

PAPER 1

GLOBAL FINANCIAL CRISIS AND THE FINANCIAL PERFORMANCE OF PUBLIC LISTED COMPANIES AND PROPERTY FUNDS

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ABSTRACT

The study was basically to examine the impact of the Global Financial Crisis (GFC) on public-listed property companies and property trusts of Malaysia, Singapore, Indonesia and Thailand. The chosen study period was 2004-2012 for the former, and a shorter duration of 2007-2012 for the latter due to smaller population. Ironically, though the origins of the GFC was heavily related to real estate, researches that connect the two have been limited. In its humble way, the study therefore tries to make up for the deficit.

In the run-up to the GFC, credit expansion fueled real estate booms in many developed economies. With the onslaught of the contagion, their housing bubbles collapsed. Four years after the meltdown (i.e. 2012 when the study period ended), the global house price index had yet to recover to the pre-GFC level. Disconcertingly, the V-shaped recovery from the crisis belies the still-intact mentality and institutions which triggered the worst economic crisis since the Great Depression. One noteworthy outcome of the GFC was the change in mindset of Asian leaders to foster financial cooperation. Unlike Singapore, Malaysia and Thailand, Indonesia endured a more attenuated effect from the GFC, thank to less external linkages and fiscal reforms imposed by the World Bank during the Asian Financial Crisis. But the GFC was not the only shock experienced by the studied nations. Singapore and to a lesser extent Malaysia had to confront the Eurozone Crisis towards the end of the study period. Indonesia faced mini-crisis in 2005 largely due to soaring global oil prices and Thailand suffered from the worst floods in 70 years in 2011. Each country rapidly came up with its own policy response to counteract the GFC. One observation drawn from Singapore, Indonesia and even Thailand is that the less prominent the real estate sector is in the general economy, the more overlooked it will be by policy-makers. Business confidence in the studies countries were concomitantly dented by these shocks as well as the ensuing policy responses.

The Asian Financial Crisis (AFC) of 1997 was more catastrophic to the four studies countries than the GFC. Their real estate sector were also affected, though Singapore's suffered the least because it had fortuitously put in place the year before remedial

measures to cool down the market. As the study found there were public listed companies that were still reeling from the AFC when they were hit by the GFC.

Economic shocks and policy responses affecting the performance of listed property companies and trusts were not the only aspects different between the four studied nations. The economic, social, political and geographical fabric also differed. Singapore is already a high income nation. It has long used foreign liquidity to stabilise the real estate market. It also escalates population growth through liberalised immigration policy since 2006 for sustained economic growth. Indonesian cities are mired with urban slums. Regular change in political leadership was a feature of Thailand, as was flooding. The main parties to property development also differed. Unlike in Malaysia and Thailand where they operate across the entire range of housing types, Singaporean and Indonesian developers concentrate on the higher end market segment. Property investment was the most common diversification activity of the Singaporean, Indonesian and Thai developers. Even though property trusts are a fairly new phenomenon, Singapore has managed to establish itself as an Asian hub, next to Japan. Mortgage market depth is lowest in Indonesia, followed by Thailand, due to their government's dominance in providing housing finance. Indonesia's urban poor also lack mortgage creditworthiness. Singapore has the deepest housing finance penetration. The government regulators deploy a range of sectoral tools to regulate the real estate market, most notably the loan-to-value (LTV) ratios.

Judging from national housing price indices, excluding the GFC, all four countries experienced asynchronous upswings and downswings. Singapore was experiencing a property boom before the GFC resulted in a dramatic drop in the Private Residential Price Index. Post-GFC, Singapore's housing price index was boosted by excess liquidity coming in from China and Hong Kong. As the study period drew to an end, the Index slid downwards following sustained measures to cool down the property market. Post-GFC, Malaysia's House Price Index kept rising due to pent-up demand and speculation which the government's cooling measures failed to arrest. The growth of Indonesia's Residential Property Index slowed down the mini-crisis of 2004, GFC and momentarily

in 2012. Thailand's house price index peaked in early 2006 before bottoming out in 2009 and 2010 and picking up thereafter. The Index value at the end of the study period was the same as at the beginning.

Analysis of the sampled property companies revealed that despite the market turbulence during the 2004-2012 study period, all four country groups experienced aggregated rising total revenue and net assets. Net profits and net profit margins remained after the GFC recovered to pre-GFC levels with a decline for a period of only one year. The Panel Data Regression Analysis revealed that the operating performance of only Singaporean companies (measured by ROAA and ROAE) were affected by the GFC of 2008. The timing of the GFC at the end of a property growth cycle in Singapore exacerbated the fall in revenues, profits, and market capitalisation in 2008. The V-shaped GFC crisis did not impact the real estate corporate performance of the other countries. Furthermore, Thai companies (measured by ROAE) were affected by the post-GFC recovery of 2009. And Indonesian companies (measured by ROAA) were affected by sharp inflation of 2012. The correlation test produced an interesting observation in that for all four countries, there was inverse correlation between debt ratio and certain performance measures (profit, ROAA and ROAE for Singapore, size and profit for Malaysia, ROAE for Indonesia, and profit, ROAA and ROAE for Thailand), which actually cohere with certain past studies. The sampled companies maintained high borrowings when profit levels were low since they could not tap from internal sources. The Random Effects Model isolated companies that performed extra-ordinarily badly and well during the study period that were in equal numbers. Performance were heavily influenced by market segment choice and timing of project launching. There were companies still reeling from the AFC as they entered the study period that became high performers, if not at least recovered, as they exited it.

