

The Impact of Asia Financial Crisis (AFC) and Global Financial Crisis on the Malaysia Commercial Property Market

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Abstract : *The occurrences of several financial crises, namely, Asia Financial Crisis (AFC-1997/1998) and Global Financial Crisis (2008) has affected the commercial properties market. The purpose of this paper is to examine the changes caused by the impact of AFC and GFC on the commercial properties such as shopping complex and offices in Malaysia during the period of 1992 to 2015. The objectives of the research are to (1) determine the impact of AFC and GFC on the vacancy rates of shopping complex and office market and; (2) to determine the macroeconomic variables which affecting the vacancy rates of shopping complex and offices in Malaysia during the AFC and GFC periods. The collection of secondary data was gathered from Property Market Report produced by National Property Research Centre (NAPIC), Ministry of Finance, Malaysia, World Bank report and various real estate journal articles. The analysis of the empirical results suggested that both commercial properties' vacancy rates are affected by the financial crises but shopping complexes are more affected by the occurrence of AFC as the vacancy rates decrease sharply. For both commercial properties, the occurrence of GFC does not affected the vacancy rates so much as AFC. The findings also shows that shopping complex vacancy rates is affected by the inflows of FDI and inflation while the office building vacancy rates are significantly affected by GDP and Building Index.*

Keywords: *Asia Financial Crisis (AFC), commercial property, Global financial crisis, Malaysia*

I. Introduction

In recent years, the increasing uncertainty in global economies have resulted in the occurrence of several financial crises which include Asia Financial Crisis (AFC), US Subprime Crisis and Global Financial Crisis (GFC). These financial crises are the result of inadequate regulation of real estate and financial markets. Furthermore, the lending to the real estate sector also carry several risk which can caused financial instability. These risk include; low liquidity, risk of oversupply and refinancing risk [1].

The problems caused by financial crises are becoming more severe as the market are now more globalized in term of financial markets. Therefore, the occurrence of financial crises in one market can quickly spread into other country/regions and trigger problems in the whole global markets. This effect is known as "contagion effect" [2]. Most of financial crises contribute to a negative impact on the growth of the economy, resulting in economic recession and current account deficit. The main cause of financial crises are inconsistent of macroeconomic factors mainly in the financial market and real estate market [2].

In 1997, East Asia countries were badly hit by the Asia Financial Crisis (AFC). Many macroeconomic factors such as the decreased in property market, stock markets and capital flight were believed to trigger the economic catastrophic. In addition, the disorderly adjustments in commercial property market also play an important role in financial crises [3]. For example, when the price of commercial property decreased, the profit from the construction projects also decrease causing stress to the developers. This will further reduce economic activity, triggering sharper fall in prices as the demand for rental in commercial property decrease [1]. For instance, a fall in commercial property prices reduces the profitability of construction projects, and increasing stress among developers. By further reducing economic activity this can, in turn, lead to a sharper fall in property prices as rental demand falls away, resulting in greater losses on commercial property lending.

The occurrence of GFC in 2008/2009 have resulted in sharp contraction in commercial property prices in several countries such as Australia, France, Ireland and New Zealand which suffered major losses in commercial loans due to the existence of large commercial loans compared to residential property in their balance sheet [1]. The contraction of commercial property is sharper than house prices due to the less liquidity and segmented of the market [4]. The GFC also caused many financial institutions and banks to reduce lending capacity for financing of commercial property which in turn decreased funds committed to commercial property [5]. Consequently, this action create difficulties to major commercial property investors/lenders such as Lehman Brothers, AIG, Merill Lynch, Hypo and Fortis as the cost of capital increased and risk premium attached to property increased [5].

The impact of this financial crisis is significant especially in the Asian property market, as this market constitutes 50% of global property transactions [6]. Furthermore, the Asian property market is expanding with

the increasing value of Asia's properties from USD147 billion in 2007 to USD 279 in 2010 [6].Based on previous crises, the main causes of loan losses are coming from commercial property loan [1]. Therefore, it is important to assess the impact of financial crises on commercial property's vacancy rate as it is a fundamental input to property valuation and future construction development for commercial property.

