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Do investors in European property stocks have to invest into Asian listed real estate in order to protect themselves from the current global market woes ?

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1. Introduction

While globalization is a trend that cannot be ignored, national and local economic differences still matter in this world. We believe this is even more true for the world's various property markets. Consequently, and with the investors' expression "Don't put all your eggs in one basket" in mind, it is reasonable to assume that international property investments – investments away from the home markets – provide diversification benefits to investors. Diversification in terms of return and risk incurred.
If international correlations between a number of economic fundamentals and property drivers were to turn out to be rather weak indeed, this would generate strong diversification potential.

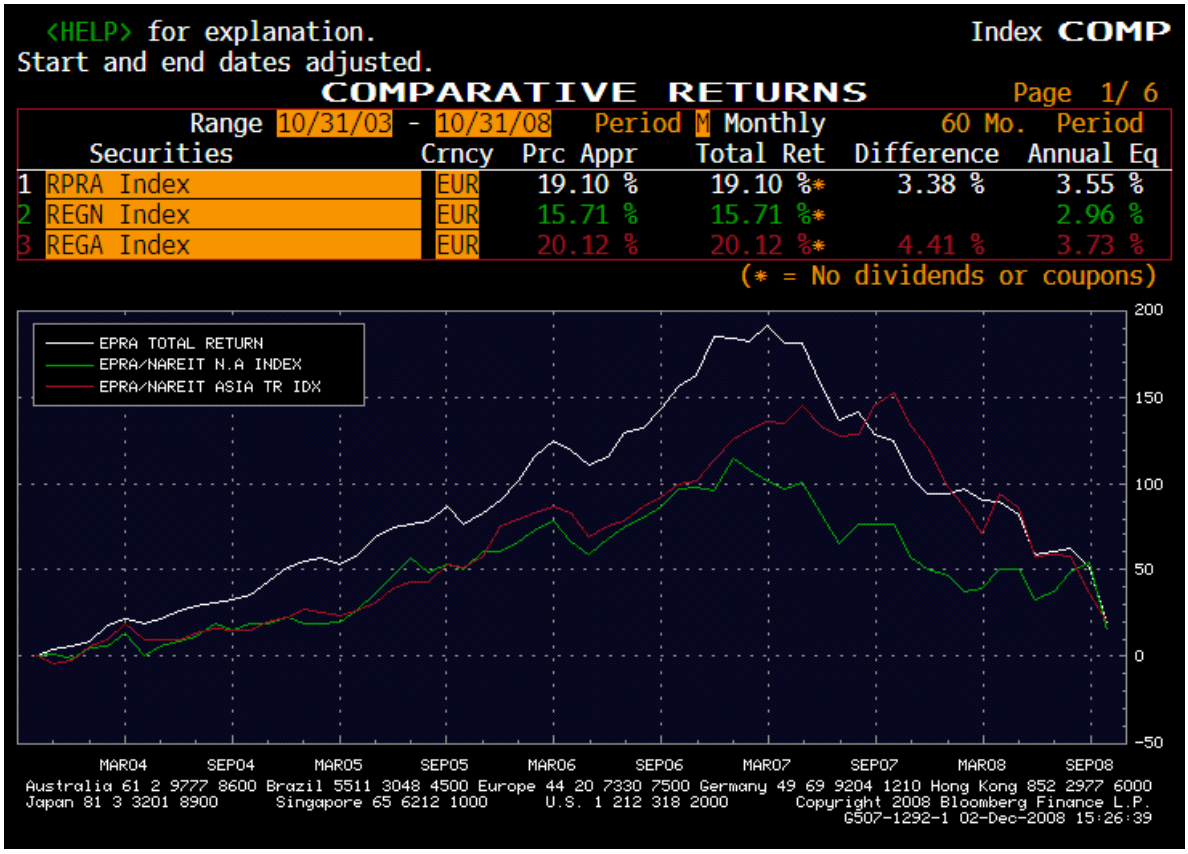
Real estate is an attractive 'asset class' to examine any correlation pattern between fundamentals. Real estate can be offered through a variety of products or *vehicles* to investors: public real estate securities, private investment vehicles, investments directly in the underlying properties,…Each 'product' may take on its own risk and return characteristics, depending on the investment universe investors operate in.