Analysis of the property trusts revealed M-REITs were the least affected by the GFC as opposed to S-REITs. Indeed the Panel Data Regression Analysis reveals that S-REITs were the only nationality group that suffered from the GFC (measured by net profit margin, ROAA and ROAE). Thailand's PFPO were affected by post-GFC recovery in 2009

(measured by profit margin). Correlation tests revealed that for M-REITs, there was negative correlations between leverage and profit, leverage and ROAA, and size and profit whereas for Thai PFPOs there was positive correlation between leverage and growth. No negative correlation was detected from S-REITs.

What are the lessons that can be drawn from the study? It is axiomatic to state that the next mega-shock would not be predicted. For future mega-shocks, property developers cannot expect policy responses to provide them respite if the private sector plays a minor role in the domestic real estate sector. It is conceivable that some of the public listed companies would be hit by the next mega-shock while still trying to recover from the GFC. Turning their fortune to become high performers, or at least recovered entities, within a few years after that though is not an impossibility. Diversification into related and non-related activities – the most obvious being property investment – provides one pathway to compensate for small or dwindling property development market. Finally, the Securities Commission of Malaysia should consider emulating Singapore in getting REITs to undertake fair value adjustments annually. This would better reflect the property values held by the REITs. Also REITs in Malaysia should be made to report earnings per unit to provide more information for investors.

EXECUTIVE SUMMARY

1.0 INTRODUCTION

The Global Financial Crisis (GFC) epicentred in the US has been acknowledged as the worst economic crisis since the Great Depression of 1929-1939. It emanated from the US investors' loss of confidence in the value of sub-prime mortgages in July 2007, which then escalated into a liquidity crisis. By September 2008, the crisis rapidly reverberated around the world when stock prices in many countries plunged dramatically. The full-blown systemic crisis in emerging countries did not take place immediately in 2007, but in September 2008 with the Lehman Brothers' collapse (Frank and Hesse, 2009). Asian economies were affected even though their business cycles and that of industrial countries have been observed to be decoupled (Kose et al., 2008). The contagion was transmitted to Asian economies indirectly through the collapse in global demand and world trade (Lin and Treichel, 2012). Singapore, Malaysia and Thailand suffered negative growth rates in 2009, though not Indonesia.

2.0 PROBLEM STATEMENT

In the run-up to the GFC, credit expansions fueled real estate booms in many developed economies including the US (Claessens et al., 2010). When the GFC gripped these countries, the housing bubble became unsustainable. Many householders could not cope with rising interest rates and falling home values. Sharp compression in consumer spending compounded already difficult situations in the real estate. Austria, Hungary, the UK, Iceland, Ireland and the US were among the earliest to experience house price declines (Reinhart and Rogoff, 2009). The global house price index peaked just before the GFC. By the end of 2012, it had yet to recover to the pre-GFC level.

Milunovich and Truck [2013, p. 53] note:

“Despite the ongoing debate on contagion in financial markets, there is only a small body of literature investigating contagion specifically for property or real estate markets. This is even more surprising, since GFC originated from a subprime mortgage crisis and was, therefore, heavily related to real estate.”

The impact of the GFC on the real estate sector is still being felt in some countries like the UK where, according to Savills Research (2017), ten years on the landscape has dramatically changed. It was not until May 2014, that the average UK house price recovered to its pre-credit crunch level, while transactions have only once risen above 1.3 million. According to the author, the GFC continue to have four significant impacts on the market and will shape it for many years to come, i.e. dramatic slump in spending and transactions, Mums and Dads as major lenders, fewer rungs on the housing ladder, and buy-to-let mortgages that have been squeezed back to 2007 levels.

Hence a study was initiated to examine the extent to which the GFC impacted the financial performance of public listed companies and REITS in Malaysia, Singapore, Indonesia and Thailand. The listed companies of these countries were certainly impacted by the GFC. Their combined market capitalisation in 2008 was US\$568.442 billion, which was just over half (52%) from the previous year of US\$1,086.891 billion. The selected study period was 2004-2012 inclusively to enable the dynamics of the pre-GFC, GFC and post-GFC events to fully reflect in the financial performance of these companies.

1.2 RESEARCH OBJECTIVES

The research objectives were as follows:

1. To analyse the impact of the GFC on real estate market in Malaysia.
2. To characterise the impact of GFC on the financial performance Malaysian public listed property developers and REITS in Malaysia.
3. To analyse the impact of the GFC on real estate markets of Singapore, Indonesia and Thailand.
4. To characterise the impact of GFC on the financial performance of public listed property developers and REITS in Singapore, Thailand and Indonesia.
5. To contrast the experience of Malaysia with that of the other selected ASEAN countries.

Financial ratios were used to analyse the public listed companies and REITs. Panel data regression analysis which was used to explore the relationship between independent variables (debt ratio, market capitalisation and market-to-book ratio) and dependent variables (profit, return on average asset (ROAA), return on average equity (ROAE) for a pair of two extreme time-based events. Random Effects Models were used to identify extraordinary cases (i.e. companies and REITs that performed either extra-ordinarily well or badly).