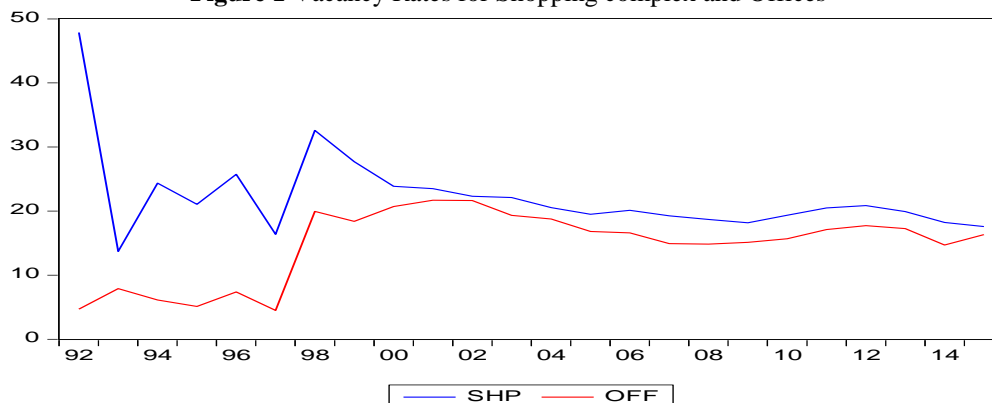
II. Malaysia Commercial Property Market

The commercial property market differ significantly from the residential market. According to the [7], the differences are in term of duration of tenancy and the returns of each market. In commercial property market, the lease are sign on long-term contracts (5-10 years) while for residential market the lease is for short period (1-4 years). The returns for commercial property market is through source of income while for residential market the return is in the capital appreciation of the property itself [7].

In Malaysia, the commercial properties can be divided into commercial buildings, shop houses, office buildings, medical centers, hotels, factories, stores and warehouses, industrial building and retail lots which operate for profit making objectives [8]. The location of these commercial properties are in strategic areas which are zoned for businesses. These commercial properties are more sensitive to economic cycles as many development projects for commercial properties are coming from Foreign Direct Investment [5]. According to [8] the investment in commercial property is very significant to Malaysia and it contributes substantial support to the development and economic growth of the country.

In commercial property market, the vacancy rate is used to measure the health of the market by looking at the amount of commercial space which is unused. The indication of higher vacancy rate signified the excess of supply from demand [9]. In Malaysia, the excessive growth of office buildings in Malaysia can be seen in 2000 where the supply of office spaces to the market was 12,325,332 m.p/s.m while the demand is only 9,773,664 m.p/s.m [10]. Currently, the Malaysia commercial property market is showing a slow growth with an increased in vacancy rate for several business districts such as Klang Valley, KL, Putrajaya and Cyberjaya. As a result, in 2015, Klang Valley has recorded a high vacancy rate of 20.4% in its office market compared to regional average of 6.6% and national level of 16.3% [10].

Figure 1 Vacancy Rates for Shopping complex and Offices



Source: NAPIC, Annual Property Report various years

Figure 1 shows the vacancy rates of office building and shopping Complex in Malaysia from 1992 to 2015. Clearly, the office market in Malaysia has a cyclical trend with a short period of undersupply and followed by long period of oversupply. The undersupply for office buildings was recorded in 2008, during the GFC period. (see Figure 1). For Kuala Lumpur, the Grade A offices which was completed between 2011 and 2014 have only recorded occupancy rates of 50% to 75% [11]. This may due to the prolonged period of decreased in global oil prices which caused about 16% of total office space occupied by oil and gas sector tenant to leave the rental market [12].

