ASSESSING FINANCIAL AND MACROECONOMIC FACTORS INFLUENCING THE
ISLAMIC REAL ESTATE INVESTMENT TRUSTS STOCK RETURN IN MALAYSIA

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ABSTRACT

The Islamic Real Estate Investment Trust (i-REIT) serves as an alternative Islamic investment instrument to sukuk and shariah compliant stock, which observes i-REIT experiencing a significant growth and demand in portfolio property value and Islamic market capitalization. The attractiveness of i-REIT has made it to become one of the common real estate investments apart from the physical property investment with a long-term and cheaper capital for property ownership. Likewise, the continual expansion of the i-REIT market in Malaysia is making great financial motivation that expands the investment spectrum. Therefore, the need to study the driving financial and macroeconomic interaction force with i-REIT stock return, which in turn further contributes to the Islamic finance literature. This study was confined to nine study variables and two latent which the financial and macroeconomic factors. The financial factors comprise the long-term bond yield, systematic risk, stock market index and rental index. Meanwhile on macroeconomic latent as control variables are measured by the economic growth, interest rate, inflation rate, money supply and foreign exchange rate. The empirical tests adopted in this study are Johansen and Julius co-integration (JJ Test), Vector Error Correction Model (VECM), granger causality, impulse responses function, variance decomposition and Exponential Generalized Autoregressive Conditional Heteroskedasticity (EGARCH) model. The empirical analysis shows that the macroeconomic variables, systematic risk (β: -0.0275) and rental index (β: 0.0765) have a significant positive long-run relationship towards the i-REIT stock return. Meanwhile, the granger causality test shows correlation of unidirectional of which systematic risk (β: 15.5035) and foreign exchange rate (β: 13.3725) granger causes i-REIT stock return. Additionally, the EGARCH modelling, signals a negative shock for all the study variables except for stock market index (β: 0.0312) showing a positive shock. It signifies that good news of stock market index will increase i-REIT stock return volatility more than bad news of the size evidence of leverage effect. In conclusion, this study extended multifactor arbitrage pricing theory by including the systematic risk and rental index factors performing vital roles apart from the macroeconomic variables. This study will be a cornerstone for potential investors in providing a deeper understanding in comprehension linkage between the financial and macroeconomic variables and it potentially could offer as an alternatives investment instrument in structuring the portfolio.

MENILAI FAKTOR KEWANGAN DAN MAKROEKONOMI YANG MEMPENGARUHI PULANGAN SAHAM AMANAH PELABURAN HARTANAH ISLAM DI MALAYSIA.

ABSTRAK

Amanah Pelaburan Hartanah Islam (i-REIT) berfungsi sebagai instrumen pelaburan Islam alternatif kepada sukuk dan saham patuh syariah, yang menyaksikan i-REIT mengalami pertumbuhan dan permintaan yang signifikan dalam nilai harta portfolio dan permodalan pasaran Islam. Ini telah menjadi satu daya tarikan yang membolehkan i-REIT menjadi salah satu pelaburan harta tanah umum selain daripada pelaburan harta tanah fizikal dengan modal jangka panjang dan lebih murah untuk pemilikan harta tanah. Tambahan lagi, perkembangan berterusan pasaran i-REIT di Malaysia merupkan motivasi kewangan yang utama bagi memperluaskan spektrum pelaburan. Oleh itu, kajian mengenai daya penggerak antara interaksi kewangan dan makroekonomi dengan pulangan saham i-REIT, diharapkan dapat menyumbang kepada himpunan bahan ilmiah kewangan Islam. Kajian ini terhad kepada sembilan pemboleh ubah kajian dan dua laten iaitu faktor kewangan dan makroekonomi. Faktor kewangan merangkumi pulangan bon jangka panjang, risiko sistematik, indeks pasaran saham dan indeks sewa hartanah. Sementara itu bagi laten makroekonomi, sebagai pemboleh ubah kawalan, diukur dengan pertumbuhan ekonomi, kadar faedah, kadar inflasi, penawaran wang dan kadar pertukaran asing. Ujian empirikal yang digunakan dalam kajian ini adalah Ujian Kointegrasi Johansen dan Julius (Ujian JJ), Model Pembetulan Vektor Ralat (VECM), Ujian Penyebab Granger, Ujian fungsi tindak balas dan penguraian varians, penguraian varians dan model Heteroskedastisitas Bersyarat Autoregresif Umum Eksponensial (EGARCH). Analisis empirikal menunjukkan bahawa pemboleh ubah makroekonomi, risiko sistematik (β: -0.0275) dan indeks sewa hartanah (β: 0.0765) mempunyai hubungan jangka panjang positif yang signifikan terhadap pulangan saham i-REIT. Sementara itu, Ujian Penyebab Granger menunjukkan wujudnya hubungan penyebab satu hala di mana risiko sistematik (β: 15.5035) dan kadar pertukaran asing (β: 13.3725) adalah penyebab Granger bagi pulangan saham i-REIT. Selain daripada itu, model EGARCH menunjukkan kesan negatif untuk semua pemboleh ubah kajian kecuali indeks pasaran saham (β: 0.0312) yang menunjukkan kesan positif. Ini menandakan bahawa berita baik indeks pasaran saham akan meningkatkan turun naik pulangan saham i-REIT lebih banyak daripada berita buruk mengenai tahap kesan leverej. Kesimpulannya, kajian ini telah memperluaskan Teori Harga Arbitraj multifaktor dengan memasukkan risiko sistematik dan indeks sewa hartanah yang berperanan penting selain daripada pemboleh ubah makroekonomi. Kajian ini akan menjadi tonggak bagi pelabur dalam memahami lebih mendalam mengenai hubungan antara pemboleh ubah kewangan dan makroekonomi dan berpotensi sebagai instrumen pelaburan alternatif dalam penstrukturan portfolio.

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ADRL	Autoregressive Distributed Lag model
AIC	Akaike Information Criterion
APT	Arbitrage Pricing Theory
ARCH	Autoregressive Conditional Heteroscedasticity
Beta	Systematic Risk
BIC	Bayes Information Criterion
BNM	Bank Negara Malaysia
CAPM	Capital Asset Pricing Model
CMSA	Capital Market and Services Act 2007
CPI	Consumer Price Index
DPU	Distribution Per Unit
DRIP	Dividend Re-Investment Plan
EGARCH	Exponential Generalized Autoregressive Conditional Heteroskedasticity
ER	Foreign Exchange Rate
FBM	FTSE Bursa Malaysia
FBMES	FTSE Emas Shariah Index
FFO	Fund From Operations
GARCH	Generalized Autoregressive Conditional Heteroscedasticity
GDP	Gross Domestic Product
GII	Government Investment Issue
GMM	Generalized Method of Moments

IIR	Islamic Interbank Rate
IPI	Industrial Production Index
IRB	Inland Revenue Board of Malaysia
i-REIT	Islamic Real Estate Investment Trust
IRR	Islamic Interbank Rate
JJ Test	Johansen and Julius co-integration
JPPH	Valuation and Property Services Department
KLSE	Kuala Lumpur Stock Exchange
LPT	Listed Property Trusts
M2	Money Supply
MBS	Mortgage-Backed Securities
MPT	Modern Portfolio Theory
MTEN	National Economic Action Committee
NAPIC	National Property Information Centre
NAV	Net Assets Value
OLS	Ordinary Least Square
PBO-RI	Purpose-Built Office Rental Index
PP	Phillips–Perron test
PTF	Property Trust Funds
REIT	Real Estate Investment Trust
RISM	Royal Institution of Surveyors Malaysia
S.M.	Square Miles
SAC	Shariah Advisory Council

SC	Securities Commission
SPV	Special Purpose Vehicle
STATA	Statistics and Data
TGARCH	Threshold Generalized Autoregressive Conditional Heteroscedasticity
U.K.	United Kingdom
U.S.	United States
VAR	Vector Auto Regressive
VECM	Vector Error Correction Model
VIF	Variance Inflation Factors

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CHAPTER 1

INTRODUCTION

1.1   Introduction

The Real Estate Investment Trusts (REIT) is significant in economy of nations as investment vehicle and support the nations properties markets development, although the financial crisis has occurred in the past decades, the REIT market has been expanding despite such financial crisis challenges (Sun, Titman & Twite, 2015). Real estate investors are one of the few unique sectors that enhanced in every economy also run stock market and bond market. The challenges on market crisis in the 1980s helped most investors regardless in stock market, bond market or REIT market gained a lesson and to plan for the proper future investment. According to Lane and Milesi-Ferretti (2018) and Sun, Titman and Twite (2015), the 2007 to 2008 financial global financial crisis, most of the market was affected but the REIT market was not that much affected as of owning physical properties and making a great investment towards the publicly

listed property stocks. The continual expansion of the real estate market in the world is making great financial motivation that expands the investment spectrum.

In this chapter, the development of global and Malaysia REIT is presented, including the structure of Malaysia Islamic financial system and the REIT stock price volatility behavior overtime. Nevertheless, a list of problem statement that led to conduct this study and further contribute to the Islamic finance literature. Furthermore, research objective and questions will be developed regards to the problem statement and this study focusses on the Islamic Real Estate Investment Trust (i-REIT) listed on Bursa Malaysia with time series statically to analyse the macroeconomic and financial variables towards the i-REIT stock returns volatility behaviors. The scope of study, research approach, significance of the study, study limitations and the depiction of the conceptual framework in this study. The closing of this chapter tailed by operational definition and organization of the study will be partway of this study.

1.2   Malaysia Islamic Financial System

The first formal financial institution based on Islamic transaction in Malaysia was the establishment of Pilgrimage Fund in 1962 by Lembaga Tabung Haji. It was an effort taken by government pursuant and establish a financial institution to solve financial problem faced by pilgrims and the operations of this institution based on the concept of investment and profit (Ishak, 2012). In 1981, government undertake feasibility study on the viability of an Islamic financial system in as parallel with conventional in Malaysia. Hence, an independent committee were formed in 1981 known as National

steering committee to look at that matters. The study concluded that an entity would be setup and practicable from shariah law viewpoint, therefore, the inaugural first Islamic bank knows as Bank Islam Malaysia Bhd in 1983 that compliance to shariah law. Since then, Islamic banking become the core component in Malaysian Islamic financial system. Apart from that, the establishment of the insurance based on shariah laws or Islamic principle or known as takaful under the takaful act 1984 parallel with the conventional insurance in Malaysia. In the 1997 Asian financial crisis, the Islamic banking faced liquidity problem resulting from surplus funds Islamic finance players to park funds in more relatively stable instruments compared to conventional instruments (Iosco, 2004). The market witnessed the issuance of variety products under Islamic capital market and a notable issuance of i-REIT called as Al-Aqar Healthcare REIT in 2006.

The Malaysian Islamic financial system is one of the most developed and sophisticated in the world (Akram, 2008). It comprises all the three main sectors of any modern financial services such as Islamic banking, Islamic insurance, and Islamic capital market (www.sc.com.my). In the Islamic banking sector, there are the financing as well as the deposit and investment to mobilize funds from the surplus funds units to the deficit funds units and enhance economic development as well as efficient of Islamic financial system. The Islamic insurance also known as takaful sector comprises both primary takaful and re-takaful. In The primary takaful, policyholder or takaful participant, agree to donate/contribute sum of money (tabarru) into a takaful pool in order to assisting participant against any losses and damage. On the other hand, re-takaful insured is Islamic endowment or trust a portion of its risk with other insurance company. Whilst the Islamic capital market is a place for the deficit entity to raise

capital by issuing shares, bonds, and other long-term investment. Nonetheless, a market for surplus entity to invest surplus money into various form of available securities on top of the saving account offered by Islamic banking. Islamic capital market further divided into sub-Islamic components such as equity market, debt market (sukuk), fund and unit trust, REIT, venture capital and derivative. In Figure 1.1 are Malaysia Islamic Financial System frameworks.
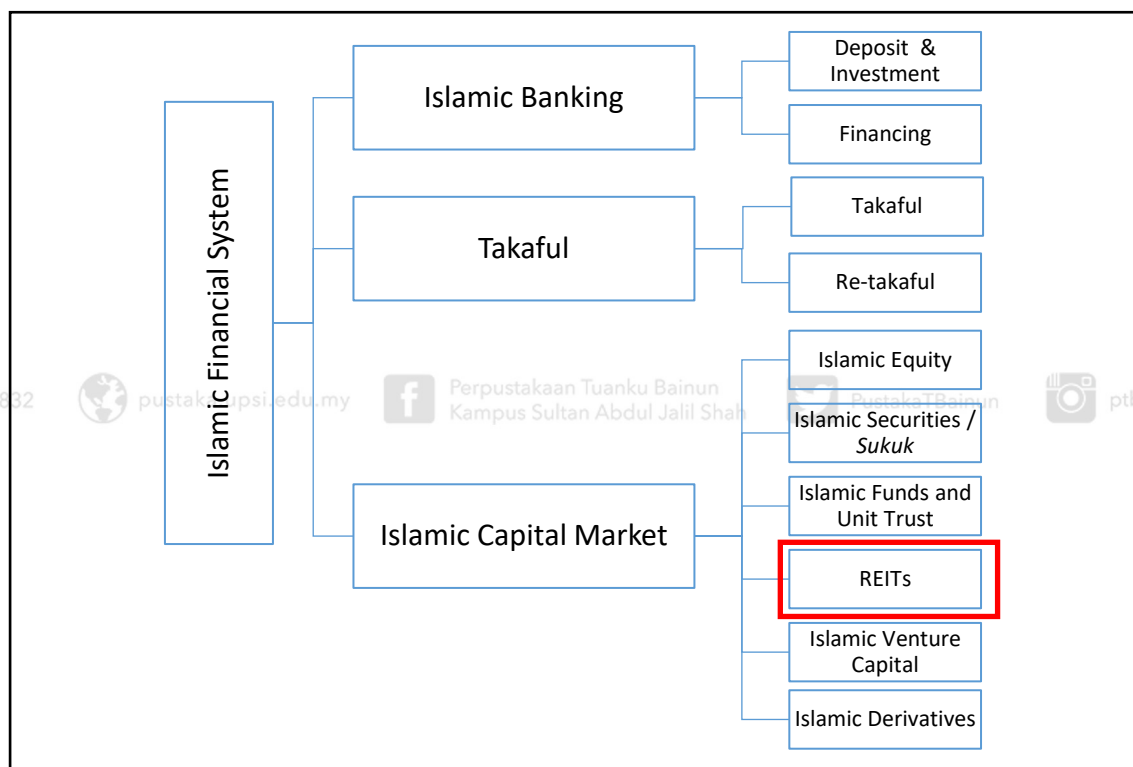
Figure 1.1. Malaysia Islamic Financial System. Sources: Compilation from various sources

Islamic financial market achieves the crucial economic functions of channeling the funds from surplus units to deficit units such as investor, household, firm or government for smooth and effective of Islamic financial market that similar to conventional financial market. In the channeling the funds, the whole process, instruments, and activities within the parameter stipulated by rules and principles as in

shariah law. This inevitably means the behaviors and operation of sub-Islamic components operating under Islamic financial system need to observe within the rules and principles of shariah laws.

1.3   Malaysia Islamic Capital Market

The formation of Islamic capital market under the subcomponent of Islamic financial system scratch a milestones development of Islamic finance in Malaysia. The Islamic capital market operates in parallel with convention capital market in expanding, deepening, and broadening Malaysia financial system. A wide range of instruments such as Islamic equity, Islamic debt, better known as sukuk and Islamic fund and unit trust has been developed to facilitate channeling the funds between surplus units and deficit units in Islamic financial system. Nevertheless, the formation of Islamic capital markets to enhance a greater management of liquidity and sources of funding among the Islamic capital market players (Sundararajan & Errico, 2002).

In the current global financial situation, the development of a dynamic capital market is essential to the provision as alternative sources of funding means for governments, corporate and individual investors. This has enabled capital markets to widen to allow fundraising entities to enjoy a wider investor base at a competitive rate (Sundararajan & Errico, 2002). Moreover, a larger investor base, the instrument in the capital markets enhanced the liquidity traded in the secondary markets. A similar case applies to the Islamic capital market as an integral part of the Islamic financial system attempts to evolve an efficient mobilization and allocation of available resources either

through deposit from Islamic banking system or capital market such as issued of sukuk (debt market) and shariah compliance stock (equity market). According to Faishal and Eng (2008), i-REIT markets are said to be more relevant in the Islamic economy as compared to the conventional REIT because the shariah compliant which guide the underlying real estate free from the prohibited principles.

The Islamic market has two main components namely, the debt market and equity market. The Islamic equity market involves the trading of shariah compliance shares and other exchange-traded instruments such as i-REIT and traded funds while debt market involves the sukuk, which is one of the most active and fastest growing debt market instruments in Malaysia (Ibrahim, 2015). According to an article published by theedgemarket (www.theedgemarkets.com) dated 14 March 2017, said that Moody's Investors Service, an international credit ratings agency listed Malaysia has the largest Islamic bond market in the world which accounts for 34 percent of total world Islamic bond issuance, in line with that issuance amount of US$100 billion recorded of the Islamic bonds issued in 2017. The Islamic finance architecture in Malaysia was set-up in 1983 and has received wide recognition locally and globally by both Muslims and non-Muslims. Its promising investment return has made it gain a lot of confidence among investors. Lately, the Islamic financial industry has come under increasing pressure due to the increasing awareness and growth of wealth among oil producing countries especially in the Middle East which attract a lot of capital flows. These countries demand stronger, innovative, and more competitive products from Islamic financial institutes.

