

Investigation on the Bond and Sukuk market in Malaysia

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ABSTRACT

The Malaysian capital market has a dual full fledged Islamic bond (Sukuk) instrument which operates in parallel with the conventional bond. This study investigates the correlation between the return of Sukuk portfolio differ significantly from conventional bond in Malaysia capital market. For this purpose, we just used the TR BPAM ALL BOND INDEX series from 2008 to 2013. This study is using the paired sample T test and correlation analysis; it found a positive and significant correlation between the returns of the conventional bond and Islamic (Sukuk) bond between the short term maturity bonds comparatively. Interestingly, the individual results of two debt instrument found that there is a noteworthy difference in the mean among long-term maturity of Sukuk and conventional bonds efficiency, which indicates that such two financial products, while traded in the same marketplace, are performed in different ways. The evidence justifies that long term maturity bond and Sukuk indicate that the higher probability of volatility in return and the maturity of the portfolio of bond and Sukuk.

KEYWORDS

Conventional bond; Sukuk; portfolio; profitability; Malaysia capital market.

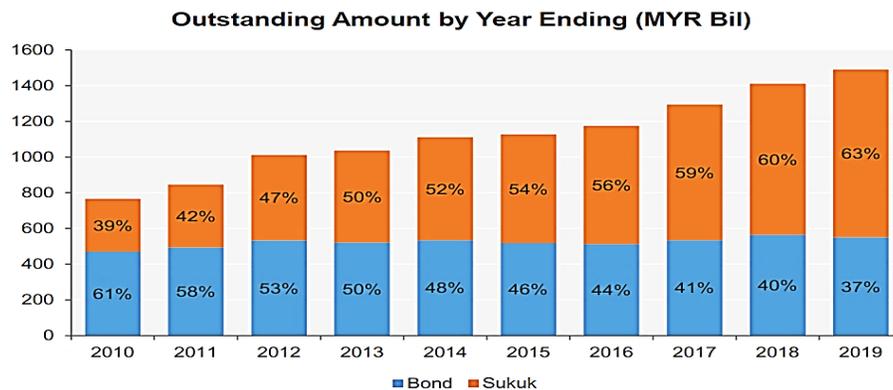
1. INTRODUCTION

The Malaysian economy has been growing rapidly over the past sixty years as the economy diversified and graduated from an agricultural-based economy to an industrial-based economy. The World bank is the main financial system regulators and supervisors to undertake and modernize market deeper activities for developing strong and stable income in the debt securities market in the emerging economies of Asia. With that in mind, many reforms, liberalization and innovations spurred the growth of the capital market in Malaysia. Malaysia has a dual full Islamic financial method which works corresponding with the conventional financial method. Several decades have witnessed a wide progress in Islamic finance in the Middle East and South East Asian countries than Conventional finance comparatively. The investigation provides a progress statement of market integration across conventional and Islamic banks in Malaysia caused by liquidity growth. Malaysia Sukuk market is a larger bond market, it may be considered a late bloomer compares to the banking and equity market. Islamic financial institutions Sukuk issues and conventional bond issues are following almost the same cash flow structure, these similarities are stimulating the debate between Islamic and conventional finance.

According to Zakaria, Isa, & Abidin, (2012) stated that some similarities are made in the Sukuk and bond, but both financial instruments have not the similarities in features of financing. In addition, unlike traditional bonds, Sukuk instruments are equivalent-value certificates that are undivided ownership securities and are bearing tangible properties. With the development of Islamic Shariah complaint in the Malaysia bond market has discovered a new financial instrument such as Sukuk bonds. Sukuk bonds are rapidly taking place in the Malaysian capital market. Where Sukuk instruments make differ from conventional debt bonds, subsequently, private debt bonds (conventional bonds) are fixed maturity and fixed yield instruments.

Regardless of the debate on several features of Sukuk bonds have been promising different instruments of a fiscal system consistent with the financial planning theory and portfolio theory by their performance and their originality. In addition to, the financial system has executed different Sukuk frameworks to encourage private and public institutions to long term and short term debt funds so that investors can issue Sukuk bonds to arise their fund as the portion of portfolio strategies (Oakley, 2011). According to the perception of the market participants, public regulators, mass media and scholars, Sukuk bonds have some similarities with private debt bonds, which has been stated by Ahmad & Radzi (2011).

Both Sukuk bonds and private debt bonds try to increase funding from investors (businesses and households) to the entrepreneurs. Sukuk bonds create a distinct proprietary interest in a portfolio of legitimate or future assets of equal value securities. On the other hand, private debt bonds are an indebtedness instrument of the issuer to the bond holders which represent a fixed interest over the maturity at fixed intervals (sometimes monthly, semiannual and annual). In contrast, the Islamic Shariah complaint prohibits the interest (rebate) for both the receiver and payer. Therefore, the Sukuk issuers share their profit and loss of the utilization of investment to Sukuk holders. This paper will help them, which is more preferable between Sukuk and Bonds by portfolio analysis.