For example, since early 2007 property stocks have been very volatile, with share prices often falling fast and deep. Although stocks have certainly been anticipating weakening property fundamentals (rising nominal rates including bank spreads, higher vacancy rates, gross initial yields (capitalization rates) moving out, declining take-up,…), it could well be that a number of them has been subject to overreaction, to excess volatility, just because property stocks are public securities indeed. As a result, the massive sell-off of property stocks may have coincided more with the bad mood on the stock markets in general than with the underlying property fundamentals.

In our study, we have examined whether investors into European property stocks could enhance return opportunities by adding Asian property stocks to their real estate investment portfolio.

With respect to the Real Estate Investment Trusts (REITs), the "Asian" share price performance of 20.12% (3.73% annually) slightly outperformed the European and US REITs (all expressed in Euro) in the five-year period to 1 October 2008, as depicted in exhibit 1. Consequently, the "Asian" performance does not differ a lot from other REIT markets, although there has not always been a clear consistency. For example, Asian REITs reached the peak only in September 2007, when European and US REITS had already started their descend.

Exhibit 1: Asian REIT share price performance versus European and US REITs for the period 1 October 2003-1 October 2008 (in Euro)



Source: Bloomberg.

Before analyzing the investment case more in-depth, we will first provide an introduction to the fascinating underlying property markets in Asia. We remind the reader that our analysis was completed on October 1st, 2008. Unfortunately, the macro-economic environment, property fundamentals and stock markets in general have been quickly deteriorating since.

2. The Asian direct real estate markets

2.1 Introduction

Assessing whether the Asian economies and property markets have moved in a desynchronized way compared to Europe[3] in the past months, allowing for diversification benefits in terms of risk and return, is not easy.

3 With respect to the mature equity markets, the opinion of Fortis Private Banking's economists is as follows (November 15th, 2008): "The sharp fall in equity markets over the first half of October has added further lasting damage to investor, business and consumer confidence. The process of global de-leveraging - Leverage refers to the level of debt used to finance the assets of a firm, de-leveraging thus refers to the process of debt reduction – is now well under way and will add further lasting pressure on economic growth. Policy makers have become increasingly aggressive in their policy to fight the credit crunch and more fiscal (tax cuts) and monetary stimulus (interest rate cuts) is expected. The economic recession is our base scenario and the recovery will be slow keeping economic growth below potential for many quarters. We expect a progressive improvement from mid-2009 on. Risky assets have been hit very hard but we reached levels reflecting extreme fear and panic."

Generally speaking we believe that the Asian economic cycles have certainly not moved in a similar way, but erosion in economic fundamentals has occurred everywhere. Especially the past three months to November 2008 have seen a significant impact from the global sub-prime mortgage crisis that has emerged in the US since mid 2007. It appeared that investors are increasingly reluctant to believe there are regional oases of value amid the global markets meltdown.

Asia has been booming in the past years with GDP annual growth rates hovering at levels which the mature economies can only dream of. However, the continent has its share in the mature Western world economy[4]. Japan for instance has revised its economic outlook downward. In short, Asian growth is slowing too, and the question arises for how long real GDP growth will be tempered, and how deep. China is a very nice example, with a real GDP growth rate projected to oscillate around 9% for 2008 (down from 11.9% in FY07). Some risks certainly remain for macroeconomic stability in the coming months.

We believe Asia's property markets have proven *relatively* resilient at this point, although prices and rents are either stabilizing or falling (irrespective of the sub-markets analyzed). Their problems are more related to the absence of liquidity rather than a general economic deterioration. The effects of the financial market crisis could not be brushed aside. Loan-to-value ratios are lower indeed, and interest rate spreads are higher. The investors' perception of risk associated with emerging markets has somewhat changed, and the more 'advanced' property markets have taken a serious hit (Australia, Japan, Singapore) with initial gross yields (capitalization rates) moving out with 50 to 80bp on average.

Also, there are (still) strong inflationary forces active in the emerging world, with headline inflation often oscillating above 7% which will have a negative impact on market rents and therefore on capital growth as well.

In any case, whether for the advanced property markets or for the emerging ones, negotiations are becoming much more difficult, with sizeable spreads emerging between ask and bid prices. Market data such as gross initial prime yields may not always be extracted from a relevant number of market transactions any longer.

