International Journal of Economics and Finance; Vol. 6, No. 2; 2014
ISSN 1916-971X E-ISSN 1916-9728
Published by Canadian Center of Science and Education

Sukuk and Bond Performance in Malaysia

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Received: November 28, 2013 Accepted: December 20, 2013 Online Published: January 23, 2014

doi:10.5539/ijef.v6n2p226 URL: http://dx.doi.org/10.5539/ijef.v6n2p226

Abstract

Sukuk and bonds are two kinds of financial instruments that share the Malaysian capital market. *Sukuk* are *Sharia*-compliant financial instruments referred as "Islamic bonds" in the Malaysian market (Note 1). The aim of this paper is to diagnose the performance of *Sukuk* portfolios compared with bond portfolios. For this purpose, we use the series of indices *TR BPAM ALL BOND INDEX*. Those indices cover the whole *Sukuk* and bond Malaysian market. We collect historical data of those indices from the website of Bond Pricing Agency of Malaysia (BPAM) for a period of six years from 2007 to 2012. We first study the significance of the difference in the portfolios' mean return. Secondly, we address the portfolios' return correlation. Comparing indices shows that *Sukuk* index outperformed the bond index and market index. Furthermore, the results confirm a significant and positive correlation between returns of *Sukuk* and bond portfolios.

Keywords: *sukuk*, bond, portfolio, return, t-test, correlation

1. Introduction

Sukuk is an Arabic term; it is a plural of term *Sack* which means certificate. The term *Sukuk* is, broadly, translated as "Islamic bonds" although the correct translation is "Islamic Investment Certificates" (Tahmoures, 2013). The Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI) officially defined *Sukuk* as certificates of equal value representing undivided shares in ownership of tangible assets, usufruct and services (AAOIFI, 2008). Referring *Sukuk* as "Islamic bonds" is due to some similarities between *Sukuk* and bonds, especially in terms of financial process. In fact, some studies say that *Sukuk* are innovated to mimic the financial features of bonds in addition to being compliant with Islamic finance principles, we cite for example the work of Lahsasna and Lin (2012).

In fact, several similarities exist between *Sukuk* and bonds; however these two financial instruments are different and are not duplicate tools of financing. Like conventional bonds, *Sukuk* have fixed term maturity, coupon and are tradable at normal yield price (Zakaria, Isa, & Abidin, 2012). Unlike bonds, *Sukuk* are issued in accordance with *Sharia* principles. Indeed, *Sukuk* differ from conventional bonds since bonds are defined as long-term debt instruments that are issued by corporations and government (Tahmoures, 2013) while *Sukuk* are defined by AAOIFI (2008) as certificates of equal value that represent proportion ownership of an existing asset or a pool of diversified assets.

Despite the debate on various aspects of *Sukuk* such as their originality, their compliance and their performance, *Sukuk* have become promising alternative instruments of financing consistent with portfolio theory and financial planning. Financial engineering has implemented several *Sukuk* structures to enable public and private organizations to fund. Furthermore, investors can include *Sukuk* in their portfolios as part of their portfolio diversification strategies (Oakley, 2011).

The *Sukuk* market is the fastest growing and promising segment of Islamic finance. Indeed, the issuance of *Sukuk* is increasing considerably worldwide, especially in Malaysia, United Arab Emirates (UAE) and Saudi Arabia (Fitriya, 2012). The global value of *Sukuk* issues exceeds 109 billion dollars in 2012 (Figure 1).

Malaysian *Sukuk* market is among the most structured in the field. The first issues of *Sukuk* date 90s with the corporate *Sukuk* issued by Shell MDS (Note 2). The volume of this issue around 30 million dollars. The *Sukuk* market is held in parallel with the conventional bond market.

The remarkable success of the *Sukuk* market in Malaysia (Figure 2) is largely due to the regulation imposed by the Central Bank of Malaysia (Bank Negara Malaysia) (Thomas, 2007). However, Malaysia is facing increased competition from other countries in the region such as Indonesia, Singapore and other countries in addition to the Middle East and the Gulf as the UAE, Bahrain and Saudi Arabia.