1.4 An Overview of Real Estate Investment Trust

According to Feng, Price and Sirmans (2011), a REIT refers to a company that specifically makes real estate investment and therefore is treated specially during taxation and therefore allowing its taxation on its earning at investor level as opposed to entity level. This treatment, REITs are anticipated to acquire, own and develop as well as operate and manage real estate properties or provide similar services. Moreover, REIT defined by Baum (2015) as an organization that has the ownership rights of real estate assets. In Figure 1.2, REIT categories as between debt and equity type funds, which balanced optimal level between risks and return. In term of labeling REIT as income funds, it generated income through the dividend as the regulation exempted on corporate tax if payment of 90 percent of income as dividend payment. The continual expansion of the real estate market in the world is making great financial motivation that expands the investment spectrum especially the REIT market.
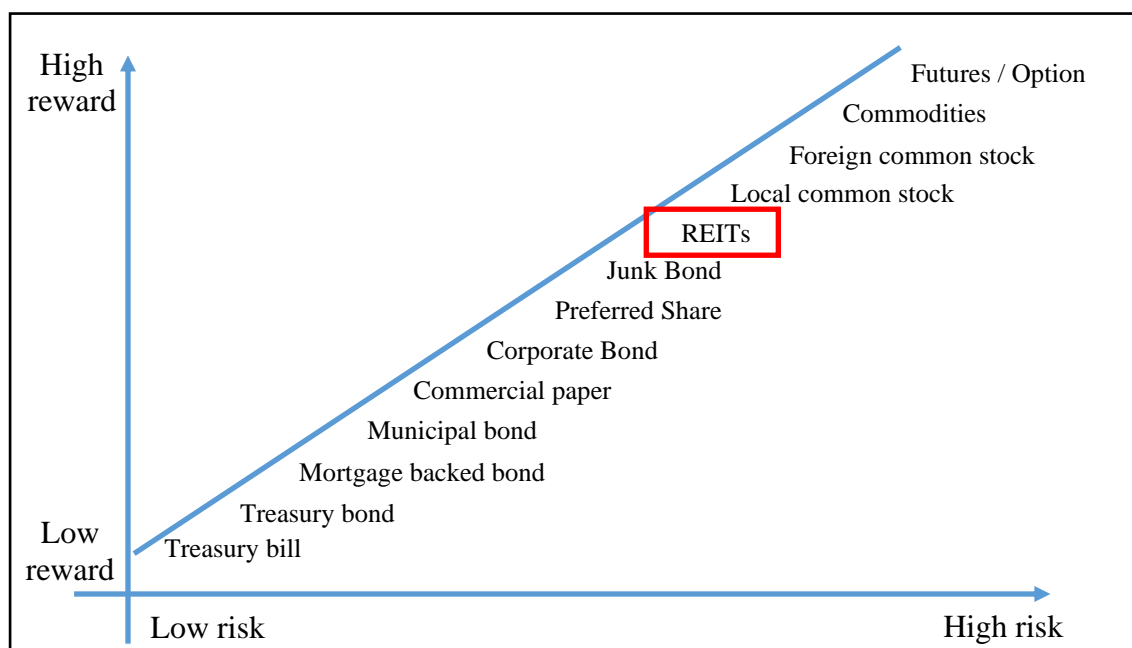
Figure 1.2. Investment Instruments Risk and Return Spectrum. Sources: http://www.mypacificpark.com/?page_id=1145

Furthermore, the underlying property portfolio value increased given the natural of the real estate translated into higher capital growth in the long-run. REITs investment described as a company that invests it proceed from issuing shares to acquire, manage and run profit-making real estate properties (Baum, 2015). The shareholders share the rental received in the form of dividend payment at the period in which the business has occurred. REIT is categorized as a globally recognized as a form of unit trusts or trust funds that majorly specialize in the real estate investment.

According to EY Global RealEstate (2018), REIT has been a form of property securitization that become more successful in the United States (U.S.), United Kingdom (U.K.), Japan and Australia. REIT have provided significant exposure of quality property portfolios to investors by listing in the stock market and served as hybrid investment vehicle which a combination of owning the properties and invest in Mortgage-Backed Securities (MBS). In tandem with properties development and REIT market gained a tremendous growth trust by many investors, REIT has realized an increase of interest at the global level over the recent years including in Malaysia market. The shareholding showed that there are higher rates of increased noticed amongst the international investors and the global property securities funds in Malaysia.

1.5   The Development of Real Estate Investment Trust in Global Arena

The REITs market was developed in the U.S on 14 September 1960 by the President Dwight D. Eisenhower based on the fact that a group of small investors work together to pool wealth and invest in income-producing properties, then there is a need for a

signed legislation that create income from the real estate and stock-based combined. Since, it is stock based, then REITs made it easier for small and growing investors to buy shares and indirectly invested into property markets. Majority of the commercial real estate investment was only available through large financial intermediaries, but with REIT development, both the wealthy and any investors can have benefits of commercial real estate (Miles, Berens & Weiss, 2000). Throughout the establishment of REITs has enhanced and expanded entire the world. The expansion has provided the investors with an opportunity for meaningful dividends, enviable transparency, valuable liquidity, competitive performance, and portfolio diversification.

The U.S. REIT market has grown to USD1 trillion equity market capitalization over six decades representing nearly USD2 trillion of gross real estate assets (National Association of Real Estate Investment Trusts). In the year 2016, there was an amendment on the development of global industry classification standard, which proposed a new headline sector in REIT and serves as primary classification system for equities which reflected the growth and importance of REITs market. The REITs market in United State represent approximately four percent of market capitalization in S&P 1500 index. This has triggered many investors who are not investing in real estate to consider such market given the performance for the ten years an average total return of nine percent annually. Nevertheless, after the United State recession in 2009, the volatility of REITs was approximately 16 percent compared to the S&P financials sectors was 18 percent throughout the ten years, it indicates that the high trading of REITs. In Figure 1.3 describes the major events listings of U.S. REIT Real Estate.
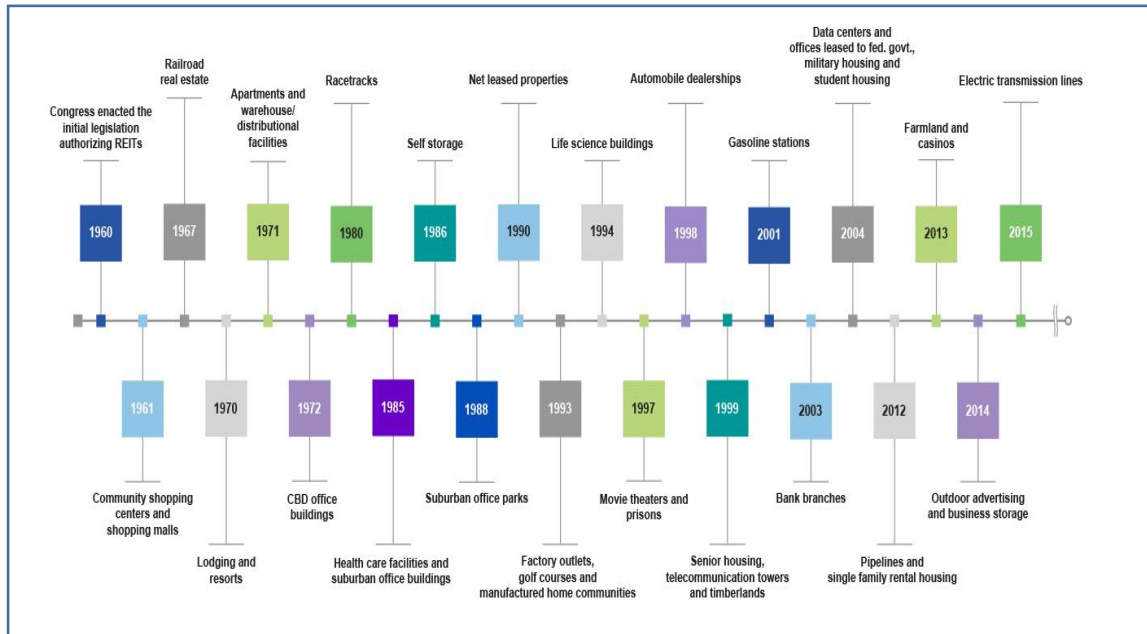
Figure 1.3. Listings of Real Estate Investment Trust in United States. Sources: https://www.reit.com/what-reit/history-reits

The 1980s was the boom times of REITs investment, U.S. congress passed the Tax Reform Act 1986 which saw an eliminated many real estate tax shelters, enabled those in the REIT market to be able to manage properties directly. Subsequently in 1983, an advancement of making REIT investment berries to pension funds was eliminated as a way to encourage for more investment. These reforms make a higher increment in the high-quality property investment. The current economic and national policies situations attracted most of the investors switch them to invest into REITs which indirectly invest in the real estates.

The current economic and national policies situations attracted most of the investors switch them to invest into REITs which indirectly invest in the real estates. The realization of the benefits of REIT and its simplified and easy to manage the investment regards to the underlying properties, other countries stated to introduce REITs investment to promote the real estate development and enhance economy

development through indirectly investment from small scales investors (Miles et al., 2000). According to Sotelo and McGreal (2016), REITs showed an impressive growth after financial crisis and the continuous changing environment and future development regimes become a foundation of a significant increase of the listed real estate companies in Europe. The maturity of REIT market across the world will likely affect the activities and operations of specified REIT in a particular jurisdiction. In Table 1.1, Malaysia been categories by EY Global RealEstate (2018) as emerging market, which could move forward rapidly to establish with the parallel conventional REIT and i-REIT.

Table 1.1

Real Estate Investment Trust Jurisdictions According to Maturity

Mature	Established	Emerging	Nascent
United States	Australia	Belgium	Bharian
	Canada	Finland	Brazil
	France	Ireland	Bulgaria
	Germany	Italy	Costa Rica
	Hong Kong	Malaysia	Greece
	Japan	Mexico	Hungary
	New Zealand	South Afirca	India
	Netherlands	South Korea	Isreal
	Singapore	Spain	Kenya
	United Kingdom	Turkey	Pakistan
			Philippines
			Taiwan
			Thailand
			Vietnam
			United Arab Emirates

Sources: Global Perspectives: 2016 REIT report by EY Global RealEstate, pp4

The Netherlands was the first country in European continent to introduce REIT followed by U.K. and Germany in 2007, thirteen countries had introduced REIT regimes at the end of 2011. REIT is a solution and alternative indirect real estate investments for private and institutional investors among many countries. In Australia, listed REIT on the Australian stock exchange since 1971 and the benefits that REIT has brought in relation to growth of real estate which approximately 70 percent of Australian investment grade properties structured in REITs. In the year of 2011, 57 listed REITs on the Australian stock exchanges with market capitalization of over A$80 billion comprises of industrial trusts invest in, retail trusts, factories and industrial parks, warehouses, office trusts, leisure and hotel and the diversified trusts. The Australian REIT growth, it is said to have two ways of generating wealthy: the first is through provision of the value of real assets that is totally owned by the trusts and all the capital that is accompanied and the rental income (Ratcliffe, Dimovski & Keneley, 2015).

Japan introduced its REIT market in Asia in 2001 seemed to double each year and expected whole REIT market to control the real estate in the Japan market. In between 2001 and 2005, Japan REIT introduced commercial property such as office building and invaded the housing investment, which had faced difficulties because of its strict regulation on evictions due to investing in the housing because of the small scales of housing estate and the limited market. In March 2004, six new REITs has raised approximate $1.3 billion yen to make purchase of apartment buildings in Japan (Joseph, Graeme & Tien-Foo, 2006).

The introduction of REIT in Africa is one of the innovative approaches for investors. The growth of REIT develop African nations capital market harness the opportunity to increase accessibility to tap long term funds. Nevertheless, the introduction of REITs investment policies attempts to address finance constraints and developed local real estate market. The African market adopted the similar western REIT regulations and legislations which provide preferential tax treatment and require high rates of profit distribution. Since 1994, legislation governing REITs has been introduced in most of the African countries including, Kenya, South Africa and Ghana. According to Business Daily (2015), Stanlib investments REIT raised Ksh12.5 billion for investing in rental properties, with such huge investment, Stanlib joins South Africa and Ghana as a market for REIT investment. Most of the nations in Africa are urging the private sector to be incentivized and supported to experiment various REIT markets. The support provided is making Africa as a competing place for future local and global investors. This global spread of REIT in both the developed and developing states has also increased connection between states and enhanced globalization, both local and foreign investors make such investments. The Korean REIT and Corporate Restructuring REIT were the first forms to be introduced South Korea. Most of these REIT invest in apartment's properties, dormitories, oversees properties and foreign REITs.

Nutshell, REIT in the U.S., Japan, Australia and European have been well developed and successful in history as effective real estate investment vehicles. In the recent years, REIT has been expended globally such as Asia, Africa as well as Middle East (Brounen & Koning, 2013). The Japan and South Korea REITs introduce in 2001 as Asia inaugural REIT listing followed by Singapore in 2002, Taiwan in 2004 and

Hong Kong in 2006. The exponential growth in Asia REIT over the two decades with Japan as leader in region followed by Singapore and Hong Kong saw tremendous improves on demand, liquidity, and efficiency on local real estate (Brounen & Koning, 2013). According to the latest Global REIT 2016 Annual Report released by EY Global RealEstate (2018), Asia's REIT industry has a total market capitalization of USD 1.7 trillion and the U.S. REIT increased approximate 150 percent while non-U.S. has been doubled since 2005. In the last five years, Australia and Japanese REITs market are fastest growing have catch up with France and U.K. to be second and third largest global REIT taking the lead, respectively. Australia REITs with a market capitalization of USD182 billion followed by Japan REIT with USD112 billion and Malaysian REITs market in emerging market with market capitalization of USD11 billion (EY Global RealEstate, 2018).

1.6   The Malaysia Real Estate Investment Trust Experience

REIT has been attractive and becoming one of the common real estate investments apart from the physical property investment, the developing countries such as Malaysia are still lacking behind compared to the developed countries as shown in Table 1.1, the turnover and number of investors in REIT market as well as general development in terms of policies and structure of REIT. Malaysia is amongst Asian nations with the earliest publicly list of the Property Trust Funds (PTF). In 1980s, Bank Negara Malaysia (BNM) has approved the regulatory framework for Listed Property Trusts (LPT) funds in Malaysia.

According to Newell, Hwa and Acheampong (2002) defines LPT as legal entity that are bonds by regulation to possess and manage a collective funds that generate profit from the underlying real estate portfolio. Bursa Malaysia further defines that LPT are collective funds that owning and manage income-generating real estate such as hospital, shopping malls, industrial properties, hotels and residential. In realizing the Malaysia 2020 vision introduce by the fourth prime minister Tun Dr. Mahathir bin Mohamad back in 1991 as part of sixth Malaysia plan to achieve self-sufficient industrialized nation status, one of the moves are re-model of existing LPT, the collective trust market into new type known as REIT market. The Securities Commission (SC) on behalf of Malaysia government emphasizes the greatly important of the rebranding and establishment of REIT market to Malaysia economy specifically on the real estate development. The rebranding of LPT to REIT introduced a new remodeled guideline by SC on REIT market which it's portrayed a greater gearing bound, improved on governance flexibility on real estate acquisitions, tax friendly approach and with ownership mitigation from LPT to "Management Company" known as REIT (Newell & Osmadi, 2009). The real estate or the properties is the ultimate asset in underlying of REITs investment portfolio, the market of REIT in Malaysia has expanded making it one of the indirect investment options for the real estate else than investing directly in the properties.

In the year 2005, new structure of PTF which known as REIT, the underlying guidelines were provided and coupled with tax incentives which boomed and attracted more investors to invest into Malaysia REIT market. Malaysia developed a positive outlook among institutional investors as compared to individual's investor in REITs arena with full acceptance and increased attention were realized by the market

development. The revised guidelines allowed for the flexibility regarding the acquisition, borrowing limits and management of REITs. To strengthen the REIT, the international market is underpinned by a string local commercial property market in Malaysia as global market faced global crisis in 2008 (Chiang, Tsai & Sing, 2013). The properties and REIT markets in Malaysia managed to attain a low but an increased vacancy rates lead to an increase in the rents momentum. Malaysia i-REIT market has been established for 12 years, a great milestone of achievement in financial market in Malaysia economy with listed of 18 REIT with total assets value of RM48 billion and market capitalizations of RM44 billion (Bloomberg).

1.6.1 The Property and Listed Trust Funds

In 1986, Malaysia become the first country in Asia to develop a market for PTF products and was popularly referred to as LPT as listed instruments and subsequently traded on the Kuala Lumpur Stock Exchange (KLSE). The model adopted by Malaysia LPT regulatory framework was borrowed from the Australian LPT model with slight structural modifications imparted local cultural and regulations. The modifications were made to take care of the bumiputra which provides indigenous Malays with priority over foreigners in property ownership and the bumiputra land status in line with government economic policies (Hwa, 1999). According to Newell et al. (2002) and Hwa (1999), the establishment and operations of LPT were directed by the 1965 Companies Act and Securities Industry Act of 1983. The SC later took over the regulatory role and in 1921, it introduced specific guidelines on LPT which were later revised in 1995 and 2002.