2.0 THE GLOBAL FINANCIAL CRISIS

The GFC was largely unanticipated (Lin and Treichel, 2012). Many accept that the GFC began with the collapse of Lehman Brothers on September 14th, 2008. However at the heart of the GFC was the bursting of the US real estate bubble due to the tightening of the monetary policy by the Federal Reserve. With plummeting house prices, and accelerated mortgage delinquencies, charge-offs and defaults, the real estate market went into decline. Banks and other financial institutions that had collected subprime loans securitised through new instruments, in particular Collateralised Debt obligations (CDOs) became vulnerable. In March 2008, Bear Stearns filed for bankruptcy and was bought over by JPMorgan for a tenth of its pre-crisis value. Three days before the Lehmann Brothers declared bankruptcy, the Federal Home Loan Mortgage Corporation (FHLMC, known as Freddie Mac) and the Federal National Mortgage Association (FNMA, commonly known as Fannie Mae) were placed in conservatorship (i.e. nationalised) by the Federal Housing Financing Agency. In September 2008, Merrill Lynch and the insurance companies AIG and HBOS also filed for bankruptcy. This series of bankruptcies marked the eruption of the GFC. Lehman's fall halted intra-bank lending thereby prompting a liquidity crisis as well as bank runs. The US government quickly responded with a US\$700 billion bailout to prevent the financial sector meltdown.

The rest of the US economy collapsed as consumer credit fell sharply while companies could not raise the capital they needed (Lin and Treichel, 2012). Demand fell across all sectors, but the decline was larger for goods than for services. Unemployment levels rose precipitously in the durable goods (and construction) sectors. The US recession started in December 2007 and lasted 18 months. The collapse of the international commodity prices, especially oil, as a result of drop in demand in advanced economies was another factor which drove the international contagion. Oil-exporting countries experienced serious fiscal crisis. Advanced economies, including the US, together with developing countries entered into a recession.

Over in Europe, the collapse of a German (IKB Deutsche Industriebank) and a British (Northern Rock) banks in late 2007 preceded the GFC. The Central Banks of the US, EU, Canada and Switzerland announced in December 2007 a plan to provide at least US\$90 billion in short-term financing to banks, followed by European Central Bank injecting US\$500 billion into the financial system. The GFC triggered the unprecedented European sovereign-debt crisis resultant of the real estate bubble burst in Ireland and Spain, and tax revenues deflation in Greece, Italy and Portugal (Burda, 2013). The crisis began in October 2009 when Greece's finance minister revealed that the budget deficit would be double the previous government's estimate and will reach 12% of GDP. International lenders lost confidence in the ability of these countries (which became known as PIIGS) with their severe sovereign government debt vis-a-vis their GDP to cover their deficits. Their borrowing costs reached a level that threatened the integrity of the Eurozone banking system, the mechanisms of payments, the European Central Bank and the common currency itself. The OECD (2014) indicated that the combined gross borrowing needs of OECD governments of US\$11 trillion appeared to have peaked in 2012. However it warned that the government debt ratios are expected to further increase and remain at high levels in the near future as their economies are taking longer to recover. In fact for a group of selected major OECD countries, general government debt as a percentage of GDP in 2014 is projected to surpass the World War II peak of around 116%.

3.0 RESEARCH METHOD

All property companies that were listed in their respective stock markets (i.e. SGX, Bursa Malaysia, IDX and SET) made up the sample population provided they passed the following criteria:

- (1) Listed before or on 1st January 2004.
- (2) No significant changes to companies' financial structure resultant of mergers and acquisition, changes of financial years that leads to discontinuities in the reporting period, or trading status suspended due to sanctions or irregularities.
- (3) Remained substantially as a property development company (i.e. the proportion of revenue from property activities must be at least 50%).
- (4) Reporting in local currency (Singapore case only).
- (5) At least 50% of revenues from domestic sources (Singapore case only).

Because the number of qualifying Malaysian companies was big (i.e. 71), systematic sampling of firstly arranging them according to size of total assets (2012 figures) in descending order and then selecting companies alternately was adopted. One company – Talam Transform Berhad - was eliminated from the final sample due to extreme outlier data. The final number of the sample population for publicly listed property development companies are as follows: Singapore 13, Malaysia 35, Indonesia 18 and Thailand 27.

REITs have relatively short trading histories in Singapore, Malaysia and Thailand. In Indonesia they have yet to take root. Hence, the study period for them was shortened to 2007-2012, to avoid a sample population would have been exceedingly small. All REITs that were listed in their respective stock markets (i.e. SGX, Bursa Malaysia, IDX and SET) made up the sample population provided they passed the following criteria:

- (1) Listed before or on 1 January 2007.
- (2) No significant changes to trusts' financial structure, including mergers and acquisition, change of reporting currency or have its trading status suspended due to sanctions or irregularities.
- (3) No discontinuity of annual report.
- (4) Remain substantially as a REIT.
- (5) Reporting in local currency (Singapore case only).
- (6) At least 50% of revenues from domestic sources (Singapore case only).

The number of the sample population for REITs are as follows: Singapore 7, Malaysia 11 and Thailand 8.