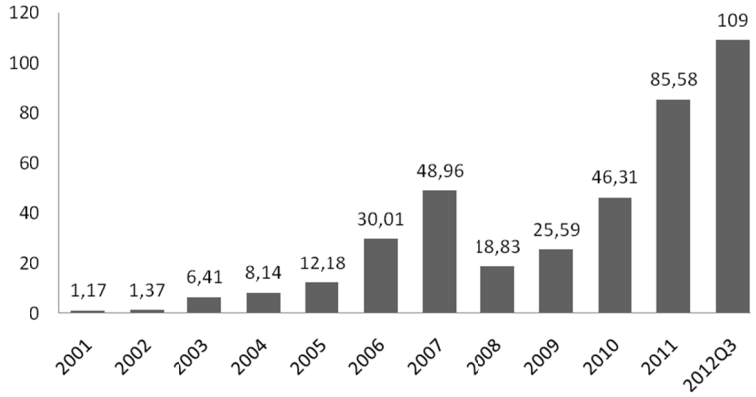

Figure 1. Evolution of *Sukuk* global issues between 2001 and 2012 in billion $

Malaysia is the first country and the most dynamic to issue *Sukuk* and emerged as a global pioneer in *Sukuk* with 67% of the total volume of issues between 2009 and 2012 (Figure 2).

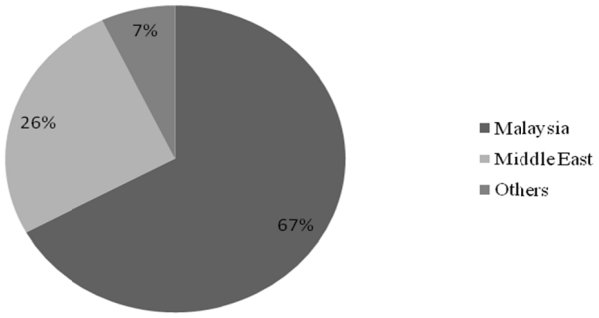

Figure 2. Volume of *Sukuk* issues by region between 2009 and 2012

The remainder of the paper is organized as follows. Section 2 provides a brief background on recent researches on *Sukuk*. Section 3 highlights the research method and data. Section 4 discusses the findings and the final section concludes the paper.

2. Literature Review

Several studies attempt to compare *Sukuk* and conventional bonds in term of their structure, their properties and how the market perceives them as different investment alternatives such as researches (Cakir & Raei, 2007; Ramasamy, Munisamy, & Helmi, 2011; Zin et al., 2011; Ariff & Safari, 2012; Hassan, 2012; Lahsasna & Lin, 2012; Fathurahman & Fitriati, 2013; Godlewski, Turk-Arsis, & Weill, 2013; Tahmoures, 2013).

Cakir and Raei (2007) conducted their work on the Value at Risk (VaR) of a portfolio of fixed income securities with a sample of *Sukuk* and Eurobonds issued by the same sovereign issuer. In their study, the authors constructed two hypothetical portfolios, the first consists only of Eurobonds and the other consists of both Eurobonds and *Sukuk*. Cakir and Raei (2007) concluded that the *Sukuk* reduce the VaR of the second portfolio. Ramasamy et al. (2011) compared *Sukuk* to government bonds and conventional bonds in Malaysian market in terms of sensitivity using duration and convexity measures. The results indicated that *Sukuk* are better in these sensitivity measures when compared with conventional bonds. The findings of Ramasamy et al. (2011) confirmed that *Sukuk* are less risky than conventional bonds and that the investors on *Sukuk* will obtain a better yield rate when compared to government bonds and lesser rate than conventional bonds.

Zin et al. (2011) attempted to explore the practice and prospect of *Sukuk* market in Malaysia and discuss the difference between *Sukuk* and conventional bonds in Malaysian market. The authors confirmed the advantages and the value added offered by the Islamic capital market of *Sukuk*. Indeed, *Sukuk* are now promising tools for financing and for investors.

Ariff and Safari (2012) examined the deference between *Sukuk* and conventional bonds by investigating the presence of a causal link between the performance on *Sukuk* and conventional bonds with the same yield and the same rating. Their results found no causal link.

