

ANALYSING THE PERFORMANCE OF MALAYSIAN ISLAMIC AND CONVENTIONAL STOCK PORTFOLIOS

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ABSTRACT

This paper examines the performance of Islamic stock portfolio (ISP) and conventional stock portfolio (CSP) in the Malaysian stock market. The well-accepted four performance measures Jensen's Alpha, Beta, Sharpe ratio and Treynor ratio are employed to evaluate the performance of ISP and CSP. First the ISP and CSP are constructed within-the-sector for the consumer product, industrial product, plantation, properties and trading service sectors from January 2010 to December 2017. For the same period, the ISP and CSP are also developed across-the-sectors by selecting one top stock from each sector. The minimum three out of four performance measures indicate that the ISP outperforms CSP within-the-sector for all sectors except plantation. However, the ISP and CSP perform equally across-the-sectors. It can be concluded that the ISP is superior to CSP in terms of risk-return trade-off in most of the cases within-the-sector. This finding implies that risk-sharing strategy of the ISP is better than risk-diversification strategy of the CSP for higher portfolio return.

JEL Classification: G11, G15.

Keywords: Portfolio Return, Portfolio Risk, Risk-Sharing, Risk-diversification.

INTRODUCTION

Islamic financial market has been growing exponentially particularly after global financial crisis in the Malaysian financial market. The Islamic financial system (IFS) is built with a number of distinctive and unique characteristics that are based upon the Shariah

principles¹. The distinctive characteristic of IFS is the prohibition of interest and restriction of investment in the Sharia-forbidden economic activities. The IFS does not allow the debt financing or leveraging rather than risk-sharing with the borrowers. The concept of risk sharing with borrowers serves as a substantial barrier to most financial institutions engaging in Islamic methods of finance (Gait and Worthington, 2008). Therefore, the interest among financial institutions in supplying Islamic financial products and services is mitigated by complications with firm management and a lack of familiarity with business conditions. The conventional financial system (CFS) focuses on the economic and financial aspects of transactions. It is primarily a debt and interest-based system that generates undue debt and leveraging through the credit multiplier. In the CFS, all assets are risk-bearing and their risk-return trade-off depends on their riskiness. The time value money concept is used to charge the interest on assets. Even when an individual or organisation suffers losses using borrowed funds, interest is still charged. Bashir (1983) makes a difference between the IFS and CFS by stating that IFS is asset-based and asset-driven, while CFS is interest-based and debt-driven. From the discussion of Hassan et al. (2013), it is clear that IFS has more equity based instruments than CFS and promotes equity based instruments rather than debt base instruments

There are arguments in the literature regarding the performance of Islamic investment compared with conventional investment in different markets. Some previous studies find that Islamic financial assets are over-performed their conventional counterparts. Islamic assets reduces systemic risk and makes higher returns, whereas a number of studies indicated that Islamic portfolio provides slightly less returns relative to the conventional counterpart and conventional equities become more attractive. Investors find that Islamic investment is the safer because of its risk-sharing strategy and the prohibition of debt financing nature. But its lower diversification benefits drive investors to choose conventional assets in their investment decision making.

To the best of our knowledge, previous studies mainly focus on the performance of Islamic and conventional stock and index. This paper is dedicated to evaluate the performance of ISP and CSP. The low frequency weekly or monthly stock price is used in most of the previous research works. This study considers the daily stock price that contains more information about the market behaviour and leads to evaluate performance of ISP and CSP appropriately. Further this paper obtains daily stock price from five different sectors to examine the performance ISP and CSP not only at the market level, but also at the sector level. However, sector based performance evaluation of Islamic and conventional asset is missing in the previous research works. For the formation of ISP and CSP, the top seven stocks are selected from each sector based on their market capitalisation, but stocks are selected randomly for most of cases in the existing literature. Finally, this study is conducted based on the Malaysian financial market as it has broad IFS covering all financial sectors operating with the CFS in parallel.