We believe property investments will be based to a lesser extent on past market characteristics and pricing, and will become more and more the result of a thorough investigation of the individual property characteristics.

[4] Investors often rate the Asian-Pacific Continent as a 'natural' diversification play, allowing for a combination of emerging growth areas with mature investment leagues.

2.2 Key drivers

In assessing the current situation for direct commercial real estate investment in the Asian property markets, whether prime or secondary, we take the following basic indicators/drivers into account.

-Macro-economic drivers

Growth in real GDP, inflation perspectives, currency exposure and evolution in real interest rates, whether short-term or long-term.

-Property data

Value growth, rental growth, occupier demand and supply.

-Specific drivers

Impact credit crisis (de-leveraging), urban growth, demographic drivers, growth in disposable income, transparency, regulations, availability institutional investment money.

Exhibit 2: Asian macro-economic fundamentals and property drivers

	19 November 2008	short-term < 1 year	Assessment
Macro-economic data			
Real GDP growth (%)	7.5	6.9	+
Inflation (%)	7.0	4.9	0
USD/Renminbi	6.83	Strenghtening	+
Long-term real interest rates (10-year, %)	-0.35	Still negative	+
Short-term real interest rates (3-month, %)	-1.68	Still negative	+
10-year government bond yields (%)			0
Property data			
Value growth	Slowing	Slowing	0/+
Rental growth	Slowing	Moderate	0/+
Occupier demand	Strong	Strong	+
Supply	High	High	0/+
Other features			
Sub prime crisis	Indirect impact	Indirect impact	0/-
Rapid urbanisation	Strong impact	Strong impact	+
Demographics	Strong impact	Strong impact	+
Growth in disposable income	High	High	+
Transparency	Not transparent	Not transparent	-
Regulations	Room for improvement	Room for improvement	-
Availability investment money	Less abundant	Less abundant	+
Overall assessment			**Positive**
Source: Fortis Private Real Estate. Macro=economic data: Prognosis by Fortis Private Banking			
+ : positive stance / 0 : neutral stance / - : negative stance			

Notes:

-Growth in real GDP growth rates continues, albeit moderated. China will see the highest real growth rate of 8 to 9% for FY09. Consequently, Asia is richer and better positioned than after the 1997 Asian crisis;

-The environment remains rather inflationary for the growth areas. Higher prices of building materials have an impact on developer margins. Impact on gross initial yields is not available;

-Renminbi has been strongly strengthening against the Euro (with 9.45% year-to-date, 17 November 2008). However other Asian currencies have been depreciating against the Euro over the same period (Malaysian Ringgit: -1.62%, Philippine Peso: -9.72%, Thai Baht: -11.92%, South Korean Won: -13.48%);

-Real interest rates are negative, prompting investors to buy 'bricks';

-Value growth is slowing (and in certain areas falling). For example, Hong Kong's residential property market is likely to suffer further damage from the global financial crisis over the next year. With Hong Kong officially entering a recession (4Q08), JPMorgan predicts residential prices will fall 35 % from their peak in the second quarter of this year

by June next year, while rents will decline by 20 %. This would bring property prices back to their 2004 level. As far as China is concerned, we believe affordable housing offers the best prospects (in contrast to the luxury segment);
-Rental growth: Certainly to weaken in the secondary property markets;
-Supply: Remains high, although some developers may have to suspend their projects in the future. Good prospects for equity investors, seeking prime projects from distressed sellers (not distressed properties);
-Sub prime crisis: indirect impact, maybe direct for some specific markets. Reduced access to debt, higher finance costs (and margins), higher equity contributions. Some examples: Japan: base rate 1.1% with a spread of 2 to 3.5%, China: close to 7.5% with a 2% spread, , Hong Kong: 4.5% with 2% spread, Thailand: 7.25% with 1% to 1.5% spread. Spreads are much higher compared to 1 year ago. Loan-to-value ratios of 55% to 70% for Japan, 30% to 50% for China (no land financing!), 45 to 55% for Singapore, 50% for Hong Kong, 60% for South Korea, 45 to 50% for Thailand (Source: Macquarie Global Property Advisors);
-Rapid urbanization: opportunities in Chinese and Indian Tier 1, 2 & 3 cities. Chinese urban population rising with 12 million per year;
-Demographics: China: economically booming, demographically mature. In contrast to Indonesia for example with no peak in population in sight;
-Purchasing power rising, but more importantly, spreading to more households (China, India);
-Transparency: room for improvement (even in Japan);
-Regulations: Sometimes restrictions of land ownership or reign of foreign investment. For example Circular 171 in China ("Opinions on Regulating Market Entry and Administration of Foreign Investment in the Real Estate Market requiring foreign investors to establish an onshore entity to invest in properties not intended for self use, with higher registered capital to total investment ratio of at least 50%, and other impediments, Circular 50 and Circular 130).