Source: BPAM, 2019

The above figure depicts from corporations and governmental bond and Sukuk outstanding amount perspective. The Malaysia bond market continued to appeal the direct investment from foreign and multinational companies in their Sukuk and bond market such as types of equity securities, debt securities, and net portfolio investment. The country Sukuk continued to capture more from 2010 to 2019 than potential bonds to foreign and domestic portfolio investors. The total sovereign issuance of bond and Sukuk in 2019 amounted of MYR 115.7 billion that raised 2.57% from MYR112.8 billion in 2018. In addition, the Malaysia bond market has led to higher direct investment flows significantly by growth prospects and the economy's performance to support to international investors' (amounting inflows of RM 196.2 billion, or 2.7-percent of GDP in 2019. However, the gross volume and the instability of the portfolio flow were ample, the impact on the financial markets. As a result, the economy was reduced to the number of factors, such as the depth of financial markets, exchange rate adjustment, and the role of domestic institutional investors (BPAM, 2019).

2. BACKGROUND OF BOND AND SUKUK MARKET IN MALAYSIA

Bond Market in Malaysia: History

The Malaysian bond market had expanded rapidly, in line with the fast development of the economy over the 60 years. The bond market was made up mainly of Malaysian Government Securities (MGS). However, in the 1970's and 1980's, MGS were floated to finance the increasing level of government development expenditures. This market expanded nearly fivefold to 16.8 billion by the end of 1980, compared with only 3.5 billion a decade prior to that year. However, all financial institutions in Malaysia such as mutual funds, insurance funds and provident fund are the major investors in Malaysian Government Securities (MGS) due to the compulsory requirements in their portfolios. These institutions tend to invest a majority of their funds in risk free MGS, there was effectively no trading in this market.

The Government, recognizing the importance of having an effective and active secondary bond market for MGS and also for PDB (Private Debt Bonds), introduced several regulatory and operational reforms. The purpose of the reforms was to facilitate the government in the conduct of monetary policy to provide more flexibility in the management of its debt. The reforms were also aimed to enlarge the bond market to improve its proficiency and to increase the flexibility of domestic financial assets.

Malaysia has reported a sizable corporate bond market of US\$260 billion, according to Cagamas Berhad (2016), associating it to become the 5th largest bond market in the Asian Nations. In addition, the Malaysian corporate bond market reached RM534 billion, representing 43 percent of GDP, which makes it the largest in the Asian Nations. The Cagamas Berhad, the formation of the national mortgage corporation is a platform to differentiate the issuer base as well as promote the corporate bond market in 1986. When the government recognized that the current financial system was insufficient to fulfill such long-term ventures, many economic activities had also been introduced. The Malaysian government has been pursuing the growth of the corporate or conventional bond market to provide private sector financial support to enter different financing options. Consequently, unit trusts and individual from conventional bonds were allowed on interest earned after the fiscal incentives were implemented for tax exemption. These initiatives embodied that the Malaysian bond market showed prompt expansion over the 1990s into the most established bond markets in the Asian region in terms of size and market infrastructure (Alom, Patwary & Hasan, 2020).

Sukuk Market in Malaysia: History

Sukuk (plural of Sakk) bonds are using its proficiency and good relationship with the middle east countries which become a dominant global Islamic financial center. However, the types of Sukuk bonds have approved by Shariah principles and concepts and have defined by AAOIFI. There are shows that Sukuk's milestones revise history from 1990 to 2003.