Reminder of this paper is organised as follows: Section 2 review the literatures related to this study. Section 3 describes the methodology and data used in this paper. Section 4 discusses about the empirical analysis. Section 5 summarises the findings and concludes the paper.

¹Eliminate prohibitive elements Riba (interest), Gharar (uncertainty), Maysir (gambling), Unethical practices, Haram (prohibited) activities in line with Shariah principles.

LITERATURE REVIEW

This section provides a brief literature review on the performance of Islamic and conventional financial assets in different markets. Ahmad and Mustafa (2002) compare the performance of Sariah indices and conventional indices and they show that the Islamic Sariah indices perform slightly better than conventional indices. Elfakhani et al. (2005), Abdullah et al. (2007), Arouri et al. (2013) and many others find that Islamic financial assets are over-performed their conventional counterparts. They also argue that Islamic assets reduces systemic risk, produce significant diversification benefits and Islamic investments make higher returns; whereas, the study of Mansor and Bhatti (2011), Ajmi et al. (2014) among others indicate that Islamic assets provide slightly less returns relative to the conventional counterpart that leads conventional equities are more attractive in the market.

Some literatures do not find significant difference between Islamic and conventional indices. Ahmad and Ibrahim (2002) study the performance of the Islamic index and the conventional composite index is traded in the Kuala Lumpur Stock Exchange (KLSE) and the results reveal that the performance of Islamic is not different from the performance of conventional indices. Elfakhani and Hassan (2007) suggest that the behaviour of Islamic mutual funds does not differ from that of the other conventional funds. Girard and Hassan (2008) find no performance differences between Islamic and conventional indexes. Krasicka and Nowak (2012) also show similar findings that the investing in the Islamic securities has no statistically significant effects on investors' wealth compared to investing in conventional assets. Abbas (2012), Albaity and Mudor (2012), Dharani and Natarajan (2011) also conclude that there are no statistically significant differences in returns between the Islamic and conventional indices.

The analysis on the Islamic stock market (ISM) is not as rigorous as the conventional stock market (CSM). However, some previous studies are carried on the ISM. Lean and Parshva (2012) investigate the relationship between stock return and risk in the Malaysian ISM. They find that some Islamic Sharia compliant stocks do outperform the market as a whole. Karim et al. (2014) measure the performance between Malaysian ISM and CSM. Their results show that the ISM provides better return compare to CSM in all sample periods. Karim et al. (2014) also examine the differences in performance between Islamic stocks and the conventional stocks listed on the Australian Stock Exchange (ASX). They find a statistically significant difference in performance of the Islamic and conventional stocks.

In summary, some previous studies find that Islamic financial assets are over-performed their conventional counterparts. However, a number of studies indicate that the Islamic assets provide slightly less returns relative to the conventional counterpart. Most investors find that the investment in Islamic stock is the safer because of their risk-sharing strategy and the prohibition of debt financing nature. But its lower diversification benefits drive investors to choose conventional stock in their investment decision making. Overall, the literature shows mixed results about the performance of the Islamic financial assets and the conventional financial assets.

METHODOLOGY AND DATA

This section first explains about the formation of Islamic stock portfolio (ISP) and conventional stock portfolio (CSP). Second, the methodology of this study is discussed to evaluate the performance of ISP and CSP. Finally, the procedure is described to obtain the data sets used in this paper.

The ISP and CSP are developed within-the-sector and across-the-sectors. Within-the-sector, the Islamic stock portfolios ISP-CP, ISP-IP, ISP-PL, ISP-PR and ISP-TS are constructed for the consumer product (CP), industrial product (IP), plantation (PL), properties (PR) and trading services (TS) sector, respectively. Each portfolio comprises 7 top stocks based on their market capitalization within-the-sector. Similarly, the conventional stock portfolios CSP-CP, CSP-IP, CSP-PL, CSP-PR and CSP-TS are formed within-the-sectors. Across-the-sectors, the Islamic stock portfolio ISP-AC includes 5 stocks, one top stock from each of the five sectors based on the market capitalization. Likewise, the conventional stock portfolio CSP-AC is developed across-the-sectors.

