Would the reputation and behaviour of the Chinese stock exchange be a disincentive to investors considering a Chinese REIT?

Mary Lou Downie 1, Lulu Wang 1 and Peng Xiao 2

1. School of the Built Environment, Northumbria University, Ellison Building, Ellison Place, Newcastle upon Tyne NE1 8ST

2. Zhongxing Real Estate Company, China

Abstract

China has drawn the world's attention with the emergence, rapid growth and increasing maturity of its real estate market in the past twenty years. Currently the world's third largest economy, China was the second largest Asian country for commercial property transaction capital flows in 2006 (JLL, 2007). International investors have recently shown considerable interest regarding property investment in China, via both direct and indirect property and changes to the rules governing internal funds are likely to initiate high levels of effective demand from domestic institutions too. China is yet to develop a Real Estate Investment trust (REIT) market; despite this investment demand encouragement for development of pilot REITs by the PRC government has waxed and waned with political imperatives to manage market and economic volatility. Chinese REITs would theoretically provide the opportunity for investors to access Chinese "property" returns with liquidity and flexibility and might further play a significant role in stabilising the Chinese capital market in the medium and long term.

The purpose of this paper is to examine whether the reputation and behaviour of the Chinese stock exchanges is a disincentive to investors considering a Chinese REIT. This is addressed firstly by assessing Chinese stock market volatility compared to that of the Hong Kong and Singapore stock exchanges. Secondly, a survey was used to explore Chinese domestic investors' attitudes to investment in Chinese property REITs and their preferences amongst the three main Asian stock exchanges where Chinese REITs might potentially be available.

Keywords: China, Real Estate Investment Trust (REIT), Investors, Reputation, Attitude

Correspondence:

Dr. Lulu Wang
School of the Built Environment
Northumbria University
Ellison Building
Ellison Place
Newcastle upon Tyne
NE1 8ST UK

Email address: lulu.wang@northumbria.ac.uk
Telephone: +44 (0)191 2273065

Introduction

China is currently the third largest world economy and is on track to overtake Japan as the second (Standard Life Investment 2010). This rapid expansion has driven the fast growth and increasing maturity of China's property market. High levels of growth attracted property investment from outside the country prior to the international financial crisis, as investors extended their funds globally, seeking higher yields and greater stock availability than offered by the mature markets (Cao & Keivani, 2007, Jones Lang LaSalle, 2007). This trend is likely to continue once the crisis recedes (Jones Lang LaSalle, 2009a, 2009b). The effectiveness of diversification into Asian property markets has been demonstrated by Addae-Dapaah and Loh (2005), Bond et al.(2003), Changha et al (2007) and Chinese property has been shown to significantly increase investment performance and diversification benefits within a Pan-Asian real estate portfolio (Newell et al., 2009). Moreover, it has a special attraction to investors due to the volume of stock and its growth potential. As markets continue to develop, property assets especially in core business districts in major Chinese cities will become increasingly irreplaceable.

REITs were created in the 1960s to enable small investors to invest in real estate, in a similar manner to the wealthy individual or large insurance company and can provide exposure to a diversified range of real estate assets. Direct ownership of physical real estate and investing in shares of listed real estate companies are now common ways for investors to include real estate in their portfolios. The world has witnessed phenomenal growth of REITs over the last 15 years and while property markets are always essentially local, the REIT structure has recently become truly global: REIT vehicles are now available in 25 countries around the world (Goodchild, 2008) and are likely to spread further. Asia has experienced rapid growth in REITs since the first launch there in 2001. As yet, there is no available REIT regime in China although speculation suggests that a vehicle may be launched imminently, due to government recognition of the benefits it might bring to the Chinese market (Clifford Chance, 2010).

This then forms the background for this research. Chinese REITs would offer domestic and overseas investors an opportunity to access "property" type returns, directly benefitting from the strong performance of the Chinese commercial market, but because they will be listed on a stock exchange, their performance will also be affected by the exchange on which they will be placed. Since the Chinese exchanges have a reputation for inadequate governance, high levels of volatility and poor levels of transparency, this research attempts to explore whether these factors are a disincentive to investors considering a Chinese REIT.

The structure of the paper is as follows:
The literature review first considers the relationship between direct and indirect real estate returns, drawing on the global literature. Features of the situation in China are next reviewed, including demand for real estate investment in China, progress with developing its REIT structures and the existence of REITs based on Chinese property already listed on the Hong Kong and Singapore exchanges. The next section explores literature on the characteristics of the Shanghai Stock Exchange and compares its volatility with that of the Singapore and Hong Kong Exchanges. Finally the results are reported of a questionnaire survey, distributed to 60 property investment professionals in China. It investigates their perceptions of Chinese REITs and preferences in terms of investing in them through shares listed in the Shanghai, Hong Kong and Singapore stock exchanges.

Linkages between direct and indirect property performance

One of the most challenging problems facing institutional property investors is the relationship between direct and indirect property investment (Myer and Webb, 1993), attracting extensive attention from both academics and practitioners over the years. Part of this challenge relates to the quality of direct property performance information provided by the indirect markets. Most of the early literature is primarily focused on US markets using REITs data to explain direct property performance and identify a "pure" real estate element that was not influenced by financial markets. As Giliberto (1990) Gyourko and Keim (1992,1993),Myer and Webb (1993,1994). Barkham and Geltner (1995a and 1995b) set up a framework for testing lagging effects between direct and indirect investment after de-smoothing the direct property data and accounting for leveraging in the property company series. Studies on linkages between direct and indirect property markets by Ghosh et al (1996), Clayton and MacKinnon (2001) and Hoesli and Serrano (2007) Oppenheimer and Grissom (1998), Quan and Titman (1999) concluded that REITs show significant co-movement with stock markets. Recent Work by Pagliari et al (2005) and Morawski et al (2008) Sebastian and Schatz (2009) indicated that indirect property behaved more closely to direct real estate rather than stock markets in the long run.

Of direct relevance to the markets considered in this research, Barkham and Geltner's methodology was adopted by Ong (1994, 1995) and Cheung et al (1995) to test lead-lag relationships in Singapore and Hong Kong respectively. Presence of a "pure" property factor was further explored in Hong Kong by Newell and Chau (1996); Chau et al (2001); and Newell et al (2004). Indirect property returns were found to be more highly correlated with stock market returns than direct property returns. This reinforces the view that property companies, REITs and property trust performance are more reflective of stock market performance than the underlying direct property performance. The volatility of Hong Kong real estate companies were further assessed by Newell et al (2007) using a variance decomposition procedure. They found an increased contribution by real estate to Hong Kong real estate companies' volatility in recent years since the Asian Financial Crisis and the establishment of the Hong Kong Special Administrative Region (HKSAR).

Despite the significant international property investor interest in China, detailed empirical research regarding the dynamics of the Chinese commercial property markets is still limited though the literature has been developing rapidly, driven by economic growth and increased market maturity in the region. Nonetheless, research focusing on indirect property investment in China is limited, with a short time span. Newell et al (2005) examined the performance of the direct real estate markets in Beijing, Shanghai, Guangzhou and Shenzhen and property companies listed on the Shanghai and Shenzhen stock exchange between 1995 and 2002. Risk-adjusted returns were calculated for the office sector to assess the lead-lag relationships between investment in the four cities and indirect property investments in China. There was no evidence of the real estate companies on the two stock markets Granger-causing their respective office markets, which reflected the real estate companies' geographical diversity, investing in cities other than those examined. These results were also unsurprising since the portfolios of many of these companies included a significant residential component.

Newell et al (2009) analysed the performance of commercial property in China from 1998 to 2007 for both direct and indirect property to assess whether adding Chinese commercial property to an Asian portfolio enhanced overall return. Shanghai office and retail properties and listed property companies in China were put into pan-Asian portfolios mixed with stock market equities, bonds and cash from those countries. Linkages were explored between the direct and indirect property markets for China and the six Asian countries using Granger causality tests. No evidence was found in China to suggest that the property companies Granger-causing the performance of the Shanghai office or retail property markets, which indicated opportunities existed separately within direct and indirect property.