Hassan (2012) conducted his research on the comparison of *Sukuk* and bonds in assessing any differences related to the diversification of bonds portfolios by adding *Sukuk*. The author assessed the value at risk (VaR) of *Sukuk* compared with VaR of conventional bonds of the same issuer. The results highlighted that there is a gain in diversification of bonds portfolios by adding *Sukuk*. In addition, Hassan (2012) stressed that *Sukuk* portfolio is riskier than a bond portfolio. This may be due to factors related to characteristics of Islamic finance.

Lahsasna and Lin (2012) focused on *Sukuk Sharia* issues considering that structuring *Sukuk* mimics features of conventional bonds in Malaysian market such as in terms of late payment penalty, trading of debt based *Sukuk*, purchase undertaking in equity based structures and ownership status in asset based transactions. These issues pose a *Sharia* debate which is extended to other financing practices in Islamic finance.

Fathurahman and Fitriati (2013) attempted to analyze the ratio between yields (yield to maturity [YTM]) on *Sukuk* and conventional bonds listed in Indonesian stock market in October 2011. The findings showed that the average of the *Sukuk* and conventional bonds differs significantly overall and that *Sukuk* average YTM is greater than conventional bonds in three of ten groups studied. The authors concluded their paper by recommending the consideration of compliance with *Sharia* in future researches.

Godlewski et al. (2013) investigated the reaction of Malaysian market investors to the announcements of *Sukuk* and conventional bonds issues. The stock market is neutral to announcements of conventional bond issues, but it reacts negatively to announcements of *Sukuk* issues. Godlewski et al. (2013) assigned this result to the great demand for Islamic investment certificates and to the adverse selection promoting *Sukuk* issuance by lower-quality debtor firms.

Tahmoures (2013) addressed the issue of compatibility between *Sukuk* and conventional bonds. The author attempted to compare these two financial instruments from different points of view like the structure and risk/return features. Tahmoures (2013) supported that issuers and investors can choose one or other of these financial instruments since *Sukuk* and bonds succeed in raising capital for both corporations and governments. Nevertheless, there are basic differences between the two instruments. Indeed, bonds are based on debt while *Sukuk* are equity based instruments. Then *Sukuk* are ideal choice for investors wishing to respect the Islamic finance principles.

Most publications as Cakir and Raei (2007), Ariff and Safari (2012), Hassan (2012) and Godlewski et al. (2013) agree that *Sukuk* offer an alternative investment, but the debate about if *Sukuk* is an efficient instrument of investment is always open.

Our aim in this paper is to analyze the performance of *Sukuk* portfolios and bond portfolios in Malaysian bonds and *Sukuk* market by using the series of indices *TR BPAM ALL BOND INDEX* rather than individual *Sukuk* or bonds. Indeed, this series of indices represent the whole Malaysian bonds and *Sukuk* market and allow to illustrate the global performance of this market.

3. Data and Methodology

3.1 Research Questions

Our research questions for this study are:

Q1: "Does the *Sukuk* portfolios return differ significantly from conventional bonds portfolios return?"

Q2: "Are there a correlation between the return of portfolios of *Sukuk* and bonds portfolios?"

3.2 Data Sample of the Study

The data used in purpose of this study are daily historical data of *TR BPAM ALL BOND INDEX* obtained through Bond Pricing Agency Malaysia (BPAM) website. This series of indices was created in 2007 by Thomson Reuters and the Malaysian Bond Pricing Agency (BPAM). These indices are very representative of the Malaysian *Sukuk* and bonds market hence our choice of those indices in the context of this study.

3.3 Methodology

Our purpose is to evaluate the performance of *Sukuk* portfolios compared with conventional bonds portfolios in the context of Malaysian market. For this purpose, we create our portfolios using the indices of the series *TR BPAM ALL BOND INDEX* in Malaysian bonds and *Sukuk* market (Table 1). Furthermore, we use the global index *TR BPAM ALL BOND INDEX* as a benchmark of the global market.

For *Sukuk*, we use the Islamic segment of the index *TR BPAM ALL BOND INDEX* and to represent bonds we use the conventional segment of the index. For each maturity, we take the appropriate segment of the index.