Two types of financial analyses were exercised on the sampled public listed companies:

- (1) Financial statement, including total revenue, total profit before tax, net profit, total assets, total liabilities, total net assets, total equity and total market capitalisation,
- (2) Financial ratios, including examine profitability ratio, efficiency ratio, liquidity ratio, and market ratio, and

Three types of financial analyses were exercised on the sampled REITs:

For financial performance:

- 1) Financial statement, including total rental income, total other income, total income, total net profit, total assets, total liabilities, total net assets, total equity and total market capitalisation,
- 2) Analysing the financial ratios, including profitability ratio, efficiency ratio, and leverage ratio,

For investment performance:

- 3) Analysing the investment performance (indicators), including share price, distribution yield, management expenses ratio (MER), portfolio turnover ratio (PTR), net assets value (NAV)

A weight was applied to the ratios to ensure that the companies and REITS represented their sectors. The weightage changed annually concomitant with revenue change. Financial data were extracted from financial statements in the annual reports usually available from the respective stock market website, otherwise direct contact with the companies. Obtaining annual reports proved particularly challenging for Indonesian and Thai companies.

SPSS PASW (Predictive Analytics SoftWare) and E-Views 7 were used to analyse the financial data of the companies. Panel data regression analysis was used to explore the relationship between independent variables and dependent variables for the most suitable pair of event years. Financial performance of the companies was represented by 6 variables: independent variables were represented by Leverage (Debt Ratio), Size (Market Capitalization) and Growth (Market-to-book Ratio). Profit (Net Profit Margin), ROAA (Return on Average Asset) and ROAE (Return on Average Equity) signified as proxies for dependent variables. The correlations between these 6 financial variables were examined by SPSS. Several pairs were tested to find the most appropriate years to be included in the model. All market capitalisation values were converted to log value in order to have a standardise data and to obtain the best interpretation of results.

The econometric model was developed which states Profit, ROAA and ROAE were depending on Leverage, Size and Growth:

a) Model for public listed companies

$$Y(P, ROAA, ROAE)_{it} = \beta_0 + \beta_1 Lit + \beta_2 Sit + \beta_3 Git + \beta_4 D1 + \beta_5 D2 + \mu_{it}$$

where

$i = 1, 2, \dots, 27$ (company)

$t = 1, 2, \dots, 9$ (year)

$D1 = 2008$ (year)

$D2 = 2009$ (year)

μ_{it} is a random error term

b) Model for listed property funds

$$(P, ROAA, ROAE)_{it} = \alpha_0 + \alpha_1 Lit + \alpha_2 Sit + \alpha_3 Git + \alpha_4 D1 + \alpha_5 D2 + \mu_{it}$$

where $i = 1, 2, \dots, 12$ (property fund)

$t = 1, 2, \dots, 6$ (year)

$D1 = 2009$ (dummy)

$D2 = 2012$ (dummy)

μ_{it} is a random error term

Panel data consists of three types of model namely Pooled OLS Model, Fixed Effects Model and Random Effects Model. The Random Effect Model was chosen after applying the Hausmen test which determines the appropriate model to be applied in this study. Panel data regression in this study was diagnosed for normality and autocorrelation problems. The remedies applied differed between large and small sample sizes. Jarque- Bera normality test was conducted to diagnose for normality case for all models. Durbin- Watson statistic test was applied for autocorrelation problem which means correlation between members of series of observations ordered in time (as in time series data) or space (as in cross-sectional data). And if necessary, the Cochrane-Orcutt iterative procedure was also adopted. Random Effects Models were used to identify extra- ordinary cases (i.e. companies and REITs that performed either extra-ordinarily well or badly).

The results were validated by experts located in the various countries.

4.0 FINDINGS AND DISCUSSION

4.1.0 MALAYSIA

4.1.1 Malaysian Listed Property Companies and REITs

The Malaysian real estate sector is made up of many small and medium sized players with a few large dominant ones. At the time of the study, 88 property companies were listed on the main board of Bursa Malaysia (November 2013). Foreign housebuyers constitutes a small percentage of the total housebuyers in Malaysia – industry estimate is 5%. Malaysia was the first Asian country to develop REITs in 1989 (with the introduction of Arab Malaysia First Property) as an indirect vehicle for real estate investment (Ong et al., 2011b). A REIT market (M-REITs) was established in Malaysia in August 2005, including the first Islamic REIT in August 2006 (Newell and Osmadi, 2010). At the time of the study, all 17 Malaysian REIT (M-REITs) were equity REITs; there was no mortgage REITs and hybrid REITs in Malaysia market.

4.1.2 Malaysia's Economy and Real Estate Market During The 2004-2012 Period

From government statistics, the entire Malaysian economy was greatly affected by the GFC. The economy contracted in the first three quarters of 2009. The crisis led to heightened company closures and retrenchment in the broader economy. But there were also economic slowdowns preceding and following the GFC. But it would seem that the GFC was the shock that really mattered for the study.

But if we refer to various data from NAPIC, Malaysia's story is not as straightforward as that. Property transactions experienced negative growths in 2005, 2009 and 2012, though housing transactions which were the main driver for the overall transactions experienced contractions in 2005 and 2009 only.