Significance of property market and institutional demand in China

Fundamental to China's success in recent years has been strong economic growth and improved international business and financial competitiveness (Newell et al 2009). The dramatic growth in Tier I cities and the emergence of numerous Tier II and III cities provide a large pool of quality assets and provide tremendous opportunities for domestic and overseas investors. The latest research by Pramerica suggested that at the end of 2009, the global distribution of commercial real estate is dominated by the top 10 countries, representing nearly 80% of the overall stock, whereas the top 5 countries accounted for more than 70% of the universe in 2002. Asia accounted for 24 per cent of global real estate in 2009, but is projected to represent over 40 per cent by 2019. Table 1 shows that China, which currently accounts for 5.3 per cent of the world share, is forecast to have the largest increase, contributing 25% to global real estate growth over the coming decade (Pramerica, 2010).

Table 1: Contributors to Global Growth of Commercial Real Estate

		Real Estate in 2009 (US$B)	Growth over 2009-2019 (US$B)	Contributions to Global RE Growth
1.	China	1,168	5,696	25.0%
2.	United States	6,414	4,179	18.3%
3.	Russia	389	1,201	5.3%
4.	Germany	1,483	866	3.8%
5.	India	204	817	3.6%
6.	Japan	2,285	787	3.5%
7.	United Kingdom	1,239	718	3.1%
8.	France	1,211	701	3.1%
9.	Brazil	474	592	2.6%
10.	South Korea	328	576	2.5%
11.	Canada	605	546	2.4%
12.	Italy	963	416	1.8%
13.	Australia	448	363	1.6%
14.	Turkey	195	350	1.5%
15.	Indonesia	106	340	1.5%
16.	Spain	650	322	1.4%
17.	Mexico	265	308	1.3%
18.	Poland	154	293	1.3%
	TOTAL	**22,252**	**22,809**	**100.0%**

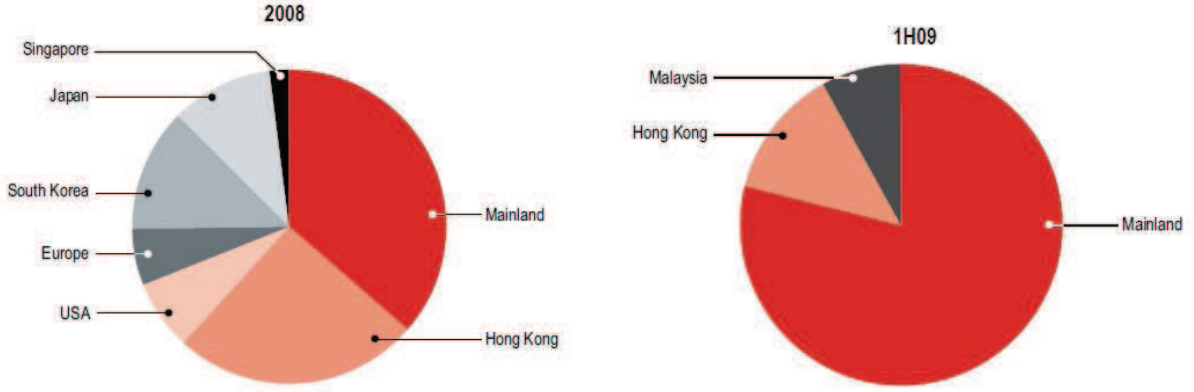
Source: EIU, IMF, Pramerica Real Estate Investors Research 2010

The rapid growth of the Chinese real estate market in terms of its size and maturity has attracted significant capital flows from overseas investors seeking portfolio diversification and potentially higher returns than their home markets provide. Funds and developers, mainly from the US, Europe, Australia, South Korea, Hong Kong and Singapore were the major purchasers of prime commercial assets in the main Tier I and Tier II cities in the years up to 2007. The financial crisis in 2008 dramatically reduced foreign capital flowing into the Chinese market as the buying power of those countries fell considerably. As yet, domestic companies, with relatively sound balance sheets weathered the storm better than their overseas counterparts. Having relatively strong purchasing power, they have become more active in the market.

Figure 1 shows the domestic share of total investment rose from 36% in 2008 to 70% in the first half of 2009 (Jones Lang LaSalle, 2009c). However, the volume of investment transactions was still relatively small in comparison to many developed markets, largely owing to the limited funding channels caused by a strictly controlled financial market.

Figure 1: Share of investment by source of capital in China

Source: Jones Lang LaSalle Research 2009



The landscape of the Chinese real estate market may be changed permanently after government rules were changed, permitting domestic insurance companies to invest in property assets from 1st October 2009. Mainland insurance companies are looking for areas to invest more than RMB 2 trillion (£200 billion) to meet their long term objectives (Wang et al, 2009). Jones Lang LaSalle made a conservative estimate that over 100 native insurance firms could potentially allocate RMB 236 billion (£24 billion) to property assets which offer stable income growth and long term capital appreciation. State-owned Enterprises have been active developers since the 1980s, especially at a regional level. They tend to retain strong links with local or central authorities and have taken advantage of the resulting financial support and looser restrictions. Some successful ones are well positioned to expand on a national scale.

The China Investment Corporation (CIC) was established with RMB 1.55 trillion (£150 billion) in 2007 as a sovereign wealth fund. It has primarily targeted mainland property assets through its subsidiaries, but more recent investment in the Morgan Stanley global property fund, which is expected to allocate a large portion to Chinese property, demonstrates its ambition towards the domestic market. The State Administration of Foreign Exchange (SAFE), which manages the foreign reserves in China and the National Social Security Fund (NSSF), which has accumulated a balance of RMB 1.52 trillion (£150 billion) are also likely to be significant players competing in the domestic market. Pension funds are also expected to participate with the allocation of property units across the country to hedge against inflation and maximise their portfolio returns (Jones Lang LaSalle, 2009c). With a rising number of market participants with increased appetite for property, investment vehicles such as REITs, aiming to improve market liquidity and efficiency, will be in great demand.

Recent changes in the fund management legislation in China are likely to see an increased international focus on property investment opportunities there for both local and international investors. Major international property investors have shown considerable recent interest in China, particularly in Tier I cities and increasingly in the emerging Tier II and III cities. Their investment strategies have and investing in domestic companies trading on the Hong Kong Stock Market and Hong Kong based property companies with significant property investment and development activities on the mainland. The continued expansion and increased sophistication of China's office markets and real estate companies will see ongoing critical assessment of the role of direct and indirect real estate in China in international investment funds.

Progress on the launch of Chinese REITs

There are currently no REITs listed in China, which might absorb some of this potential future demand for real estate investments by providing a liquid tradable indirect vehicle, nor is there yet a single legal framework governing and facilitating them. To promote sustainable growth in the real estate sector, in 2003 the People's Bank of China (PBOC) issued Circular 121 which imposed strict controls on loans related to property activities provided by commercial banks such as project development, land banking, construction and individual home mortgages. These tough measures include obtaining official permits and registering 30 per cent capital before agreeing loan facilities, forcing developers to explore alternative funding sources and real estate trust companies, known as "quasi-REITs" have emerged to provide the required finance. These take the form of a mortgage trust, regulated by the provisions in the "Trust Investment Companies Management Guideline" released by the PBOC in 2002, amended in 2007 to suit market needs. The new rules still limit individual investors in trust companies to 50 individuals who must earn annual income exceeding RMB 200,000 (£20,000) and have a net worth of more than RMB 1million, limiting public access to the vehicles, despite demand from the public. As a result, loans raised through this channel were limited and associated with relatively poor transparency (Wang et al 2009).

In 2004, the Chinese Banking Regulatory Commission (CBRC) issued a consultation draft to govern trust companies that engage in REITs and in 2007, the People's Bank of China appointed two securities companies to carry out REITs pilot programmes, but they never came to fruition due to overheating of the real estate market in 2007-8 (Clifford Chance 2010).