Table: Sukuk's milestones revise history

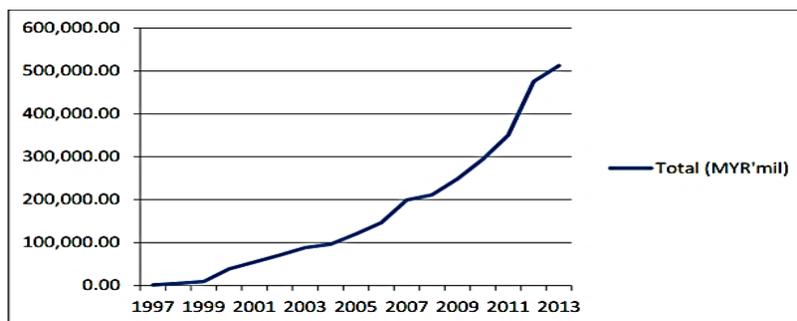
YEAR	CRITICAL MILESTONES
1990	SHELL MDS Sdn. Bhd. Issued the first Islamic bond.
1993	Launch of first Islamic Equity unit trust fund by Arab-Malaysian Unit Trust Bhd
1994	BIMB Securities Sdn. Bhd was established.
1995	SC established ICM Unit.
1996	The Shariah Advisory Council (SAC) was established. RHB launched the country's first Islamic equity index, comprising shares of KLSE main board companies.
1997	The SC introduced an official list of Shariah approved securities traded on the KLSE.
1999	The KLSE launched the country's second Islamic equity index, the KLSE Shariah index (KLSI)
YEAR	CRITICAL MILESTONES
2000	<ul style="list-style-type: none"> The SC imposed the requirement to engage independent Shariah adviser for issuing Islamic Bonds, as stipulated in the Guidelines on the Offering of Private Debt Securities. Islamic Bond Fund launched.
2001	<ul style="list-style-type: none"> The minister of Finance launched the Capital Market Master plan. Issuance of the world's first Global Sukuk by Kumpulan Guthrie
2002	<ul style="list-style-type: none"> First Global Islamic Bond Issues. The Prime Minister launched the book, resolutions of the Securities Commission SAC. Issuance of the world's first Global Sovereign Sukuk
2003	<ul style="list-style-type: none"> The Malaysia Government, in its Federal Budget 2004, allowed tax deduction for 5 years on expenses occurred in the issuance of Islamic bonds, based on Shariah principles of Istisna'.

The Sukuk bond applied in the capital market, is related to the process of securitization bond and usually known as an Islamic debt bond. A few decades ago, Islamic financial instruments were not taken seriously, and numerous people and experts thought that it was just a good idea (Xian et al., 2015). Subsequently, recent studies and evidence have been proven that the Sukuk bond is not only a profitable and effective approach of financial intermediary, but also very efficient for investors and businesses. The Malaysian's Sukuk industry has merged of the their economy, which has now segmented well. In fact, it has spread to the private sector, rather than government regulation. The Malaysia Sukuk bond market 's size and liquidity, thus led to economic stability in Malaysia (Chin et al., 2018; House, 2017).

When the Shariah-compliant financial instruments have been industrialized and developed, the Malaysia domestic Sukuk market is expanding and diversifying in the bond market. In 2002, the Malaysia government was gained another target through the first global sovereign Sukuk bond (UCITS funds) where the government was able to achieve \$60 million that became the world's principal benchmark and appealed to global investors for ethical investment with a non-volatile return into the international currencies as an example, US dollars (Sukor, Muhamad & Gunawa, 2008).

The figure 1 represents that the Malaysia Sukuk bonds are outstanding issuance between the 1997 and 2013. The quantity of issuance Sukuk bonds increases the annual rate of 21-percent in the Malaysia bond market from 2001 to 2008. As a result, the Malaysian Sukuk bonds raise more funds than the private debt bonds in the year 2013 (Ahmad & Radzi, 2011; Hasnat & Alom, 2017). There are some reasons that increase the quantity of Sukuk issuance in the Malaysian bond market. The first few reasons are effective incentives and government supports, it's making differences in Sukuk strategies and also the financial manager increased effective awareness in the Malaysian bond market. According to Alam et al., (2013) the Malaysian Islamic bond market was able to reach the significant competitive advantage level in their region and across the global financial market.

Figure 1: Outstanding issuance of Sukuk in Malaysia from 1997 to 2013



The primary objective of this paper is to examine the macroeconomic issues and comparing the portfolios return of Islamic bonds and private debt bonds in the Malaysian financial marketplace from 2008 to 2013. In early 2009, the Malaysia Sukuk and bond market is developing and peaked gradually in the year of 2013, Sukuk has achieved expected growth in the capital market caused by their financial strategies and their natural risk management strategies. Consequently, this article focuses on whether the return of Sukuk portfolios is substantially different from the return of traditional or corporate bond portfolios, and whether a link exists between the return of Sukuk portfolios and the bond portfolios? The present of the study is in assembly base as follows. Section 3 highlights of the literature review on the

portfolio return of Sukuk bond and conventional bond. Section 4 describes research methodology, including data sample, variables description, model specification. Section 5 Results and summary of the experimental findings. Finally, the work ending in section 6 by the conclusion of the article.

3. REVIEW OF LITERATURE

A number of studies have attempted to compare or different between the Sukuk bonds and private debt bonds in their structure. This paper investigates portfolio factors between Sukuk bonds and private debt bonds will be reviewed by researchers (Mosaid & Rachid Boutti, 2014; Cakir and Raei, 2007; Zin et al., 2011; Ramasamy, Munisamy, & Helmi, 2011; Ariff & Safari, 2012; Tahmoures, 2013; Hassan, 2012; Godlewski et al., 2013; Nasir & Farooq, 2017).