The first LPT listed on August 1989 in KLSE was the Arab Malaysian and Amahana Harta Tanah PNB. According to Hwa (1999), during the period of 2000 to 2004, Malaysia LPT performed poorly due to the lack of quality product portfolios and lack of prime properties. Additionally, the acquisition periods were very long and therefore the interest of investors was quite low even with the properties. Moreover, among LPT, AmFirst Property Trust prices has been better as compared to others since its intercept on KLSE. AmFirst Property Trust withstood the 1998 Asian financial crisis and had a lowest price of 50 sen that was still higher as compared to other LPT within the same period (Hwa, 1999). On top of that, AmFirst Property Trust perform better because its income was derived from highly occupied buildings in Kuala Lumpur AmBank Group Building and AmBank Group Leadership Centre (Hwa, 1999).

According to Newell, Ting and Ling (1998), with difficulties in prime property acquisitions increasing, Amanah Harta Tanah PNB 2 provided an option by expanding its product portfolio and included small properties and non-prime properties that include secondary buildings, shop offices and shop houses. In the year 1994, a bull run occurred in the stock market with a price of RM5.75 recorded in Amanah Harta Tanah PNB 2 properties portfolio. However, the performance of the share price was subdued due to investor lack of interest associated with lack of quality assets in the market. These factors have obstructed the performance of the Amanah Harta Tanah PNB 2. However, the Amanah Harta Tanah PNB 2 trust recorded the highest price during its first day of listing and has been falling especially with the 1997 Asian Financial Crisis. In aftermath of 1997 Asian Financial Crisis until the year of 2005. Nevertheless, Amanah Harta Tanah PNB 2 faced difficulties in improving the occupancy levels of properties in Ipoh which stood at 29.69 percent and recorded a lowest share price of

RM0.38 sen (Newell, Ting & Ling, 1998). Notwithstanding, Malaysian PTF performing poorly while REITs-type organizations performing better in other countries such as the U.S. and Australia. Therefore, the government of Malaysia through it regulatory authorities remodeled the existing PTF framework to REIT. In 2005, the Malaysian government amended the tax structure of REIT-like businesses and made it more transparent. However, the amendment did not make the structure very attractive as compared to those in the region.

Malaysian REIT first emerged in 1989 when the LPT was established. However, the development of LPT was slow until 2005 when the SC of Malaysia provided Guidelines on REIT and i-REIT which included the legislation on how a REIT market could be officially established in Malaysia financial market. Furthermore, with the growing REIT awareness of the property investors from international, it shows the need of developing a better and innovative performance analysis to cater for the need of Islamic market players. The product and opportunities need further innovative development to identify an enhanced property portfolio diversification benefits as well as the fulfillment of the regulation required to hold the Islamic securities. Although much of REIT investment was structured in other countries apart from Islamic countries until 2006 when Malaysia established its first i-REIT accommodate for Islamic institutions as part of an investment securities and Islamic market players (Newell & Osmadi, 2009).

1.6.2 The Conventional Real Estate Investment Trusts

Malaysian PTF first emerged in 1989 when the LPT was established and subsequently traded on KLSE. In the year 2005, the 2020 vision introduced by the fourth prime minister Tun Dr. Mahathir bin Mohamad back in 1991 as part of sixth Malaysia plan to achieve self-sufficient industrialized nation status, one of the moves are re-model of existing LPT, the collective trust market into new type known as REIT market. The SC provided Guidelines on REIT and i-REITs which included the legislation on how a REIT market could be officially established. The conventional REIT and the i-REIT share the same requirements and regulator structures except that i-REITs must be shariah-compliant as per the "Guideline on Real Estate Investment Trust" issued by SC.

The REIT are listed on the bursa Malaysia stock exchange, the shareholders shares ownership in the REIT management company invested in the real estate including office spaces, industrial properties, plantations, hotels, shopping mall and medical centers to form assets portfolio. The REIT management company characteristic similar to other business shares which is no different to other listed companies else than the underlying type of business conducted. However, REITs have two unique characteristics, which are management of income producing properties owned by shareholders and distributing the income from rental collection operations as dividends to shareholders to entitle the corporate tax exempted. Apparently, as of December 2017, Bursa Malaysia stock exchange had four i-REIT and 14 conventional REITs listed with a combined total assets value of RM48 billion and market capitalizations of RM44 billion (Bloomberg). However, despite the progress, the Malaysian REIT market is still

small as compared to U.S., European, Singapore, Japan, and Hong Kong (EY Global RealEstate, 2018)

Malaysia is one of the REIT markets that value both the Islamic and conventional practices, such flexibility makes the attract not only to the local investor but also Islamic investors and foreign investor. Nevertheless, Malaysia i-REIT allowed Islamic institutional investors to invest in an i-REITs as alternative Islamic investment vehicle on top of shariah-complaint stock and Islamic debt (sukuk). The support from government of Malaysia through policies and incentives providing REIT investors a platform to invest in properties market without directly invest tangible properties, therefore enhancing its growth and Gross Domestic Product (GDP) of the country. The Shariah Advisory Council (SAC) of BNM is the highest shariah authority Islamic Finance in Malaysia, the bodies that have ascertainment of Islamic law for the financial system in Malaysia. The SAC of SC enhanced the commission of i-REIT and spell out the guidelines of the permissible activities underneath of i-REIT investment accordance to the fundamental's layout by the SAC of BNM. According to the guideline on listed REIT (SG-GL/1-2018) issued on March 2018 under the section 377 of the Capital Market and Services Act 2007 (CMSA) and the guideline for i-REIT dated November 2005, spelled out that, the i-REIT ensures all business activities are screened based shariah principles and financial guidelines, which are known as business line screens. Throughout the years, guidelines for i-REITs by SC has restricted investment with income from haram activities such as alcohol, gambling, tobacco and non-halal food product like pork to not more than five percent of the total firm operating revenue. Moreover, the i-REIT market in Malaysia uphold the principles free of riba, gharar and maysir, which forbid business activities in conventional financial services, interest-

based business, and conventional income instruments. The i-REIT restriction based on shariah principles does not exist in conventional REIT. Therefore, with these two types of REIT available in Malaysia provide investors with choices, making it easier for those Islamic investor or institutions can hold i-REITs as part of an investment vehicle portfolio as well as fulfillment of regulations to hold shariah compliance assets.

According to Newell and Osmadi (2009), the Malaysia i-REITs is based on the structured shariah-complaint REIT instead of shariah-based REIT which ensures that the structures are compliance with SAC of SC guideline for i-REIT dated November 2005 on the operational matters. On the other hand, shariah-compliant REIT fulfil the shariah principles and ensure that there is no breach to the principles even when the REIT is designed for the conventional investment instrument. In most cases, the term i-REIT in Malaysia is interchangeable with shariah-complaint REIT as specified by the guidelines for i-REIT issued by SC. Contrastive to i-REIT which follow the guidelines based on the shariah principles, the conventional REIT follow and reciprocal the international guidelines of REIT investment which Malaysia adopt it in 1986 during the LPT. as today the guideline on listed REIT (SG-GL/1-2018) issued on March 2018 under the section 377 of the CMSA governance the conventional REIT.

The major source that generates income for REIT is the rental of the commercial real estate invested and hold as portfolio by the REIT management company. Acknowledging that, the commercial properties established has a cyclical income producing asset that has an inflation hedging attributes as cited by Park and Bang (2012). Hence, the conventional REIT in Malaysia is known to be defensive stocks which consist of cyclic income producing assets that has some potential of asset

appreciation. Therefore, the development of REIT in Malaysia began through the adoption of legal legislation guidelines established by the SAC of SC. The guidelines adopted by the SC were the reciprocal of the conventional international guidelines of REIT investment. According to Newell et al. (1998), Amanah Harta Tanah PNB and Arab Malaysia are the Malaysia pioneer LPTs based on the Treynor, Sharpe and Jensen index measurement and perform poorly until the year 2005, the SC releases new guidelines on the PTF which led to the development of the REIT investment has performed exemplary.

The conventional REIT over the years in Malaysia has attracted foreign investors. The lack of restrictions makes it easier for foreign investors to investment in Malaysia REIT market and no stipulated need for shariah committee or any approval and compliance from the shariah laws in the conventional REIT structures. Contrasting to i-REIT, there is no restrictions on the permissibility of the activities underneath the real estate portfolio. It is the approval of the trustees based on trust deed to managed and insurance companies that facilitate the conventional insurance. The finance of real estate portfolio that facilitate conventional REITs has no restrictions. In Table 1.2 on reverse pages, listed the conventional REITs on bursa Malaysia as of 2017.

Table 1.2

Malaysia Conventional Real Estate Investment Trusts as at December 2017.

	Establishment	Market Capitalization (RM' million)	Portfolio Value (RM' million)	Assets Type
Amanah Harta Tanah PNB	March 1989	182	468	Office
AmanahRaya REIT	February 2007	541	1,526	Retail
AmFirst REIT	September 2006	490	1,650	Office
Atrium REIT	March 2007	138	180	Industrial
Capital Land Malaysia Mall	July 2010	3,729	4,232	Malls
Hektar REIT	December 2006	586	1,254	Retail
IGB REIT	September 2012	6,324	4,930	Malls
KIP REIT	June 2016	474	580	Diversified
MRCB Quill REIT	January 2007	1,335	2,204	Office
Pavilion REIT	October 2011	5,302	5,135	Malls
Sunway REIT	July 2010	5,065	6,962	Diversified
Tower REIT	April 2006	342	562	Office
UOA REIT	November 2005	685	706	Office
YTL Hospitality REIT	December 2005	2,045	2,530	Diversified

Sources: Compilation from Bloomberg Terminal and Respective REIT Annual Report 2017

1.6.3   The Islamic Real Estate Investment Trusts

In June 2006, i-REITs were introduced in Malaysia as a new instrument in Islamic Finance world, in addition to the Islamic capital market and the REIT market. Enhance and innovative development is needed for the various investment products and opportunities to identify the benefits of enhanced property portfolio diversification and compliance to regulation necessary for holding of the Islamic securities. Furthermore, with the awareness of global property investors increasing, the need to develop more innovative performance analyses, particularly for the Islamic market players (O'Neal, 2009). Moreover, i-REIT therefore served as the alternative Islamic investment instrument to sukuk and shariah compliant stock, the growth and the demand of i-REIT has been experiencing a significant growth and demand in portfolio property value and market capitalization.

Malaysia introduced the i-REIT as a diversification of investment products and shariah compliant and therefore considered to be an ethical form of investment that compliance with shariah principles and applies in all Islamic transactions. Islamic law forbids Islamic institutions from engaging with haram when offering products and services. The introduction of guideline for i-REIT in november 2005 issued by SC of the Malaysian property regulations, the REIT environment in Malaysia has greatly improved, some of the key revisions include setting up a transparent tax structure that and REITs exemption from gains tax and stamp duty associated real estate property which boomed and attracted more investor to invest into i-REIT market. Nevertheless, i-REITs paved way for the first establishment of the first most sophisticated i-REIT in the world in term of its structured and underlying principles based on the shariah law.

The incomes and fund management of i-REIT should observe key feature principles of shariah. According to the SC REIT guidelines defined i-REIT is a collective investment scheme in real estate that that its tenants operate permissible activities for investment purpose but must be compliant to the shariah. A new milestone in Malaysian REIT market was the world first developer of i-REIT in 2006, a REIT structured based on shariah and all its transactions were compliant to shariah laws and principles. The major boost of this market was the provided guidelines released by the SC that majorly impacted its REIT operations and acted the vital role of promoting the growth and development of i-REITs in the international Islamic finance as well as financial community in Malaysia. The established four i-REITs in Malaysia becoming an alternative investment vehicles with the shariah-compliant stock and sukuk, the growth of i-REIT was impressed by other global Muslim real estate investors and making it known as the major Islamic investment vehicle (Ibrahim, Eng & Parsa, 2009)

The Malaysian REIT marks new milestones when SAC of SC released guidelines pertaining to the i-REIT dated November 2005. Nonetheless, its paved way for an establishment of first i-REIT based on Islamic principle, the Al Aqar Healthcare REIT, launched in June 2006. It included the principles of shariah in the REIT structure, which is the underlying Islamic principles uphold the concept investment free from israf, riba, gharar and maysir. Since the Islamic players had been accepted globally especially in the shariah compliant stock and Islamic debt (sukuk). Introducing i-REIT was a significantly enhancing the milestone of international REIT market, the involvement of shariah principles in the REIT development process ensured that ethical investment was made which increase liquidity and transparency of the RIET market, by the end of 2017, Malaysia had developed four i-REIT namely; (1) Axis REIT that

involved in office and industrial properties; (2) Al-Salam REIT mixed up in commercial retail, office and industrial assets; (3) Al-Aqar Healthcare REIT that muddled in hospital properties and (4) KLCC REIT explorer in office and retail properties.

The first i-REIT approved and to be listed in Bursa Malaysia by the underlying SAC of SC was the Al-Aqar Healthcare REIT in 2006. Al-Aqar Healthcare REIT made an investment of an estimate of 22 hospitals with a property portfolio value estimated at RM1.52 billion as at December 2017 (Al-Aqar Healthcare REIT, 2017). In the subsequent year, another i-REIT, the Axis REIT which had been establishing as conventional REIT was then restructured according to the Guideline on i-REIT by SAC of SC to make it be able to be classified as a shariah-compliant REIT in Malaysia. Axis REIT made an investment in 40 office and industrial properties with portfolio property value of RM2.51 billion at at December 2017 (Axis REIT, 2017). In 2013, Malaysia developed and established third and the largest i-REIT in the world, the KLCC REIT which manages office, retail and hotel properties with a market capitalization of above RM10.68 billion (KLCC REIT, 2017). The most recents listed i-REIT on Bursa Malaysia, the Al-Salam REIT well-diversified shariah compliant i-REIT listed in with market capitalization of RM533 million, involved in the commercial property based in Johor bahru where the benefit from Iskandar Malaysia programme as well as closed proximity to Singapore with portfolio property value of RM932.11 million as at December 2017. (Al-Salam REIT, 2017).

The SC has an advisory council that handles issues related to Islamic finance called the SAC, in November 2005 published guidelines to be observed by all i-REIT in Malaysia. Moreover, every i-REIT management company has to establish a shariah-

advisory committee which advises the company to ensure its operational matters

comply with shariah principles. The SAC of SC comprises people who are experts or

Table 1.3

Comparison between Conventional and Islamic Real Estate Investment Trust Funds

	Conventional REIT	**Islamic REIT**
Shariah compliant assessment	No compliant needed and it subject to the company and trustee to oversee the acquired of real estate and operational matters.	Appoint of shariah advisors or committees to supervise on acquired real estate and operational matters to compliant with shariah law.
Rental collections	No restriction on the type of rental collection on properties portfolio.	Rental collected from non-permissible activities capped at maximum of 20 percent
Permissible activities in the property's portfolio	No restriction on properties to be invested as portfolio.	A compliant to a list of prohibited activities as per SC guideline on i-REIT.
Insurance for properties in portfolio	Either on conventional insurance or takaful. Subject to the approval from company trustee.	Must use the takaful scheme as coverage for portfolio, else conventional insurance is permitted if the takaful unable specific coverage.
Properties financing and investment	Either on conventional or Islamic banking facilities. Subject to the approval from company trustee.	Must ensure all form of financing instruments, investment products comply with shariah law. Eq. financing from Islamic banking.