4.1.3 Finding for Malaysian Public Listed Property Companies

The Random Effects Model determined that the best two paired years for analysis for the 35 sampled Malaysian companies were 2005 (D1) and 2009 (D2). The Panel Regression Analysis found that net profit margin and ROAA were impacted by neither events, but the ROAE was impacted by 2005.

$$\mathbf{PROFIT = 0.3158 - 0.6921LEVERAGE}$$

where PROFIT is net profit margin and LEVERAGE is debt ratio

$$\mathbf{ROAA = -0.1445 - 0.1348LEVERAGE + 0.0122SIZE}$$

where ROAA is return on average asset, LEVERAGE is debt ratio and SIZE is market capitalisation.

$$\mathbf{LNROAE = -0.2295 - 0.2162LEVERAGE + 0.0189SIZE - 0.0399D1}$$

where ROAE is return on average equity, LEVERAGE is debt ratio, SIZE is market capitalisation and D1 is 2005. If event D1 had not happened, ROAE would have increased by 1.0407.

Given its significance, D1 (i.e. 2005) requires more elaboration. The property and housing markets registered decrease in both volume and value of transactions after enjoying positive growth since 2002 which can be labelled as a mini-property boom. 2005 marked the cessation of that mini-boom. It is interesting to note that Malaysian real estate developers were more impacted by a local shock (i.e. cessation of the mini property boom) than the GFC during the study period. This is despite the fact that Malaysia experienced the largest contraction in exports immediately in 2009 compared to its neighbours including Singapore.

4.1.4 Findings for MREITs

The Random Effects Model found the most appropriate paired years for testing the 11 M-REITs' net profit margin, ROAA, and ROAE were 2009 (GFC) and 2012 (Eurozone Crisis). When regressed by Panel Data- Random Effects Model analysis, it was found that net profit margin, ROAA and ROAE of the sampled M-REITS were not affected by either events. The equation of the transformed models were:

$$\mathbf{PROFIT = 0.9362 - 0.4649LEVERAGE}$$

where PROFIT is net profit margin and LEVERAGE is debt ratio.

$$\mathbf{LNROAA = -2.4273 - 0.7704LEVERAGE}$$

where ROAA is return on average asset and LEVERAGE is debt ratio.

$$\mathbf{\Delta ROAE = \beta_0 + \beta_1 \Delta GROWTH + \mu t}$$

$$\mathbf{\text{where } \Delta ROAE = ROAE - ROAE1}$$

$$\mathbf{\Delta GROWTH = GROWTH - GROWTH1}$$

where ROAE is return on average equity and GROWTH is market-to-book ratio. The findings concur with Newell and Osmadi (2010) who found that MREITs were not impacted by the GFC, which they attributed to M-REITS being highly regulated, conservatively managed, debt which was largely in local currency with local banks, low gearing and institutional support. What the present study found was that neither were MREITS affected by another external shock, the Eurozone Crisis.

4.1.5 Extra-Ordinary Performing Malaysian Property Companies

The Random Effects Model identified extraordinary cases (i.e. companies that did extraordinarily badly and well) from the sample companies. Karambunai Corp Bhd and Lien Hoe Corporation are described below.

Table 4.5 Extra-ordinary companies based on Graph of Actual, Fitted and Residual

	Extra-ordinarily badly	Extra-ordinarily well
Net profit	Malaysia Pacific Corp Bhd (2005) Karambunai Corp Bhd (2010)	-
ROAA	Karambunai Corp Bhd (2010)	Lien Hoe Corporation (2012)
ROAE	Karambunai Corp Bhd (2010)	Lien Hoe Corporation (2012)

4.1.6 Extra-Ordinary Performing MREITs

Extra-ordinary cases were next identified using the Random Effects Model. The two REITs involved are described below.

Table 4.8 Extra-ordinary companies based on Graph of Actual, Fitted and Residual.

	Extra-ordinarily	Extra-ordinarily well
Net Profit Margin	Al-Aqar Healthcare (2012)	Al-Hadharah Boustead REIT [S] (2008)
ROAA	-	Al-Hadharah Boustead REIT [S] (2008)
ROAE	-	Al-Hadharah Boustead REIT [S] (2008) Amfirst Real Estate Investment Trust 2008

4.2.0 SINGAPORE

4.2.1 Singaporean Listed Property Companies and REITs

Singapore private developers dominate the small but growing high-end housing segment (Lum, 2011). They cater largely to the upper echelons of Singapore's society, expatriates and foreign investors (Phang, 2001). For Singaporean developers, land is the most scarce resource. The major supplier of land in Singapore is the government (Lum, 2011). The pace of private property development activities hinges on the size of land that is auctioned. Apart from that, the developers compete for construction resources when large scale public projects come on stream. Since the first REIT listing in 2002 (MAS, 2011), the Singapore REIT market has grown exponentially to become the largest REIT market in Asia, next to Japan.

4.2.2 Singapore's Economy and Real Estate Market During The 2004-2012 Period

Using Singapore Composite Coincident Indicators (CCI), Loh et al. (2011) detected two cycles, not one, between 2003 and 2011 in Singapore's economy. The first growth cycle began in mid-2004, as the economic growth moderated following exceptional strong growth in the post-SARS economic recovery of 2003. Singapore entered in a recession in early 2008. There may well be have been a third cycle which Loh et al. (2011) did not detect as it was outside their time-frame of study. Singapore's real estate segment experienced two dips during the study of 2004-2012. Prior to the GFC, there was a housing boom between 2006 and 2007 (Lum, 2011). And prior to the second dip in 2012, the segment made a strong post-GFC recovery. Throughout the study period, there were three dips in the number of permissions (written and oral) for private residential properties, which was mirrored in the number of plan approvals trend (but not the commencement of construction trend).

