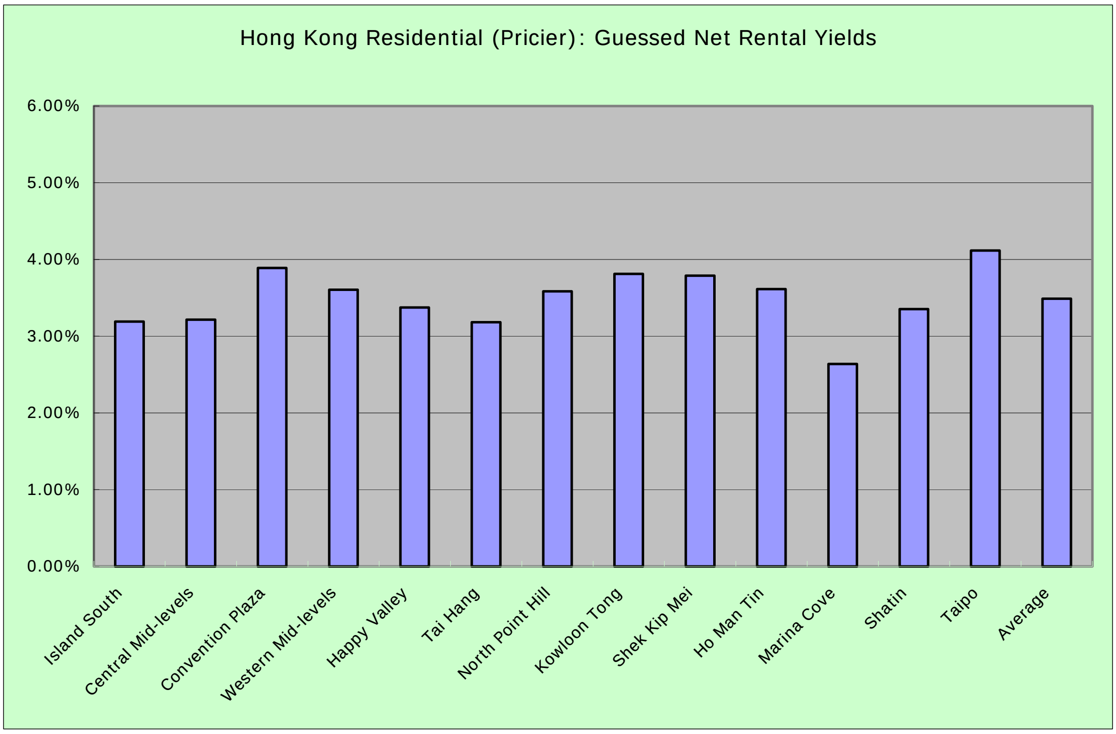
Stephen Chung BS BBldg(HKU) MS in Real Estate(MIT) MRICS MHKIS MAACE NAREIT FPFM PQS RPS(QS)
Zeppelin Real Estate Analysis Limited - Phone (852) 24016610 / Fax (852) 2401 3084 stephenchung@zeppelin.com.hk