We maintain our positive though cautious stance on the Asian commercial and residential property markets, allowing for selective opportunistic investments. However, return expectations are moderating in Asia as well. No longer can investors expect to gain easy access to extraordinarily high returns (15-20% annually is believed to be reasonable today, unless investors are willing to incur substantially higher risks).

3. Investment case

Are Asian property stocks *less* correlated to European property stocks in terms of share price performance (hereafter referred to as return), given the higher economic growth rates and different property fundamentals/drivers seen in countries such as China, Hong Kong, Singapore, Philippines, Thailand, Malaysia, Vietnam,…?

In other words, is it relevant for investors in European property stocks to go 'Asian' ?

In addition, will any correlation pattern be impacted depending on whether investors buy REITs[5] or non-REITs (primarily property developers) ? And is a company's market capitalization a significant parameter for any correlation analysis ?

4. Statistical analysis and preliminary findings

4.1 Introduction

We will investigate the correlation pattern in relation to important indices in Europe and Asia of listed Asian REITs and Non-REITs. This analysis is necessary to answer the question whether investors in European property stocks should turn to investments in Asian listed real estate to protect themselves

[5] In order to qualify as a REIT, a company must pass on an ongoing basis all of the following tests: 1. Ownership test, 2. Asset test, 3. Income test, 4. Distribution test. Other considerations of REIT management strategy include 1. Financial strategy, 2. Investment focus, 3. vertical integration and 4. Economies of scale.

better against the current financial crisis. The correlation pattern of these Asian stocks towards the chosen indices will be examined by the so-called beta coefficient. To be more precise we will look at the raw beta coefficient: this is a sensitivity measure that estimates the percentage price change of a security given a 1% change in a representative market index. Statistically the beta coefficient is the result of a linear regression .In practice, this is the only statistical model estimation for the correlation pattern versus an index with available datasets. statistical approaches have been purchased in practice.

This raw beta coefficient measures the risk of a security relative to a market index. In our study we compare the performance of Asian real estate assets in relation to the EPRA/NAREIT Asia Index (REGA), the Eurostoxx 50 index (SX5E) and the EPRA NAREIT Europe index (including the UK, RPRA)[6]. All indices are expressed in Euro. This beta coefficient has to be interpreted in the following way: a beta greater than 1.0 indicates that the concerning security is riskier and more volatile than the broad market and that for instance a beta of 1.1 refers to a 1.1% movement in the security price for a 1.0% move in the comparing index. The beta coefficient expresses the degree to which the movement of a security price is associated to the movement of the index. (remark : the raw beta coefficient differs from the adjusted beta which is an estimate of the security's future beta).

The choice of locations

A choice for the Asian REITs and Non-REITs had to be considered. It is through our contacts in Asia and our personal 'perception' that we decided to develop our research for the following important locations of interest in Asia: Hong Kong, Japan and Singapore[7]. In these locations we observed the evolution of the REITs and the Non-REITs on a weekly basis for the past five years ending in September 2008.

4.2 Statistical results

The analysis was focused on the following items: For the Hong Kong Non-REITs we want to examine the correlation pattern versus the REGA, the SX5E and the RPRA. The goal is to compare the different correlation patterns and to see whether the correlation of the Hong Kong Non-REITs towards the European indices is lower than the correlation pattern towards the chosen Asian index.

The statistical results hereafter give a positive answer to this question. Because of the importance of this statement we also studied the correlation pattern of the Japanese Non-REITs versus the three indicated indices. Similar statistical results are obtained for the Japanese Non-REITs. Just some minor deviations are appearing.