The aggressive growth and development of retail property market, mainly shopping mall in Malaysia, is due to the high record of foreign tourist which visited Malaysia for its shopping experience. Moreover, the low currency and high purchasing power for Middle East high net worth people has made Malaysia as one of tourist attraction for spending their money. According to [10], there are currently 55 shopping malls under construction which are located in Klang Valley, Johor and Pulau Pinang. The retail market in Malaysia will have an increase of 40% additional retail space (approximately 30.9 million square feet) in these locations. As the shopping mall is highly demanded, Klang Valley and Johor Bahru is adding 43% and 119% of shopping malls into the existing market. Nevertheless, this will increase rental price competition among tenants which resulted in higher vacancy rates with lower rentals. The impact of increased in vacancy rates could spill over to other

sectors of the economy such as difficulty in managing cash flow for the developer, which mainly are the owners of the commercial properties and decreased construction activities in commercial properties development. Indirectly, this implication can also be seen in other sector such as employment market, financial market with an increase in non-performing loans (NPL) and production of related construction materials.

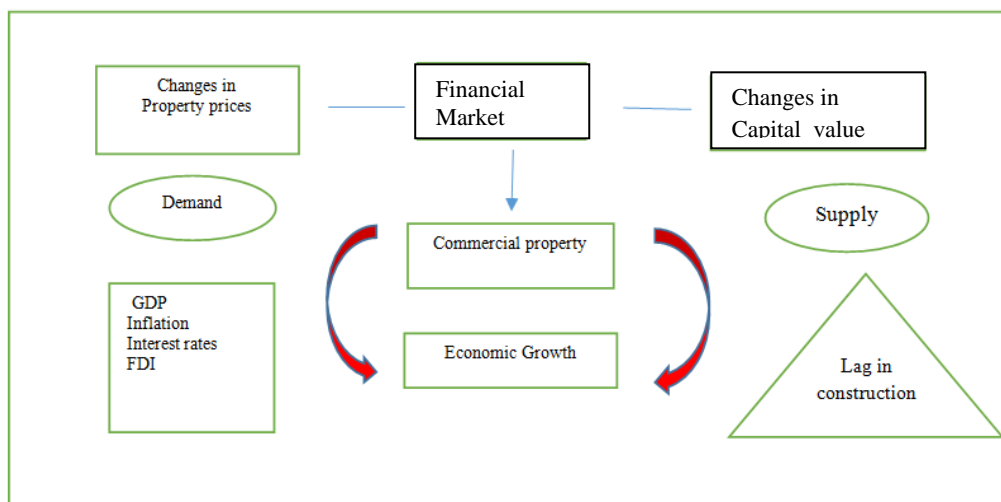
Malaysia, which is one of regional financial hub for many Multinational companies (MNC), have being affected with these financial crises due to the reducing cost of rental by many companies in banking, financial service. The combination of weak sentiment in global economic and oversupply of commercial properties had led to an increased in vacancy rates of more than 25% for both office market and shopping mall in Malaysia (see Figure 1). From Figure 1, it is quite clear that the vacancy rate for both markets are on upwards movement. The additional pressure in the Malaysia's office rental market is the latest supply of Menara Ilham Baru, Menara Bangkok Bank, and KL Trillion in 2015.

With the Economic Transformation Programme (ETP), Malaysia is aiming to become a high-income country by 2020. Hence, it needs to promote more growth in retail sectors as it can boost the economic growth. In the retail market, the shopping malls in Malaysia recorded significant growth as the international tourist are spending RM56.5 billion into Malaysia market, of which shopping accounted for almost 30% in 2010. According to [13], in the first half of 2015, there were 28.02 million sq ft of retails spaces (104 retail buildings) as compared to only 26.4 million sq ft in 2014 (102 retail buildings). The vacancy rate in this area is only 12.5%. According to [14], the growing demand of consumer for a modern retail shopping malls contributed to the growth of shopping malls in Malaysia. The liberalization of Malaysian retail sector in recent years continues to encourage more foreign retailers to invest and set-up their retail stores within shopping malls in Malaysia. These include Blackbarrett, Desigual, MCM, Tory Burch, Halston, Pisidia, Under Armour, Piquadro, Palladium, SPAO.

III. Theoretical Framework

According to the basic economic theory, the cyclical movement of commercial property depends not only on the demand and supply but it also concern with the lags of development in commercial property and changes in property yields and capital values [15]. The investors are more interested in property yield as it is a function of expected rental growth and interest rates. Figure 2 shows the commercial property and the relationship it has with financial market, consumer market (income) and construction sector.