Rodoni and Setiawan (2016) established a VaR (valuation at hazard) portfolio of fixed-income shares issued to a sample of Sukuk bonds and Indonesian conventional or institutional bonds by the same sovereign issuer. The authors subsequently hypothesized the two hypothetical stocks, the former consisting only of institutional bonds, and the latter being tested, consisting of both Sukuk and corporate institutional bonds. Cakir and Raei (2007) expressed the view that the value of the second portfolio at risk is decreased by the Sukuk bonds. Ramasamy et al., (2011) matched that the government Sukuk bonds and private debt bond performance in the Malaysian bond market by utilizing convexity measures and duration term sensitivity. The consequences specified that the Islamic (Sukuk) bonds are healthier in these sensitization systems likened with private debt bonds.

Similarly, Hassan (2012) stated that examined in his research on the assessment between the Sukuk bonds and private debt bonds to determine the difference in the diversity of bond portfolios by including the Sukuk bonds. Moreover, he assessed the VaR of the Sukuk bonds compared with VaR of the private debt bonds of the same issuer. The results underlined that the Sukuk bond contributes to the competitive diversification of bond portfolios. In addition, the Sukuk bond's portfolio that stressed the author, is more risky than a bond portfolio. This can be correlated with the characteristics of Islamic financial instruments. Conversely, a recent analysis by Nasir and Farooq (2017) revealed the comparative risk investigation of Sukuk and bonds in Pakistan. The VaR approach was used to analyze the risk of two portfolios of identical investments developed separately. The results showed less stable and riskier bonds compared with Sukuk. Some of the Sukuk securities were also found to be negative or less simultaneously to the developed portfolio.

Zin et al., (2011) investigated the prospect and the practice of the Islamic (Sukuk) bonds in the Malaysian bond market and also speculate the difference between the Islamic (Sukuk) bonds and private debt bonds in the Malaysian bond market. Subsequently, they confirmed that the value added and the advantages offered by the Sukuk financial instruments. Actually, Sukuk bonds are optimistic financial equipment for investors and for financing. However, Godlewski et al., (2013) experimented that the Malaysia investors' reaction to the declarations of an Islamic (Sukuk) bond and private debt bond concerns. The Malaysian bond market is announcements of private debt bond issues neutrally, but it does react negatively to Sukuk issues' declarations. In fact, they allocated this result to adverse selection promoting the issuance of Sukuk by debtor companies of lower quality and generated more market demand for Islamic investment certificates.

Bhuiyan et al. (2019) studied the relationship between developed markets and emerging markets' bonds and Sukuk from the portfolio diversification perspective, sample data from 2010 to 2015. The analytical results show that there is no causality relationship between developed financial markets bond indices and Malaysian bond indexes, but the Malaysian Sukuk index has a bi - directional causality correlation with India, Malaysia, South Korea and Indonesia bond indices except for the China index values. In addition, Ariff and Safari (2012) analyzed the variation between Sukuk bonds and private debt bonds by examining the existence of a causality relation between the same results on Sukuk bonds and the same rating and yield on private debt bonds. They didn't get any causal connection as a result.

Maximum researchers agree that the Sukuk bond is an alternative investment, according to, Nasir and Farooq (2017), Cakir and Raei (2007), Godlewski et al. (2013) and Hassan (2012), but Some debate about whether Sukuk bonds are a proficient instrument of investment is still have by some researchers. In this study, we concentrate on how the return on Sukuk portfolios vary significantly from the return on portfolios of conventional bonds, and whether there is a link between Sukuk portfolio return and bond portfolio return. Based on the literature review that existed, this study seeks to highlight the distinction between Sukuk and bond, as well as the issuance benefits Sukuk.

Sukuk as finance mechanism benefits of issuing Sukuk:

	Faith-based transactions, an alternative to conventional bond.
	For a large amount of funding requirement in the event it exceeds banks' single customer limit.
	Large investor base:

Sukuk as capital market instruments	-Banks, unit-trust companies / fund managers, insurance companies / Takaful operators, pension/provident funds. - Islamic as well as conventional investors.
	Longer tenure, ease funding mismatch for longer term projects.
	Useful for project financing, property financing or privatization of infrastructures and unlocks the value of assets,.
The cost of fund raising	Cheaper funds for issuers: <ul style="list-style-type: none"> - Normally based on a fixed rate - Funds provided by investors have no reserve cost, no CAR for banks. - Based on demand and supply
	No ad-valorem stamp duty
	Instead, other costs to be considered: <ul style="list-style-type: none"> - SC, BNM fee - Rating agency, trustee fee
Profiling	Obtain a rating for the issuer/issuance
	Tapping the demand of investors, especially Islamic investors, introducing the company and the business to investors.
	Supporting Islamic finance initiatives