The main route for developers to raise funds is through traditional debt financing. Commercial bank loans typically fund up to 70 per cent of the project coast, while the remaining 30 per cent is required by banking regulations to be funded by the developers' own equity. This has led to an over-reliance on commercial banking lending because of the lack of a secondary market for property related funding, and ultimately increased the level of risk those banks have to undertake (Quek and Ong, 2008). In late 2008 to 2009 the Chinese government therefore reconsidered REITs as a mean for easing the negative effects of the global financial crisis, by channelling finance to support troubled property developers. One of nine expansionary financial policies announced by the State Council in December 2008 was to introduce innovative financing channels including REITs. They are now considered as a potentially significant vehicle to reduce the risks of national-owned banks on which Chinese developers have relied heavily for financing.

Other key drivers of REIT development in China are its large pool of quality real estate assets with strong potential demand from Chinese institutional and individual investors and the ability of REITs to stimulate a better regulated property market through the influx of the real estate professional services that accompany and support a REIT market. They will offer an alternative method of raising finance and therefore an exit strategy for Chinese companies and property owners (Jones Lang LaSalle, 2009c). In addition to stabilising the financial system, Chinese REITs could also have positive effects on government socio-economic policy by increasing participation in the wealth generated by the real estate sector (Wang et al 2009).

A literature on the REITs market has developed in China (see Zhou 2004, Mao, 2004; Lu, 2005, Wei et al, 2005, Chen, 2005; Lu, 2006, Long and Gao, 2006). Barriers to developing Chinese REITs were identified as the lack of security of legal title, lack of professional fund and asset management expertise, different property valuation techniques, lack of market transparency, absence of a legislative framework and high taxation. Clifford Chance (2010) suggests that China's fragmented regulatory regime remains an obstacle to developing a viable single REIT framework and that the CBRC/PBOC proposal, the frontrunner of two possible vehicles, is currently an unlisted trust company with units tradeable on the interbank market and therefore of limited liquidity. The second proposal by the China Securities Regulation Commission (CSRC) is for a fund run by a securities/fund company, with units traded on the stock exchanges, providing full liquidity. However, this is likely to be permitted only after a successful pilot of the CBRC/PBOC model. Clifford Chance (2010) reports that several cities are competing to launch these pilot REITs, yet the likelihood and timing of any permission to proceed is as yet unknown.

Chinese REITs listed in Hong Kong and Singapore

While investors and potential REIT instigators wait for the starting gun in the PRC, listed property companies already play a significant role on both the Shanghai and Shenzhen stock exchanges. According to Newell et al. (2009) property companies listed on mainland China's exchanges in Shanghai and Shenzhen accounted for 6.5% of the value of global listed property companies in Q3 2007, exceeded only by the USA, Hong Kong and Japan (AME Capital 2007), They constituted 4 per cent of the market cap of these exchanges, exceeding Asia's average of 2 per cent, but significantly lower than the proportion for Hong Kong and Singapore of 15 per cent (Newell et al, 2009). As there are currently no REITs listed in China, it is rather difficult to quantify the actual demand for them. However, examinations of REITs listed in Hong Kong and Singapore with Chinese property components may provide an indication, although the different appeal of the respective stock markets, which will be discussed in the next section, may weaken its reliability. So far there have been four REITs launched outside mainland China, wholly or partially composed of Chinese property assets; they are listed in Table 2. GZI REIT was launched by Guangzhou Investment Company Ltd in 2005 on the Hong Kong Stock Exchange, to become the first wholly composed of five retail and office assets in Guangzhou. It was oversubscribed by 117 times in the initial public offering (IPO) and offered the highest yield dividend among listed Hong Kong REITs at that time. A similar story was shared by CapitaRetail China Trust (CRCT) which launched in Singapore in December 2006. It successfully raised over $SG218.4 million (approx £100 million) and was oversubscribed by a factor of 167 times (Quek and Ong, 2008). In 2007 RREEF, the real estate investment business of Deutsche Bank's Asset Management division also launched its China Commercial Trust including one office property in Beijing in the portfolio.

Table 2: REITs with Chinese property components

Name	Exchange	IPO Date	Portfolio
GZI REIT	Hong Kong	Dec 2005	Five commercial properties in Guangzhou, all previously owned by Guangzhou Investment, an investment arm of the local government
RREEF China Commercial Trust	Hong Kong	Jun 2007	One office building in Beijing
Mapletree Logistics Trust	Singapore	Jul 2005	Six of the REIT's 81 logistics properties are located in Mainland China
CapitaRetail China Trust	Singapore	Dec 2006	Eight neighbourhood malls anchored by big box stores or hypermarkets

Source: companies' websites, Whiting (2006) and Jones Lang LaSalle (2009)

As improvement in global capital markets and credit availability continued after the financial crisis, Chinese REITs listed in Hong Kong and Singapore rebounded strongly in 2009, mirroring strong stock market recovery. As illustrated in the table below, price movements were very volatile in the year to mid 2009, but significant progress was also made.

Table 3: Chinese REITs' performance at June 2009

Names of REIT	Date listed	Offer price*	Closing price	Six month % change	52-week high	52-week low	Distribution Yield
GZI REIT(H-REIT)	21-Dec-05	3.08	2.52	40.8%	2.86	1.16	9.76%
RREEF CCT REIT (H-REIT)	22-Jun-07	5.15	2.70	2.27%	3.80	1.51	13.5%
Mapletree Logistic Trust (S-REIT)	28-Jun-05	0.68	0.55	58.6%	0.85	0.31	11.3%
CapitalRetail China Trust (S-REIT)	8-Dec-06	1.13	1.07	78.3%	1.28	0.41	10.4%

Source: CBRE Research (2009)
Note: Prices are in HK$ or SG$ respectively as the end of June, 2009

Although the original US REIT structure is often used as a template, each country develops its own set of REIT rules. Table 4 contrasts the regulations for Hong Kong and Singapore, which act as a benchmark for considering the likely format of the proposed mainland listings. These issues have been considered in papers on Chinese REITs, as well as government policy, legal issues and the state of professionalism in the Chinese property market. Most such studies focus on Asian (mainly Hong Kong and Singapore) and international (US, Australian etc) experiences and make recommendations for the scale and structure, investment management, dividend policy, gearing and legal issues of REITs in China. Other issues regarding IPOs and SEOs, predictability of the REIT market and emerging markets are also discussed by Li et al (2001) and Chan at al (2003).

Table 4: REITs in Hong Kong and Singapore

	Hong Kong	Singapore
Structure	Unit trust	Collective investment scheme (Unit trust) or corporate
Management structure	Internal/external	External
% invested in real estate	Only invest in real estate	At least 70% of deposited property should be invested in real estate or real estate-related assets
Geographical restrictions	No	No
Property developments	Prohibited, but H-REIT may acquire uncompleted units comprising less than 10% NAV	Property development and investments in uncompleted projects should not exceed 10%
Leverage	Capped at 45% of gross asset value	Over 35% of total assets permitted with disclosed credit rating (capping at 60%)
Dividend payout	At least 90% of annual net income after tax	At least 90% so as to enjoy exemption from paying corporate tax.

Source: CBRE Research 2009

Although the structure, political factors and legal aspects of REITs are issues beyond the scope of this research, they contribute to overall REIT market performance, and a notable difference between the proposed CBRC/PBOC vehicle is and the REITs listed in Hong Kong and Singapore is the fact that the latter are openly traded on the market and highly transparent.

Apart from these important, but as yet unknown details of the Chinese REIT structure, stock market volatility and indeed investors' confidence in the Chinese Stock Exchanges are likely to impact on the returns and risk of any future listed Chinese REITs. The next section therefore assesses the Shanghai Stock Exchange's volatility compared to those in Hong Kong and Singapore.