Figure 2. Commercial Property and the relationship with other sectors



The objectives of this study are to examine the impact of Asia Financial Crisis and Global Financial Crisis on the vacancy rates of shopping complex and offices in Malaysia and to identify the macroeconomic variables affecting the vacancy rates of Shopping complex and offices in Malaysia during financial crises (AFC and GFC).

3.1 Research Data and Methodology

The study involves quantitative approach. The quantitative data of vacancy rates for Shopping complex and offices are in the form of annual data which are derived from NAPIC (National Property Information Centre). Other macroeconomic variables of Gross Domestic Product (GDP) inflation, Building index, and foreign direct investment (FDI) are taken from Department of Statistic of Malaysia, Bank Negara Malaysia

annual reports and World Bank. The data was analyzed using econometric techniques such as multivariate regression of OSL. Due to difficulties to find the quarterly data for all the variables, the study uses annual data from 1992 to 2015.

3.2 Previous Research on Commercial Property Market

[15] study the impact of decreasing Norwegian household debts in several channels such as commercial property market and residential market. Their finding suggested that commercial property market accounted for huge losses in the financial markets which include Spain and Ireland during 2008/2009 global financial crisis. [16] examines the impact of commercial real estate (CRE) on macro-financial stability in Poland. The study also uses past information on the commercial property market in several European countries to analyze the financial stability during the GFC in 2008. The author concludes that major contribution of loan losses are coming from the commercial property financing prior to the occurrence of the financial crisis. [8], examine the determinant of return for commercial property in Johor. The finding conclude that the investment in commercial properties is between 4 to 8 % per annum, which is much attractive compared to residential investment. [17] found that during 1989-1996 the collapse of the Japanese real estate market had a significant impact on the US commercial real estate market. Japanese banks, which had a large share in the US market, were forced to reduce lending to the US commercial real estate market. This implies that although the domestic financial system is strong and sound, the construction sector may suffer some problems in foreign banks, if it has a business in a given country who experience a large domestic property shock.

[18] studied on the improvement of the data base system for land values. The research suggested the construction of land value map through GIS and MRA, which can shows the growth pattern, market preferences and potential areas. In addition, this data base system can convey information about the past, present and future value of land distribution. [19] analyzed US property cycles during the period of 1990 to 2000. The results shows that rapid economic growth lead to increases in office construction. However, due to the time lag of completing the property, it has caused the supply of US offices to exceed the actual demand, when completed buildings were delivered to the market. He concludes that overly optimistic demand projections explain the large oversupply.

[20] examined the correlation of property market models in Australia, Canada, UK and US during the period 1985 to 1999. The analysis showed that gross domestic product, unemployment and inflation are the leading macroeconomic determinants in these countries' commercial property performance. In addition various institutional economic factors and also the government's attitudes towards commercial property also significantly impacted the commercial property market [20]. Many researchers measured the performance of office market using rental. According to [21] and [22], the supply and demand factors influence office rent. Researchers analyzing the office market performance also found that the variation in office rental behavior is explained by the variation in demand and supply variables. Hence, the model of demand and supply reduced-form model has being developed and used mostly in the UK market by [23]. [24] has examined the determination of office rent in UK from the period 1977 to 1984. The authors found that GDP is the most significant variables from the demand side. Other researchers such as [25], [26] also found that GDP is a significant proxy for demand side in office market.

3.3 Vacancy Rates for Shopping Malls and Office Building

The vacancy rates and rental is actually related. As [9] stated, the vacancy rates can significantly explained the rental behavior. [23] shows that the rental adjustment model indicates that changes in rent is actually the different between natural and actual vacancy rates. [25] explains that office vacancy rates is a significant office rental determinant which can be used as a proxy of office supplied for existing stock and in the form of newly build space. The changes in vacancy rates also indicate that there exist a mismatch between property supplied and occupier requirement [26]. The impact of AFC and GFC on the vacancy rates of Shopping Malls and Office Building in Malaysia is determine using this formula.

$$V_s = ((S_s - O_s) / S_s) \times 100 \dots\dots\dots (1)$$

$$V_o = ((S_o - O_o) / S_o) \times 100 \dots\dots\dots (2)$$

Where:

V_s = Vacancy Rates for Shopping Malls.