Next the ISP and CSP comparison methodology is described. A number of statistics derived from the Capital Asset pricing Model (CAPM) including Jensen's alpha (1968), Beta, Sharpe Ratio (1966), Treynor ratio (1965) are suggested as suitable methodologies and have been widely applied. The Jensen's alpha represents the average return on a portfolio. This measure is obtained by running a regression of the excess return of the portfolio over the excess return of the market as in equation (1),

$$(R_p - R_f) = \alpha_p + \beta_p(R_m - R_f) \quad (1)$$

where, α_p , β_p , R_p , R_m and R_f is portfolio Jensen's alpha, portfolio Beta, portfolio return, market return and risk-free return, respectively. The positive value of Jensen's alpha (α_p) indicates that the portfolio achieves excess return relative to the market, negative alpha means underperformance (Ho et al., 2014). The portfolio Beta (β_p) or systematic risk measures the volatility of portfolio relative to the market as a whole.

The portfolio Sharpe ratio (S_p) is expressed as in equation (2) where σ_p is the portfolio standard deviation used as the proxy for the total portfolio risk,

$$S_p = \frac{R_p - R_f}{\sigma_p} \quad (2)$$

The Sharpe ratio provides information for an investment's high return as a result of excessive risk. The Sharpe ratio with a higher value indicates higher or superior performance and vice versa (Ho et al., 2014).

The portfolio Treynor ratio (T_p) is defined as in equation (3),

$$T_p = \frac{R_p - R_f}{\beta_p} \quad (3)$$

The Treynor ratio uses the portfolio Beta (β_p) or systematic risk instead of portfolio standard deviation or total risk (σ_p). Therefore, it evaluates the performance of portfolio for its given level of market risk and is associated with the general market fluctuations. A portfolio with higher Treynor ratio indicates the more return gained per unit of market risk that leads the superior performance of the portfolio (Ho et al., 2014).

Finally, the details of data sets used in research work are discussed. The daily stock price of 35 Islamic stocks and 35 convention stocks from CP, IP, PL, PR and TS sectors are included as the data sample. These 70 companies are listed in the Bursa Malaysia Stock Exchange. The data sample period is considered from 1 January 2010 to 31 December 2017. The 3-month Malaysia T-bill rate and index for every sector is used as the risk-free interest rate and the market index, respectively. All these data are obtained from SIRCA database.

4.0 EMPIRICAL ANALYSIS

The descriptive statistics of 70 sample stocks are reported in Table 1. The descriptive statistics of 35 Islamic stocks from CP, IP, PL, PR and TS sectors are given in the Panels A, B, C, D and E, respectively. Similarly, the descriptive statistics of 35 conventional stocks from CP, IP, PL, PR and TS sectors are presented in the Panels F, G, H, I and J, respectively. The mean, median, skewness, kurtosis and Jarque-Bera (JB) statistical measures are considered to test the normality of data sets used in this study. The mean and median is not same or very close for most of the stocks. The 35 Islamic stocks and 35 conventional stocks exhibit significant level of skewness and kurtosis. The skewness is negative for some stocks and majority of stocks shows positive skewness. None of the sample stock holds zero value for skewness to confirm that there is no skewness. Finally, the JB statistics confirm the non-normality feature of these 70 stocks at the 1% significance level. It means all panels of Table 1 report that the distributions for both Islamic stocks and conventional stocks are not normal at the 1% significance level.

Table 1: Descriptive statistics of Islamic and Conventional Stocks. The Jarque-Bera (JB) statistics test the normality of data series with a null hypothesis that data series has a normal distribution.