Turning to the category of the REITs, we have to limit our research to the Japanese and the Singaporean REITs. The main reason is that the number of listed Hong Kong REITs is too small to achieve relevant

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6 EPRA - European Public Real Estate Association. EPRA's members are Europe's leading property companies, investors and consultants that together have more than EUR 300bn of real estate assets. With more than 200 active members, EPRA is the voice of the European publicly traded real estate sector. It encourages greater investment in listed real estate companies in Europe through the provision of better information to investors, improvement of the general operating environment, encouragement of best practices and the cohesion and strengthening of the industry.
The National Association of Real Estate Investment Trusts (NAREIT) is the representative body for the publicly traded REIT sector in the United States. More information on both organizations can be found on www.epra.com and www.nareit.com.

7 Public companies listed in these locations may nevertheless be (partially) invested in other regions such as China.

statistical conclusions. As well for the Japanese REITs as for the Singaporean REITs we find approximately the same result concerning the correlation pattern towards the European index RPRA.

Another interesting issue is to compare the correlation pattern we obtain for Asian REITs towards the index RPRA with the correlation pattern of Asian Non-REITs towards the same European index RPRA. We examined these patterns for Japanese REITs and Non-REITs. There two reasons for chosen the Japanese REITs and Non-REIT: first we wanted to deal with as much data as possible and second it is important to compare the correlation pattern at the same location to highlight the difference between REITs and Non-REITs. The statistical results reveal that the Non-REITs are more correlated to the European index RPRA than the REIT.

4.2.1 Correlations of the Hong Kong Non-REITs with Asian and European REITs and European comon stocks

We have 112 observations for this specific category.
The following results are obtained:

- for the beta coefficient versus the REGA:

mean (average)	0.76677
median	0.74850
interquartile range	0.595
standard deviation	0.440765
minimum	-0.511
maximum	2.027
range	2.538

- for the beta versus the SX5E

mean	0.63473
median	0.66050
interquartile range	0.497
standard deviation	0.468387
minimum	-0.843
maximum	2.697
range	3.540

- for the beta versus the RPRA

mean	0.35117
median	0.35950
interquartile range	0.366
standard deviation	0.343219
minimum	-1.184
maximum	1.437
range	2.621

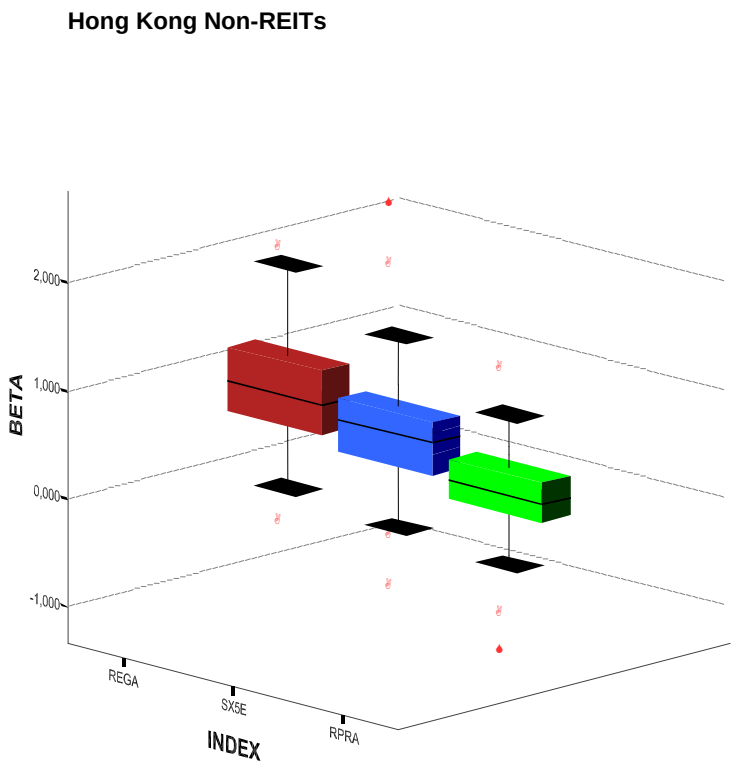
The picture shows the box plots of the ‘beta coefficient’ towards the three indices. The explanation for the ‘red’ box, which is similar for the other boxes, is as follows : the black line is representing the median (statistically the median is a central measure to be preferred to the mean because it is less sensitive towards outliers). The height of the box corresponds with the interquartile range (so the observations to be considered between 25% and 75%), the black areas (fields) represent the whiskers.