Comparison between Sukuk and Bond

Parameter	Sukuk	Bond
Purpose/ Utilization of proceeds	Proceeds raised must be utilized only for Shariah permissible activities.	Proceeds raised is used for any legitimate purposes.
Underlying rights	Sukuk represent ownership stakes in assets.	Bonds are pure debt to the creditor.
Underlying Relationship	A contract based on a business contract between the issuer and the Sukuk holders.	A creditor-borrower relationship, that is, a contract which object is earning money purely on capital.
Documentation	Reflects the respective underlying contracts/relationship.	They reflect a loan transaction.
Underlying Assets	The underlying assets must be of halal in terms of its type and usage.	Not restricted by such condition.

Trading	The sale of Sukuk often represents a sale of ownership share in underlying assets.	The sale of bonds represents a sale of debt.
Issue Size	Limit issuer exposure based on eligible asset.	No such limitation.
Investor Base	Marketable to Islamic and conventional investors.	Marketable to conventional investors only.
Share Adviser	Shariah adviser is required to ensure the Sukuk is Shariah compliant.	Not applicable.

4. DATA AND METHODOLOGY

Data Sample:

The Secondary dataset used for this research is the daily data of TR BPAM ALL BOND INDEX acquired by BPAM website. These indices represent the Malaysian Sukuk and bond market's performance. This paper is to investigate comparing analytically the portfolios of Sukuk bonds and private conventional bonds in the Malaysian capital market from 2008 to 2013.

Methodology

Regarding the Malaysian bond market, the main purpose exists to analysis the performance of conventional bond portfolios compared with Sukuk bond portfolio. For this purpose, we have created the Sukuk and bond portfolio based on different maturity periods, using the series of TR BPAM ALL BOND INDEX in the Malaysian bond Market (Table-1). The configuration of each index is organized in Table-1. In this table shows the different maturity of bonds and Sukuk from 2008 to 2013.

Table: 1. Corresponding indices the number of Sukuk and bonds:

Portfolio	Corresponding index	2007	2008	2009	2010	2011	2012
P1 _{Sukuk(all)}	Islamic-All maturities	460S	510S	542S	565S	581S	628S
P1 _{Bonds(all)}	Conventional-All maturities	200B	189B	191B	207B	197B	198B
P2 _{Sukuk(3m-1y)}	Islamic- 3months to 1 year of maturity.	35S	39S	42S	46S	42S	43S
P2 _{Bonds(3m-1y)}	Conventional- 3months to 1 year of maturity.	35B	30B	31B	27B	31B	34B
P3 _{Sukuk(1y-3y)}	Islamic- 1 year to 3 years of maturity.	97S	105S	101S	111S	121S	114S
P3 _{Bonds(1y-3y)}	Conventional- 1 year to 3 years of maturity.	68B	63B	64B	79B	75B	67B
P4 _{Sukuk(3y-7y)}	Islamic- 3 years to 7 years of maturity.	160S	167S	183S	182S	179S	176S
P4 _{Bonds(3y-7y)}	3 years to 7 years of maturity.	71B	67B	62B	65B	62B	65B
P5 _{Sukuk(7y+)}	7 years and more maturity.	168S	187S	197S	186S	229S	289S
P5 _{Bonds(7y+)}	Conventional- 7 years and more of maturity.	27B	28B	34B	35B	29B	32B

Table-1 represents the number of bonds and Sukuk for each index from 2008 to 2013. The index indicates the first line of all the maturities Sukuk index that the index has the number 460 Sukuk (460S) in 2008, 542 Sukuk (542S) in 2011 and 628 Sukuk (628S) in 2013. Consequently, the second line of all maturities bonds index that the index has the number 198 bonds (198B) in 2008, 207 bonds (207B) in 2011 and 197 bonds (197B) in 2013.

For this research analysis, we acquired five bonds portfolio and Sukuk bond portfolio. I run the data to the first question in the Sample T-test analysis, and then use the Pearson correlation test to the second question as well.

VARIABLES DESCRIPTION

Sukuk (Islamic Bond)

- PS1 indicates the Sukuk portfolio return P1Sukuk (all).
- PS2 indicates the Sukuk portfolio return P2Sukuk (3m-1y).
- PS3 indicates the Sukuk portfolio return P3Sukuk (1y-3y).
- PS4 indicates the Sukuk portfolio return P4Sukuk (3y-7y).
- PS5 indicates the Sukuk portfolio return P5Sukuk (7y+).