Sources: Compilation from SC guideline for REIT revised version 2012 and i-REIT issued in 2005.

scholars in Islamic law and is responsible for certifying any Islamic structure that the

institution adopts including the currently available fours i-REIT. The SAC of SC is

charged with the responsibility of scrutinizing every transaction involving all i-REIT to ensure that these institutions comply with Islamic law and furthermore, the SAC of SC has to perform screening of all property, tenants and subleasing details before approving such transactions. The i-REIT guidelines issued on 2005 as a compliment to the REIT guidelines revised version 2012. According to these guidelines, the operations of i-REIT should be structured operations to ensure it complies with the regulations on conventional REIT and i-REIT. According to these guidelines, i-REIT can purchase or own property in which tenants operate both halal and haram activities but to the set restrictions on maximum rentals can be collected from prohibited tenant activities. In acquiring a property occupied by tenants conducting haram activities, the fund manager of the i-REIT should ensure the requisite additional requirements as specified on Table 1.3. Malaysian REIT market capitalization was RM3.7 billion and RM44 billion as at 2006 and 2017, respectively. It has become one of the important asset classes for high dividend payouts to investors, which has significantly increased the capitalization of the market over time. The i-REITs witnessed a growth of 8.76 times over a decade from its inception in 2006 of RM1.92 billion to RM18.75 billion in 2007 as shown in Figure 1.4. The i-REIT were formed after PTF were rebranded and REITs based on shariah law introduced. The increasing of i-REIT market capitalization plays an important to gauge on the development one of the Islamic financial investment vehicle and the mobilization of funds from surplus unit to deficit units.
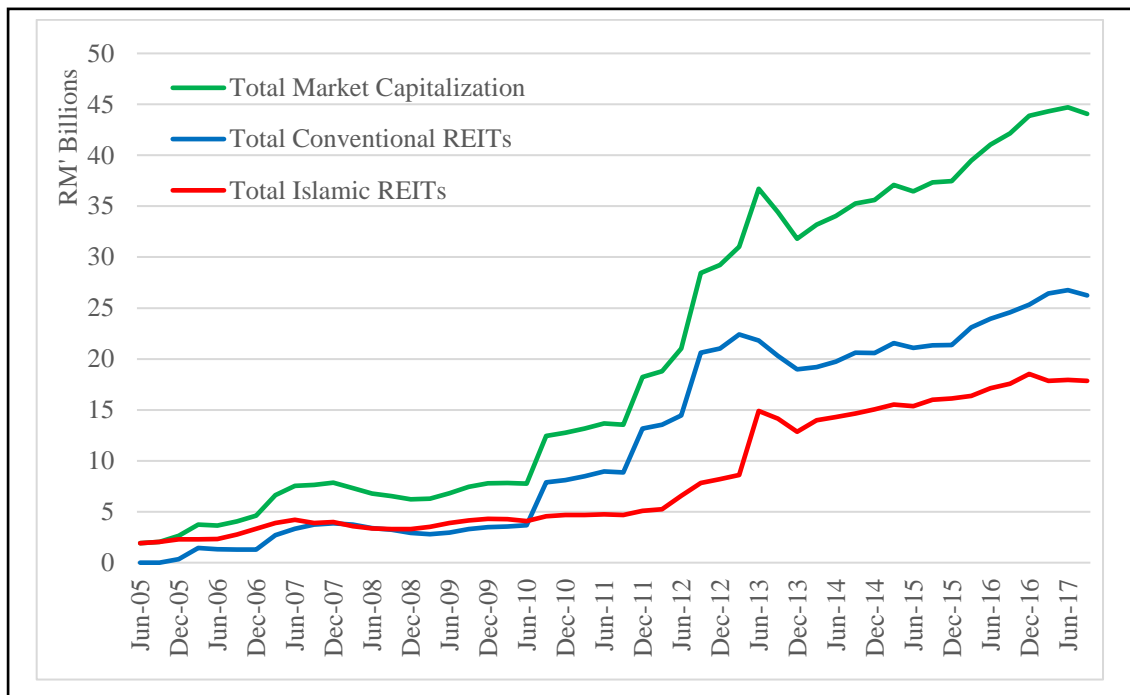
Figure 1.4. Malaysia Real Estate Investment Trust Market Capitalization as at December 2017. Sources: Compilation from Bloomberg Terminal and Respective REIT Annual Report.

In the comparison to the conventional REIT over the years, the conventional REIT market is larger than i-REIT market in term of total market capitalization as illustrated in Figure 1.4. However, the popularity of the i-REIT seems to be increasing as the i-REIT is more flexible and diversifies more easily as compared to direct or tangible real estate investment. Although the REIT market in Malaysia is small as compared to that of the U.S. or Europe, an increasing trend in the market capitalization of i-REIT alongside that of the conventional REIT is shown by the Malaysian REIT market. In aftermath of 2008 global financial crisis, there are fears of a lingering financial crisis associated with the U.S. subprime crisis. According to Lean and Smyth (2012), the market capitalization of the Malaysian REIT market increased as local investors brought back an investment in addition to investment from global investors who have come to invest in Malaysia. Nevertheless, the Malaysian economy remains strong even with the adverse effects associated with the global economy because of a

stronger domestic demand and the growth in real estate (Lean & Smyth, 2012). Furthermore, the stable employment and income growth continue to support private consumption.

The significant of 2008 global financial crisis hampered the world REIT growth in global arena, which had made a negative impact in the real estate sector all over the global market. According to Hamzah, Rozali and Tahir (2010) and Newell and Osmadi (2009), Malaysia i-REIT investment compressive, clear and solid regulatory framework to cushion the financial crisis. The authors evident that i-REIT structure and features displaying defensive stock during financial crisis. The introduction of the new guidelines in PTF 2005 to replaced the LTP by the SC, has experienced phenomenal growth regarding the number of industry players as well as the amount of market capitalization of the sector. Despite the with total market capitalization of RM17.84 billion as compared to conventional REITs of RM26.23 billion, a slightly marginal difference of 10 percent in december 2017. The i-REITs shown a significant development for the past 12 years with total market capitalization in Malaysia has grown from RM 1.9 billion to RM 17 billion since the intercept in 2005, represents the exceptional growth of i-REITs in Malaysia which is almost nine times.

Therefore, this study will analyze the factors underneath of i-REITs given the instantaneously growth since its market capitalization as well as the development of world's first i-REITs. The characteristics of i-REITs that distinguish from the conventional REIT, in terms of finance the purchase of real estate as part of the portfolio must be through the Islamic banking as financier as part of shariah complaint requirement. The conventional banking involved the element of an interest in the loan

argreement therefore are prohibeted in shairah law. Moreover, to secured and protects the properties in the portfolio for the benefit of shreholders, the i-REIT potrfolio must be covered by insurance as portection, therefore the i-REIT manager need to consider the availability of Islamic insurance or known as Takaful as coverage for the said purposes before making any option of taking the conventional insurance. Nevertheless, i-REIT must appoint a shariah advisor on the REIT management company level to advise on issue pertaining to the shariah law and its compliant to guideline issued by SC. It is the responsibility of the selected committee or advisors to ensure that every i-REIT activity are compliant with shariah requirements. In terms of permissibility of activities in the portfolio properties, i-REIT are premissible to carry out activities that are allowed as specified underneath the guideline for i-REIT issued on 2005 and REIT revised on 2012. The sumamry differences between i-REIT and conventional REIT presented on Table 1.3 and i-REITs were listed in Bursa Malaysia as at December 2017 on Table 1.4.

Table 1.4

Malaysia Islamic Real Estate Investment Trusts as at December 2017.

	Establishment	Market Capitalization (RM' million)	Portfolio Value (RM' million)	Assets Type
Al-Aqar Healthcare REIT	June 2006	1,041	1,462	Healthcare
Al-Salam REIT	September 2015	580	928	Diversified
Axis REIT	June 2005	1,848	2,482	Office
KLCC REIT	May 2013	15,598	15,724	Retail

Sources: Compilation from Bloomberg Terminal and Respective REIT Annual Report 2017

On the other hand, the property's portfolio, i-REIT management company must ensure the ratio of the prohibited activity rental income accumulated turnover in a particular financial year is at most of 20 percent of total collections. The SAC of SC classifies the following rental activities as haram as (1) Tenant operate a gambling activity; (2) Share trading or stockbroking in non-shariah compliant securities; (3) Sale or manufacturing of haram products (i.e., alcoholic, pork and among others); (4) Insurance company operate on conventional basis; (5) Financial Institutions charging interest on financial products; (6) Business activities involving pornography and any indecent materials. If the prohibited activities ratio is more than 20 percent of rental collections, investing in such a property is discouraged as part of i-REIT portfolio. In identifying which property to invest as part of i-REIT portfolio, the i-REIT fund manager to equipped with good knowledge of the difference between halal and haram activities underneath the tenant operational matters. Additionally, the i-REIT fund manager also has to ensure real estate investments, financing or deposit instruments are compliant with shariah law. Furthermore, the fund manager has to make sure that the property has coverage of takaful. However, if Islamic insurance is not available, conventional insurance can serve as alternatives. Moreover, for properties occupied by tenants who conduct haram activities, the SAC of SC advises against investing and prohibited from acquiring such a property, as such it contributes more than 20 percent of total rental income. Besides, i-REIT fund manager not permitted to rent its properties to tenants whose fully business activities on prohibited activity.

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Al-Salam REIT										903	922	927
Al-Aqar Healthcare REIT		481	663	961	1,104	1,356	1,464	1,483	1,509	1,521	1,424	1,459
Axis REIT	408	570	723	884	1,164	1,276	1,519	1,543	1,982	2,048	2,143	2,482
KLCC REIT	4,844	7,935	8,362	8,867	9,625	10,975	13,807	14,108	14,496	15,166	15,454	15,667
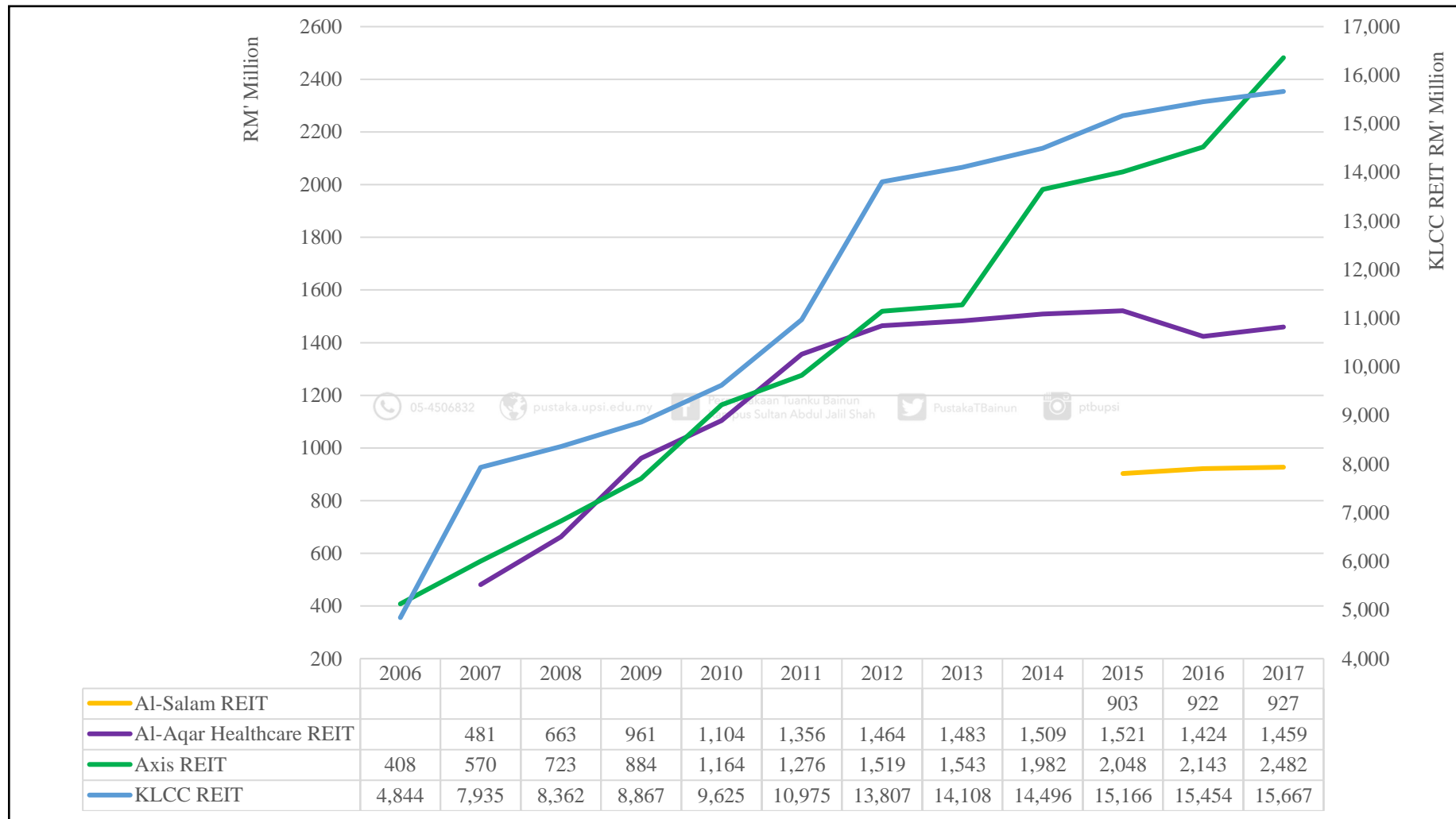
Figure 1.5. Islamic Real Estate Investment Trust Portfolio Property Value from the years of 2006 to 2017. Sources: Compilation from Bloomberg Terminal and Respective Islamic REIT Annual Report.

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In Figure 1.5, Malaysia-focused KLCC REIT property portfolio, a value increase of 227 percent has been observed since it was started from an initial portfolio of RM4.8 billion to RM15.7 billion as of December 2017. This growth of KLCC REIT is attributed to its strong fundamentals and asset pipeline that has driven its future earnings growth. The total square feet of KLCC REIT property portfolio are approximately 11 million and this is distributed in eight properties, including hotels, office, and retail space. KLCC REIT has maintained its focus of becoming the leading REIT Group in Malaysia (KLCC REIT, 2017). Axis REIT was the first REIT to be listed on Bursa Malaysia and it marked 12 years of listing in 2017, when first listed, Axis REIT had five properties worth RM408.0 million, but as at December 2017, it had 40 properties worth RM2.482 billion. The property portfolio of Axis REIT consists of warehousing and logistics, hypermarkets, offices, manufacturing facilities, and industrial properties (Axis REIT, 2017).

On the other hand, Al-Aqar Healthcare REIT commence business in 2006 with a property portfolio worth RM481 million but as of December 2017 this had risen to RM1.46 billion, representing an increase of 203 percent. Al-Aqar Healthcare REIT properties include three healthcare-related properties based in Malaysia and Australia. In overall, the property portfolio consisted of 19 hospitals, and rental properties with rental collection was valued at RM93.21 million in financial year ended 2017 (Al-Aqar Healthcare REIT, 2017) The Al-Salam REIT, which is a relatively new i-REIT in Malaysia, was incepted with a property portfolio worth RM24 million but as of December 2017, this portfolio had grown to RM927 million. Al-Salam REIT has properties in office space, retail, food and beverage Restaurants, and non-restaurant segments (Al-Salam REIT, 2017).

1.7   Malaysia Real Estate Market Outlook

According to the National Property Information Centre (NAPIC), the Malaysia property sector perform badly, and it show deteriorate over period of 2014 to 2016 on privately owned purpose-built offices. NAPIC expected that good performance will be witnessed in 2018 as an occupancy rate of 76.8 percent was recorded with space occupancy increase by 3.47 percent to 16 million square meters in 2017. It is expected that the occupancy rate will increase to 78.0 percent in 2018. The year 2017 witnessed most of states recorded an occupancy rate more than 70 percent except for Putrajaya (52.6 percent) and Melaka (69.2 percent). Melaka has an oversupply of shops with most of the vacant shops located in Taman Kota Laksamana Jaya, Pulau Melaka, Taman Kota Syahbandar and areas near Pulau Melaka in Melaka Raya. Over the past few years, data NAPIC indicate that Melaka has been witnessing an increasing supply of shop houses. Instances in 2016, there were 18,948 shops while in 2017 an additional 1980 shops were built representing an 11.67 percent increase from 2012 and 120 shops from 2015 representing a 0.64 percent increase. In Table 1.5 are summary statistic of space occupancy for purpose-built office for the year 2013 to 2017.

Table 1.5

Summary of Space Occupancy in Purpose-Built Office from 2013 to 2017

	2013 (000's.m)	2014 (000's.m)	2015 (000's.m)	2016 (000's.m)	2017 (000's.m)
Total office space	13,976	14,400	14,400	14,400	14,400
Space occupied	10,837	11,54	11,549	11,549	11,549
Occupancy rate (%)	77.5	80.2	80.2	80.2	80.2

Sources: Commercial Buildings: Occupancy and Space Availability Report 2017, National Property Information Centre.

In the property market report 2017, published by NAPIC indicated that the shophouses in the Melaka state increased to 7,358 units in 2018 and space availability in 2017 standing at 74 million square meters Jaya 99 and United Malacca Berhad building in Melaka is the site for private purpose-built office spaces as low demand. Furthermore, newly completed offices form the bulk of shop supply as those that are still being constructed are controlled by the developers due to weakening of the market demand. Since 2015, completed new shops are available in Limbongan, Bukit Kati, Kota Laksamana, Krubong, Ayer Keroh and Klebang, these properties have also exhibited lower rate of appreciation and therefore investors are more attracted to rental income as opposed to the capital gains. Notwithstanding, NAPIC also highlighted that unless new opportunities and incentives are provided at the state level, the market sentiment will continue to be subdued in 2017 and 2018. The scheme consists of 3-storey terrace shops with 43 units and 3-storey semi-detached shop and/or offices scheduled to be completed in 2018. Additionally, there is a commercial project known as Versis Batu Pahat which is still under proposal and will be constructed at a strategically located piece of land in the junction of Jalan Bakau Chondong-Rugayah.

In the year 2017, Kuala Lumpur Purpose-Built Office market was noted to be stable. Despite the decentralization efforts, Kuala Lumpur remained a preferred destination for both local and multinational companies. Kuala Lumpur supplied about 45 percent of the office space needed in the city center. The year 2017 saw three office buildings with a combined office space of 2 million square meters completed, this added the total space in Kuala Lumpur going above 100 million square meters. Nevertheless, an occupancy rebound occurred in Kuala Lumpur of 81.2 percent was recorded representing a 1.1 percent increase, while outside the city center a reduction

of 0.3 percent was registered. However, the softer demand for properties in Kuala Lumpur did not affect the stability of rental and capital values. Additionally, Kuala Lumpur maintained its position as the leading provider of office space in 2017 with a 52.1 percent as compared to 2016 with 8.394 million square meters followed by Selangor having 3,404.71 million square meters with the rate of availability increased by 21.2 percent from 23.4 percent in 2016. In Table 1.6, it shows the space occupancy in purpose-built office categories by states and the available space as at December 2017.