4.2.3 Finding for Singaporean Public Listed Property Companies

Two dips were selected after four match years (2008 and 2011, 2008 and 2012, 2009 and 2011, 2009 and 2012) were analysed using method of Random Effects Model. The most significance value was found by pairing 2008 (D1) and 2011 (D2). Panel Regression Analysis found that net profit margin was not impacted by either events, but ROAA and ROAE were impacted by 2008.

$$LNPROFIT = 0.4857 - 0.4864LEVERAGE$$

where PROFIT is net profit margin and LEVERAGE is debt ratio.

$$LNROAA = 0.0737 - 0.0444D1$$

where ROAA is return on average asset and D1 is 2008. Had the crisis not happened, ROAA would have been 1.08, instead of 1.03.

$$ROAE = 0.1475 - 0.0947D1$$

where ROAE is return on average equity and D1 is 2008. If the GFC had not happened, the ROAE would have been 0.148 instead of 0.053.

Given its significance, D1 (i.e. 2008) requires more elaboration. Being highly open, the GFC led to Singapore's economy contracting in 2008 (MAS, 2009). An Economic Resilience package to the tune of S\$20.5 billion or RM50 billion (equivalent to 8.2% of GDP) was unveiled in January 2009, with some of the spending already taking place in the last quarter of 2008. But there was no measures for the real estate sector. One has to appreciate that beginning 2006, the Singapore government implemented various several measures to cool down the property market. This very much explains why the real estate market was not given any stimulus measures when the GFC gripped the nation real hard.

4.2.4 Findings for SREITs

The 7 sample SREITs were regressed using Panel Data – Random Effects Model analysis. Two dummy variables - D1 (2009) and D2 (2011) - were used in this analysis in order to observe whether these 2 events significantly affected net profit margin, ROAA and ROAE of 7 SREITs. The equation of the transformed model was:

$$\mathbf{LNPROFIT = 0.9481 - 0.3728D1}$$

where PROFIT is net profit margin and D1 is 2009. When the event in 2009 took effect, net profit margin was reduced to 1.778.

$$\mathbf{LNROAA = 0.7643 - 0.0376SIZE + 0.0924GROWTH - 0.0985D1}$$

where ROAA is return on average asset, SIZE is market capitalisation and GROWTH is market-to-book ratio. When the event in 2009 took effect, return on average asset was 2.06.

$$\mathbf{ROAE = 1.6108 - 0.0795SIZE + 0.1755GROWTH - 0.1647D1}$$

When the event in 2009 took effect, the return on average equity was 1.54.

All three variables were affected by the event in 2009, the year when the GFC hit Singapore the hardest.

4.3.0 THAILAND

4.3.1 Thai Listed Property Companies and REITs

Like their counterparts in Malaysia, Thai property companies operate across the entire range of housing types (i.e. low-, medium- and high-cost segments). Foreigners are permitted to buy residential units in their own name, but not land. The state-owned Government Housing Bank (GHB) played a very important role in providing affordable home loans to low and middle income groups. The GHB held on to a 33% market share in

2011 whereas the combined share of all commercial banks was about 59%. The government utilised the GHB to provide mortgages during times of financial distress and also to act as principal lender for the Baan Eua-Arthon (BEA) low-cost housing programs.

The regulations governing the issuance and offering of Real Estate Investment Trusts (REITs) were first introduced in Thailand in late 2012, and took effect on 1 January 2013. With REITs, property developers could now employ a new fundraising vehicle while providing public investors with an alternative investment product.

4.3.2 Thai's Economy and Real Estate Market During The 2004-2012 Period

Construction permits for low-rise housing was lowest in 2009, whereas for highrise housing it was 2011. Incidentally construction permits for high-rise housing also dipped slightly in 2007. The House Price Index's graph for Bangkok and adjacent provinces show four significant dips throughout the study period - Q1 2008, Q3 2009, Q3 2010 and Q1 2011.

4.3.3 Findings for Thai Public Listed Property Companies

The Random Effects Model determined that the best two paired years for analysis for Thai companies were 2008 (D1) and 2009 (D2). The Panel Regression Analysis found that net profit margin and ROAA were not impacted by either events, but the ROAE was impacted by 2009 (D2).

$$\mathbf{Profit (3) = -1.4763 - 0.7155L3 + 0.2183S3 - 0.2438G3}$$

where PROFIT is net profit margin, L is debt ratio , S is market capitalisation and G is market-to-book ratio.

$$\mathbf{ROAA (5) = -0.1518 - 0.1920L5 + 0.0280S5 - 0.0121G5}$$

where ROAA is return on average asset, L is debt ratio, S is market capitalisation and G is market-to-book ratio.

$$ROAE (1) = -2.6074 - 0.7276L + 0.1477S - 0.1194G - 0.2279D2$$

where ROAE is return on average equity, L is debt ratio, S is market capitalisation, G is market-to-book ratio and D2 is 2009.