Any observation that lies more than 1.5 IQR (interquartile) lower than the first quartile or 1.5 IQR higher than the third quartile is considered as an outlier. The smallest value that is not an outlier is connected to the box with a vertical line and is called a whisker, the largest value that is not an outlier is also connected to the box with a vertical line and is also called a whisker.

The outliers are represented by dots and stars. The outliers indicated with a star are the extreme or hard outliers and lie more than 3 IQR away from the first or the third quartile. The mild outliers are indicated with a dot and lie more than 1.5 IQR away from the first or the third quartile.

The main conclusion to be drawn from exhibit 3 is that the beta coefficient of the Hong Kong Non-REITs is less correlated with the SX5E and the RPRA index than it is with the REGA. In other words, the returns of Hong Kong Non-REITs (primarily property developers) are less correlated with the returns of both European stocks and REITs (SX5E and RPRA) than they are with the returns of Asian REITs (REGA).

Exhibit 3: Correlation coefficients for Hong Kong Non-REITs against REGA, SX5E and RPRA



4.2.2 Correlations of the Japanese Non-REITs with Asian REITs and European REITs and property stocks

There are 42 observations with the following results:

- for the beta coefficient versus the REGA

mean	0.844030
median	0.835
interquartile range	0.648
standard deviation	0.4310499
minimum	-0.2010
maximum	1.8080
range	2.0090

- for the beta coefficient versus the SX5E

mean	0.567167
median	0.56500
interquartile range	0.4052
standard deviation	0.367991
minimum	-0.1730
maximum	1.516
range	1.6890

- for the beta coefficient versus the RPRA

mean	0.545924
median	0.525852
interquartile range	0.4630
standard deviation	0.4310499
minimum	-0.0890
maximum	1.6310
range	1.7200

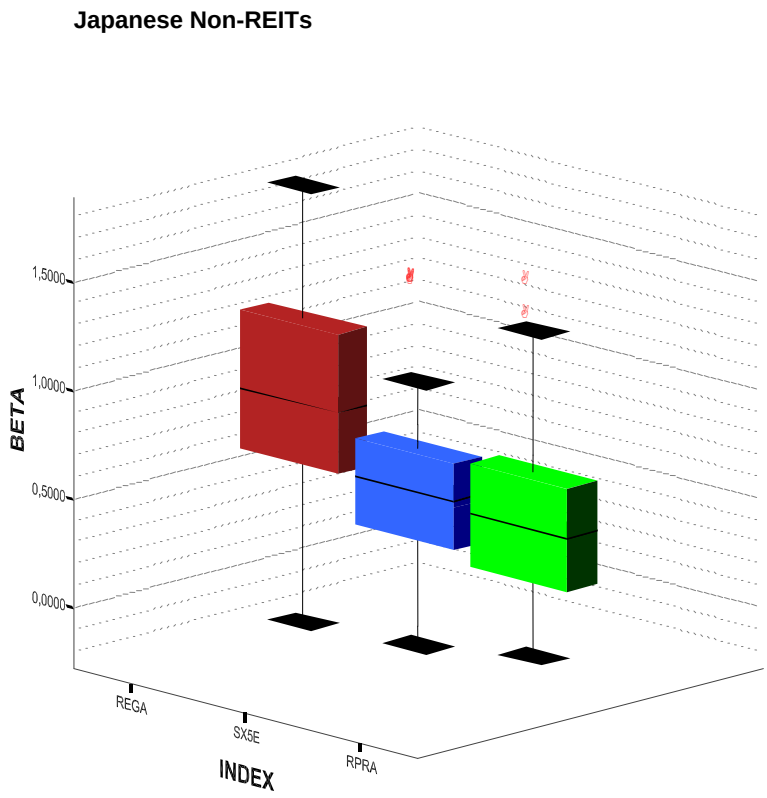
The statistical analysis of the Japanese Non-REITs (exhibit 4) allows for similar conclusions as those obtained for the Hong Kong Non-REITs.