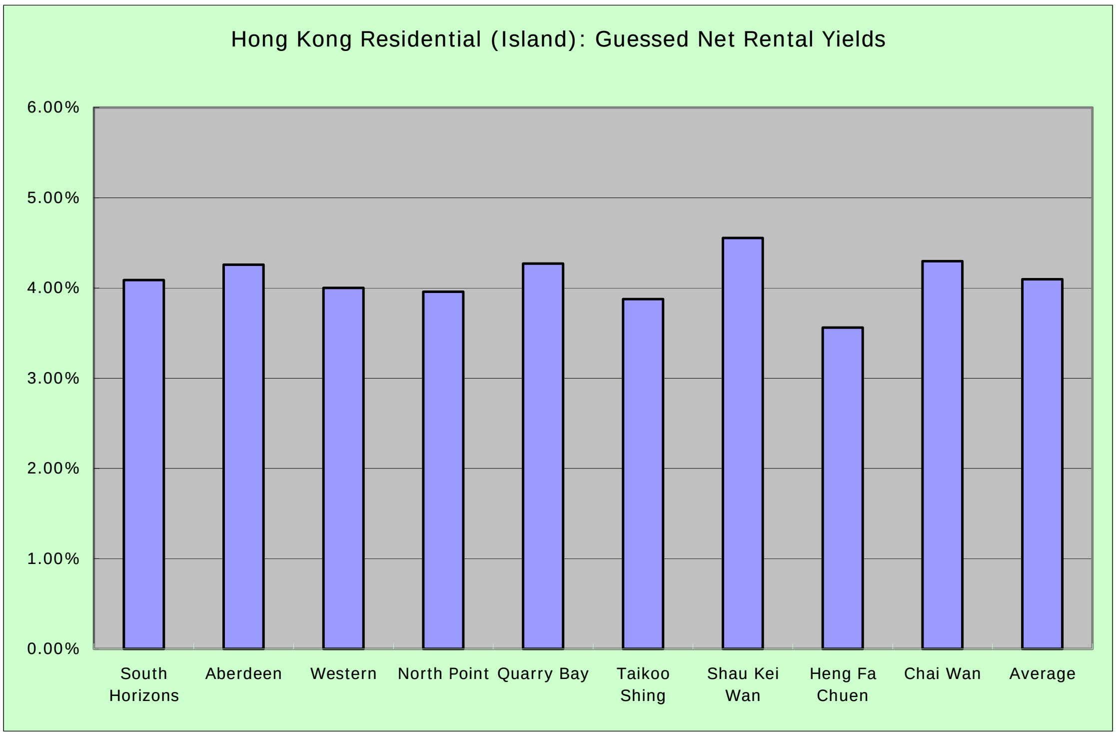
Through routine discussion with clients, investors, and acquaintances, it appears that there exists a wide range of opinion on which location or category of residential real estate in Hong Kong would bring the best possible return.

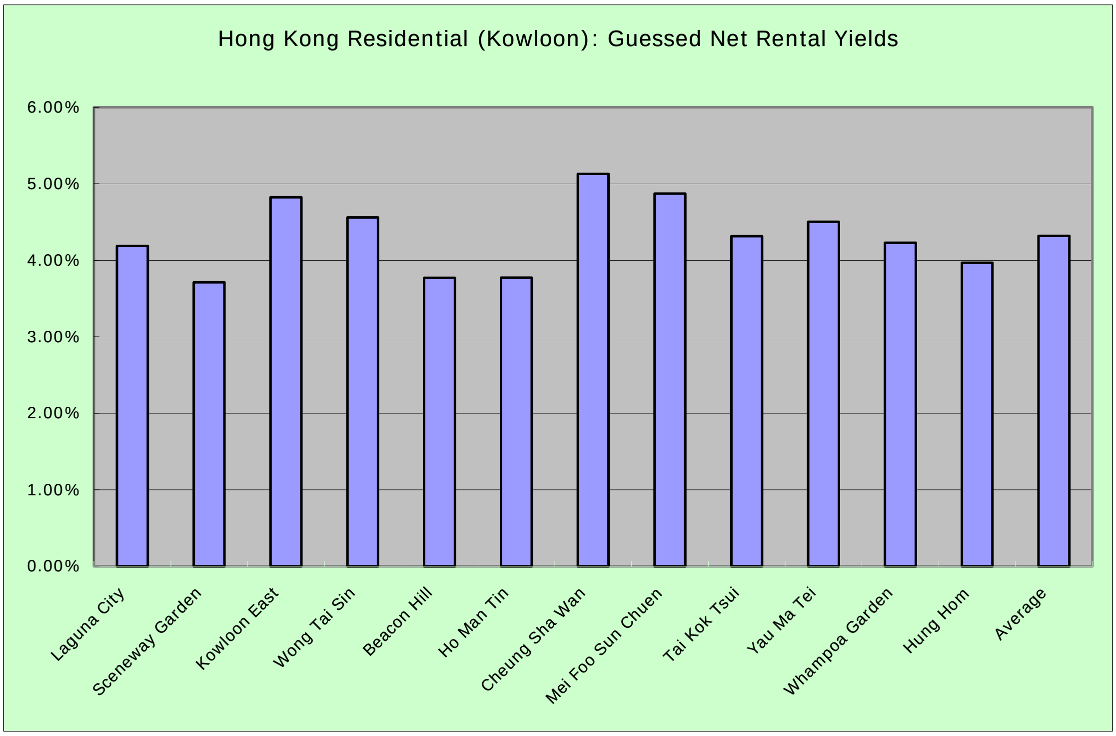
Broadly speaking, return comes from a) asset price appreciation; and b) rental income. While many investors appear to emphasize only (a), there are those who look at (b) or both (a) and (b).