The results above demand that the events in 2009 be explained. That was the year the GFC hit the Thai economy really hard. For the first time in the decade, the economy contracted (BOT, 2010) – that was how severe the impact was. The government introduced two fiscal stimulus packages - Stimulus Packages 1 and 2 (SP1 and SP2). SP1 passed the parliamentary process in February 2009, and the first expenditure items were disbursed by the end of March 2009 (BOT, 2010). The SP1 was designed to work in tandem with tax measures and extra financial credit of the Special Financial Institutions (SFIs) of 305.1 billion baht (RM31 billion). The disbursement of the SP2 was planned to last for 3 years (2010–2012). But the stimulus packages were not effective in shielding the sampled Thai property development companies from the GFC.

4.3.4 Findings for Thai REITs

For Thai's REITs, the best paired years were found to be 2008 (D1) and 2009 (D2). Only net profit margin was affected by 2009. Neither ROAA and ROAE were affected by either events. The equations of the transformed models were:

$$LNPROFIT = 1.6522 - 0.1379LNL - 0.3155D2$$

where PROFIT is net profit margin, L is debt ratio and D2 is 2009.

$$LNROAA = -0.37719 - 0.1246LNLEVERAGE$$

where ROAA is return on average asset and LEVERAGE is debt ratio.

$$LNROAE = -0.3700 - 0.1229LNLEVERAGE$$

where ROAE is return on average equity and LEVERAGE is debt ratio.

As with the sampled property development companies, Thai REITs were equally affected by the GFC.

4.4.0 INDONESIA

4.4.1 Indonesian listed property companies and REITs

Indonesia does not have listed REIT, so the Indonesian study only focused on the public listed companies.

The private sector started to provide houses only since 1971 (Winarso and Firman, 2002). Their participation in the housing sector is still relatively small. They concentrate more on profitable medium- and high-cost housing, which represent roughly 10% of the housing stock (Zhu, 2006). Foreigners are subjected to stringent regulations when it comes to house purchase. OECD (2012) regards Indonesia's financial markets as still shallow. The major share of housing finance is captured by the government through the State Saving Bank (BTN) and the Housing Finance Corporation (PTPS - PT Papan Sejahtera) (UNHSP, 2008a). These two banks enjoy government's support to obtain funds below market price so that they can provide mortgage at a subsidised interest rate to encourage people - primarily low-income and moderate-income earners - to buy houses through Housing Ownership Loan (KPR - Kredit Pemilikan Rumah) Scheme.

4.4.2 Indonesia's Economy And Real Estate Market During The 2004-2012 Period

GFC aside, the economy marginally dipped twice, one preceding the GFC in 2006 and the other after the GFC in 2012. The real estate growth on the other hand dipped four times. The first dip in 2005 was the oil-triggered 'mini-crisis' (Lucich et al., 2006), the second and third dips in 2007 and 2009 respectively was the consequence of the GFC (BI, 2008; 2009; 2010) while the last dip in 2012 stemmed from the Eurozone Crisis (BI, 2013).

The Residential Property Price Index (RPPI) Survey that covered 14 major cities and Jabotabek shows that the RPPI for the latter peaked in the fourth quarter of 2006 to 12.3% growth before dropping drastically in the fourth quarter of 2007 and then gradually sliding

down to 2.61% annual growth by the fourth quarter of 2009. The RRPI for the Jabotabek region then crept upwards until it peaked in second quarter of 2011 at 5.85% annual growth before dipping sharply in the first quarter 2012 to 3.72% annual growth and then rising rapidly to the fourth and final peak of 6.8% annual growth in 4Q 2012. The national RRPI also dipped in the fourth quarter of 2007, and then first quarter of 2009 before gradually rising to peak in fourth quarter of 2011 before sliding downwards in the first quarter 2012 and rebounding sharply thereafter.

4.4.3 Findings for Indonesian Public Listed Property Companies

For Indonesian public listed property companies, two dummies, stated as D1 and D2 became proxies for year 2007 and 2012 respectively. The equations of the transformed models were:

$$\mathbf{LNPROFIT = 0.5684 + 0.0366LNLEVERAGE + 0.1039LNGROWTH + 0.0717D2}$$

where PROFIT is net profit margin, LEVERAGE is debt ratio, GROWTH is market-to-book ratio and D2 is 2012.

$$\mathbf{LNROAA = -0.0323 + 0.0328LNGROWTH + 0.0350D2}$$

where ROAA is return on average asset, GROWTH is market-to-book ratio and D2 is 2012.

$$\mathbf{ROAE = -0.6980 + 0.0314SIZE - 0.1320GROWTH}$$

where ROAE is return on average equity, SIZE is market capitalisation and GROWTH is market-to-book ratio.

The sampled companies were not affected by the GFC. But they were positively affected by the sharp inflation of 2012 (based on net profit margin). The obvious question to pose is: why did the GFC not affect the sampled Indonesian companies? They were not affected by the GFC because the economy as a whole was insulated from this external shock, Indonesia had a relatively low share of manufactures in its total exports, a relatively low dependence on export-led growth, among others (Thee, 2012).