Stock Name	Mean	Median	Std. dev	Skewness	Kurtosis	JB
Panel A: Islamic consumer product						
Nestle Malaysia	63.7821	67.3900	14.5906	-0.3871	2.5257	65.9135
PPB Group	15.7620	16.0500	1.4563	-0.8702	3.5406	256.6033
Fraser & Neave	18.7759	18.2900	3.6050	0.1213	3.0836	5.2676
QL Resources	3.7942	3.6850	0.6885	0.7563	3.1454	184.6476
UMW Holdings	8.5193	7.2750	2.6782	0.5591	2.0255	175.9301
Dutch Lady Milk	40.4014	46.6000	15.5853	-0.6162	2.0020	201.0682
Hong Leong	5.9045	5.0300	2.0246	0.9989	2.5313	336.7090
Panel B: Islamic Industrial product						
Petronus Gas	18.4047	19.6900	4.5494	-0.6930	2.0849	220.5571
Hartalega Holdings	6.1925	5.9150	1.3858	0.3640	2.3048	81.0174
Top Glove corp.	6.0624	5.3500	2.1818	2.3439	7.6427	3480.7770
Cahaya Mata	3.9323	3.8150	1.6883	1.5979	6.4036	1742.9570
Kossan Rubber	5.1323	4.6100	1.7869	0.2537	1.6705	161.9177

DRB Hicom	1.8661	1.9150	0.5923	-0.0628	1.6381	149.5643
VS Industry	1.8564	1.5350	0.9085	2.4654	9.0312	4852.6190
Panel C: Islamic Plantation						
IOI Corporations	4.8906	4.8650	0.4728	0.1139	2.1613	60.3854
K. Kepong	22.1839	22.6400	2.2500	-1.2250	4.0340	565.5213
BatuKawan	17.4421	18.1500	2.4355	-1.7611	5.3598	1437.2320
Genting Plantations	9.5075	9.9350	1.3892	-0.6713	2.4945	164.5578
United Plantations	23.8704	25.9300	4.5826	-1.0695	2.6543	375.4019
IJIM Plantations	3.1629	3.2150	0.3635	-0.3541	2.1909	92.4488
Sarawak Oil Palm	4.7342	4.5350	1.2374	0.1205	1.8319	113.7330
Panel D: Islamic Properties						
S P Setia	3.6343	3.4250	0.7093	2.3219	0.0702	4670.5900
Man Sing Group	1.9505	1.9950	0.4017	0.2144	2.3354	50.0230
Eastern & Oriental	1.6776	1.5950	0.4337	0.8762	4.0165	328.1784
KSL Holdings	1.7092	1.4950	0.6677	2.5571	10.6135	6726.2510
Paramount Corpor.	2.1074	1.6200	1.1250	1.9997	5.6716	1849.7880
MKH	2.3285	2.2800	0.7490	0.8250	3.8025	269.1922
Yong Tai	0.6970	0.6300	0.4308	0.4715	1.9145	165.3363
Panel E: Islamic Trading Services						
Tenaga Nasional	10.4113	11.0100	3.2569	-0.0677	1.3964	207.0803
Axiata Group	5.6416	5.5600	0.9958	-0.2111	2.0543	85.7575
Maxis	6.1917	6.3150	0.6244	-0.1057	1.6245	154.8489
PetronusDagangan	20.6097	22.0400	5.5980	-0.5095	2.7536	87.9063
Telekom Malaysia	5.5485	5.9250	1.2114	-0.6118	2.1263	180.7583
Dialogue Group	2.0554	1.9250	0.6573	0.6470	2.9303	134.2997
MYEG Services	1.7176	1.9350	0.9962	0.4145	2.2496	99.9944