For example:

- *Sukuk* portfolio of all maturities $P1_{Sukuk(all)}$ is corresponding to index *TR BPAM ALL BOND INDEX-Islamic-All maturities.*

- *Sukuk* portfolio of 3 months to one year of maturity is corresponding to index *TR BPAM ALL BOND INDEX-Islamic- 3months to 1 year of maturity*.

- Bonds portfolio of 1 year to three years of maturity is corresponding to index *TR BPAM ALL BOND INDEX-Conventional- 1year to 3 years of maturity*.

- Bonds portfolio of more than 7 years of maturity is corresponding to index *TR BPAM ALL BOND INDEX-Conventional- 7+year of maturity*.

Islamic indices represent *Sukuk* portfolios and conventional indices represent conventional bonds portfolios. The composition of every index is given in Table 1. This table indicates the number of *Sukuk* and bonds in each index between 2007 and 2012.

Table 1. *Sukuk* and bonds portfolios and corresponding indices

Portfolio	Corresponding index	2007	2008	2009	2010	2011	2012
$P1_{Sukuk(all)}$	TR BPAM ALL BOND INDEX-Islamic-All maturities	450S	499S	522S	525S	571S	621S
$P1_{Bonds(all)}$	TR BPAM ALL BONDS INDEX-Conventional-All maturities	200B	189B	191B	207B	197B	198B
$P2_{Sukuk(3m-1y)}$	TR BPAM ALL BOND INDEX-Islamic- 3months to 1 year of maturity.	35S	39S	42S	46S	42S	43S
$P2_{Bonds(3m-1y)}$	TR BPAM ALL BOND INDEX-Conventional- 3months to 1 year of maturity.	35B	30B	31B	27B	31B	34B
$P3_{Sukuk(1y-3y)}$	TR BPAM ALL BOND INDEX-Islamic- 1 year to 3 years of maturity.	97S	105S	101S	111S	121S	114S
$P3_{Bonds(1y-3y)}$	TR BPAM ALL BOND INDEX-Conventional- 1 year to 3 years of maturity.	68B	63B	64B	79B	75B	67B
$P4_{Sukuk(3y-7y)}$	TR BPAM ALL BOND INDEX-Islamic- 3 years to 7 years of maturity.	160S	167S	183S	182S	179S	176S
$P4_{Bonds(3y-7y)}$	TR BPAM ALL BOND INDEX-Conventional- 3 years to 7 years of maturity.	71B	67B	62B	65B	62B	65B
$P5_{Sukuk(7y+)}$	TR BPAM ALL BOND INDEX-Islamic- 7 years and more maturity.	168S	187S	197S	186S	229S	289S
$P5_{Bonds(7y+)}$	TR BPAM ALL BOND INDEX-Conventional- 7 years and more of maturity.	27B	28B	34B	35B	29B	32B

The Table 1 above gives the indices used to represent different *Sukuk* and bonds portfolios. In addition, Table 1 indicates the number of *Sukuk* or bonds for each index between 2007 and 2012. For example, the first line corresponding to *Sukuk* index of all maturities indicates that the index contain 450 *Sukuk* (450S) in 2007, 499 *Sukuk* in 2008 and 621 *Sukuk* in 2012. The corresponding conventional index is composed of 200 bonds (200B) in 2007, 189 bonds in 2008 and 198 bonds in 2012.

We construct our portfolios using these indices. For instance, the first portfolio $P1_{Sukuk(all)}$ corresponds to the index *TR BPAM ALL BOND INDEX-Islamic-All maturities* which comprises *Sukuk* of all maturities. The number of *Sukuk* varies between 450 in 2007 and 621 in 2012.

We obtained five *Sukuk* portfolios and five bonds portfolios. We use the paired sample t-test for means to address the first research question Q1 and we use the Pearson correlation tests to answer the second research question Q2.