4.5.0 EXTRA-ORDINARY PERFORMING SINGAPOREAN, INDONESIAN AND THAI PROPERTY COMPANIES

Random Effects Model was employed to identify public listed companies in Singapore, Thailand and Indonesia that performed extra-ordinarily during the study period. It is interesting to note that none of the Singaporean companies performed extra-ordinarily badly, even in spite of the sample companies as whole being affected by the GFC. Conversely none of the Thai companies performed extra-ordinarily well.

Country		Extra- Ordinarily Badly	Extra-Ordinarily Well
Singapore	Net profit margin	-	Hong Fok Corporation Ltd (2008)
	ROAA	-	Singapore Land Ltd (2007) Wing Tai Holdings Ltd (2012)
	ROAE		Sim Lian Group Ltd (2007) Wing Tai Holdings Ltd (2012)
Thailand	Net profit margin	Natural Park Public Co. Ltd (2008)	-
	ROAA	Natural Park Public Co. Ltd (2008)	-
	ROAE	Natural Park Public Co. Ltd (2009)	-
Indonesia		Sentul City Tbk (2004) Ristia Bintang Mahkotasejati Tbk (2011)	Pakuwon Jati Tbk (2005)
	ROAA	Ristia Bintang Mahkotasejati Tbk (2011)	Pakuwon Jati Tbk (2005) Lippo Cikarang Tbk (2012)
	ROAE	Intiland Development Tbk (2006) Pakuwon Jati Tbk (2005)	Lippo Cikarang Tbk (2011)

4.5.1 Extra-Ordinary Performing Singaporean and Thai REITs

Random Effects Model revealed REITs in Singapore and Thailand that performed extra-ordinarily during the study period. Indonesia did not have REITs listed in the local stock market. None of the Thai REITs performed extra-ordinarily badly.

Country		Extra- Ordinarily Badly	Extra-Ordinarily Well
Singapore	Net profit margin	Suntec REIT (2009)	Cambridge Ind Tr (2009)
	ROAA	-	Suntec REIT (2007)
	ROAE	-	Suntec REIT (2007) Keppel REIT (2007)
Thailand	Net profit margin	-	Dome Residential Complex (2007) Leasehold Property Fund (2007)
	ROAA	-	Dome Residential Complex (2007) Leasehold Property Fund (2007)
	ROAE	-	Dome Residential Complex (2007) Leasehold Property Fund (2007)

4.6 DISCUSSIONS

And so, what lessons can we take away from this study. There are eight that are suggested here.

The first is that studies on the impact of external shocks on the real estate that have looked purely at numerical data alone have to be treated with circumspection if they ignore the mindset of national policy-makers who may either take actions to mitigate the external forces, or simply allow the affected players to ride through the economic storm unaided.

The second is that global economic integration has its perils. The contrast between Indonesian and Singaporean sampled listed property companies attest to that. There was a time when certain segments of the international community and scholars were pushing for

a boundaryless world with promises of global economic efficiency and prosperity. While few powers-that-be in the west took no notice when the victims were mainly developing countries and its people, some have already become vocal when the damage manifests on their door steps.

The third is that timing of appropriate stimulus packages is not an exact science. This is attested by the Thai government having to extend the deadline for tax reduction on property transfer from March 2009 to December 2009 (BOT, 2009; BOT, 2010). The question that can be posed is whether the governments should have intervened at all to support the real estate sector during the GFC? The idea that inefficient firms should be left to liquidate during economic shocks can be traced to Schumpeter (1942) with his notion of 'creative destruction' with its cleansing effect that bodes well for long-term benefits. This process results in reallocation of productive resources so essential for capitalist evolution. However no government would acquiesce to their economies faltering.

Fourth, It is axiomatic to state that mega-shocks cannot be predicted. The GFC and the preceding AFC had demonstrated this to be true. Except for a few economists, the GFC was largely unanticipated (Lin and Treichel, 2012). Preceding that, no one expected the AFC to unfold to the extent it did (Krugman, 1998). The next mega-shock will therefore take place, most likely, unexpectedly by many including experts. Razin and Rosefielde (2011) warned that the mentality and institutions which prompted the crisis in the first place remain firmly in command. There is little prospect that a constructive consensus will emerge capable of disciplining contemporary societies for the greater good by promoting optimal efficiency, growth and economic stability.

Fifth, for future mega-shocks, property developers cannot expect policy responses to provide them respite if the private sector plays a minor role in the domestic real estate sector. This was the inference drawn from the observations of Indonesia.

Sixth, it is conceivable that some of the public listed companies would be hit by the next mega-shock while still trying to recover from the GFC. Turning their fortune to become

high performers, or at least recovered entities, within a few years after that though is not an impossibility. This observation was drawn from the qualitative study of extra-ordinary performing property companies.

Seventh, not all listed property development companies channel all their energy solely into property development. Those in Singapore, Indonesia and Thailand have diversified into related and non-related activities. Hence any financial analysis of these companies must take cognisance the earnings from the non-property development activities.

Eighth, the Securities Commission of Malaysia should consider emulating Singapore in getting REITS to undertake fair value adjustments annually. This would better reflect the property values held by the REITS for the benefit of the government, market and investors. In Malaysia, the current practice as required by the Commission is to do property valuation every three years. Also, taking the cue from S-REITS, M-REITs should be made to report earnings per unit for the benefit of investors.

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