Panel F: Conventional consumer product						
British American	54.1288	54.2600	8.8957	0.1388	1.7314	134.8485
Carlsberg Brew	11.2678	12.1800	3.2845	-0.7350	2.2823	213.9990
Oriental Holdings	6.8612	6.7950	1.2635	0.4178	3.1578	57.8378
Panasonic Manufact.	24.2074	22.3400	6.3317	1.0071	3.2313	328.6955
Malayan Flour Mills	2.6090	1.5750	1.9148	1.5375	4.1840	868.2312
Guang Chong	1.5500	1.4150	0.6704	0.6433	2.4434	157.1294
Lattitude Tree	3.0817	2.3400	2.1683	0.4197	1.7649	178.3359
Panel G: Conventional Industrial product						
Kech Seng Malaysia	5.1116	5.0450	0.9098	0.5376	2.6895	100.1738
Kian Joo Can Factory	2.5650	2.9050	0.6398	-0.7845	2.3320	232.5180
Southern Steel	1.6053	1.6350	0.4757	-0.0895	1.9304	94.0338
Rapid Synergy	3.9545	3.6700	1.7920	-0.0792	1.2743	240.1194
Malaysia Smelting	3.4104	3.3400	0.6654	0.2803	2.3944	54.4584
Tomypac Holdings	1.5456	1.3600	0.6414	1.3543	4.0977	682.9871
HIL Industries	0.6761	0.7075	0.2158	0.0395	2.0494	72.7508
Panel H: Conventional Plantation						
Kim Loong Resources	2.7415	2.6250	0.5886	0.9756	3.4474	320.4486
Chin Teck Plant	8.6228	8.7050	0.6979	0.0284	1.7403	127.1337
TDM	1.8021	0.9550	1.3541	0.8256	2.2721	260.3787
Kluang Rubber Co.	3.0462	3.1950	0.4223	-0.5998	2.5200	133.5055
Negri Sembilan Oil	5.0221	5.1250	0.7188	-0.0942	1.5841	163.1346
Golden Land	1.0470	1.0650	0.2838	-0.0390	2.6468	10.5731

Malpac Holdings	1.5364	1.5350	0.1810	0.1384	2.3658	38.2938
Panel I: Conventional Properties						
OSK Holdings	1.6471	1.6150	0.2509	0.8282	3.8906	282.8530
TA Global	0.3185	0.3075	0.0636	0.6151	2.7064	127.9316
Selangor Properties	4.4021	4.4850	0.8776	0.3160	2.0357	106.3043
Berjaya Assets	0.8441	0.8425	0.1563	0.1081	4.4711	176.8016
YNH Property	1.8055	1.8650	0.1837	-0.6908	2.6700	161.3468
Guocoland Malaysia	1.1245	1.1550	0.2112	0.5927	4.6158	321.1333
Plentude	2.2017	2.0350	0.6008	2.0470	8.5445	3798.3420
Panel J: Conventional Trading Services						
Genting	9.2367	9.4600	1.2059	-0.4261	2.4498	82.2885
Genting Malaysia	4.0689	4.1050	0.7228	0.5502	3.5379	119.9741
Hap Seng Consolidat	4.5129	3.7850	2.6448	0.4842	1.8191	186.4833
YTL Corporation	2.5817	1.6250	2.2378	1.8193	4.3698	1208.7220
Malaysia Airport	6.4565	6.2150	1.1224	0.6454	2.6821	141.3220
Airasia Group	2.6030	2.6650	0.7314	-0.3894	2.3500	82.2965
Berjaya Sports Toto	3.7311	3.9950	0.6380	-0.6736	2.2550	189.5157

The estimations of Jensen's alfa, Beta, Sharpe ratio and Treynor ratio within-the-sector and across-the-sectors are reported in the Panel A and Panel B, respectively, of Table 2. First the Jensen's alfa is estimated using equation (1) and the results for ISP and CSP are given in columns 2 and 3, respectively. The equation (1) also estimates Beta and columns 4 and 5 report the results for ISP and CSP, respectively. Next the Sharpe ratio is calculated employing the equation (2) and the results of ISP and CSP are presented in columns 6 and 7, respectively. Finally the equation (3) measures the Treynor ratio and columns 8 and 9 provide the results for ISP and CSP, respectively.