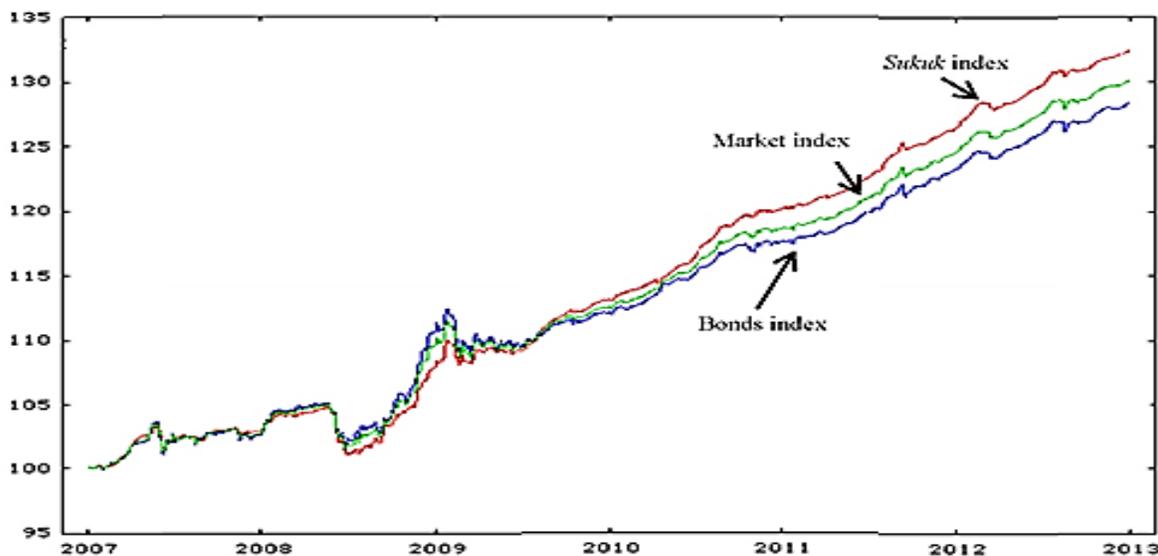
Conventional Bond

- PB1 indicates the bonds portfolio return P1Bonds (all).
- PB2 indicates the bonds portfolio return P2Bonds (3m-1y).
- PB3 indicates the bonds portfolio return P3Bonds (1y-3y).
- PB4 indicates the bonds portfolio return P4Bonds (3y-7y).
- PB5 indicates the bonds portfolio return P5Bonds (7y+).

5. EXPERIMENTAL RESULTS ANALYSIS

Figure 3 shows the difference in bonds, Sukuk, and market directories on the Malaysian bond market evaluated from the TR BPAM ALL BOND INDEX sequence. The three indices are heading in the parallel direction through 2013. In fact, it can be shown that from mid-2008 to 2009, the three indexes are almost identical. After mid-2008, the three indices soared their growth. A further decline for the global financial crisis happened in 2009. Simultaneously, after 2009, the three indices take their growth over the bond index and the benchmark with an output of the Sukuk index (Figure 3).

Another drop occurred in the first month of 2009 for the financial recession. Three indices have raised their interest in index and benchmark (Figure 3) with the succulent index as of the second half of 2009.



The purpose of this test is to analyze the significance of the differences between the return means of Sukuk and bond portfolio. The goal of the paired sample T-test used to check if the return means of bonds portfolio and Sukuk portfolio are significantly different. Regarding their two bonds’ maturity, the tests are also supported on the return means of different bond portfolios and Sukuk portfolios.

Table 2. Sukuk portfolio and bond portfolio (Paired sample T-test)

Paired Differences							
95% Confidence Interval of the Difference							
Mean	Std. Deviation	Std. Error Mean	Lower	Upper	T	Df	Sig. (2-

tailed)

Pair1 PS1-PB1	0.1254	8.2345	0.2143	-0.2925	0.5447	0.681	1484	0.540
Pair2 PS2-PB2	-1.3502	1.4356	3.748 ^{E-02}	-1.4137	-1.2681	-36.131		0.012
Pair3 PS3-PB3	0.1148	3.0626	7.941 ^{E-02}	-4.23 ^{E-02}	0.2680	1.415		0.127
Pair 4 PS4-PB4	8.81 ^{E-02}	9.1769	0.2381	-0.3607	0.5695	0.350		0.751
Pair 5 PS5-PB5	7.578 ^{E-02}	21.6501	0.5538	-1.0253	1.1769	0.131		0.873

Note: PS1 and PB1 represent the return mean of all bonds portfolio P1 bonds (all) and Sukuk portfolio P1Sukuk (all).