4. Empirical Results and Discussion

4.1 Sample Characteristics

Figure 3 indicates the evolution of *Sukuk*, bonds and market indices from the series *TR BPAM ALL BOND INDEX* in Malaysian *Sukuk* and bonds market. Over the entire period from 2007 to 2012, the three indices move in the

same direction. From 2007 to mid–2008 the three indices are almost identical. From mid 2008 to 2009 indices take their growth after a fall in mid–2008. Another drop occurs in the early months of 2009.

From the second half of 2009, the three indices take their growth with a performance of the *Sukuk* index over the bonds index and the benchmark (Figure 3).

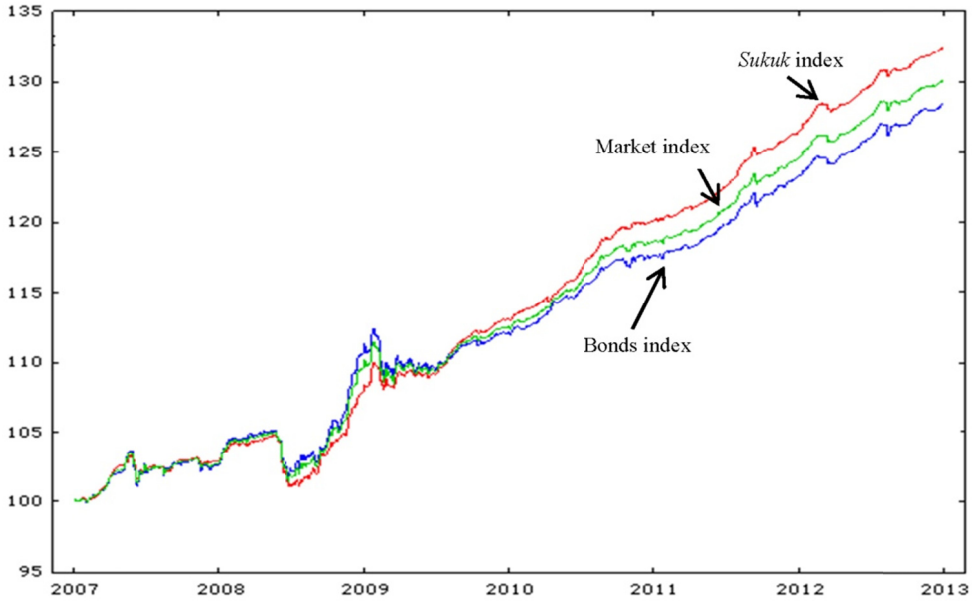

Figure 3. *Sukuk*, bonds and market indices evolution (base 100)

4.2 Test of Significance of the Difference in the Portfolios' Mean Return

4.2.1 Variables Definition

For this part of the study, we use the paired sample t-tests and in this goal we define the variables bellow:

- RPS1 represents the mean return of *Sukuk* portfolio $P1_{Sukuk(all)}$.
- RPB1 represents the mean return of bonds portfolio $P1_{Bonds(all)}$.
- RPS2 represents the mean return of *Sukuk* portfolio $P2_{Sukuk(3m-1y)}$.
- RPB2 represents the mean return of bonds portfolio $P2_{Bonds(3m-1y)}$.
- RPS3 represents the mean return of *Sukuk* portfolio $P3_{Sukuk(1y-3y)}$.
- RPB3 represents the mean return of bonds portfolio $P3_{Bonds(1y-3y)}$.
- RPS4 represents the mean return of *Sukuk* portfolio $P4_{Sukuk(3y-7y)}$.
- RPB4 represents the mean return of bonds portfolio $P4_{Bonds(3y-7y)}$.
- RPS4 represents the mean return of *Sukuk* portfolio $P5_{Sukuk(7y+)}$.
- RPB4 represents the mean return of bonds portfolio $P5_{Bonds(7y+)}$.

The objective of these tests is to analyze the statistical significance of differences between the return means of different portfolios. The tests used are t-tests of paired samples. These tests aim to check if the return means of *Sukuk* and bonds portfolios are significantly different. The tests are, also, carried on the return means of different *Sukuk* portfolios and bonds portfolios regarding their maturity.