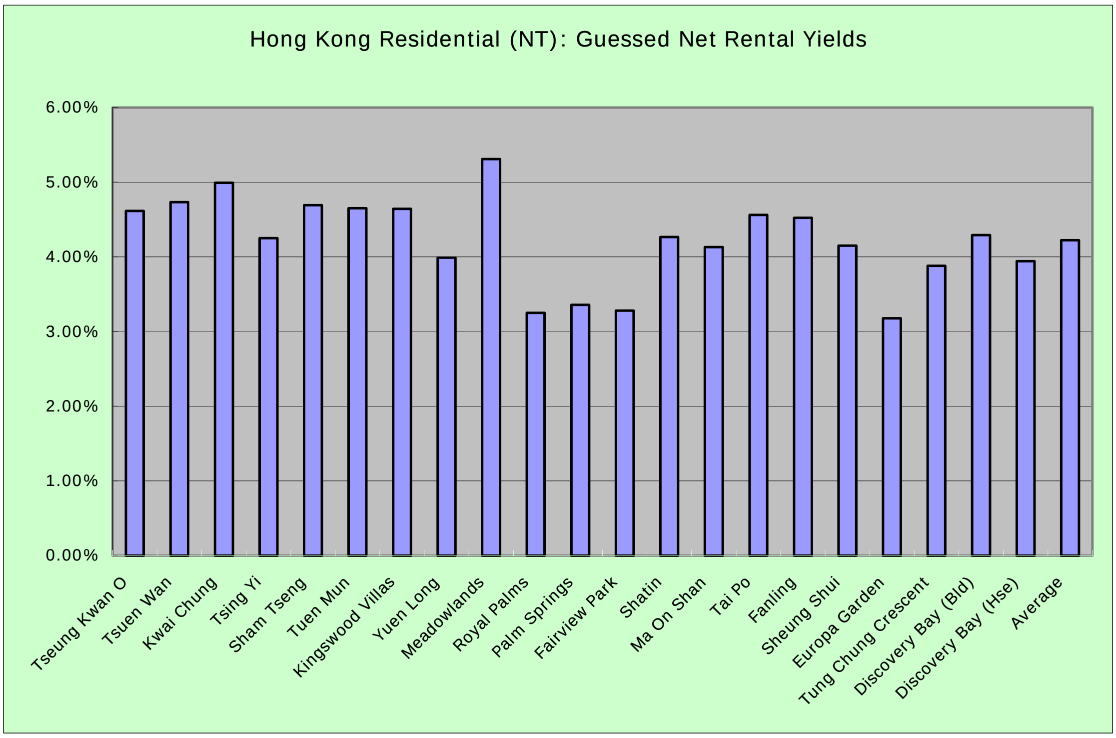
Out of curiosity, your humble author wishes to find out on a macro level the rental income differentials (point b), IF any, which may exist 1) between the pricier* and ordinary private residential real estate; and 2) among residential properties on the Island side, the Kowloon side, and the New Territories side.