The differences are:

-the Japanese Non-REITs are more correlated with the Asian REITs (REGA) than the Hong Kong Non-REITs;

-the Hong Kong Non-REITs are a little more correlated to European common stocks (SX5E) and European REITs (RPRA) than the Japanese Non-REITs

Exhibit 4: Correlation coefficients for Japanese Non-REITs against REGA, SX5E and RPRA



4.2.3 Correlations of the Japanese and Singaporean REITs with European REITs

There are 20 observations for both Japanese REITs and the Singaporean REITS. We restricted the comparison between the two locations (to the European REITs (RPRA).

- for the Japanese REITs

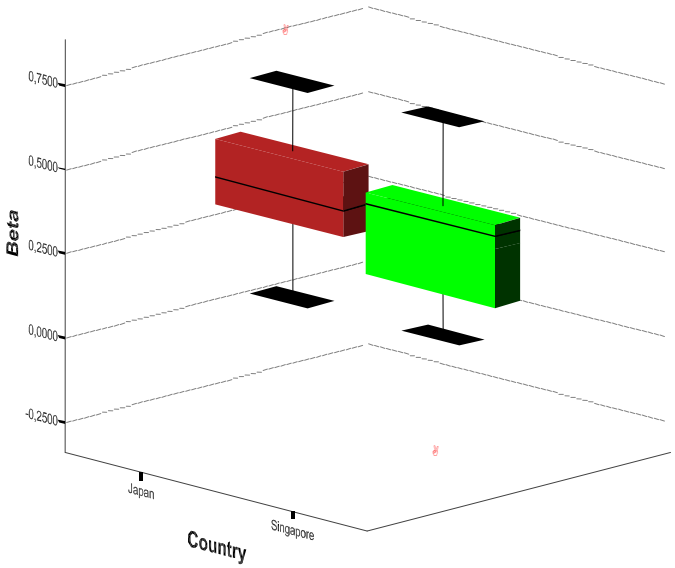
mean	0.386800
median	0.347500
interquartile range	0.1712
standard deviation	0.1614629
minimum	0.0640
maximum	0.8400
range	0.7760

- for the Singaporean REITs

mean	0.326500
median	0.417500
interquartile range	0.2605
standard deviation	0.2171450
minimum	-0.2920
maximum	0.7140
range	1.0060

The correlation pattern of Japanese REIT returns with European REIT returns is more evenly spread around the median than for the correlation pattern of Singaporean REIT returns. Exhibit 5 demonstrates this observation in an obvious way.

Exhibit 5: Correlation of Japanese and Singaporean REITs with RPRA

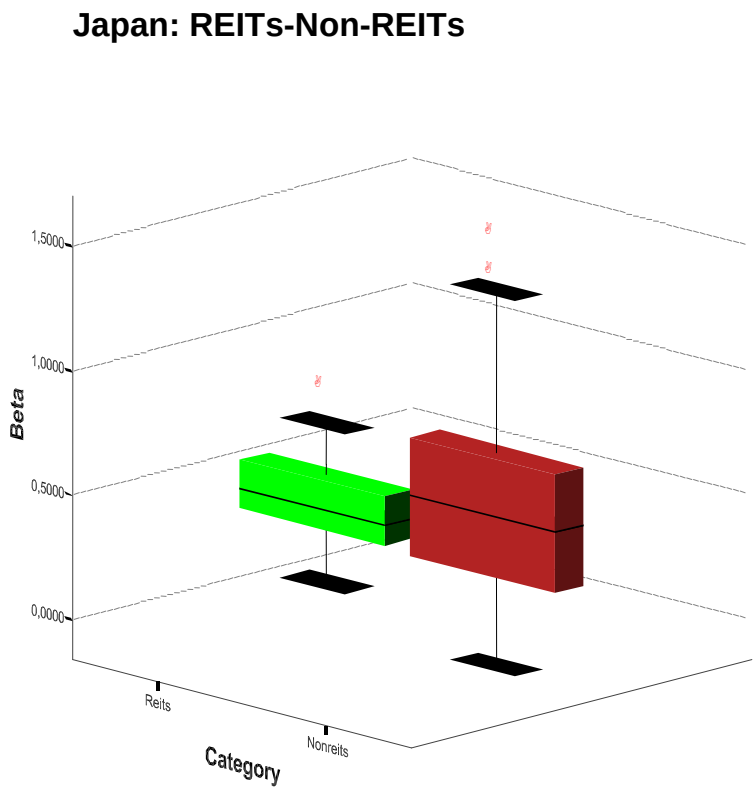


4.2.4 Correlations of Japanese REITs and Non-REITs with European REITs

The correlation analysis is made with the RPRA index but we observe similar results with the two other indices REGA and SX5E.