V_o = Vacancy Rates for Office Building

S_s = Supply of Shopping Malls

S_o = Supply of Office Building

O_s = Occupied space for Shopping Malls

Oo = Occupied space for Office Building

Multivariate Linear Regression Model

The Regression analysis used in this study is for the investigation of relationships between vacancy rates in Shopping Malls and offices in Malaysia with other macroeconomic variables such as GDP, Inflation, FDI and Building Index. The statistical significance of the relationship estimated and degree of confidence are of great importance for analyzing the impact of AFC and GFC on these two sub-sectors.

The multivariate linear regression model begins with the following equations:

$$SV = \beta_0 + \beta_1GDP + \beta_2Infl + \beta_3BIndex + \beta_4 FDI + \epsilon t \dots\dots\dots (1.3)$$

$$OV = \beta_0 + \beta_1GDP + \beta_2Infl + \beta_3BIndex + \beta_4 FDI + \epsilon t \dots\dots\dots (1.4)$$

Where,

SV = Shopping complex’s vacancy (1- occupancy rate)

OV = Offices vacancy (1-Occupancy rate)

Inf = proxy for inflation

β = constant (parameters)

Bindex = Building Index in Malaysia

GDP = Gross Domestic Product

FDI = Foreign Direct Investment

Both equations 1.3 and 1.4 are estimated using Ordinary Least Square (OLS) via Eviews 9.0 software. The parameters ($\beta_1, \beta_2, \beta_3, \beta_4,$) and ϵt the stochastic or residual are components of our model specification. Hence, to determine whether the residual values in our model display any dependent relationship (autocorrelation) with its past residual value, the serial correlation test of Breusch-Godfrey (BG) is applied to the residual values.

IV. Results and Analysis

Evidently, the impact of AFC and GFC on the shopping complex and Offices in Malaysia can be seen in Figure 1. During the period of 1997 (AFC), the vacancy rates for shopping complex and offices throughout Malaysia increased. Nevertheless, aftermath of the AFC, the decreasing in rental value caused the vacancy rates decreased sharply.

Table 2. Vacancy Rates for Shopping Malls and Office Building in Malaysia from 1992 to 2015.

Year	So	Oo	Vo	Ss	Os	Vs
1992	4493796	4283245	4.685370675	1214386	633133	47.863941
1993	4823122	4441792	7.906289743	1493338	1288469	13.718863
1994	5169452	4852726	6.126877665	1650479	1248271	24.369168
1995	5618368	5330786	5.118603837	2218483	1751313	21.058083
1996	6514426	6032972	7.390582071	2624569	1949236	25.731196
1997	10606081	10127866	4.508875616	3827268	3200303	16.381529
1998	8866939	7098106	19.94863165	4766198	3213061	32.586498
1999	9173260	7485184	18.40213839	5095579	3683719	27.707548
2000	12325332	9773664	20.70263097	6020887	4584183	23.861999
2001	12801207	10022090	21.7098044	6136015	4694680	23.489757
2002	13185405	10331061	21.64775371	6348007	4932001	22.306308
2003	13306111	10735272	19.32073917	6852246	5337242	22.109597
2004	14221165	11551388	18.77326506	7168196	5695096	20.550498
2005	14863253	12362795	16.82308711	7407698	5962851	19.504669
2006	15099984	12595417	16.586554	7967301	6363938	20.124293
2007	14975062	12739489	14.92863936	8695298	7020138.4	19.265117
2008	15528217	13223780	14.8403194	9786603	7957754.5	18.687264
2009	16102929	13670347	15.10645672	10072809	8242864	18.167177
2010	16783367	14148844	15.69722571	10660796	8597423.9	19.354766
2011	17381570	14405636	17.12120367	11263069	8954344.4	20.498182
2012	18153192	14934390	17.73132791	12071195	9553526	20.856833
2013	18988130	15710570	17.26109943	12446900	9967523	19.919635
2014	19553129.15	16677274	14.70790178	12978499	10614281	18.216421
2015	20131812.15	16843970	16.33157674	13828953	11396454	17.589897

Based from the result in Table 2, the average vacancy rate for Office Building is 14.74 % while the Shopping Mall recorded a vacancy rate of 22.24%. Apparently, during the AFC period in 1998, the vacancy

rate for Office building increased sharply from 4.5% (1997) to 19.9% (1998). The increased in the vacancy rate is due to the less demand for offices to be rent by businesses due to the slowing down of the economy.