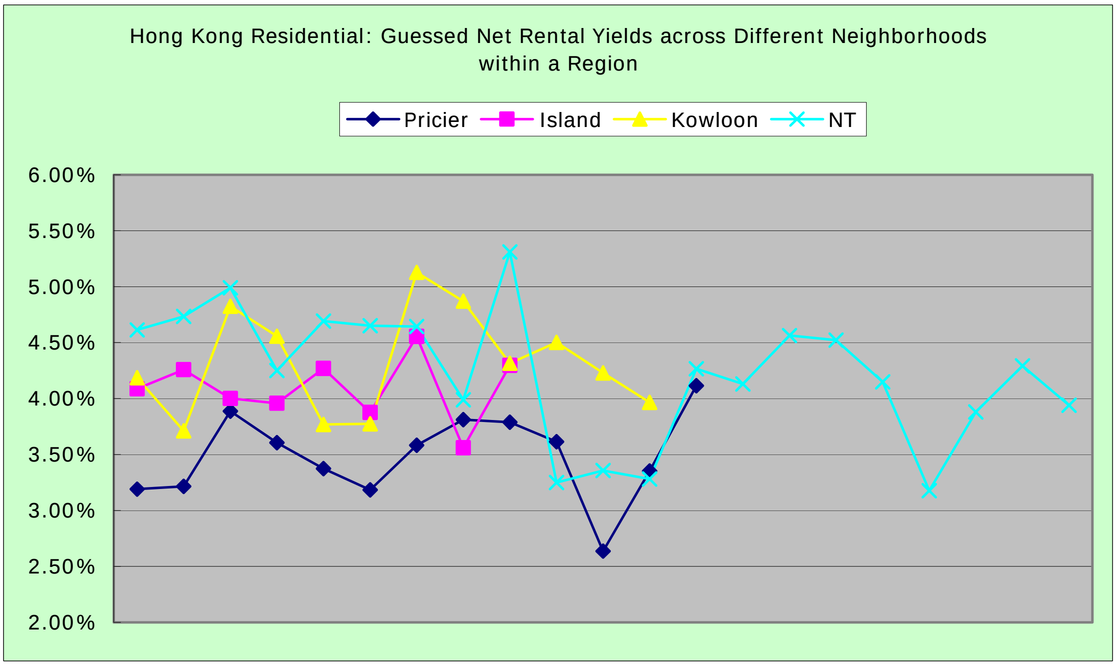
The published data comes from the South China Morning Post (www.scmp.com, May 2008), a prominent English daily in Hong Kong, and your humble author uses a simple formula of [(Gross monthly rental HK$ per square feet of floor area x 12 x 90% to deduct for management fee and rates) / Selling price HK$ per square feet of floor area] for each categories and locations. Here are the rough results:




Hong Kong Residential (Island): Guessed Net Rental Yields
6.00%
5.00%
4.00%
3.00%
2.00%
1.00%
0.00%
South Horizons
Aberdeen
Western
North Point
Quarry Bay
Taikoo Shing
Shau Kei Wan
Heng Fa Chuen
Chai Wan
Average


Hong Kong Residential (Kowloon): Guessed Net Rental Yields
6.00%
5.00%
4.00%
3.00%
2.00%
1.00%
0.00%
Laguna City
Sceneway Garden
Kowloon East
Wong Tai Sin
Beacon Hill
Ho Man Tin
Cheung Sha Wan
Mei Foo Sun Chuen
Tai Kok Tsui
Yau Ma Tei
Whampoa Garden
Hung Hom
Average