Results of t-tests between *Sukuk* and bonds portfolios are given in Table 2. These results are statistically insignificant. Only, results relating to *Sukuk* and bonds portfolios of 3 months to one year maturity are statistically significant. Then, we can conclude that there is a difference statistically significant between *Sukuk* and bonds portfolios having less than one year of maturity.

Table 2. Paired sample t-test (*Sukuk* and bonds portfolios)

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1 RPS1-RPB1	0.1243	8.2145	0.2135	-0.2945	0.5432	0.582	1479	0.560
Pair 2 RPS2-RPB2	-1.3402	1.4266	3.708^{E}-02	-1.4129	-1.2674	-36.140		0.000
Pair 3 RPS3-RPB3	0.1128	3.0626	7.961^{E}-02	-4.33^{E}-02	0.2690	1.417		0.157
Pair 4 RPS4-RPB4	8.851^{E}-02	9.1979	0.2391	-0.3805	0.5575	0.370		0.711
Pair 5 RPS5-RPB5	7.568^{E}-02	21.6513	0.5628	-1.0283	1.1796	0.134		0.893

Note: RPS1, RPB1 represent, for example, the mean return of *Sukuk* portfolio $P1_{Sukuk(all)}$ and bonds portfolio $P1_{Bonds(all)}$.

Results for paired samples t-tests regarding different *Sukuk* portfolios are given in Table 3. The results are statistically significant for only pairs including *Sukuk* portfolio of 3 months to one year of maturity $P2_{Sukuk(3m-1y)}$. For the others pairs, results are statistically insignificant. From these results, we can conclude that there is a difference statistically significant between *Sukuk* portfolio having maturity less than one year ($P2_{Sukuk(3m-1y)}$) and other *Sukuk* portfolios.

Table 3. Paired sample t-test (*Sukuk* portfolios)

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1 RPS1-RPS2	1.6328	9.0780	0.2360	1.1699	2.0956	6.919	1479	0.000
Pair 2 RPS1-RPS3	8.378^{E}-02	6.6849	0.1738	-0.2571	0.4246	0.482		0.630
Pair 3 RPS1-RPS4	3.378^{E}-02	2.8924	7.518^{E}-02	-0.1441	0.1509	0.045		0.964
Pair 4 RPS1-RPS5	-8.85^{E}-02	8.0340	0.2088	-0.4982	0.3211	-0.424		0.672
Pair 5 RPS2- RPS3	-1.5490	3.7673	9.793^{E}-02	-1.7411	-1.3569	-15.818		0.000
Pair 6 RPS2- RPS4	-1.6294	8.3622	0.2174	-2.0557	-1.2030	-7.496		0.000
Pair 7 RPS2- RPS5	-1.7213	16.6571	0.4330	-2.5706	-0.8719	-3.975		0.000
Pair 8 RPS3- RPS4	-8.04^{E}-02	5.9201	0.1539	-0.3823	0.2215	-0.523		0.601
Pair 9 RPS3- RPS5	-0.1723	14.4961	0.3768	-0.9114	0.5668	-0.457		0.648
Pair10 RPS4- RPS5	-9.19^{E}-02	10.2495	0.2664	-0.6145	0.4307	-0.345		0.730

Table 4 gives results in the case of bonds portfolios. These results are statistically insignificant, and then we cannot conclude to a difference between return means of different bonds portfolios in this case.

Table 4. Paired sample t-test (bonds portfolios)

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1 RPB1-RPB2	0.1682	11.4917	0.2987	-0.6022	0.9387	0.563	1479	0.573
Pair 2 RPB1-RPB3	7.230^{E}-02	9.2935	0.2416	-0.5508	0.6954	0.299		0.765
Pair 3 RPB1-RPB4	-3.24^{E}-02	5.5881	0.1453	-0.4071	0.3422	-0.223		0.823
Pair 4 RPB1-RPB5	-1.372	17.5791	0.4569	-1.3157	1.0414	-0.300		0.764
Pair 5 RPB2- RPB3	-9.59^{E}-02	3.7563	9.764^{E}-02	-0.3478	0.1559	-0.983		0.326
Pair 6 RPB2- RPB4	-0.2007	12.1123	0.3148	-1.0127	0.6114	-0.637		0.524
Pair 7 RPB2- RPB5	-0.3054	28.1668	0.7322	-2.1938	1.5830	-0.417		0.677
Pair 8 RPB3- RPB4	-0.1047	9.8432	0.2559	-0.7646	0.5552	-0.409		0.682
Pair 9 RPB3- RPB5	-0.2095	26.3255	0.6843	-1.9744	1.5555	-0.306		0.760
Pair10 RPB4- RPB5	-0.1047	21.1570	0.5500	-1.5231	1.3137	-0.190		0.849