The paired sample T-test results of bond portfolio return and Sukuk portfolio return are given in table 2. Only three months and one-year maturity Sukuk portfolio return results are statistically significant and negative to bond portfolio return of with $p < 0.05$ and rest all portfolios return is statistically insignificant and positive relationship between bonds and Sukuk in the maturity years 1, 3, 7 and more than 7. There is a statistically differentiating among the Sukuk and bonds portfolio return. This result critically indicates that Sukuk and bond investors' hold-to-maturity approach will not hinder to gain from diversification of portfolios in the three months and one-year maturity bonds. The long term portfolio of bond and Sukuk are not consistent with low correlation, indicating that there is a significant difference between them. Our results drive in line with the study of Fathurahman and Fitriati (2013) found that there were no significant differences between the bond and the Sukuk maturity in 3, 6 and 10.

Table 3. Sukuk portfolios (Paired sample T-test)

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 PS1-PS2	1.7328	8.0780	0.4360	1.1689	2.0856	6.819	1484	0.000
Pair 2 PS1-PS3	8.578 ^{E-02}	5.6849	0.1468	-0.2671	0.4146	0.382		0.730
Pair 3 PS1-PS4	4.378 ^{E-02}	3.8924	7.528 ^{E-02}	-0.1341	0.1409	0.034		0.864
Pair 4 PS1-PS5	-8.65 ^{E-02}	9.0340	0.2078	-0.4082	0.3511	-0.434		0.572
Pair 5 PS2-PS3	-1.3490	1.7673	9.783 ^{E-02}	-1.7211	-1.3769	-14.718		0.000
Pair 6 PS2-PS4	-1.2294	9.3622	0.2274	-2.0657	-1.2130	-6.396		0.000
Pair 7 PS2-PS5	-1.8213	14.6541	0.4430	-2.5106	-0.8219	-4.975		0.000
Pair 8 PS3-PS4	-8.14 ^{E-02}	4.9301	0.1639	-0.2823	0.3215	-0.623		0.701
Pair 9 PS3-PS5	-0.1823	11.4961	0.3268	-0.9214	0.5768	-0.757		0.848
Pair10 PS4-PS5	-9.39 ^{E-02}	9.2495	0.2564	-0.6245	0.4207	-0.245		0.630

The paired sample T-test results regarding different Sukuk portfolio return are given in table 3. Only three months maturity Sukuk portfolio return results are statistically significant and positive to one year maturity Sukuk portfolio, whereas, the rest all portfolio returns are statistically insignificant negative correlation. There is a statistically differentiating among the Sukuk portfolios due to the different maturity periods. However, longer maturity Sukuk shows a higher probability of volatility in return and

the maturity of the portfolio of Sukuk. With regard to variation of risks indicated by standard deviation, it shows that short-term Sukuk indicates lower risk at 1.7673 (1y-3y) likened to long-term Sukuk at higher risk for 14.6541 of standard deviation values which are more than Sukuk 3 years of maturity. To explain this, longer maturity holding leads to immense uncertainty and volatility in Sukuk prices and profit, which may result in big potential loss or return (Saad et al., 2018).

Table 4: Bond portfolio (Paired sample T-test)

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 PB1-PB2	0.1682	11.4917	0.2987	-0.6022	0.9387	0.562	1484	0.543
Pair 2 PB1-PB3	7.230 ^E -02	9.2935	0.2416	-0.5508	0.6954	0.298		0.755
Pair 3 PB1-PB4	-3.24 ^E -02	5.5881	0.1453	-0.4071	0.3422	-0.213		0.843
Pair 4 PB1-PB5	-1.372	17.5791	0.4569	-1.3157	1.0414	-0.302		0.754
Pair 5 PB2-PB3	-9.59 ^E -02	3.7563	9.764 ^E -02	-0.3478	0.1559	-0.973		0.316
Pair 6 PB2-PB4	-0.2007	12.1123	0.3148	-1.0127	0.6114	-0.647		0.534
Pair 7 PB2-PB5	-0.3054	28.1668	0.7322	-2.1938	1.5830	-0.427		0.647
Pair 8 PB3-PB4	-0.1047	9.8432	0.2559	-0.7646	0.5552	-0.309		0.652
Pair 9 PB3-PB5	-0.2095	26.3255	0.6843	-1.9744	1.5555	-0.316		0.750
Pair10 PB4-PB5	-0.1047	21.1570	0.5500	-1.5231	1.3137	-0.180		0.829

The paired sample T-test results regarding different bond portfolio are given in table-4. The bond portfolio results are insignificant and negative, which are more than 1 year maturity of the bond portfolio, whereas Only three months maturity bond portfolio return results are statistically significant and positive to one year maturity bond portfolio. Therefore, there is not difference between the bond portfolios. The result shows that the longer maturity bond indicates that the higher probability of volatility in return and the maturity of the portfolio of bond. With respect to variation of risks represented by standard deviation shows that short term bond indicates lower risk at 3.7563 (1y-3y) as compared to long term Sukuk at higher risk for 28.168 of standard deviation values which are more than 3 year maturity Sukuk. To explain this, longer maturity holding leads to immense uncertainty and volatility in bond prices and yield spread, which may result in big potential loss or return (Saad et al., 2018).