Hong Kong Residential (NT): Guessed Net Rental Yields
6.00%
5.00%
4.00%
3.00%
2.00%
1.00%
0.00%
Tseung Kwan O
Tsuen Wan
Kwai Chung
Tsing Yi
Sham Tseng
Tuen Mun
Kingswood Villas
Yuen Long
Meadowlands
Royal Palms
Palm Springs
Fairview Park
Shatin
Ma On Shan
Tai Po
Fanling
Sheung Shui
Europa Garden
Tung Chung Crescent
Discovery Bay (Bld)
Discovery Bay (Hse)
Average


Hong Kong Residential: Guessed Net Rental Yields across Different Neighborhoods within a Region
Pricier
Island
Kowloon
NT
6.00%
5.50%
5.00%
4.50%
4.00%
3.50%
3.00%
2.50%
2.00%

Pricier Properties	
Average	3.49%
Std Dev / Average	0.11
Volatility / Return	3.18
Island Properties	
Average	4.10%
Std Dev / Average	0.07
Volatility / Return	1.72
Kowloon Properties	
Average	4.32%
Std Dev / Average	0.11
Volatility / Return	2.51
NT Properties	
Average	4.22%
Std Dev / Average	0.14
Volatility / Return	3.30

A few basic observations are:

A) **The pricier residential properties (rental) yield less** than the ordinary residential properties of whatever region (Island, Kowloon, or New Territories) = 3.49% versus the more than 4% in the others

B) **Among the ordinary properties, Kowloon yields the highest** while the Island side yields the least, YET the differences are actually small

Now here are the interesting points:

1) **The volatility,** a measure of risk and calculated via dividing the standard deviation by the average of the related data stream, **varies not insignificantly#** = the New Territories is the most volatile at 0.14 while the Island side fluctuates the least at 0.07

2) **This may imply careful selection of individual property (complex) is more important when investing in the New Territories** than elsewhere or in the pricier category for investors who emphasizes rental income = as the rental yields appear to fluctuate more

3) **The risk per return unit ratio is also highest in the New Territories at 3.30** = with the pricier category being a close second at 3.18, followed by Kowloon and Island side at 2.51 and 1.72 respectively

In short, residential real estate investors to whom rental income is vital may wish to consider the ordinary Island side properties more.

*Your humble author finds many so-called luxury residential properties are just being pricey i.e. the word 'luxury' is one of the most abused in the real estate industry. Putting in a few marble tiles, state of the art wiring, or a fancy clubhouse does not automatically constitute luxury.

The number of property samples are not the same for the different categories.

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- **In Real Estate Investment:** you encounter challenges in 1) Selecting which markets (cities), sectors (residential, office, retail etc), and properties-projects to invest; 2) Striving for the best possible risk-adjusted portfolio return; or 3) Sensing the volatility of a market or sector...you need an independent real estate analyst like us

- **In Real Estate Management:** you encounter questions on 1) if it is more economical to buy or rent the real estate facilities and assets, and if so where and what; 2) how best to manage and maintain such facilities and assets; 3) what level of human resources are required, all with a view to maximize their utility to help achieve the corporate objectives... you need a seasoned facility strategist like us

- **Contact us:**

Hong Kong Office: Mr. Stephen Chung stephenchung@zeppelin.com.hk
Address: 7/F, 20-24 Kwai Wing Road, Kwai Chung, NT, Hong Kong
Phone: 852-24016610 Fax: 852-24013084 Web: www.Real-Estate-Tech.com

Shenzhen Office: Mr. K K Wong kkwong@zeppelin.com.hk
Address: Unit 1203, Shenhua Commercial Building, 2018 Jia Bin Road, Shenzhen
Phone: 755-28627707 Fax: 755-28687727

Beijing Office: Mr. Tomman Kwan tommankwan@zeppelin.com.hk
Address: 5/F Hong Kong Macao Center, 2 Chaoyangmen North Street, Beijing
Phone: 10-65011565 Fax: 10-65527129

For details: please download our group introduction at http://www.real-estate-tech.com/ZPG-Group%20Introduction-sOct07.pdf

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