Stock market volatilities in Shanghai, Hong Kong and Singapore

The volatility of returns is widely used to represent risk: for stock markets it can be measured by the range and standard deviation of stock fluctuations over time. Figures 2 to 4 illustrate the stock index fluctuations of the three exchanges over the period January 2000 to July 2009, based on weekly closing prices:

Figure 2: Shanghai Composite Index fluctuations Jan 2000 – July 2009

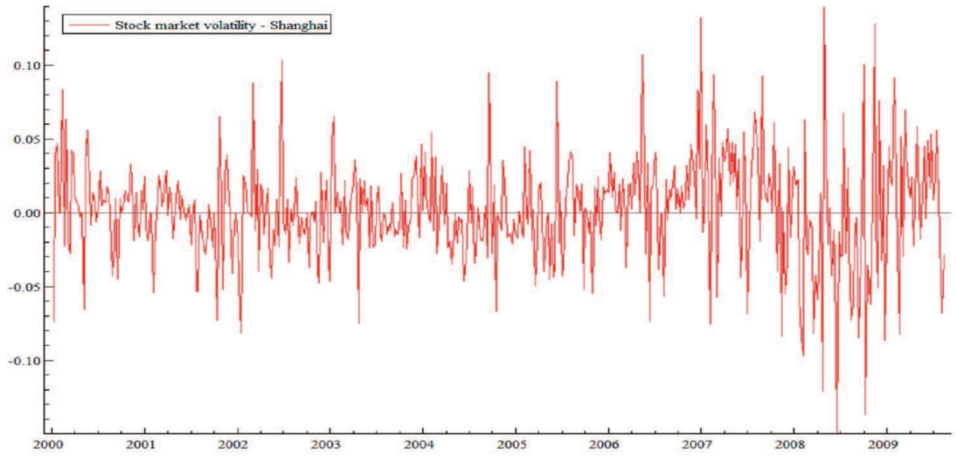


Figure 3: Hong Kong Hang Seng Index fluctuations Jan 2000 – July 2009

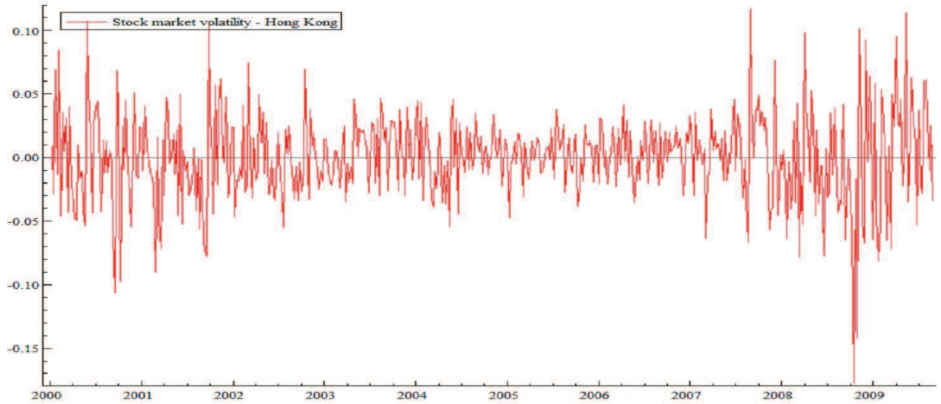
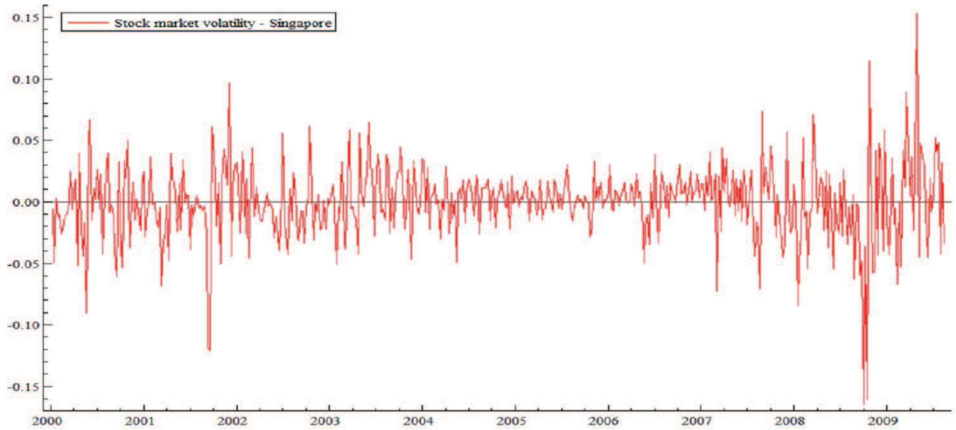


Figure 4: Singapore Strait Times Index fluctuations Jan 2000 – July 2009



A cursory look at Figure 2 - Figure 4 suggests that Singapore's index is the least variable and Shanghai's is the most. Figure 5 summarises the ranges: the greatest frequency of the Shanghai stock market's weekly index range was between 3 and 5 per cent variation per week and a 5 to 10 per cent weekly range was also frequent. In contrast, those of the Singapore and Hong Kong stock markets were concentrated below 3 per cent, and the range 3 to 5 per cent was relatively infrequent. For Singapore and Hong Kong very few weekly ranges exceeded 5 per cent, these being mainly during the global financial crisis period of 2008 and 2009. However, even outside the financial crisis period, stock market volatility ranges over 5 per cent were relatively frequent for the Shanghai market.

Figure 5: Weekly volatility ranges of Singapore, Hong Kong and Shanghai stock exchange indices, Jan 2000-July 2009

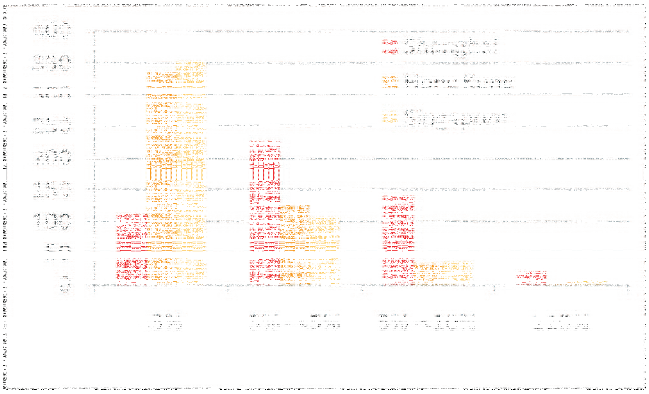
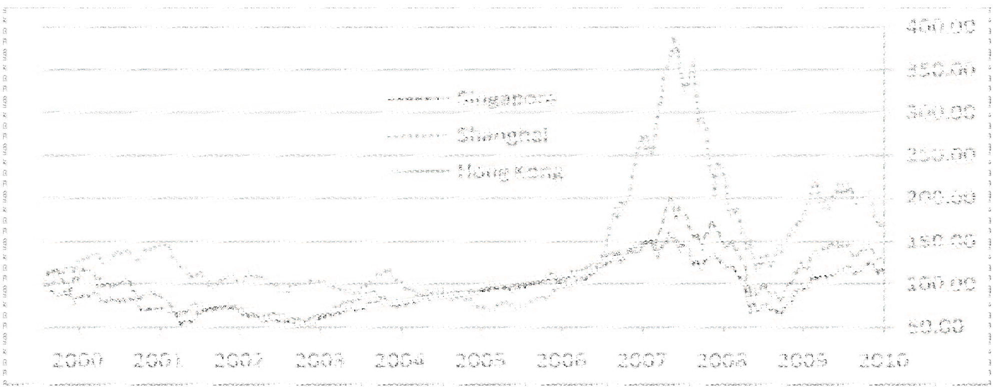


Table 5: Standard deviation of Shanghai, Hong Kong and Singapore stock market returns Jan 2000-July 2009

Index	Standard Deviation
Shanghai (Composite Index)	3.76%
Hong Kong (Hang Seng Index)	2.98%
Singapore (Straits Times Index)	2.86%

Table 5 shows the standard deviation of the Shanghai, Hong Kong and Singapore stock markets' returns indices and confirms that the Singapore stock market, at 2.86 per cent, has the lowest volatility of the three, only marginally exceeded by that of the Hong Kong stock market at 2.98 per cent. That in Shanghai is however substantially higher at 3.76 per cent, suggesting that the Shanghai Stock Market is considerably more volatile than those in Hong Kong and Singapore, and so entails more risk for investors .The choice of REIT listing location is therefore important for investors considering a choice of Chinese property REITs, particularly should the CSRC proposal lead to listing in Shanghai.