The estimated results of the multivariate regression using equation 1.3 and 1.4 are presented in the Appendix and yielded these estimates:

$$S_v = \beta_0 + \beta_1 \text{GDP} + \beta_2 \text{Infl} + \beta_3 \text{Bindex} + \beta_4 \text{FDI} + \varepsilon_t \dots\dots\dots (1.3)$$

$$S_v = 154.166 + 91.15 \text{ GDP} + 1.9488 \text{ Infl} - 0.0004 \text{ Bindex} - 111.8291 \text{ FDI} + \varepsilon_t$$

(0.136) (0.032)* (0.438) (0.004)*

*** The values in brackets represent the p-values, significant level at 10%.**

Based from the result in equation 1.1, the macroeconomic variables which is affecting the vacancy rate of shopping complex at 10% significant level are Inflation (0.032) and FDI (0.004). Other macroeconomic variables seems to be less significant. This result supported the theoretical view that commercial property has significant contribution to the economic growth and development [8]. Furthermore, the construction of shopping complex in Malaysia are being made through the issuing of Real Estate Investment Trust such as KLCC Staple Index which attract foreign investment through FDI. The negative sign of FDI support the theory that the vacancy rates of Shopping Malls will be affected with a lower flows of FDI to the economy. Overall, the R squared of 49.2 indicates that the statistical model used in explaining the vacancy rates of shopping malls in Malaysia is acceptable. Nevertheless, there are more variables which can be used in examining the factors which are not included in this analysis.

$$O_v = \beta_0 + \beta_1 \text{GDP} + \beta_2 \text{Infl} + \beta_3 \text{Bindex} + \beta_4 \text{FDI} + \varepsilon_t \dots\dots\dots (1.4)$$

$$O_v = -171.0959 + 120.77 \text{ GDP} - 0.895 \text{ Infl} - 0.013 \text{ Bindex} - 25.67 \text{ FDI} + \varepsilon_t$$

(0.011)* (0.1639) (0.0029)* (0.319)

*** The values in brackets represent the p-values, significant level at 10%.**

The analysis of Office’s vacancy shows that only two macroeconomic variables are affecting and significant, namely GDP and Building Index. This finding suggests that as the income of a country increase, the office vacancy rate will decrease as more people can afford to rent or buy the offices. The building index indicates that as the building index decreased, the vacancy rates of an offices will increased. This is due to the oversupply of offices as the cost of building the offices decreased which in turns caused the vacancy rates to be increased due to excessive of supply than demand.

V. Conclusion

Basically, the AFC and GFC crises are affecting the property industries especially the commercial property market. However it will take a longer period of time and investment in commercial property to react to financial crises due to the perception of people that commercial property is a tool to hedge against inflation (Tarbert, 1996). The results provide us with significant outcomes about the movement of commercial properties, namely Shopping Malls and offices during the financial crises.

Given the importance of commercial property market to the economy, this study examines the impact of AFC and GFC on the vacancy rates for shopping complex and offices in Malaysia from 1992 to 2015. The Multivariate regression shows that FDI and Inflation are significantly affecting the vacancy rates for shopping malls and for offices’ vacancy rate, GDP and Building Index are affecting variables.

The findings of this study lead to deeper understanding about the trend and movement of shopping malls and office building in Malaysia throughout the financial crises period. Furthermore the government and policy-maker need to design planning policy for commercial property market in managing oversupply of commercial properties mainly the offices. In order to promote the sustainable development of commercial property sector, many aspect should be undertaken such as the supply side factors (land cost, lag of development).

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