Table 1.6

Summary of Space Occupancy in Purpose-Built Office by States as at December 2017

State	Existing space (000's.m)	Occupancy rate (%)	Available	
			space (000's.m)	building
W.P. Kuala Lumpur	8,394	78.8	1,782	273
W.P. Putrajaya	296	52.6	140	8
W.P. Labuan	49	81.3	9	5
Selangor	3,40	73.9	888	155
Johor	769	74.7	194	61
Pulau Pinang	82	76.6	192	94
Perak	256	89.1	2	13
Negeri Sembilan	140	84.4	2	14
Melaka	240	69.2	74	15
Kedah	181	83.2	30	22
Pahang	191	83.8	31	17
Terengganu	122	93.1	8	9
Kelantan	176	94.1	10	9
Perlis	41	100	0	0
Sabah	523	86.0	73	33
Sarawak	485	88.9	53	35
Total	16,098	78.0	3,540	763

Sources: Commercial Buildings: Occupancy and Space Availability Report 2017, National Property Information Centre.

In first quarter of 2017, an increase of five percent or 12.25 million square meters in total purpose-built office space was recorded in Johor as compared to the same quarter in 2016 show a 11.67 million square meters. In line with that the rate of occupancy reducing to 77.7 percent as compared to 80.7 percent in 2016. Furthermore, shop offices known as "Versis" or known as "Medini" were launched by BCB Berhad. The project is currently under phase 1a which comprises 3-storey semi-detached offices and 54 units of 3-storey terraces. These offices are priced at a starting price of RM2.28 million per unit. The shops also have a guaranteed rental return of five percent that lasts for four years with full office completion expected in 2019 (www.theiskandarian.com). In 2017, the purpose-built office space supply stood at 9.21 million square feet in 111 buildings with the private sector owning 71 percent while the government owned the rest. In line with that, an approximately 69,966 square feet area for letting, the Bank Simpanan Nasional Tower in Johor Bahru city center was opened in the first quarter of 2017. Six other buildings are still under construction and 2.36 million square net area for letting and will be fully completed in the next three years.

On the other hand, according to the commercial buildings: occupancy and space availability report 2017 published by NAPIC, the performance of shopping complexes softened with the rate of national occupancy reducing slightly to 81.3 percent in 2017. The majority of the states recorded occupancy rates of more than 75 percent with the exception of Pahang (66.7 percent), Melaka (70.7 percent), Negeri Sembilan (71.7 percent), Pulau Pinang (72.6 percent) and Terengganu (73.6 percent). Moreover, the national retail space also increased from 2.734 million square meters with total of new 618 space to 2.906 million square meters of 635 space newly available. The highest space availability standing at 509,920 square meters or 14.6 percent was registered by

Selangor, the main supplier of retail space in the country, in comparison to 494,750 square meters in 2016. This increase was due to an additional space of 117,657 square meters. In the reverse pages, Table 1.7 are summary statistic of space occupancy for shopping complex for the year 2013 to 2017.

Table 1.7

Summary of Space Occupancy in Shopping Complex from 2013 to 2017

	2013 (000's.m)	2014 (000's.m)	2015 (000's.m)	2016 (000's.m)	2017 (000's.m)
Total retail space	12,446	12,978	13,828	14,716	15,520
Space occupied	9,967	10,614	11,388	11,982	12,613
Occupancy rate (%)	80.1	81.8	82.3	81.4	81.3

Sources: Commercial Buildings: Occupancy and Space Availability Report 2017, National Property Information Centre.

The available retail space in Kuala Lumpur went up by 14.7 percent to 447,160 square meters as a result of adding new retail space of 205,205 square meters. The retail spaces in Johor increase by 386,060 square meters representing an 18.3 percent. The increase of retail space attributed to new shopping complexes completed in 2016, regards to that, 31 new shopping complexes with 881,691 square meters increased the available retail space in the market. As compared to previous year, 932 buildings supplied about 13,829 million square meters and 2017 witnessed a new 997 buildings which supplied 15,440 million square meters. In classifying buildings based on the size, 381 buildings (38.2 percent) of the shopping complexes have an area of about 10,000 square meters to 50,000 square meters and 21.5 percent of this number comprised buildings from Selangor, which are 82, Johor, and KL each has 58 and 57 buildings contributing 15.2 percent and 15.0 percent respectively.

In case of Johor states, the retail space recorded an increase of 3.6 percent or 19.06 million square meters in 2017 as compared to 18.40 million square meters in preceding years. Nevertheless, during the same period the occupancy rates increase to 77.1 percent as compared to the 75.9 percent in 2016. The major retail development in Johor witnessed the AEON Group continuing its expansion journey by opening of the AEON Bandar Dato Onn with a 3-storey shopping mall that was aimed at meeting the needs of the neighborhood. Notwithstanding, the Bandar Dato Onn is the sixth AEON outlet in Johor with others being Tebrau City, Taman Universiti, Bukit Indah, Kulai and Permas Jaya. On the other hand, the opening of IKEA Tebrau which was the third Malaysian outlet with a retail space of 46.73 million square meters is the largest mall

Table 1.8

Summary of Space Occupancy in Shopping Complex by States as at December 2017

State	Existing space (000's.m)	Occupancy rate (%)	Available	
			space (000's.m)	building
W.P. Kuala Lumpur	3,034	85.3	447	88
W.P. Putrajaya	61	80.2	12	2
W.P. Labuan	28	98.4	0.46	1
Selangor	3,502	85.4	509	100
Johor	1,925	79.9	386	82
Pulau Pinang	1,738	72.6	476	69
Perak	949	83.6	155	48
Negeri Sembilan	543	71.7	153	45
Melaka	596	70.7	174	15
Kedah	580	80.0	115	40
Pahang	402	66.7	13	25
Terengganu	165	73.6	43	19
Kelantan	334	92.0	26	15
Perlis	55	100	0.00	0
Sabah	738	84.0	118	24
Sarawak	862	82.4	151	62
Total	15,520	81.3	2,906	635

Sources: Commercial Buildings: Occupancy and Space Availability Report 2017, National Property Information Centre.

in South-East (www.ikea.com). The WCT's Paradigm Mall marked other landmark in Johor has seven floors and is located along the Skudai Highway with a 1.3 million square meters which also included other components such as 24-storey serviced apartment block and a 296-room hotel which are planned to be constructed in the near future. These three malls as above-mentioned drove the available retail space in the Johor to 21.46 million square meters with the increase in space, the average rent dropped from RM27 per square foot in 2016 to RM25 per square foot with the vacancy rate stabilizing at 23 percent for prime locations.

1.8   Stock Return Volatility

The movements in aggregate stock market volatility against underlying stocks fundamental or macroeconomics factors has been studied by many researchers over the years. Instances, for a given security or market index, Andersen and Bollerslev (2018) noted that volatility indicates how returns of a company are statistically dispersed and is measured using either standard deviation or variance by considering the same returns or security. In a short period, there can be a dramatic change in the volatility of a security in either direction with a lower volatility indicating non-dramatic fluctuation of the value of security and stable stock price. Moreover, over the past three decades, volatility has been one of the most successful and active areas of research in econometrics and empirical finance asset pricing (Andersen & Bollerslev, 2018).

The stock return volatility not precisely solely based on expectation of economic changes and the past studies indicate the transmission of weak stock return

volatility relationship with macroeconomic factors (Chiang & Chen, 2017; Fowowe, 2017; Jebran, 2018; Milan & Peter, 2018; Abbas, McMillan & Wang, 2018; Lance & Soheil, 2018; Hussein & Bashar, 2018). Furthermore, stock return shocks and external forces largely influence the volatility of stock returns and stock return volatility can be dispersed over a large range in either direction. On the other hand, Hung and Ma (2017) and Jati and Salam (2018) indicated that satisfactory explanation of the movement in prices of stock not precisely be obtained using the underlying changes or market fundamentals. Theoretically, it is not vivid whether an organization should respond to all stock movements or only to fundamental movements, including the changes resulting from the irrational changes in the perception of the investors regarding macroeconomic variables. However, stock return volatility was found by Monica and Jugal (2013) to be positively affected by a financial crisis and highly volatile stock returns, which witnessed a financial crisis has a negative impact on stock return volatility. Nevertheless, during the great depression period, Monica and Jugal (2013) observed clustering, persistence, asymmetry, and leverage effects on stock return volatility. Additionally, Jyoti, Jitendra and Gourishankar (2017) indicated that stock return volatility is significantly determined by financial factors rather than macroeconomic factors.

The changes in stock return volatility have been previously related to changes in trading activities. A study conducted by Yuan (2015) found that stock positions are dramatically reduced by individual investors in aggregate as a result of high market attention leading to absolute changes in trading volume and prices. Furthermore, Wang, Qian and Wang (2018) finding shown a dynamic lead-lag relationship between trading volume and stock returns volatility, moreover the authors found that higher stock

returns volatility follows higher trading volume associated with high volume return premium. Nevertheless, Adam, Mahesan and Enrico (2018) also found that market evaluation of new information results in stock price changes while the extent to which investors disagree with information meaning is indicated by the volume. The volatility of stock returns is impacted by both quantitative and qualitative information on several underlying fundamentals such as news, government intervention and market reactions.

However, a section of economists holds the belief that stock market impacts result in from monetary policy responses, such when economic volatility in market influences the investor's wealth which indirectly effect the stock return volatility. Instances, studies conducted by Gospodinov and Jamali (2015) and Mallick, Mohanty and Zampolli (2017) observed that there were volatility stock returns responded significantly to monetary policy shocks. Additionally, the volatility of the bond market was found to have less importance as compared to that of equity market. However, the reconsideration of the role played by stock market expectations in decision making regarding the interest rate by policy makers if the expectations about the stock market are the same as those of macroeconomic forecast variables.

1.9 Islamic Real Estate Investment Trust Stock Return Volatility

There are several unique characteristics distinguish REIT stocks from other stocks, instances REIT firms are in business related to real estate and/or investment assets holding as portfolio and distribute dividend from the rental collections. In the context of REIT, studies on the volatility are still limited, but there has been an ongoing debate

on the same with most of the few existing studies focusing mainly on conventional REIT as opposed to i-REIT. Nevertheless, the empirical studies on i-REIT intensively focuses on underlying performance while neglecting the prices changes that contribute to capital gain and the impact that rational investors having subjective beliefs have on price behavior because of lessons from previous price observations. According to Adam, Marcet and Nicolai (2016), this effect of imparting momentum and mean reversion into stock price movement.

The i-REITs stock return has been largely increased with very dramatic high volatility in price changes, as illustrated in Figure 1.6. The impact of various events either on economic or financial factors caused i-REIT faced changes on the stock return (Hussin, Muhammad, Hadi & Gan, 2017; Liu, Loudon & Milunovich, 2012; Ewing & Payne, 2005; Kola & Kodongo, 2017 and Fang, Chang, Lee & Chen, 2016). Nevertheless, the dividends are the partly cause for the high price volatility associated with the distribution of at least 90 percent of the taxable income of the company to shareholders annually. Additionally, the fixed income investment and the equity returns structured with REIT stock as wonderful portfolio diversifier as mentioned by Baum (2015). Most of the recent study channeled to the fundamentals, the economic factors and trading activities to gain insight into the main drivers of conventional REIT performance rather the investigated i-REIT return.

The amount of variability or dispersion of volatility is measured using the time series trend of standard deviation, the larger the dispersion the higher the standard deviation (Andersen & Bollerslev, 2018). The variation of Malaysia stock market return is represented by the daily price return for FTSE Bursa Malaysia (FBM) KLCI indexas

shown in Figure 1.6, which the variation is used for benchmarking 30 top well-capitalized stocks return volatility. The monthly standard deviation is calculated from the rolling window for the four i-REIT and the daily FBM KLCI index return from August 2004 to December 2017. It indicated that the return volatility of the i-REIT experienced a dramatic increase recently as compared to the return volatility of FBM KLCI. In August of 2008, Malaysia i-REIT faced high volatility as government and SC had overriding salient features for taxation with the aim of promoting the efficiency of the market in addition to taxation methods. The FBM KLCI return volatility are lower in September 2008 onwards compared to the return volatility of the i-REIT. Nevertheless, over time the return volatility of Al-Aqar Healthcare REIT and KLCC REIT has risen and doubled between the average ranges of 1.50 percent standard deviation in comparison to the 0.70 percent standard deviation of FBM KLCI. In respect to that, the price volatility of the four i-REIT is much greater as compared to that of FBM KLCI and the return volatility of i-REIT was the approximately constant with FBM KLCI prior to year 2008.

Therefore, the issues are i-REIT income generated by leasing, renting, or selling the property from the ownership and management of income-producing commercial real estate. Nevertheless, according to the public ruling - No.5/2017 under the Inland Revenue Board of Malaysia's (IRB), 90 percent of the taxable income of the REIT management company is distributed to the shareholders regularly to be exempted from taxation. Moreover, in the event of acquiring or disposing of the assets, i-REIT do not incur gain tax and stamp duties, respectively, and therefore have high flexibility in term
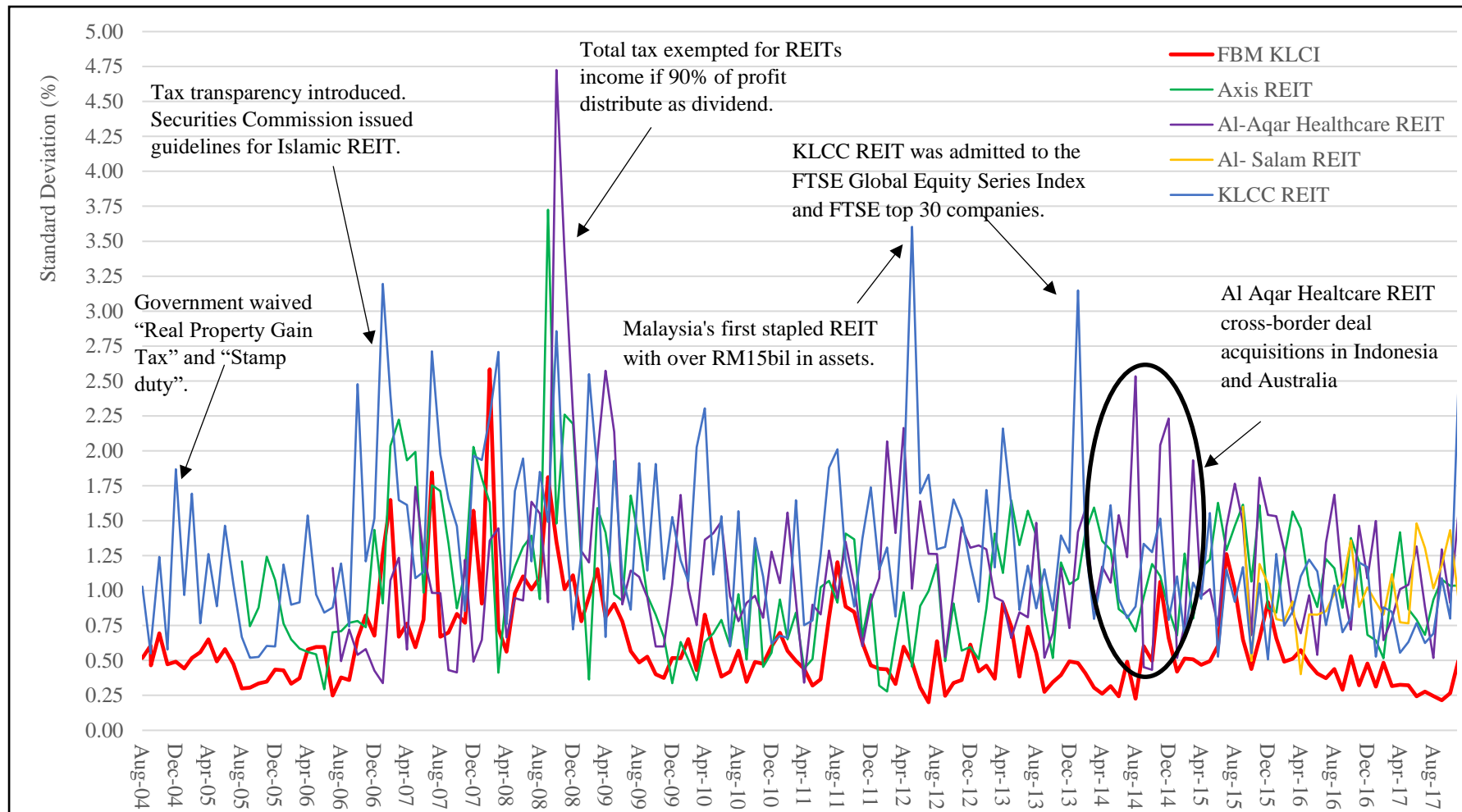
Figure 1.6. Standard Deviation of Malaysia Islamic Real Estate Investment Trust Stock Return and FBM KLCI Index. Sources: Compilation from Bloomberg and Various Sources.

of cash flow. Therefore, performance of i-REIT is expected to correlate positively with direct property cash flows translating into small fluctuation in stocks or lower volatility, one way or another in Figure 1.6, by no mean exhaustive it shows other side of the scenario. Lower volatility definition according to Bandi and Renò (2016), implies less dramatic fluctuation of stocks as well as steady movement in price given the lower risk of business structure

Many scholars have been attracted to examine and analyze the factors associated with the movement of REIT stock return as the one of alternative financial assets and growing REIT industry. Instances in the study of Chung, Fung, Shilling and Simmons–Mosley (2016), Wang, Huang, Nieh, Ou and Chi (2017), Huang, Wu, Liu and Wu (2016) and Kawaguchi, Sa-Aadu and Shilling (2017) found that REIT stock return had a close relationship macroeconomic and specified factors. In contrast to these findings, studies conducted by Sing et al. (2016) and Yuksel, Yuksel, Erol and Ozturk (2017) and indicated that REIT stock returns have a relationship with geographical location difference and financial crisis. In the view of empirical findings, the systematic risks measured the entire market risk impact on the investors in structuring the portfolio. Liu and Liu (2012) highlighted that there is an increase in the REIT systematic risk complement a greater part of the bias in estimation of REIT market risk premium. Therefore, REIT income volatility to systematic risk measured by REIT beta is relatively persistent across different market conditions. Instances, REIT with higher beta and during high volatility periods for common stock experienced a greater REIT return. It supported by the study of Chen, Tsai, Sing and Yang (2015) tests the contagion effects in stock and REIT markets during the subprime mortgage crisis found a significant downside linkage between market portfolios and expected REIT returns

towards the increase in the REIT systematic risk. Therefore, would the situation happened on conventional REIT in the stock return have the same behavior in i-REIT stock return?