Figure 6: Shanghai, Hong Kong and Singapore composite Indices January 2000-June 2010



Source: Shanghai Stock Exchange Composite Index, Singapore Strait Times Index, Hong Kong Hang Seng Index (2010)

From Figure 6 it can be seen that from 2000 to 2001 the Shanghai market rose, while those in Hong Kong and Singapore fell, following the dot.com crash. From H2 2002 to Q1 2003, all three markets fell until the global economy began to recover. The Hong Kong and Singapore stock markets indices then increased gradually in response, but in China the index continued to decline until 2006. From 2006, as the global economy overheated, all three stock markets were trending upward until the global credit crunch occurred in H2 2007. Remarkably, the Shanghai Composite Index increased from 1200 points to 6400 points between 2006 and 2008, a total of more than 325 per cent. The financial bubble in Hong Kong was slightly more exaggerated than in Singapore; the index increased about 100 per cent between 2006 and 2008, whereas the Singapore Strait Times Index increased approximately 60% over the period.

In 2008, due to the global financial crisis, the economic bubble exploded, and concomitantly stock markets crashed. The Shanghai Composite Index decreased approximately 270 per cent, the Hong Kong Hang Seng Index by about 120 per cent and the Singapore Strait Times Index by about 90 per cent. From these figures it can be seen clearly that the Shanghai stock market's volatility is the greatest of the three whilst the Singapore stock market is in turn less volatile than that of Hong Kong.

The significance of these differing levels of volatility is clear: the literature has established that REIT returns are affected not only by their underlying property asset returns but also by stock market volatility. Although Chinese REITs have not yet been launched, if the CSRC product (Clifford Chance, 2010) were to be created in future and listed on the Shanghai Exchange, investors' risk would be affected by this high volatility. Those listed on the Singapore and Hong Kong exchanges would benefit by comparison from the lower volatility demonstrated by the figures above.

Characteristics of the Chinese Stock Markets.

It may be useful to consider studies of the Chinese stock markets examining the peculiarities of their operations, price behaviour and level of market efficiency, in order to understand if possible why they are characterised as immature and display this relatively high level of volatility.

One feature of the Chinese markets is the historic distinction between A shares, available only to domestic investors, B shares originally available only to foreign investors and H shares in mainland companies, listed on the Hong Kong exchange. Access to the bulk of shares, the A shares, was restricted by the government as part of its policy of capital and exchange controls, but in view of the small size of the B share market, domestic investors were given access to it in early 2001. According to Wang and Di Iorio (2006) despite China joining the WTO in December 2001 and committing to open its A share market to foreign investment, there was no evidence of the necessary liberalisation of capital and exchange controls. They examined the segmentation of the A share market from world financial markets, suspected to arise from this situation. Using the MSCI world index as a measure of world financial market returns, they established that A shares were indeed segmented in this way over the period 1995-2004, although sub-period tests showed the A and B share markets were moving towards integration, as were the A and H share markets. Subsequent the Qualified Foreign Institutional Investors (QFII) programme, which in January 2006 allowed a limited amount of A share investment by approved foreign investors and the Qualified Domestic Institutional Investors (QDII) programme, were expected to integrate the markets further. Overall, these findings suggest that the investors in the Shanghai market are predominantly domestic and largely separate from those operating on the Singapore and Hong Kong markets.

Lee, Li & Wang (2010) characterised these domestic investors in the Chinese stock markets as mainly individual rather than institutional investors. They tend to over-react to market shocks and engage in abnormal trading volumes around earnings announcements, compared to more informed institutional investors. Comerton-Forde and Ridge (2005) associated the high level of retail investors with the Shanghai market's high trading velocity (118%) compared to 52% in the Hong Kong market and 74% on the Singapore market. Moreover, they highlighted that the Shanghai market was one of the least concentrated in their study group of ten Asia Pacific exchanges in 2003, with only 34% of total market trade value in the top five companies, compared to 55% and 70% respectively in the Singapore and Hong Kong Exchanges. They assessed the Hong Kong Exchange as highly transparent.

Tan et al. (2008) showed that the Chinese A share markets exhibit investor herding behaviour over short time horizons, which was stronger in rising markets, with high trading volumes and price volatility. This was not true for B shares, suggesting it is probably due to dominance of the A share market by individual domestic investors. This research was supplemented later (Chian et al, 2010) confirming A share market herding but suggesting it occurred in both upward and downward markets.

Chen et al (2008) found that earnings management by companies was more rampant and stock prices were less informative in China than in the US. However Fifield & Jetty (2008) found that the A share market is more efficient than the B share market, which is unsurprising considering it is larger and more liquid and foreign investors have the disadvantage of language barrier, different accounting standards and lack of access to reliable information about local firms. However regulatory change in 2001, opening the latter to domestic investors, had increased its efficiency.

These ideas about differences in operation of the mainland Chinese markets and the Hong Kong market have recently been applied to indirect real estate listings there. Chau et al (2010) pointed out the lack of research on listed real estate companies in China and examined the effect on performance of the location where real estate companies are listed: whether in Hong Kong or mainland China. They examined whether performance varies due to differences in the two exchanges' 'corporate governance', a term representing some of the factors mentioned above, such as listing rules, financial systems, market participants and market maturity. They suggested the Hong Kong exchange was perceived as more 'disciplined' than the others i.e. having better governance. They hypothesised that the better the corporate governance structure, the stronger would be the linkage between direct and indirect real estate investment returns. Therefore the Hong Kong indirect market should lead direct property returns earlier than does the mainland market. They examined the returns of companies with real estate development and investment business in mainland China, some of which listed on the mainland exchanges and some on the Hong Kong exchange. They found that both indirect markets led the direct market, but the Hong Kong indirect market had a longer lead time than the mainland indirect market. Clearly higher linkages are desirable if indirect real estate is to fulfil investors' objectives, notable diversifying equity returns. Their further style analysis showed that mainland listed companies appeared to hold only 17% of real estate in their portfolios, compared to 51% for the Hong Kong listed companies, suggesting the former are a relatively poor substitute for direct mainland Chinese real estate investment. They were however unable to identify whether an apparent improvement in mainland listed companies' management performance was due to allowing more QFII to invest in A shares since 2006.

Other studies of REIT company governance for instance Bianco et al (2007), Bauer et al (2010), tend to focus on the 'agency problem' meaning the tendency of managers to further their own interests rather than those of the share holders. Lecomte and Ooi (2010) reviewed the relevant literature, developed a governance index and applied it to Singapore REITs to assess their governance deficiencies. They showed a positive relationship between governance and stock performance, though none was found between governance and operating performance.

The overall message to be drawn from the literature therefore is that the Chinese A share market is volatile, dominated by domestic individual investors, immature, less efficient than mature globalised markets, segmented from them and suffers from relatively poor governance. Property companies listed there are not as good a substitute for direct Chinese real estate investment as are those listed in Hong Kong (though no parallel information has been found for Singapore). These observations question whether REITs listed on Chinese mainland exchanges will be as useful as those listed on the Singapore and Hong Kong exchanges, in terms of substituting for direct Chinese real estate investment. They also beg questions about the attitudes of investors to REIT listings on these competing exchanges, due to the governance issues in the mainland exchanges. Investors' choices will undoubtedly be influenced by other factors such as repatriation of dividends and capital, taxation and accessibility of the competing exchanges. The next section reports the survey questionnaire which was conducted to explore these issues.

Questionnaire survey

In order to investigate Chinese investors' attitudes to investing in Chinese property REITs on different stock exchanges, a survey questionnaire was implemented in August 2009. Since Chinese listed REITs will probably attract substantial numbers of non-expert investors, the survey population would ideally be all potential REITs investors in China, but asking them about the merits of different stock exchanges for REIT listings at present is unlikely to yield useful information since knowledge of REITs amongst the public is very limited. A subset of informed real estate professionals was therefore selected for the survey: all presidents or managers of Chinese real estate companies who participated in a Real Estate Finance workshop at Tsinghua University. The sample is expected to give results representative of the perceptions and intentions of Chinese domestic real estate professionals, since these individuals come from different backgrounds and areas of China, but is not representative of the wider group of private, non-professional investors on the Chinese stock exchanges.