The statistical analysis shows that the category of Japanese Non-REITs is more correlated to the RPRA index than the Japanese REITs. Exhibit 6 demonstrates this observation even more clearly.

Exhibit 6: Japanese REITs and Non-REITS vs. RPRA

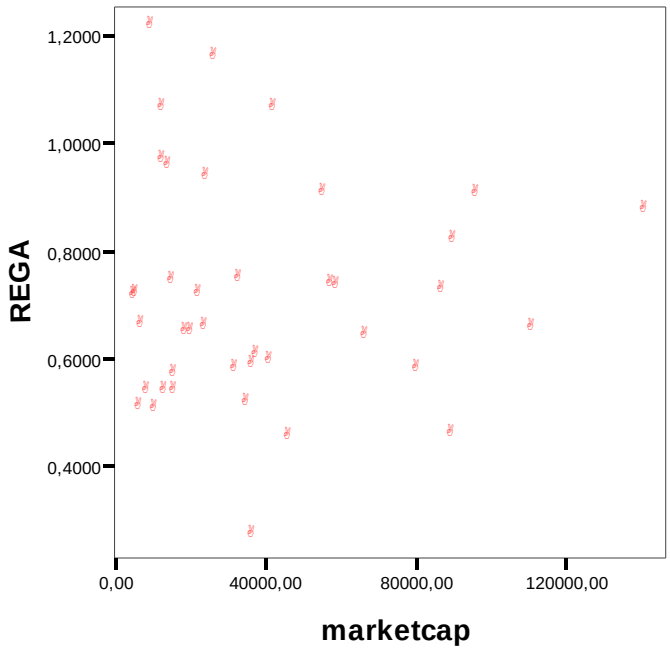


4.2.5 Influence of the market capitalization on the correlation pattern

There is an overall sentiment or perception by investors that the higher the market capitalization of a stock is, the higher the correlation with a specific index may be (due to the fact that large stocks are on the radar screens of almost every institutional investor).

We have explored this idea for the Hong Kong Non-REITs and the Japanese REITs in our correlation analyses with the Asian REIT index (REGA). For both situations we obtained the same conclusion that the correlation pattern is not influenced by the market capitalization. Exhibit 7 for the Hong Kong Non-REITs illustrates this.

Exhibit 7: Correlation pattern with REGA in function of market capitalization



5. Main conclusions

5.1 General conclusion

Returns (share price performance) carried by Asian property stocks – whether being REITs or non-REITs – are less correlated to European property stocks, for the five-year period ending on October 1st, 2008. Consequently, "going Asian" certainly offers diversification benefits for investors.

We would like to point out that adding Asian property stocks to an investor's European property portfolio is not meant to obtain exceptionally high returns. The reason for the "Asian" allocation is primarily because Asian stocks are less correlated to European stocks. For example, exhibit 1 shows that Asian REITs in general (represented by the REGA index) reached momentum in September 2007, when European and US REIT returns had already started falling. This does not imply that Asian REIT returns were magnified. The diversification benefit here was more relative to *timing*.

5.2 Specific conclusions

The returns of Hong Kong Non-REITs (primarily property developers) are less correlated with the returns of both European stocks and REITs (SX5E and RPRA) than they are with the returns of Asian REITs (REGA).

We observe a similar correlation pattern for Japanese Non-REITs returns, although the latter are even less correlated with European stock and REIT returns.

The correlation of returns of Japanese REITs and Non-REITs (primarily property developers) with European REIT returns show a different pattern. Somewhat surprisingly, Japanese non-REITs have a stronger correlation with European REITs compared to Japanese REITs.

Although investors often have the perception that large stocks tend to be more correlated to a specific index compared to small stocks, this was certainly not the case for Hong Kong Non-REITs and for Japanese REITs (the other categories have not been analyzed at this point). Market capitalization was not significant for the correlation of returns of the latter with the Asian REIT index.

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