According to Sun et al. (2015) and Alcock and Steiner (2016), it is expected that there exists a positive correlation between direct property cash flows and price movement as the dividends which are derived from rent collected from the various properties. Therefore, the rental index in measuring and monitor the growth of the property market important to the REIT management company as benchmarking in generating income steam from property portfolio. The Purpose-Built Office Rental Index (PBO-RI) published by NAPIC was established at the insistence of the National Economic Action Committee (MTEN) to have a property centre to monitor the growth of the property market in the country and served as nation rental index. The index is derived from tenancy of investment grade purpose-built office buildings in major cities in Kuala Lumpur, Selangor, Johor and Pulau Pinang has changes over time. The main sources of REIT management company income depend on the rental collections from the real estate portfolio, therefore the rental index served key component of the effective management of REIT rental business. REIT Managers should carefully compare rental rates to the PBO-RI as benchmarks and adjust ensure REIT management company are aligned with the company's strategy. Nevertheless, PBO-RI can then be used tactically to optimize rental rates to drivers of revenue and ensuring the best tenancy mix to maximise rental income.
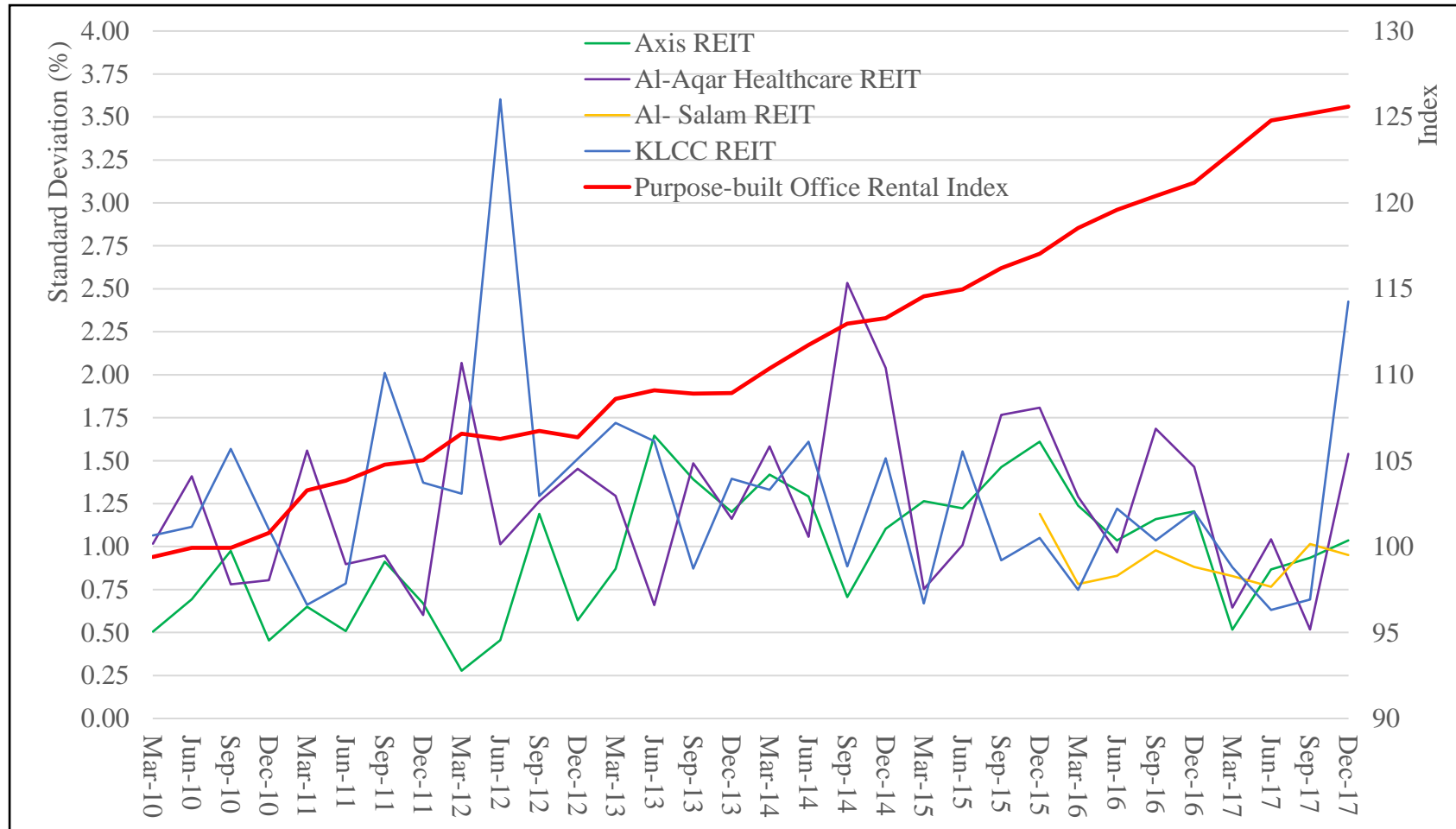
Figure 1.7. Standard Deviation of Malaysia Islamic Real Estate Investment Trust Stock Return and Purpose-built Office Rental Index.
Sources: Bloomberg Terminal and Pusat Maklumat Harta Tanah Negara (NAPIC)

In the previous pages, Figure 1.7 evident that i-REIT stocks return against the PBO-RI from 2010 to 2017 a stable trend of a rising 26.36 percent was recorded. These results were recorded in regions that have good road transportation networks and accessibility as mentioned in the property market report 2017 issued by NAPIC. On the other hand, the return volatility of i-REIT varied between 0.25 percent and 3.6 percent across the period of measurement with standard deviation. The findings shown a relatively growing PBO-RI as the main property cash flow index by the NAPIC, but i-REIT stock return changes fluctuate across 2010 until 2017. Therefore, the nexus between the PBO-RI and i-REIT stock return show unanticipated changes, in fact the PBO-RI would be relevant to capture the transition of i-REIT management companies' returns, especially PBO-RI growth and equivalent yields, as it likely to help to explain i-REIT stock returns.

1.10   Problem Statement

This study motivated by the gap existing on Malaysia i-REIT market, as the empirical study mostly based on the on the conventional REIT market, primarily focuses on the United States, Japan, Australia and Europe REIT market. Therefore, with little knowledge existing on the Malaysian i-REIT market, this study is to fill the gap by exploring and enhancing the Islamic finance literature and Malaysian i-REIT market. The market capitalization statistics illustrated in Figure 1.4 show that i-REITs captured approximately 40 percent of total market capitalization and are growing year-to-year in the Malaysian REIT industry. This impels the need to study the driving financial and macroeconomic interaction force with i-REIT stock return which in turn further

contributes to the Islamic finance literature. According to Pham (2012), Asian REIT markets analysis revealed that REIT stock returns tended to transmit from developed markets to emerging markets. Therefore, it is essential to investigate whether the same trends are occurring where conventional REIT stock returns are transmitted to the emerging i-REIT stock returns.

Moreover, most of the empirical findings and theoretical frameworks are geared towards conventional REIT concerning performance, sectors risk, country and assets class correlations (Case, Yang & Yildirim, 2012; Tsai & Chiang, 2013; Fang at el., 2016; Anderson, Benefield, & Hurst, 2015). In the context of the Malaysian REIT market, there is substantial literature that investigated i-REIT performance with firm specific and macroeconomic risk as in the studies of Ong et al. (2012), Hamzah, Rozali and Tahir (2010), Ong, Teh and Chong (2011), and Rozman et al. (2015). However, the i-REITs stock return and macroeconomic risks have seldom been modelled and predicted as compared to research on i-REIT performance; additionally, the i-REIT underlying performance neglecting the prices changes that contribute to capital gain on top of the declared divided.

A significant growth in systematic risk in the real estate market has been witnessed as properties become more exposed to the fundamental factors associated with capital markets (Chang, Chou & Fung, 2012; Liu and Liu, 2012; Chen, Tsai, Sing & Yang, 2015). On top of that, the application of financial concepts such as Capital Asset Pricing Model (CAPM) developed by Harry Markowitz in 1952 has also been utilized by investors and economists in describing the existing relationship between the investor's risk and expected stock return. Instances in the study of Chen et al. (2015),

tests on contagion effects in stock return and REIT markets during the subprime mortgage crisis found a significant downside linkage between market portfolios and expected REIT returns towards the increase in the REIT beta. Furthermore, providing support on the REIT systematic risk, Sing, Tsai and Chen (2016) review of an economic cycle postulated that REITs restructure during the bearish market rather than bullish market. The empirical findings show there is a negative correlation between REIT return and overall capital markets performance during bullish market condition. In the real estate, it has its own risks and benefits; therefore, with this concept to adjacent contemporary literature gap, the systematic risk along with macroeconomic examine the interaction of i-REIT stock return behaviors. Moreover, the CAPM context neglects other factors affecting the i-REIT return, such as the economic indicator likely to affect i-REIT expected stock return. Therefore, in this study a multiple assets pricing model that incorporates all those factors involved to derive the risk and return are associated with real estate markets on pricing and optimal investors' portfolios.

It is argued that the REIT stock returns may have a positive relationship with the real estate portfolio rental collections (Leone, 2011). The REIT management company resides in rental accommodation as the main source of income and the rental market naturally becomes stronger as indicated in Figure 1.7, which shows Malaysia's rental index issued by NAPIC. Therefore, rental collection is likely to increase the REIT management company's profits and transform them into growth dividend and higher REIT stock returns. The justification for including the rental index in this study is explained by the fact that the REIT stock return is generally a powerful explanatory variable and its exclusion could lead to an omitted variables bias. The empirical review on the rental index is seldom examined given the limitation of the suitable

benchmarking to measure the rental yield and vector of characteristics comprising mainly location and physical attributes are significant in determining rental yield. Furthermore, Leone (2011) stated that growth of rental collection and economic variables exhibited a positive influence on the REIT management company valuation of cash flows and overall REIT stock return.

Moreover, the changes on interest rates have a direct impact on the REIT management company financing that is essential contribute a lower profit margin, instance, when interest rate rises resulted in higher cost of borrowing (Vernimmen, Quiry, Dallocchio, Le Fur & Salvi, 2014). The effect of variations of interest rates is inversely related to the present value bond of future expected cash flows as bonds have an inverse relationship to interest rates (Emery, 2018). Therefore, Loo, Anuar and Ramakrishnan (2016), Hong and Lee (2013), Pierdzioch, Risse, Gupta and Nyakabawo (2018) and Liu et al. (2012) examined government bond yield as proxy's for interest rate to determine REIT stock return, the authors upholds the theory of pure expectation theory, which explains the market expectation consensus for future short-run rates and the information about interest rate inversion in long-run interest rates. Moreover, there is limited literature on the long-term bond yield being examined in the i-REIT stock return, so in essence, it needed to be reviewed in this study to derive an interaction between two variables, so it diversifies the investment in constructing Islamic portfolio investment.

There are literatures that have investigated the volatility forecasting in financial products or particularly in the conventional REIT such as in the studies of Kawaguchi et al. (2017), Chung et al. (2016), and Huang et al. (2016). However, the volatility

forecasting in i-REITs and economic risks have hardly ever been examined and predicted as compared to studies in the i-REIT performance. According to the efficient market hypothesis, the underlying movement of stock return depends on emergence of new information such as economic indicators as the key source of volatility. Nonetheless, the Malaysian REIT appears unattractive to an investor, as it remains too volatile due to global conditions (Thean, 18 July 2018). In view of the limited studies on i-REIT volatility clustering effect, this indicates that i-REIT has the possibility of containing useful information on the volatility effects to enhance the literature review in Islamic finance and the Malaysian REIT market. Nonetheless, the investigation in the volatility clustering effect is undertaken in an attempt to determine whether there are clustering and leverage effect in understating i-REIT stock return. In fact, the economy cycle can have time varying effect on the REIT, and it is related to conditional volatility of macroeconomic risks. Therefore, are volatility and leverage effect asymmetrical between i-REITs' stock return and macroeconomic risk?

A set of five macroeconomic variables (economic growth, inflation, money supply, foreign exchange rate, interest rate) and stock market index are included in this study as control variables in explaining the fours issues highlighted in this study. (1) The impact of systematic risk as contagion effects in REIT stock return, it is evident in the study of Chen et al. (2015), subprime mortgage crisis found a significant effect with REIT stock returns towards the increase in the REIT beta. Furthermore, REIT values change, which depend on the real estate fundamentals rather than adjustments in the portfolio (Baum, 2015). Therefore, the downside of financial assets is exposure to market risk; therefore, is the systematic illustration an important variable in explaining i-REIT stock return? (2) Reside in rental collection as the main sources of REIT

management company income, the growth of rental collection exhibited a positive influence on the valuation of cash flows and overall REIT stock return (Leone, 2011), but why does the REIT stock return volatility in Figure 1.7, shows immense fluctuation as compared to the uptrend of rental index measured by the PBO-RI? (3) The changes on interest rate have a direct impact on the REIT management company financing, that is essentially lower profit margin and smaller dividend. The empirical study upholds the theory of pure expectation theory, that explains the term of interest rate assert market expectation expected future interest rate. However, REIT management companies and investors tend to neglect the information about interest rate inversion in the long run. The review on the long-term bond yield as proxy for the long-term interest rate is vital to justify the relationship toward the REIT stock return. (4) According to the efficient market hypothesis, financial assets reflect all the available information and respond instantaneously. The unexpected or new information such as economic indicators as the key source of volatility would arrive at random points in time and therefore result in random price movements as supported by random walk theory. In view of the limited studies on i-REIT volatility, this indicates that i-REIT has the possibility of containing useful information on the volatility effects to fill in the missing piece in the i-REIT Islamic finance contemporary research literature.

Nutshell, the i-REIT as an alternative to shariah compliant financial assets in structuring portfolio witnessed the growth over the year. In conducting analyses on i-REIT needed to perform an evaluation of the stock return behaviors relative to the broader equity market. Nevertheless, the existence of such cases is strengthening the need for research in this field and the Islamic finance literature and the contemporary practices in the i-REIT.

1.11   Research Objective

The following are the areas that provided the research objective of the aforesaid issue pertaining to i-REITs in Malaysia. The financial variables been identified are long-term bond yield, systematic risk, stock market index and rental index. On the other hand, the macroeconomics variables are economic growth, inflation, money supply, exchange rate, interest rate. Therefore, the research objective of this research are:

1)   Determine the co-integration relationship between the financial and macroeconomic variables towards the i-REIT stock returns listed on Bursa Malaysia.

2)   Assess the causality relationship between financial and macroeconomic variables towards i-REIT stock returns listed on Bursa Malaysia.

3)   Analyze the leverage effect between financial and macroeconomic variables towards i-REIT stock returns listed on Bursa Malaysia.

4)   Measure the volatility persistence between financial and macroeconomic variables towards i-REIT stock returns listed on Bursa Malaysia.

1.12   Research Questions

In order to meet the research objective as above-mentioned and contribute to the existing literature specifically on i-REIT and Islamic finance. The financial variables been identified are long-term bond yield, systematic risk, stock market index and rental index. On the other hand, the macrocosmic variables are economic growth, inflation, money supply, exchange rate, interest rate. The following research questions in this study are: -

1)   What is the co-integration relationship between financial and macroeconomic variables towards i-REIT stock returns listed on Bursa Malaysia?

2)   To what extent does the causality relationship between financial and macroeconomic variables with regard to i-REIT stock returns listed on Bursa Malaysia?

3)   Is there a leverage effect existence in explaining the asymmetric volatility between financial and macroeconomic variables in relation to i-REIT stock return listed on Bursa Malaysia?

4)   Does the presence of volatility persistence continuity of volatile behavior between i-REIT stock return listed on Bursa Malaysia and financial and macroeconomic variables?