The online survey, created on SurveyMonkey, was distributed to a sample of 60 Chinese real estate professionals by means of a link in a personally addressed e-mail sent in August 2009, which explained the research topic, and. asked for return within a week. 56 responses were received, an unusually high rate of 93%, attributable to the personal and business relationships between the questionnaire distributor and the network. Respondents were assured of confidentiality.

Questionnaire results

All of the respondents said they were familiar with the concept of Chinese property REITs and 40 (71%) said they would like to invest in them, the other 29% did not want to. Motivations for investing were their perceived nature as equity type investments with potentially high returns, low risk and stable dividends and their liquidity compared to direct real estate, resulting from stock market listing. Presumably these expectations are based on well known REIT models elsewhere, whereas Clifford Chance (2010) suggests that of the two regimes currently under development, the CBRC/PBOC frontrunner is unlikely to offer liquidity or public availability although it may pave the way for a later fully liquid stock market product. Some thought REITs would become an important new finance channel and had a great future. Some argued that the main reason for wanting to invest in them is their expectation of strong growth in the underlying asset base: the Chinese real estate market. Reasons for not investing included perceptions that the Shanghai stock market did not offer profitable investment opportunities and that it was too complicated to invest in the other available options i.e. Chinese REITs listed in Hong Kong or Singapore.

All respondents agreed that the returns and risks of potential Chinese REITs would be affected by the performance of the underlying property market and also by that of the stock market where they are listed. These views correspond to the findings of research discussed above. Some respondents also identified the macro-economic environment and financial and monetary policies as determinants of REIT risks and returns.

When asked about the fundamental premis of this research: whether the regulation of the stock market is an important influence on investors' willingness to invest in a REIT, 86% thought it was a very important factor, 14% rated it as quite important and none thought it unimportant. This suggests that the following questions, which explore the respondents' attitudes to the two exchanges where Chinese property REITs are currently available, and the potential listing on the Shanghai Exchange, are of importance to investors' decisions about REIT investment.

Figure 7: Respondents’ perceptions of the comparative quality of stock market regulation

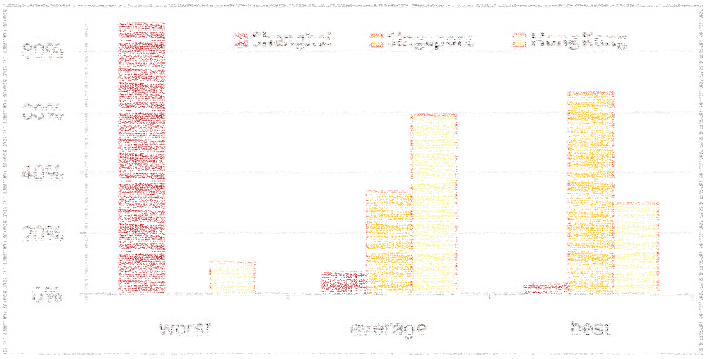


Figure 7 shows strong perceptions amongst the respondents that Shanghai Stock Market regulation was poorer than the alternatives, confirming the assumptions of Chau et al, (2010) and twice as many viewed the Singapore market, rather than that in Hong Kong, as the best regulated of the three.

Table 6: Respondents’ expectations of improvements to Shanghai Stock Exchange regulations

Options for improvement	Number of respondents in favour	
Improve transparency	54	96%
Improve the market’s supervision regime	52	93%
Innovation in trading mechanisms	52	93%
Improve information disclosure	50	89%

When offered suggestions for ways that the Shanghai stock market’s regulation might improve, a large proportion chose all four options shown in Table 6, suggesting they perceive shortfalls in all these areas, but have expectations that they may improve in future. Their perceptions of deficiencies in market governance agree with the findings, reviewed earlier, of Lee, Li & Wang (2010), Comerton-Forde & Ridge (2005), Chen et al (2008) and Chau et al (2010).

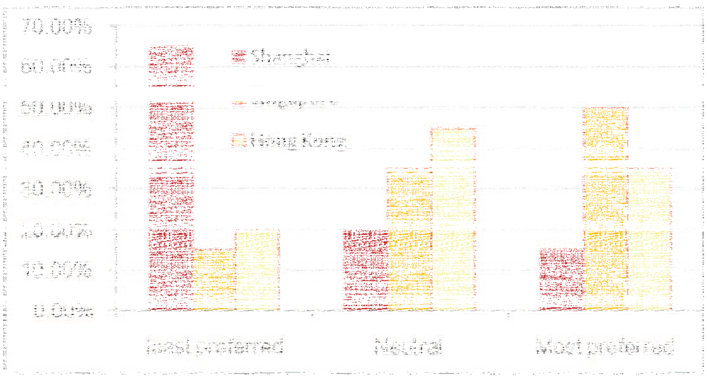
These perceptions of the relative weakness of regulation in the Shanghai market suggests it is less desirable than those in Hong Kong and Singapore for listing Chinese REITs, and that the proposed CSRC REIT described by Clifford Chance (2010) might introduce extra risk for investors compared to currently available Chinese REIT products. This would therefore theoretically lower the asset price realised by the REITs’ initiators. However, market regulation and transparency are only some of the factors relevant to REIT investment decisions. The 40 respondents (Group A) who wanted to invest in Chinese REITs were therefore asked further questions about their knowledge and perceptions of the exchanges currently and potentially offering such products.

The capital and currency restrictions maintained by the Government of the PRC (Wang and Di Iorio, 2006) add an interesting extra facet, which does not apply to the major global REIT markets such as those in Europe and the US. 75% of Group A said they were aware of how to invest in other countries’ stock markets and repatriate their returns; the other 25% were not. Some suggested using a multinational bank such as Citibank or Chinese commercial banks providing electronic finance and investment services. The best known to them was Bank of China International Security Limited which they believed enables online stock trading for those with a registered account. However, despite 75% of Group A knowing how to invest in exchanges outside China, only 63% perceived the Hong Kong and Singapore exchanges as conveniently accessible: the remainder thought them difficult to access. In contrast, it is easy for Chinese domiciled investors to access the Shanghai market, indeed the high levels of retail investor involvement are well-recognised and contribute to its volatility (Comerton-

Forde & Ridge, 2005, Tan et al., 2008, Lee, Li & Wang, 2010). The difficulty of access accords with the segmentation of the mainland Chinese markets from those in Singapore and Hong Kong identified by Wang and di Iorio (2006).

One of the classic features of the major world REIT regimes is tax transparency (APRA, 2009, Clifford Chance, 2010). Marsh (2010) confirmed that tax transparency is a feature of importance to investors in the proposed Chinese REIT frameworks. Knowledge about the tax status of REIT vehicles in Singapore and Hong Kong is therefore relevant in deciding where to make Chinese property REIT investments. Group A was therefore asked about their familiarity with REIT tax status in the Singapore and Hong Kong markets. 17% claimed to know the tax status well, 58% said they knew a little and 25% had no knowledge. Some investors identified tax transparency in these markets as a reason for preferring to invest there but on the other hand some argued that since the framework of rules for Chinese REITs are not yet defined taxation differences were not a reason for preferring Singapore or Hong Kong. Clifford Chance (2010) confirms the lack of any official guidance on the tax status of either of the two likely alternative Chinese REIT regimes.

Figure 8: Respondents' preferred stock markets for investing in Chinese property REITs.