ANALYSIS OF THE PORTFOLIOS' RETURN CORRELATION

The results of cross-correlation test related to the portfolio returns are shown in Table 7. In relation to correlation coefficients between the Islamic (Sukuk) portfolios and corporate bond, Table 7 shows the result of the correlation coefficients between the Islamic (Sukuk) portfolios and corporate bond. The

results indicate a positive relationship with the level of significance of 1-percent at each stage of maturity between the Sukuk and bond portfolios. So, we can conclude that a major link exists between the return mean of bonds and the portfolios of Sukuk.

Table 5: Sukuk and Bonds portfolios correlation

		P1 Sukuk(all)	P1 Bonds(a)	P2 Sukuk(3m-1)	P2 Bonds(3m-1)	P3 Sukuk(1y-3)	P3 Bonds(1y-3)	P4 Sukuk(3y-7)	P4 Bonds(3y-7)	P5 Sukuk(7y+)	P5 Bonds(7y+)
P1 Sukuk(all)	Pearson	1.000	**0.739	**0.362	**0.494	**0.759	**0.631	**0.948	**0.638	**0.976	**0.672
	Sig.	.	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	N	1484	1484	1484	1484	1484	1484	1484	1484	1484	1484
P1 Bonds(all)	Pearson		1.000	**0.305	**0.534	**0.629	**0.735	**0.709	**0.901	**0.703	**0.950
	Sig.		.	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	N		1484	1484	1484	1484	1484	1484	1484	1484	1484
P2 Sukuk(3m-1y)	Pearson			1.000	**0.512	**0.474	**0.445	**0.350	**0.288	**0.304	**0.235
	Sig.			.	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	N			1484	1484	1484	1484	1484	1484	1484	1484
P2 Bonds(3m-1y)	Pearson				1.000	**0.647	**0.757	**0.478	**0.487	**0.429	**0.423
	Sig.				.	0.000	0.000	0.000	0.000	0.000	0.000
	N				1484	1484	1484	1484	1484	1484	1484
P3 Sukuk(1y-3y)	Pearson					1.000	**0.762	**0.779	**0.609	**0.650	**0.514
	Sig.					.	0.000	0.000	0.000	0.000	0.000
	N					1484	1484	1484	1484	1484	1484
P3 Bonds(1y-3y)	Pearson						1.000	**0.632	**0.730	**0.553	**0.573
	Sig.						.	0.000	0.000	0.000	0.000
	N						1484	1484	1484	1484	1484
P4 Sukuk(3y-7y)	Pearson							1.000	**0.693	**0.870	**0.617
	Sig.							.	0.000	0.000	0.000
	N							1484	1484	1484	1484
P4 Bonds(3y-7y)	Pearson								1.000	**0.628	**0.738
	Sig.								.	0.000	0.000
	N								1484	1484	1484
P5 Sukuk(7y+)	Pearson									1.000	**0.663
	Sig.									.	0.000
	N									1484	1484
P5 Bonds(7y+)	Pearson										1.000
	Sig.										.
	N										1484

Note: ** Correlation is significant at the 0.01 level (2-tailed).

6. CONCLUSION

This paper is the result of statistical review and the study's key conclusions, which used a set of indexes in the Malaysian bond market to analyze the efficacy of the return on Sukuk and the bond portfolio. This analysis actually used the TR BPAM ALL BOND INDEX series to analyze the performance of the Malaysian bond and Sukuk market from 2008 to 2013. Only three months and one year maturity bonds and Sukuk portfolio results are statistically significant and rest all portfolios are statistically insignificant. There is a statistically differentiating among the Sukuk portfolio and bond portfolio. This investigation relates to the comparison of bond and Sukuk performance through the Malaysian bond market. The results also show that longer maturity bond and Sukuk indicate that the higher probability of volatility in return and the maturity of the portfolio of bond and Sukuk. With regard to variance of risks indicated by standard deviation, it shows that longer maturity Sukuk indicates lower risk at 14.6541 compared to higher risk long-term bond at 28,168 of standard deviation values over 3 years maturity. This study suggests that longer maturity holding leads to immense uncertainty and volatility in bond prices and yield spread, which may result in big potential loss or return (Saad et al., 2018). The overall issue and performance of borrowers shows that they behave differently in their capital financing

structure by either short or long-term Sukuk or conventional bonds, depending on the types of debt instrument. This study provided evidence regarding the successful evaluation of correlation changes and the performance of Malaysia Islamic (Sukuk) and conventional corporate bond indices, which is useful for managing Sukuk and bond portfolios.

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