1.13   Research Hypotheses

A research hypothesis is testable proposition statement on the possible outcome regards to problem statement and the above structured research questions for this study. The research hypothesis as follow:

Research Question 1:

What is the co-integration relationship between financial and macroeconomic variables towards i-REIT stock returns listed on Bursa Malaysia?

H_{1a}: There is a long-run relationship between economic growth and i-REIT stock returns.

H_{2a}: There is a long-run relationship between inflation and i-REIT stock returns.

H_{3a}: There is a long-run relationship between money supply and i-REIT stock returns.

H_{4a}: There is a long-run relationship between foreign exchange rate and i-REIT stock returns.

H_{5a}: There is a long-run relationship between interest rate and i-REIT stock returns.

H_{6a}: There is a long-run relationship between long-term bond yields and i-REIT stock returns.

H_{7a}: There is a long-run relationship between systematic risk and i-REIT stock returns.

H_{8a}: There is a long-run relationship between stock market index and i-REIT stock returns.

H_{9a}: There is a long-run relationship between rental index and i-REIT stock returns.

Research Question 2:

To what extent does the causality relationship between financial and macroeconomic

variables with regard to i-REIT stock returns listed on Bursa Malaysia?

H_{1b}:   There is a short-run relationship between economic growth and i-REIT stock

returns.

H_{2b}:   There is a short-run relationship between inflation and i-REIT stock returns.

H_{3b}:   There is a short-run relationship between money supply and i-REIT stock

returns.

H_{4b}:   There is a short-run relationship between foreign exchange rate and i-REIT

stock returns.

H_{5b}:   There is a short-run relationship between interest rate and i-REIT stock returns.

H_{6b}:   There is a short-run relationship between long-term bond yields and i-REIT

stock returns.

H_{7b}:   There is a short-run relationship between systematic risk and i-REIT stock

returns.

H_{8b}:   There is a short-run relationship between stock market index and i-REIT stock

returns.

H_{9b}:   There is a short-run relationship between rental index and i-REIT stock returns.

Research Question 3:

Is there a leverage effect existence in explaining the asymmetric volatility between financial and macroeconomic variables in relation to i-REIT stock return listed on Bursa Malaysia?

H_{1c}:   There is a positive leverage effect between economic growth and i-REIT stock returns.

H_{2c}:   There is a positive leverage effect between inflation and i-REIT stock returns.

H_{3c}:   There is a positive leverage effect between money supply and i-REIT stock returns.

H_{4c}:   There is a positive leverage effect between foreign exchange rate and i-REIT stock returns.

H_{5c}:   There is a positive leverage effect between interest rate and i-REIT stock returns.

H_{6c}:   There is a positive leverage effect between long-term bond yields and i-REIT stock returns.

H_{7c}:   There is a positive leverage effect between systematic risk and i-REIT stock returns.

H_{8c}:   There is a positive leverage effect between stock market index and i-REIT stock returns.

H_{9c}:   There is a positive leverage effect between rental index and i-REIT stock returns.

Research Question 4:

Does the presence of volatility persistence continuity of volatile behavior between i-REIT stock return listed on Bursa Malaysia and financial and macroeconomic variables?

H_{1d}:   There is a volatility persistence between economic growth and i-REIT stock returns.

H_{2d}:   There is a volatility persistence between inflation and i-REIT stock returns.

H_{3d}:   There is a volatility persistence between money supply and i-REIT stock returns.

H_{4d}:   There is a volatility persistence between foreign exchange rate and i-REIT stock returns.

H_{5d}:   There is a volatility persistence between interest rate and i-REIT stock returns.

H_{6d}:   There is a volatility persistence between long-term bond yields and i-REIT stock returns.

H_{7d}:   There is a volatility persistence between systematic risk and i-REIT stock returns.

H_{8d}:   There is a volatility persistence between stock market index and i-REIT stock returns.

H_{9d}:   There is a volatility persistence between rental index and i-REIT stock returns.

1.14   Scope of the Study

This study focuses on developing a study framework based on empirical evidence-based approach and interpretation set of data of the Malaysian i-REIT stock return. Malaysia REIT market consist of conventional REIT and i-REIT, therefore, it gives an investors the flexibility to switch between the differences type of funds in the construction of portfolio. In order to expand the empirical analysis on Malaysia i-REIT market and Islamic finance, the development of i-REITs stock return in the Malaysia market is examined along with financial and macroeconomic factors. Most of the empirical reviewed on REIT performance focus on the western countries since the late 1970s. However, most of the studies in Malaysia context reviews the performance across different periods, funds and specifically on conventional REIT. Malaysian property investment trust is mostly related to real estate, and it follows the same principles as other countries but with modifications and innovations based on shariah principles. Therefore, studies on Malaysian property investment trusts, particularly i-REIT are rather limited, a review and analysis would be necessary, as it would further contribute to the Islamic finance development with the confirmation of the valid theories underneath i-REIT stock return.

Furthermore, this study assists in explaining the i-REIT stock return behavior and how it has been influenced by the movement of financial and macroeconomic factors. Moreover, it focuses on i-REITs in listed on Bursa Malaysia in answering the research questions and to achieved research objective, the i-REIT return data covered since the establishment until December 2019 to capture the cause-and-effect relationship among the financial and macroeconomic variables. Nevertheless, the

volatility clustering and leverage effect would be examined to understand the REIT stock return behaviors. To accomplish this study as above-mentioned becomes an important to close research gap in the Islamic finance as well as to moving forward toward the development of i-REIT and Islamic Finance in global perspectives.

1.15   Research Approach

This study seeks to provide a comprehensive understanding of whether the stock returns of i-REIT can be explained by financial and macroeconomic variables. Therefore, this study adopted a deductive approach as illustrated in following pages Figure 1.8. The deductive approach derives new conclusions from the study hypotheses and theoretical assumptions. The i-REIT stock returns are taken as the dependent variable while, financial and macroeconomics variables are taken as the independent variables. Bryman and Bell (2015) and Saunders, Lewis, and Thornhill (2009) noted that deductive approaches are mainly used together with quantitative data used in the study. In general, a deductive approach has six major steps as highlighted by Bryman and Bell (2015). The first step involves the compilation of the theoretical framework. The second step entails the definition of the hypothesis based on the theoretical assumptions while the third and fourth step involves the data collection and testing of the study hypothesis. The fifth step involves confirming or rejecting the hypothesis followed by redefined and confirmation of theory.

Theory	Explanation of observed regularities, a grounded theory as a guide or influence the collection of empirical
Hypothesis	Initial hunches about the relationship between study subject matter.
Data Collection	Gather the information's from ranges of sources on subject matter.
Findings	Transforming the raw data into analysis for communicate the results of subject matter.
Hypotheses Confirmed or Reject	Based on the findings, either accept or reject the relationship.
Revision of Theory	Redefined the expression and formal proof study the logic.

Figure 1.8. Process of a Deductive Approach. Sources: Bryman, A., & Bell, E. (2015). Business research methods. Oxford University Press, USA.

The research approach is the essential part of the study to answer research objective and questions of this study. The i-REIT is a similar to unit trust closed-end fund, and its major focus is on the holdings a direct investing in real estate properties. The research approach applied in this study of analysis to determine the quantitative results to derive the empirical analysis. This study applied economic methods that make use of mathematical and statistics in ensuring the clear understanding of empirical analysis of the stock return behaviors of the Malaysia i-REIT market. The data of study to be obtained from the Bursa Malaysia, respective i-REIT annual report and Bloomberg Terminal stretch from establishment in 2005 until 2019. A family of stochastic volatility an ideal for modelling volatility transmission and understanding the of the financial returns, such as generalized autoregressive conditional heteroscedasticity model will be applied to capture the size volatility clustering and leverage effect existed in financial and macroeconomic variables toward i-REIT stock

return. Nonetheless, Johansen and Julius co-integration (JJ test), Vector Auto Vector Error Correction Model (VECM) and granger causality applied to test on the phenomenon that might exists, such as long-run and short-run, the direction of impact between financial and macroeconomic variables and the i-REIT return volatility over the period of study.

1.16   Significance of the Study

The important of Malaysia i-REIT stock return need to explorer its behavior to justify the understanding of the current developed market in Islamic finance as well as it served as alternative Islamic investment vehicles. This study provides an empirical analysis of the i-REITs stock return and the potential role in mixed assets portfolios. This analyzes i-REIT stock return since its establishment in year of 2005, it realized a significant development of Malaysia REITs with the total capitalization of approximately RM44 billion as in Figure 1.4. Therefore, the realization has been favored by the economic conditions and an existence of an improved property market transparency in Malaysia. Moreover, Malaysia REITs have been one of the primary asset class and a critical direct investment vehicle for both local and international investors that are being exposed to the growing commercial property market in Malaysia (Mohamad & Zolkifli, 2014). There are number of significant reasons contribute from this study, firstly, the study provides a quantitative analysis of Malaysia REIT market specifically on the i-REIT as shariah compliant property investment vehicles not only in Malaysia, but to attract foreign investor as well as to develop an Islamic investment vehicle in globally arena. Malaysia REIT market has been providing a convenient means for investors to access

the commercial property without the absolute capital requirement and high hassle of direct property management, unlike direct exposure to property management, publicly traded i-REITs offers investors liquidity, opportunities and diversity as its size market value reaches RM19 billion as at December 2017, with such importance growth is enhanced in Malaysia i-REIT, especially to that Islamic institution that holds Shariah compliant investment securities.

Secondly, this research helps to understand i-REIT stock return behaviors in the Malaysia Islamic capital market, in which it still lacks information since it intercepts in year 2005. Moreover, the outcome of this study explores financial and macroeconomic variables vital role in determining the i-REIT stock return. In a deeper analysis, there is exist different i-REIT structured accordance to shariah principles in Islamic market as compared to conventional REIT, therefore analyzed to obtain the interdependencies and stock return volatility behaviors with benefit to both local and international investors.

Nevertheless, the third significant of this study will be a cornerstone for all potential investors and non-investing individuals by providing a deeper understanding and knowledge on nature and development of current i-REITs market and it potentially could offer as an alternative's investment instrument. Besides, this research would also provide useful information on the of i-REITs stock return in Malaysia are still worth to invest as compared to conventional REIT. Nonetheless, the main advantage from this study is for investors as well as Islamic players to make more accurate decision are worthwhile investment to be included in portfolios by having some ideas and knowledge regards to the interaction between financial and macroeconomic factors

towards the i-REITs stock return. Furthermore, it gave a better insight to invest in i-REITs markets to make wiser decisions by understanding the short-run and long-run behaviors with impart of volatility effect of i-REIT markets.

Lastly, the use of mathematical, economic, and statistical models in the research helps in understanding the behaviors of i-REIT stock return. These methods, which include an econometric technique such as JJ test, VAR and VECM, take a further step in analyzing the data obtained from the i-REIT market along with the Generalized Autoregressive Conditional Heteroskedasticity (EGARCH) model. Application of the above-mentioned methods takes an even further step in advancing a significance in the current study of Malaysia REIT markets. Therefore, with this research, the reader and academic can understand into deeper experiences in the current i-REIT market through variables and econometric modelling measurement imparted in the model.

1.17   Limitations of the Study

There are some limitations, which are the potential weaknesses to address the problem statement and research objective in this study. Firstly, the limitation are the exclusion of the qualitative point of view rather than this study only focuses on quantitative study. A quantitative research entails the systematic research that empirically investigates observable phenomena through mathematical, statistical, or computational methods. On the other hand, a quantitative research aimed at developing and employing mathematical theories, models, and hypotheses in the phenomena of the study (Sekaran & Bougie, 2016). In this study, quantitative data measured on monthly basis of

macroeconomics and financial variables retrieved from Bloomberg Terminal, BNM and Statistic department of Malaysia to investigate the relationship towards the i-REIT stock return. The exclusion of the qualitative data on this study may negligence the investors experiences to describe and explore through narrative, text or visual representation of data that relates to factors that contribute to the i-REIT stock return. Furthermore, qualitative research allows the collection of non-numerical data, concepts definitions, metaphors, symbols, characteristics, and description of i-REIT stock return and produces specific information with other general conclusions being hypotheses. In light of that, one of the recommendations to future research to explore the qualitative with the aims at seeking a deeper understanding about the i-REIT in Malaysia to provide complete and perfect results with quantitative data.

Furthermore, the macroeconomics and financial variables that have been chosen in this research to examine the dynamic relationship with i-REIT stock return. However, the study may not be able to provide precise and significant results as to the omission of some important variables such as the firm specific factors, global financial crisis and cross border macroeconomics indicators. These variables may be significant to explain an important impact toward the i-REIT stock return and it contribute to the Islamic finance literature. Nevertheless, these omitted variables might present some knowledge regards to i-REIT's stock return specifically on theoretical contributions together with substantive findings with essential financial and macroeconomic variables. Therefore, the omitted variables can generate different finding and more accurate in explaining the i-REIT stock return.

On the other hand, this study is the exclusion of integrations between conventional REIT stock return with the i-REIT stock return. The smooth and effective of Islamic financial market that similar to conventional financial market in sense that the Islamic capital market operates in parallel with convention capital market in expending, deepening and broadening Malaysia financial system. Therefore, the dynamic integration between them are important to draw bigger picture. In structuring a portfolio management, i-REITs served as one of the alternative investment vehicles, the changes in the conventional REIT stock return inevitably means to the behaviors and operation of i-REIT stock return. The conventional REIT and the i-REIT share the same requirements and regulator structures except that i-REITs must be shariah-compliant as per the "Guideline on Real Estate Investment Trust" issued by SC.

Lastly, other limitation regards to this study are less of empirical findings for one of the financial variables which the rental index in addressing the problem statement. The rental index monitors the growth of the property market less been examiner and concluded the importance to the REIT management company as benchmarking in generating income steam from property portfolio. Hence, there were insufficient articles about rental index used as reference to be underpinned with ground of theory in explaining the REIT stock return phenomenon. The insufficient of empirical finding in rental index may hinder the enhancements of this study and draw solid conclusion. Nevertheless, the Malaysia rental index measured PBO-RI published by NAPIC faced some of the limitation in deriving the rental index. The PBO-RI serves as a useful for short-term indicator of rental movement as it measures the change in average rental between two quarters and denote buildings that are intentionally built with office as a dominant use that not less than 75 percent of the net lettable area is used

as office. Nonetheless, the PBO-RI measurement are limited to the tenancy of investment grade purpose-built office buildings in major cities in Kuala Lumpur, Selangor, Johor and Pulau Pinang. The main sources of REIT company income depend on the rental collections from the real estate portfolio, therefore the rental index served key component of the effective management of REIT rental business. REIT managers should carefully compare rental rates to the PBO-RI as benchmarks and adjust ensure REIT management company are aligned with the company's strategy and rental variables within the rental index would be essential in providing information about REIT stock returns transition, particularly the growth of rent and its corresponding yields.

1.18　An Overview of the Conceptual Framework

A conceptual framework is an analytical tool which graphically explain the main components such as the variables, concepts or factors to be studies, the several variations presumed relationship among the study components and the underpinned with ground of theory to explain the phenomenon and hypotheses that will be tested. The conceptual framework served as a guide research such as to assess the goals of the research either exploratory or constructive research, then develop a realistic research objective and questions with appropriate methods to analyses the study. According to the Hair, Wolfinbarger, Money, Samouel and Page (2015) in the process of developing a conceptual model, involved three tasks: (1) identifying the variables, (2) specifying hypothesis and relationships and (3) preparing a diagram known as conceptual model that visually represent the theoretical basis of the relationships. The conceptual

framework allowed a comprehensive analysis of study variables and subject matters. On top of that, the overall coherence was built into structure based on relevant theories and model in this study as illustrated in Figure 1.9.