Within-the-sector, the Jensen's alfa of ISP is higher than that of CSP for all sectors except PL sector. The Beta of ISP is lower than that of CSP for all sectors. The Sharpe ratio of CSP is higher than that of ISP for CP, PL and TS sectors. The Treynor ratio of ISP is higher than that of CSP for CP, PR and TS sectors. Across-the-sectors, Jensen's alfa, Beta and Sharpe ratio of ISP are lower than that of CSP. However, the Treynor ratio of ISP is higher than that of CSP.

Table 2: CAPM statistics. This table reports Capital Asset pricing Model (CAPM) statistics (Beta, Sharpe ratio, Treynor ratio, Jensen's Alpha) for Islamic and conventional stock portfolios at sector level over the period 2010-2017.

Sectors	Jensen's alfa (equation 1)		Beta (equation 1)		Sharpe ratio (equation 2)		Treynor ratio (equation 3)		Overall Performance
	ISP	CSP	ISP	CSP	ISP	CSP	ISP	CSP	
Panel A: Within-the-sector									
CP	0.0001 (OP)	0.0000	0.027 (OP)	1.001	0.010 (OP)	0.027 (OP)	0.0065 (OP)	0.0002	ISP outperform CSP for 3 out of 4 measures
IP	0.0010 (OP)	0.0002	-0.080 (OP)	0.428	0.044 (OP)	0.027 (OP)	-0.012	0.0005 (OP)	ISP outperform CSP for 3 out of 4 measures
PL	-0.0001	0.0001 (OP)	0.029 (OP)	0.395	-0.004	0.009 (OP)	-0.003	0.0003 (OP)	CSP outperform ISP for 3 out of 4 measures
PR	0.0009 (OP)	-0.0001	0.072 (OP)	0.642	0.045 (OP)	-0.0003	0.013 (OP)	5.0E-05	ISP outperform CSP for 4 out of 4 measures
TS	0.0004 (OP)	0.0000	-0.065 (OP)	1.045	0.018	0.024 (OP)	-0.007 (OP)	-3.021	ISP outperform CSP for 3 out of 4 measures
Panel B: Across-the-sector									
CP, IP, PL, PR, TS	-0.0001	0.0000	-0.032	0.678	-0.015	0.0007	0.004 (OP)	0.0001	ISP and CSP perform equally

		(OP)	(OP)			(OP)			
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Notes: ISP, CSP and OP denotes Islamic stock portfolio, conventional stock portfolio and outperform, respectively.

SUMMARY AND CONCLUSION

This study examines that whether the ISP outperform CSP in Malaysian stock market. The well-accepted Jensen’s Alpha, Beta, Sharpe ratio and Treynor ratio measures are applied to evaluate the performance of ISP and CSP. The daily stock price of 70 stocks (35 Islamic stocks and 35 conventional stocks) from CP, IP, PL, PR and TS sectors from January 2010 to December 2017 are used in this research.

The overall performance of ISP and CSP within-the-sector and across-the-sector are given in the last column of Table 2. Within-the-sector, ISP outperform (OP) for a minimum 3 out of 4 measures for all sectors except PL sector. It means that the ISP outperforms 4 out of 5 sectors. However, ISP and CSP perform equally across-the-sectors where ISP outperform CSP for Beta and Treynor ratio measures, and CSP outperform ISP for Jensen’s alfa and Sharpe ratio. The across-the-sectors mixed results indicate that the ISP reduces systematic risk (Beta) whereas CSP diversifies unsystematic risk (standard deviation) to maximise the portfolio return. The overall findings of this study are consistent with the conclusions of Setiawan and Oktariza (2013), Abdhullah et al. (2007), Mansor and Bhatti (2011) and Lean and Parsva (2012). They find that the Islamic stock portfolio is less risky and provide better return than conventional investments.

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