4.3 Analysis of the Portfolios' Return Correlation

The results of correlation tests on returns of the portfolios are shown in Tables 5, 6 and 7. Results of correlation tests of *Sukuk* portfolios (Table 5) indicate that returns of different portfolios are positively correlated. The correlation between *Sukuk* portfolio $P1_{Sukuk(all)}$ and *Sukuk* portfolios $P5_{Sukuk(7y+)}$ is estimated to 0.976. The correlation between the first *Sukuk* portfolio and the fourth $P4_{Sukuk(3y-7y)}$ is about 0.948. The correlation between $P1_{Sukuk(all)}$ and $P3_{Sukuk(1y-3y)}$ is 0.759. Return of *Sukuk* portfolio having maturity of one year to three years

($P3_{Sukuk(1y-3y)}$) and *Sukuk* portfolio of 3 to 7 years of maturity ($P4_{Sukuk(3y-7y)}$) are significantly and positively correlated with a value 0.779 of correlation. The correlation is also significant and positive between *Sukuk* portfolios $P4_{Sukuk(3y-7y)}$ and $P5_{Sukuk(7y+)}$ with a value of 0.870. Then, the correlation is positive and significant between different *Sukuk* portfolios while the value of correlation differs between different portfolios. Some portfolios have high correlation like portfolio of all maturities and portfolio of 7+ years of maturity.

Table 5. *Sukuk* portfolios correlation

		$P1_{Sukuk(all)}$	$P2_{Sukuk(3m-1y)}$	$P3_{Sukuk(1y-3y)}$	$P4_{Sukuk(3y-7y)}$	$P5_{Sukuk(7y+)}$
$P1_{Sukuk(all)}$	Pearson	1.000	**0.362	**0.759	**0.948	**0.976
	Sig. (2-tailed)	.	0.000	0.000	0.000	0.000
	N	1480	1480	1480	1480	1480
$P2_{Sukuk(3m-1y)}$	Pearson		1.000	**0.474	**0.350	**0.304
	Sig. (2-tailed)		.	0.000	0.000	0.000
	N		1480	1480	1480	1480
$P3_{Sukuk(1y-3y)}$	Pearson			1.000	**0.779	**0.650
	Sig. (2-tailed)			.	0.000	0.000
	N			1480	1480	1480
$P4_{Sukuk(3y-7y)}$	Pearson				1.000	**0.870
	Sig. (2-tailed)				.	0.000
	N				1480	1480
$P5_{Sukuk(7y+)}$	Pearson					1.000
	Sig. (2-tailed)					.
	N					1480

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

Results of correlation tests of bonds portfolios (Table 6) indicate that returns of different portfolios are positively correlated. The correlation is high between bonds portfolio $P1_{bonds(all)}$ and bonds portfolios $P5_{Bonds(7y+)}$ (with 0.950 value of correlation), $P4_{Bonds(3y-7y)}$ (with 0.901 value of correlation) and $P3_{Bonds(1y-3y)}$ (with 0.735 value of correlation). Return of bonds portfolio having maturity of one year to three years ($P3_{Bonds(1y-3y)}$) and bonds portfolio of 3 to 7 years of maturity ($P4_{Bonds(3y-7y)}$) are significantly and positively correlated with a value 0.730 of correlation. The correlation is also significant and positive between bonds portfolios $P4_{Bonds(3y-7y)}$ and $P5_{Bonds(7y+)}$ with a value of 0.738.