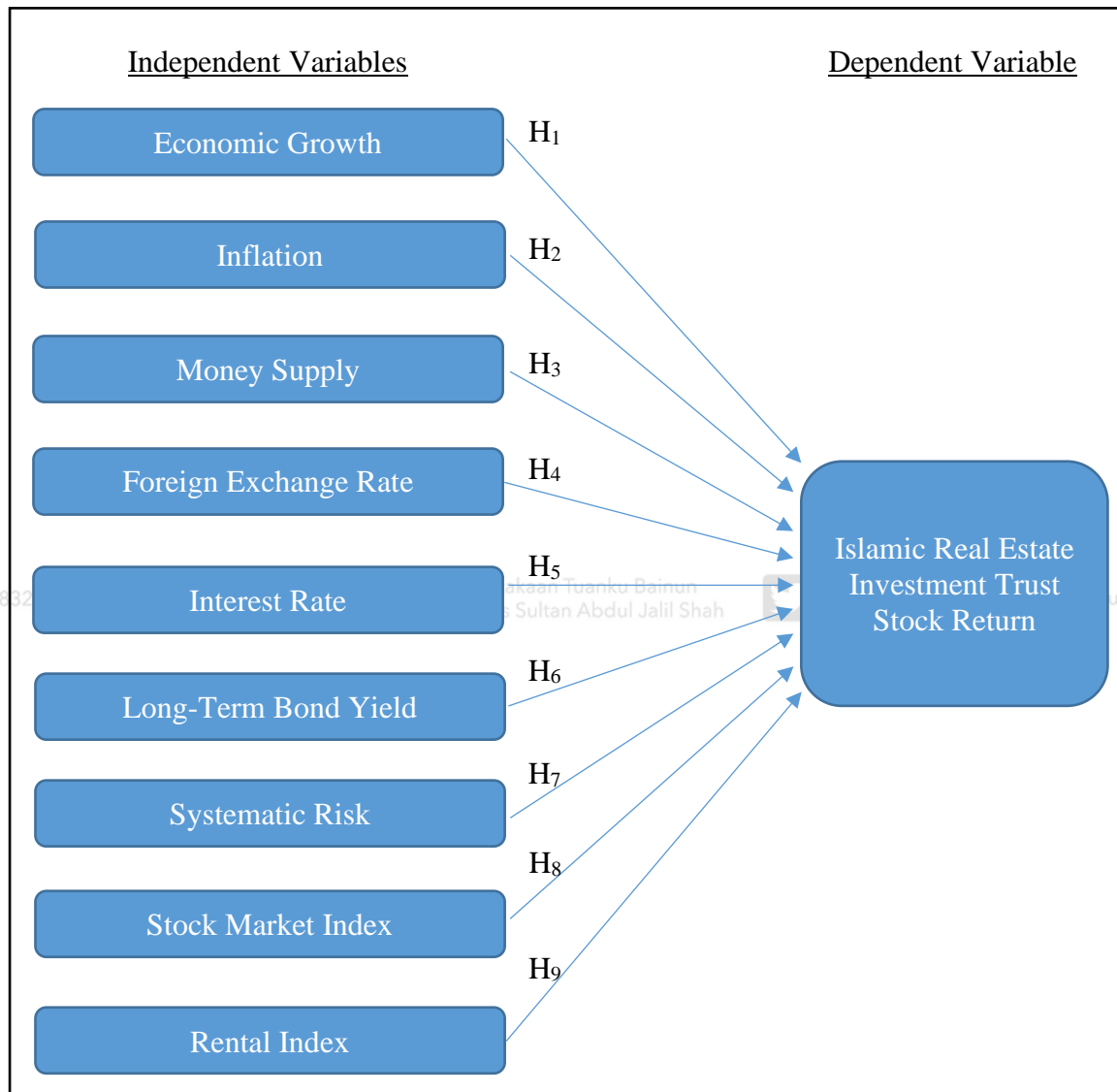

Figure 1.9. An Overview of Conceptual Framework and Hypotheses

The proposed conceptual framework of this study as illustrated in Figure 1.9, which are intended to guide this study as connection between variables and i-REIT stock return volatility in Malaysia REIT market. The development of the conceptual framework underpinned by the literature and empirical finding with the research gap as

highlighted in the problem statements. Briefly, this study was confined to nine study variables and two latent which the financial factors and macroeconomic factors. The financial factors comprise the long-term bond yield, systematic risk, stock market index and rental index. Meanwhile on macroeconomic latent measured by the economic growth, interest rate, inflation rate, money supply and foreign exchange rate. Nonetheless, the study derived 36 hypotheses a proposition that tentatively explain the behavior of i-REIT stock return in Malaysia.

1.19   Operational Definition

An operational definition refers to statement of procedure applied in defining a set of variables, the term or object in this study context. In regard to problem statement and context of this study, the following are definition of the subject matters.

1.19.1 Real Estate Investment Trust

According to Feng et al. (2011), a REIT refers to a company that specifically invest in real estate properties and therefore, is treated specially during taxation and therefore allowing its taxation on its earning at investor level as opposed to entity level. Furthermore, authors stated that REITs is anticipate acquiring, operating, and managing real estate properties or provide similar services. In this study, REIT is defined as an organization that has the ownership rights of real estate assets and therefore operate them profitably by rental collection. These real estate assets include residential

buildings, healthcare facilities, office buildings, tourism facilities, shopping malls, warehouses, and industrial parks whose shares are listed in a public exchange in the same way as other stocks.

1.19.2 Islamic Real Estate Investment Trust

The i-REIT is defined as a company that has the ownership of real estate assets and operates such assets as portfolio under set of shariah principle. The i-REIT emerged from mutual funds and its counterpart conventional REIT which benefits to its stakeholders. Instances, it provides an opportunity for all types of investors to own a piece/shared of real estate property and the opportunity to gain an income from dividends that paid by the i-REIT to stakeholders on an annual basis. Furthermore, i-REIT provide communities with growth opportunity, therefore enabling them to thrive and revitalize structures conforms to the shariah laws and the guideline issued by SC of Malaysia. Through model of business, investors can invest in a i-REIT in the without having to buy, manage, or finance property. The i-REIT declared its stockholders an income that produced through its various real estate investments.

1.19.3 Stock Return Volatility

According to Kawaguchi et al. (2017), Chung at el. (2016) and Huang at el. (2016), volatility refers to how stock returns dispersed statistically over the security index and measured using standard deviation of variance. In terms of risk, Chang, Chou and Fung

(2012), volatility defined as the level of risk or uncertainty related to the change in the value of a security. Instances, when the volatility is higher, it means that the value of security can be spread over a larger range of values implying that within a short period security price can change dramatically in either direction while a lower volatility indicate no dramatic fluctuations in the value of the security as it is steadier. In this study, volatility refer i-REIT stock price movements in aggregate against underlying i-REIT stocks fundamental or macroeconomics identified in the problem statement. On top of that, i-REIT stock return volatility indicates how yield of a REIT management company statistically dispersed and measured by standard deviation or variance. Moreover, the i-REIT stock return depends on emergence of new information's such as economic indicators as the key source of volatility. The i-REIT stock return portrays persistence of volatility and has a significant impact on the variance volatility is persistent in many instances in the future.

1.19.4 Causality Relationship

The causality relationship examines the causation and correlation relationships among the independent and dependent variables, whilst is to assess presence of dynamic adjustments amid at the first differences of the study variables (Diebold & Watson, 1996). Furthermore, to identify the extent and nature of cause-and-effect relationship in this study to facilitate the assessment of the impact of changes on certain processes or norms either in short-run or long-run relationship. Nevertheless, the correlation is a statistical measure describes the size and directional between the study variables.

1.19.5 Leverage Effect

The leverage effect defined as a tendency of financial assets volatility correlated with financial assets return, typically the increasing in the financial assets price is accompanied by declining volatility. The leverage effects stem from changing in one variable have a greater influence on future volatilities in other variables. Furthermore, the leverage effect measures the magnitude of a shock to project future volatility in evaluating the i-REIT market phenomenon. The positive leverage shock indicating good news accruing toward i-REIT volatility and negative leverage shock signify the bad news accruing toward i-REIT volatility.

1.19.6 Macroeconomics

Macroeconomic refers to a branch of economics that is dedicated of the behavior of aggregate economy. Macroeconomics provides a wide examination of various economic variables, such as inflation, industrial production growth, foreign exchange, money supply, and interest rate. Moreover, the government develops its economic policies, various fiscal and monetary policies to check and balance among the economic variables.

1.19.7 Economic Growth

Economic growth or known as GDP is one of the primary indicators used for gauging the performance and health of an economy. Bank Negara Malaysia defined that GDP as comprehensive information that measured total income of production generates for owner capital activities for labor and for the government. Nevertheless, industrial production index (IPI) indicator is often used to induce the country economic growth as a means of measuring the economic health of a country by capturing the rate at which production changes in a country in sectors such as industries, mining, and electricity over a certain period. The use of IPI variables to measure Malaysia economic performance and proxy for GDP in this study provides an appropriate and precise description of the Malaysia industrial output and economic growth. Furthermore, the overall economic activity is represented by these IPI as the sectors mentioned are the key contributors to the GDP of Malaysia accounted approximate 53 percent and therefore has an impact on the i-REIT company by influencing the generation of expected cash flows (Economic Planning Unit, Department of Statistics, Malaysia, 2017).

1.19.8 Interest Rate

Interest rate refers to the amount that a borrower is charged by a lender for the use of assets, which stated as a percentage of the principal. The asset includes consumer goods, cash, or assets such as motor vehicles or a building. A monetary authority of a particular country sets the level of interest rate either to reduce or increase the supply

of money in the economy. Raising the rate of interest makes money expensive to obtain and lowering the rate of interest makes borrowing cheaper. Therefore, an increase in the supply of money in an economy and encourages spending. The proxy for interest rates used in this study is the Islamic Interbank Rate (IIR), a concept in Islamic banking have excess funds to invest or lend too another Islamic bank that in deficit position. According to Omar, Abduh and Sukmana (2013) and Ismath Bacha (2008), the IIR based on the concept of al-Mudharabah in the Islamic interbank money market, which the period of investment is given up to 12 months with the return determined as profit sharing ratio are negotiate between the two parties. Furthermore, both parties will not know the rate of return during the negotiations except the sharing ratio until the end of the investment period. In the end of the investment period, the invested capital repaid, and the profit generated shared accordance to the profit-sharing ratio determined at the early stage.

1.19.9 Inflation

Inflation refers an economic situation in which the prices for various goods and services grow steadily and continuously, the Consumer Price Index (CPI) is used for the measurement of inflation by basket of goods and services. Rise in the levels of inflation results in the reduction in the value of money and therefore it reduces purchasing power. Purchasing power is used to denote the real and tangible number of services or goods that can be bought using money at any particular moment in time. The use of CPI variables in this study provides an appropriate and precise description inflation of Malaysia economic growth. Additionally, an increase in the rate of inflation will also

influence the monetary policy of the economy calling for tighter measures to overcome inflationary. Nevertheless, the i-REIT rental collection is affected by an increase in the rate of inflation, which it transforms into lower dividends payment and eventually it affected the price of i-REIT.

1.19.10   Money Supply

Money supply refers to the stock of currency in the circulation of a country given in time, it includes liquid instruments such as coins, cash, and balances that are held in savings and current accounts. Economists and aid in the developing of policies, such as reviewing the rate of interest to influence supply of money in the economy, usually analyze the supply of money in an economy. In an economy, the supply of money is classified based on the size and type of account in which it is kept. Money that is easily convertible into cash, such as coins and notes, are classified under M1. On the other hand, M2 includes M1 and bank deposits and other forms of money market funds in the short-term. Similarly, M3 includes as well as long-term assets and illiquidity conversion of assets with M1 and M2. In this study, the M2 aggregate are chosen as a proxy for the money supply as it includes assets that are highly liquid which it could convert to cash in relatively short order. A researcher such as, Nguyen (2015), Feige (2012), Caginalp and Desantis (2011) and Georgantopoulos and Tsamis (2012), included the M2 in the study as it more broadly defined and modern economies often involve transfer between account types for the convenient of liquidation. Moreover, the M1 aggregate is the least appropriate due to factors related to timely circulation, liberalization and financial innovation and M3 aggregate assets included become less

liquid and it mainly for central bank to estimate a country money supply for the sake of monetary policies implementation (Ball, 2017).

1.19.11   Foreign Exchange Rate

Foreign exchange refers to the conversion of one nation currency into another nation currency and global trading of currency using virtual networks in the global market around the clock. These global transactions mainly involve exports, imports, or services cross border. In this study context, the definition of exchange rate is key in influencing transactions such as those involving the investment in a foreign country and one unit of foreign current converted into one unit of Ringgit Malaysia. The justification to these variables to be studied because the Malaysian economy practices the open economic policy, which is receptive to foreign ideas, products, services, technology, and investments that may cross the border.

1.19.12   Long-Term Bond Yield

In this study, Government investment Issue (GII) is proxy to measure the long-term bond yield. It defined as a form of marketable government debt security that Malaysia government issued with the aim of raising funds from the domestic capital market to funds its development expenditure. The structure of GII in Islamic debt market are compliance with Shariah requirements and is an alternative to the government conventional debt instrument. The issuance of GII based on Murabahah concept and

the underlying commodities mainly crude palm oil. The GII was chosen in this study as a reflection of the overall performance and the essence of return from Islamic debt market to be reviewed in this study to derive an interaction so it diversifies the investment in constructing Islamic portfolio investment.

1.19.13 Systematic Risk

The systematic risk affects the overall market risk and its properties in a common manner measured by the price volatility or known as undiversified risk inherent in the entire market and not a type of risk that affects only a particular sector or location. A significant growth in systematic risk in the real estate market has been witnessed as properties become more exposed to the fundamental factors associated with capital markets. Therefore, this study considers a significant level of market risk influenced the values of property, which directly gave an impact to the price behavior of i-REIT stock. Nevertheless, the systematic risk to derive an interaction among the study variables and further contribute to the Islamic finance literature.

1.19.14 Stock Market Index

The stock market index is a comprehensive range of real-time indices of listed shariah complaint companies, the aim is to provide an investor with a broad benchmark or barometer of the economy health for shariah-compliant equity. The performance of the Islamic equity market plays an important to gauge on the development of Islamic

financial market and the mobilization of funds from surplus unit to deficit units (Hunt-Ahmed, 2013). The proxy to measure the stock market index in this study is FBM EMAS shariah Index to comprehend the price behavior of i-REIT as an essence of return from investment in Islamic equity market.

1.19.15 Rental Index

The PBO-RI or the rental index is a commercial property rental indicator maintained by the NAPIC. It was established at the insistence of the national economic action committee to have a property centre to monitor the growth of the property market in the country. According to the NAPIC, the index is derived from tenancy of investment grade purpose-built office buildings in major cities in Kuala Lumpur, Selangor, Johor and Pulau Pinang has changes over time. Nevertheless, PBO-RI is developed on quarterly basis and it measures the change in average rental between two quarters and serves as a useful short-term indicator of rental movement. This study employed PBO-RI as main sources of REIT company income depend on the rental collections from the real estate portfolio, therefore the rental index served key component of the effective management of REIT rental business.

1.20   Organization of the Thesis

The study will be a presentation into five chapters of discussions pertaining to the scope of the study. The first chapter present an overview of Malaysia financial system and the

development and mapping milestone of REIT in global and local arena shall be further discusses. Nevertheless, the discussion on the stock return volatility in context on definition and i-REIT further to enhance the subject matters. Moreover, the problem statement that led to conduct this study and a developed research questions and objectives to investigate the i-REIT stock return behavior. Nonetheless, research hypothesis, scope of study, research approach, significant, limitation and contribution of the study will further discuss. To strengthen the foundation in this study, the proposed conceptual frameworks with theoretical foundation and the operational definition shall further elaborate.

The second chapter present an overview of general Islamic financial principles laid down being put in practices in the Islamic civilization as well as the underneath the i-REIT structure. Furthermore, it also explains in depth the origin and mechanism of i-REIT served as alternative of the Islamic investment vehicle as compared to its counterpart the conventional REIT. Moreover, a Shariah-compliant standard pertaining to i-REIT laid down by the SAC in Malaysia as well as on regulatory and Shariah complaint financial innovative of i-REIT in modern era of globalization is discussed. The review on the relevant theoretical modelling and grounded theory to strengthen hypotheses development are further discussed. Nevertheless, it followed by the literature review pertaining to financial and macroeconomic factors that contribute to the changes of i-REIT stock return to strengthen the research problem with the review from conventional and Islamic practices. On top of that, a review on the contemporary practitioner article on i-REIT to understanding of the current market development in Islamic finance to enhance the literature review. A review of long-term bond yield, systematic risk and rental index as a key research gap along with mediating

macroeconomic variables that contributing to the i-REIT stock return as not been studied extensively.

The third chapter explains the research philosophy and the research methodology employed such as generalized autoregressive conditional heteroscedasticity models (GARCH), JJ test, VAR, VECM, variance of decomposition and impulse response functions in fulfillment of investigation research objectivity and questions in this study. This study employed quantitative research to explore the i-REIT stock return behaviors in Malaysia, which an involves secondary data obtained from Bloomberg Terminal and Bursa Malaysia. On top of that, this chapter also spell out the appropriate return measurement applied on i-REIT and each of study variables and the period used to examine accordance to the hypothesis's development.

The fourth chapter associated with analyses of structured data collected to form of descriptive statistics and interpreted the results based on the models developed in chapter three. This study employed Eview version 9 and Statistics and Data (STATA) version 10 software suite for advanced analytics, multivariate analyses, and predictive analytics to answer the research objective for this study. A test will be conducted to examine the data validity and reliability such as unit roots, diagnostic test and VAR stability model to ensured strength of a statistical model in the study.

The fifth chapter concludes the findings from analysis and discusses along with research objective and the consistent with literature review. Implication and limitation of this study are discussed and recommendation to be proposed to provide directions for future research to enhance and developed the i-REIT market in Malaysia.

1.21 Summary

Nutshell, the economic development of Malaysia has been significantly boosted by the improvement of Islamic finance witnessed in recent years. The relationship among the financial and macroeconomic variables towards i-REIT stock return in the Malaysian economy should be given the necessary attention by researchers to ensure the stability of Islamic stock. Nonetheless Malaysia i-REIT market remains competitive to drive the economic growth of the country and the property sectors. Therefore, the objectives of this study and its findings are not only important to academicians and investors, but also to policy makers and regulators. It is the hope of the future researcher will deepen the knowledge of investors and those looking to invest in real estate. To policy makers, this study provides the knowledge for formulating economic and government policies necessary for stabilizing and stimulating the economy of a country. Nevertheless, the regulators in clear view on the main factors that caused the changes of underlying REIT stock price movement. The following chapter shall explain in detail on the global and Malaysia REIT market development, the underlying Islamic finance principles laid as the backbone to the i-REIT structure and practices along with the empirical finding.