Having considered all the factors explored above: stock market regulation, capital and currency restrictions, perceived accessibility of the Singapore and Hong Kong REIT markets and knowledge about their tax transparency, those investors wishing to make Chinese property REIT investments were asked about their overall stock exchange preferences. Figure 8 shows clearly that the Shanghai market is least preferred and Singapore most, ahead of Hong Kong. Comments explaining these preferences included the weak rules for information disclosure on the Shanghai market, whereas disclosure on the Hong Kong and particularly the Singapore market was perceived as more transparent. Some commented that if the governance of the Shanghai market were to improve in future they would invest there, but only when they had developed trust in its operations.

Table 7: Real estate professionals' rating of REIT regulation in Asia Pacific countries, Q4 2008

	Ratings distribution			rank out of 11 Asia Pacific countries	
	positive	**neutral**	**negative**	**2007**	**2008**
Singapore	90	9	1	1	1
Australia	70	25	5	2	2
Hong Kong	37	44	19	4	3
China	10	40	50	8	8

Source: Allens Arthur Robinson (2009)

It would be useful to compare these results with any similar surveys, but there seem to be none, apart from Allens Arthur Robinson (2009) who surveyed 102 senior Asia Pacific property professionals regarding their views of REITs in 11 countries in the region in Q4 2008. An extract of the results regarding “REIT regulation” are shown in Table 7.

The positive attitudes to regulation in Singapore agree with those of the respondents’ to this research, but the formers’ relative assessment of the Hong Kong market is relatively far weaker. The results might be expected to differ, due to respondents’ different locations and hence their familiarity with the various markets: 67% of Allens Arthur Robinson’s respondents live in Singapore and 18% in Australia, possible influencing their attitudes to these markets. The usefulness of the survey as a comparison is also reduced since it is unclear whether the respondents were assessing the REIT rules in each country or regulation of the markets on which they are listed, or indeed a combination of the two. In the absence of any existing REIT regulations in China, interpreting the results for that country is also problematic.

Conclusions

There is strong investor interest, both foreign and domestic, in benefitting from China’s exceptional economic growth through investment in Chinese real estate. Indirect investment is an attractive option for less experienced investors, whether domestic or foreign, suggesting that REITs based on Chinese real estate would be in high demand. Chinese property REITs are already available on the Hong Kong and Singapore exchanges, although they offer only limited stock volumes. Although the Chinese government and regulatory authorities have for several years been considering alternative structures for REITs, none has yet been authorised, although they offer some potential political benefits which may lead to their introduction in the near future.

The literature establishes that REIT returns are affected by the performance of the stock market where they are listed as well as by that of the underlying property assets. The degree of linkage appears to vary over time and between markets; nevertheless it is a significant factor driving REIT returns and as such the characteristics of a particular stock exchange are of importance to investors considering Chinese REITs listed there. This prompts questions about the effect of a Shanghai listing on any new REIT vehicle to be launched in China.

It has been shown that over the period 2000 to 2009 the range and volatility of weekly index closing prices was greater for the Shanghai market than for those in Hong Kong and Singapore. This volatility suggests that investors in any new REITs listed on the Shanghai market will suffer higher risk than if they were to invest in Chinese property via REITs listed in Hong Kong or Singapore and theoretically this would reduce the prices achieved by the REIT initiators. Literature on the market efficiency and operating characteristics of the Shanghai stock market explains some of the features driving its relatively high volatility. Overall then, due to this and the relatively poor ability of its indirect property to substitute for Chinese direct property, it would appear that investors might be cautious about investing in REITs listed there, should they become available.

The survey of domestic Chinese real estate professionals in August 2009 confirmed that they recognise the performance of the stock market where they are listed affects REIT returns and all thought its regulation was an important factor influencing their willingness to invest. 76% wanted to invest in Chinese property REITs; the others did not due to their perceptions of the Shanghai market and the difficulties of investing in the alternatives available. The Shanghai exchange was overwhelmingly perceived as the worst regulated compared to the other two where Chinese REITs are currently available, with shortfalls in transparency, supervision, trading mechanisms and disclosure. 75% of those who wanted to invest in Chinese REITs were aware of how to invest through the alternative exchanges, but only 63% perceived this as a convenient process and 25% were uninformed about the tax transparency there. Overall, the Shanghai Stock Exchange was their least preferred investment location for Chinese REITs and Singapore was the most preferred, though some said they would invest via the former if it improved its governance to the extent that they came to trust it.

In conclusion, the attitudes of the survey sample show that any REIT listing on the Shanghai market is likely to be met with caution amongst domestic professional investors. Given the large number of individual non-professional investors active on the Shanghai market, any listing may nonetheless be successful but is likely to suffer from the relatively high volatility and other idiosyncrasies of the Shanghai market, making it a less than ideal vehicle for domestic and international investors seeking exposure to the Chinese property market. A further implication is that since REIT pricing should theoretically be depressed by this extra risk, REIT originators are likely to receive less for their assets than if they were to list them elsewhere.

References:

Addae-Dapaah, K. and Loh, H.L. (2005), “Exchange rate volatility and international real estate diversification: a comparison of emerging and developed economies”, Journal of Real Estate Portfolio Management, Vol. 11, pp. 225-40.

Allens Arthur Robinson (2009) Asia-Pacific REIT Survey, April 2009. [Online] Available at http://www.trust.com.au/Assets/Files/TA_REIT_Survey%202009.pdf Accessed 18 06 2010

Barkham, R. and Geltner, D. (1995a), “Price discovery and efficiency in American and British property markets”, *Real Estate Economics,* Vol. 23, pp. 21-32.

Barkham, R. and Geltner, D. (1995b), “Price discovery and efficiency in the UK housing market”, 11th American Real Estate Society Conference.

Bauer, R., Eicholtz, P. & Kok, N. (2010) Corporate governance and performance: the REIT effect. Real Estate Economics. Vol 38 No 1 pp1-29

Bianco, C., Ghosh, C and Sirmans, C (2007) The impact of corporate governance on the performance of REITs. Journal of Portfolio Management. Special Real Estate Issue 2007. Pp175 -191.

Bond, S., Karolyi, A. and Sanders, A. (2003), “International real estate returns: a multifactor, multicountry approach”, Real Estate Economics, Vol. 31 No. 3, pp. 481-500.

Bong Soo Lee, Wei Li, Steven Shuye Wang (2010) The dynamics of individual and institutional trading on the Shanghai Stock Exchange, Pacific-Basin Finance Journal Vol 18 , pp 116–137

Cao, A. and Keivani, R. (2007), Why China? Why Now? RICS, London

CBRE (2009) REITs around Asia Available at http://www.cbre.com.sg/singapore/eng/document/Asia%20REITs/reits_asia_1h2009.pdf Accessed on 10 06 10

Chan, S.H., Erickson, J. And Wang, K. (2003), Real Estate Investment Trust: Structure, Performance, and Investment Opportunities, 1st ed., Oxford University Press, New York, NY.

Chau, K. W., B. MacGregor and G. Schwann, Price Discovery in the Hong Kong Real Estate Market, *Journal of Property Research*, 2001, 18, 187–216.

Chau, K.W., McKinnell, K.G., Wong, S.K., Wei, Q & Newell, G (2010) Impact of corporate governance structures on the relationship between direct and indirect real estate in China. Journal of Real estate Portfolio Management. Vol 16 No 1. American Real Estate Society.

Chen, L. (2005), “American REITs development and its implications to China”, Journal of Shandong Institute of Finance, Vol. 1.

Chen, X., Kim, K., Yao, T. & Yu, T. (2008) On the predictability of Chinese stock returns. Pacific-Basin Finance Journal Vol 16, Issues 1-2, Pages 61-77

Cheung, Y., Tsang, S. and Mak, S. (1995), "The causal relationships between residential property prices and rentals in Hong Kong: 1982-91", *Journal of Real Estate Finance and Economics*, Vol. 10, pp. 23-35.

Chiang, T., Li, J & Tan, L (2010) Empirical investigation of herding behavior in Chinese stock markets: Evidence from quantile regression analysis. Global Finance Journal Vol 21, Issue 1, Pages 111-124

Clayton, J., & MacKinnon, G. (2001). The time-varying nature of the link between REIT, realestate and financial asset returns. *Journal of Real Estate Portfolio Management*, *7(1)*, 43-54.