Table 6. Bonds portfolios correlation

		$P1_{Bonds(all)}$	$P2_{Bonds(3m-1y)}$	$P3_{Bonds(1y-3y)}$	$P4_{Bonds(3y-7y)}$	$P5_{Bonds(7y+)}$
$P1_{Bonds(all)}$	Pearson	1.000	**0.534	**0.735	**0.901	**0.950
	Sig. (2-tailed)	.	0.000	0.000	0.000	0.000
	N	1480	1480	1480	1480	1480
$P2_{Bonds(3m-1y)}$	Pearson		1.000	**0.757	**0.487	**0.423
	Sig. (2-tailed)		.	0.000	0.000	0.000
	N		1480	1480	1480	1480
$P3_{Bonds(1y-3y)}$	Pearson			1.000	**0.730	**0.573
	Sig. (2-tailed)			.	0.000	0.000
	N			1480	1480	1480
$P4_{Bonds(3y-7y)}$	Pearson				1.000	**0.738
	Sig. (2-tailed)				.	0.000
	N				1480	1480
$P5_{Bonds(7y+)}$	Pearson					1.000
	Sig. (2-tailed)					.
	N					1480

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

Concerning the correlation between *Sukuk* portfolios with bonds portfolios, the Table 7 shows the correlation coefficients between these two types of portfolios. The results indicate a positive correlation between *Sukuk* and bonds portfolios in each level of maturity with a significance level of 1%. Thus, we can conclude that there is a significant correlation between returns of *Sukuk* and bonds portfolios.

Table 7. *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	1480	1480	1480	1480	1480	1480	1480	1480	1480	1480
$P1_{Bonds(all)}$	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		1480	1480	1480	1480	1480	1480	1480	1480	1480
$P2_{Sukuk(3m-1y)}$	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			1480	1480	1480	1480	1480	1480	1480	1480
$P2_{Bonds(3m-1y)}$	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				1480	1480	1480	1480	1480	1480	1480
$P3_{Sukuk(1y-3y)}$	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					1480	1480	1480	1480	1480	1480
$P3_{Bonds(1y-3y)}$	Pearson						1.000	**0.632	**0.730	**0.553	**0.573
	Sig.						,	0.000	0.000	0.000	0.000
	N						1480	1480	1480	1480	1480
$P4_{Sukuk(3y-7y)}$	Pearson							1.000	**0.693	**0.870	**0.617
	Sig.							,	0.000	0.000	0.000
	N							1480	1480	1480	1480
$P4_{Bonds(3y-7y)}$	Pearson								1.000	**0.628	**0.738
	Sig.								,	0.000	0.000
	N								1480	1480	1480
$P5_{Sukuk(7y+)}$	Pearson									1.000	**0.663
	Sig.										0.000
	N										1480
$P5_{Bonds(7y+)}$	Pearson										1.000
	Sig.										,
	N										1480

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

5. Conclusion

This research has compared the performance of *Sukuk* and bonds portfolios using a series of indices in the Malaysian *Sukuk* and bonds market. Indeed, we use the indices of the series *TR BPAM ALL BOND INDEX* reflecting the performance of *Sukuk* and bonds market in Malaysia for the period from 2007 to 2012. We first addressed the significance of the difference in the portfolios' mean return. Secondly, we addressed the portfolios' return correlation. For the issue of the significance of the difference in the portfolios' mean return, the results of paired sample t-tests show that there is a difference statistically significant, only, between *Sukuk* and bonds portfolios having less than one year of maturity. The results of correlation indicate a significant and positive correlation between returns of *Sukuk* and bonds portfolios. This study complements the studies concerned with the comparison of performance of *Sukuk* and bonds. The particularity of this study is that we work on *Sukuk* and bond portfolios based on indices reflecting the performance of the Malaysian bond and *Sukuk* market instead of using a small sample of individual *Sukuk*. In addition, analysis of *Sukuk* index in this same paper reveals that it outperforms its conventional counterpart. Overall, our results agree with those of some studies confirming that *Sukuk* perform as bonds given the positive correlation between these two financial instruments.

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Notes

Note 1. *Sharia* is the moral code and religious law of Islam.

Note 2. Shell MDS (Malaysia) is the owner and operator of the Shell Middle Distillate Synthesis (SMDS) plant in Bintulu, Sarawak.