Clifford Chance (2010) Introduction to REITs in China. Client Briefing, March 2010. Available at www.cliffordchance.com Accessed June 2010

Fifield, S.G.M. and Jetty, J. (2008) *Further evidence on the efficiency of the Chinese stock markets: a note.* Research in International Business and Finance, 22 (3). pp. 351-361.

Ghosh, C., Miles, M., & Sirmans, C. F. (1996). Are REITs stocks? *Real Estate Finance*, *13(3)*, 46-53.

Giliberto, M. (1990), "Equity REITS and portfolio diversification", *Journal of Real Estate Research*, Vol. 5, pp. 259-64.

Goodchild R. (2008): REITs - a global phenomenon Guest editorial Journal of Property Investment & Finance Volume: 26 Issue: 3

Gyourko, J. and Keim, D. (1992), "What does the stock market tell us about real estate returns?", *AREUEA Journal*, Vol. 20, pp. 457-85.

Gyourko, J. and Keim, D. (1993), "Risk and return in real estate: evidence from a real estate stock index", *Financial Analysts Journal*, September, pp. 39-46.

Hoesli, M., & Serrano, C. (2007). Securitized real estate and its link with financial assets and real estate: An international analysis. *Journal of Real Estate Literature*, *15(1)*, 59-84.

Jones Lang LaSalle (2007) China 40 – The Rising Urban Stars. Available at http://www.joneslanglasalle.com.hk/HongKong/EN-GB/Pages/ResearchDetails.aspx?ItemID=1819Accessed 20 02 2010

Jones Lang LaSalle (2009a) Asia Pacific Property Digest - 4Q 2009 Available at http://www.joneslanglasalle.com.mo/Macau/EN-GB/Pages/ResearchDetails.aspx?ItemID=3225Accessed 20 02 2010

Jones Lang LaSalle (2009b) Global Market Perspective October 2009. Available at http://www.europe-re.com/files/00039300/JLLGMPOctober2009.pdf Accessed 20 02 2010

Jones Lang LaSalle (2009c) The rise of mainland China's institutional investors. Jones Lang LaSalle China. [Online] Available at www.joneslanglasalle.com.cn Accessed 5 06 2010

Lecomte, P. & Ooi, J. (2010) Corporate governance of Asian REITs: introducing a new framework of analysis. Paper presented at the American Real Estate Society, Florida, April 2010.

Li, J., Elayan, F.A. and Meyer, T.O. (2001),"Acquisitions by real estate investment trusts as a strategy for minimization of investor tax liability", Journal of Economics and Finance, Vol. 25 No. 1, pp. 115-34.

Long, S. and Gao, Y. (2006), "A study of Asian REITs operation model", Modern Shopping Malls, No. 20.

Lu, X. (2005), "Legal analysis for development of REITs in China", working paper, Shanghai Social Science Research Institute, Shanghai.

Lu, Y. (2006), "What do REITs mean to China?", Economic Herald, Vol. 3.

Mao, Z. (2004), Study on REITs, research report, Research Institute of Shenzhen Stock Exchange, Shenzhen.

Marsh, Yee, L.C. & Leung, J (2010) China adds REITs as way to cool property market. Reuters 22 April 2010 [Online] Available at http://in.reuters.com/article/idINIndia-47907920100422 Accessed 18 06 2010.

Morawski, J., Rehkugler, H., & Füss, R. (2008). The nature of listed real estate companies: Property or equity markets? *Financial Markets and Portfolio Management*, *22(2)*, 101-136.

Myer, N. and Webb, J. (1993), "Return properties of equity REITs, common stocks and commercial real estate: a comparison", *Journal of Real Estate Research*, Vol. 8, pp. 87-106.

Myer, N. and Webb, J. (1994), "Retail stocks, retail REITs and retail real estate", *Journal of Real Estate Research*, Vol. 9, pp. 65-84.

Newell, G. , Chau, K.W., Wong, S.K. and K. McKinnell, (2007). Factors influencing the performance of Hong Kong real estate companies. Journal of Real Estate Portfolio Management 13(1): 75-86.

Newell, G. and K. W. Chau (1996). Linkages between Direct and Indirect Property Performance in Hong Kong, *Journal of Property Finance*, 7, 9–29.

Newell, G., Chau, K. and Pretorius, F. (1996), "Adjusting the volatility of the Hong Kong property market", *Journal of Real Estate and Construction*, Vol. 6, pp. 1-16.

Newell, G., Chau, K.W., Wong, S.K. and McKinnell, K. (2005), "Dynamics of the direct and indirect real estate markets in China", Journal of Real Estate Portfolio Management, Vol. 11 No. 3, pp. 263-80. American Real Estate Society

Newell, G., Chau, K.W., Wong, S.K. and McKinnell, K. (2005), "Dynamics of the direct and indirect real estate markets in China", Journal of Real Estate Portfolio Management, Vol. 11 No. 3, pp. 263-80.

Newell, G., Chau, Kwong Wing, Wong, Siu Kei (2009): The significance of Chinese commercial property in an Asian property portfolio, Journal of Property Investment & Finance Volume: 27 Issue: 2 pp. 102-119

Newell, G., K. W. Chau and S. K. Wong (2004). The Level of Direct Property in Hong Kong Property Company Performance, *Journal of Property Investment and Finance*, 22, 512–32.

Newell, G., Kwong Wing Chau & Siu Kei Wong (2009) The significance of Chinese commercial property in an Asian property portfolio. Journal of Property Investment & Finance Vol. 27 No. 2, 2009 pp. 102-119. Emerald Group Publishing Limited

Ong, S. (1994), "Structural and vector autoregressive approaches to modelling real estate and property stock prices in Singapore", *Journal of Property Finance*, Vol. 5, pp. 4-18.

Ong, S. (1995), "Singapore real estate and property stocks – a co-integration test", *Journal of Property Research*, Vol. 12, pp. 29-39.

Oppenheimer, P. & Grissom, T. V. (1998). Frequency space correlation between REITs and capital market indices. *Journal of Real Estate Research*, 16, 291-310.

Pagliari Jr., J. L., Scherer, K. A., & Monopoli, R. T. (2005). Public versus private real estate equities: A more refined, long-term comparison. *Real Estate Economics*, *33(1)*, 147-187.

Pramerica (2010): A Bird's Eye View of Global Real Estate Markets: 2010 Update Available at http://www.pramericarei.com/pramerica/realestate/pra_research_frameset.html Access 02 06 2010

Quan, D. and S. Titman (1999). "Do Real Estate Prices and Stock Prices Move Together? An International Analysis," Real Estate Economics.

Quek M.C.H., Ong S.E. (2008): Securitising China real estate: a tale of two China-centric REITs Journal of Property Investment & Finance Volume: 26 Issue: 3 pp, 247-274

Sebastian and Schatz (2009) Real Estate Equities - Real Estate or Equities? Available at http://www.epra.com/research_reports.jsp#SlideFrame_1 Accessed 02 06 10

Standard Life Investment (2010) China's Challenges Available at http://www.standardlifeinvestments.com/market_views/global_spotlight/china_challenges.html Accessed 20.02 2010

Tan, L., Chiang, T., Mason, J.R. & Nelling, E. (2008) Herding behavior in Chinese stock markets: An examination of A and B shares. Research in International Business and Finance Volume 22, Issue 3, Pages 351-361.

Wang, H., Sun, Y., Chen, Y. (2009) Special considerations for designing pilot REITs in China Journal of Property Investment &Finance Vol. 27 No. 2, 2009 pp. 140-161 Emerald Group Publishing Limited

Wang, Y & Di Iorio, A (2006) Are the China-related stock markets segmented with both world and regional stock markets? Journal of international financial markets, institutions and money. Elsevier Science Direct.

Wei, Q., Jiang, Q. and Wang, W. (2005), "China real estate listed as REITs in overseas markets", Economic Herald, Vol. 11.

Zhou, Y. (2004), "Study on REITs and its development based on local market conditions in China", working paper, Huazhong University of Science and Technology, Wuhan.