A Sectorial Performance Analysis of Kuala Lumpur Stock Exchange (KLSE, Bursa Malaysia)

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Abstract

This paper extended the examination on the sectoral stock performances in Malaysia using different approaches. In particular, we seek to compare the performance of stock returns across sectors by focusing on the risk adjusted performance measures (Jensen's Alpha, Sharpe Ratio, Treynor Ratio and MM Measure), Capital Asset Pricing Model (CAPM) hypothesis and stock diversification analysis. For this purpose, the single equation of Threshold Generalized Autoregressive Conditional Heteroskedasticity (TGARCH) is applied. The results of TGARCH and the risk-adjusted measures are consistent which suggest the consumer product as the best performed sector while technology as the lowest ranked sector. The results of TGARCH verified the validity of the CAPM theory in our study. The results also show that oil price, gold price, exchange rate and policy rate are influential to affect the stock return. However, they have limited influence to affect the volatility of stock return. The volatility of stock return exhibits a random walk behavior, with GARCH effect as the dominant factor that contributing to the volatility of stock return.

Keywords: Stock return, TGARCH, Capital asset pricing model, risk-adjusted measure

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1. Introduction

Many studies have been conducted to evaluate the performance of stock across industries and sectors. These studies either empirically or theoretically applied different approaches in studying the stock performances and they have suggested different factors that may contribute to stock return analysis. The theoretical model of Capital Asset Pricing Model (CAPM) provides a platform to calculate the expected return of an asset. An investor is compensated by time value in money (risk-free rate) and for taking additional risk (risk premium). The beta in CAPM is used to reflect the stock's risk (volatility of returns) relative to the market level. Since then, the risk adjusted performance measures relating to beta were introduced on measuring the relative performance of a stock/ portfolio. All these measurements evaluate the stock return based on market risk. Apart from this, there are many factors can be influential on the stock market return. These factors include the fundamental macroeconomic factors, the investor behavior analysis, market contagion and spillover effect and portfolio diversification.

Taking into account of different factors, this study seeks to examine the stock return of different sectors/ industries in Malaysia. Our main objective is to compare which stock sector is performing better and what are the main factors that may determine their performance both in the short-run and long-run. For this purpose, the Capital Asset Pricing Model (CAPM) equation is estimated as the mean equation in our threshold generalized autoregressive conditional heteroskedasticity (TGARCH) model for the risk analysis. The TGARCH captures the asymmetric effect of news. Another advantage of this model is it provides two set results, results on mean return equation (CAPM) and conditional volatility equation. We further ultilize the information/ results obtained to calculate the four risk-adjusted measures (Sharpe ratio, Treynor ratio, Jensen's alpha and MM) to determine which sectorial index performs relatively better in rate of return. This study reveals stock performance across sectors based on risk analysis in addition, identifies the macro factors contributing to stock return and volatility of return.

The paper is organized as follows: section 2 summarizes the theoretical framework and empirical findings; section 3 discusses about the data and methodology; section 4 interprets the results and section 5 concludes the findings.

2. Literature review

2.1 Theoretical framework

The capital asset pricing model (CAPM) is one of the famous theories applied to analyze the stock performance. According to CAPM, an investor receives compensations in two ways which are time value of money (pay of time spent for investment, risk-free risk) and possible risks (pay for taking risk, market premium) for the investment. The CAPM can be represented using the following equation:

$$(R_{i,t} - R_{f,t}) = \alpha_{i,t} + \beta_{i,t}\left(R_{m,t} - R_{f,t}\right) + \varepsilon_{i,t} \qquad (1)$$

where $R_{i,t}$ is the returns earned by a stock i at time t, $R_{f,t}$ is the returns earned by risk-free security at time t, $\alpha_{i,t}$ is Jensen's Alpha (constant term in CAPM) that measures abnormal performance, $\beta_{i,t}$ is beta of stock i at time t and $R_{m,t}$ is the returns earned by a benchmark index at time t. On the other hand, $R_{m,t} - R_{f,t}$ is the market risk premium and $\varepsilon_{i,t}$ is the disturbance term. Beta is the measure of the movement of stock with respect to the market, it is a standardized measure of systematic risk (Reilly et al., 2003). Beta is used by investors to decide how much risk they are willing to take in order to obtain the return for taking on that risk. Beta < 1 indicates that stock i is less volatile than the market. A higher beta (>1) implies to more volatile of stock i than the market.

Several risk-adjusted measures were constructed based on the CAPM. Among them is Jensen's alpha that measures the risk-adjusted performance of a security or portfolio in relation to the expected market return. Jensen's alpha is always referred to as "excess return" or "abnormal rate of return." The null hypothesis and the alternative hypothesis for Jensen's alpha is formulated as below:

H_0 : There is no screening effect or $\alpha_j = 0$

H_1 : There is screening effect or $\alpha_j \neq 0$

The null hypothesis tests on the neutrality performance of a stock, i.e. no screening effect or alpha is equal to zero. A positive alpha and a negative value of alpha reflect superior and inferior performance of an index, respectively. The expected value of alpha should be near to zero, so that the return of stock is adequate for the risk taken.

Sharpe Ratio (SR) is another measure of risk introduced by Sharpe (1966). SR provides additional returns per unit of total risk (both systematic and non-systematic) for a security or index. Since risk is measured by standard deviation of the stock, this measure gives us trade-off between risk and return. Therefore, this ratio explains how well an investor is compensated under additional risk. The higher value of Sharpe ratio indicates to the better performance of the stock. The formula of SR is as below:

$$SR_{i,t} = \frac{R_{i,t} - R_{f,t}}{\sigma_{i,t}} \tag{2}$$

where $SR_{i,t}$ is the Sharpe ratio for index i at time t, $R_{i,t}$ is the returns earned by a stock index i at time t, $R_{f,t}$ is the returns earned by risk-free security at time t and $\sigma_{i,t}$ is the standard deviation of at an index i at time t.

Treynor ratio (TR) also measures the additional returns per unit of risk, introduced by Treynor (1965). But contrary to Sharpe ratio, Treynor ratio considers only systematic risk instead of both systematic and non-systematic risk. A benchmark is required for computing this relative risk-adjusted measure. Treynor ratio is considered better performance measure as compared to Sharpe ratio since Treynor ratio provided better picture of a large diversified portfolio's beta that is computed from CAPM equation. Treynor ratio is computed as follows:

$$TR_{i,t} = \frac{R_{i,t} - R_{f,t}}{\beta_{i,t}} \tag{3}$$

where $TR_{i,t}$ is Treynor ratio for index i at time $t, R_{i,t}$ is the returns earned by a stock index i at time t, $R_{f,t}$ is the returns earned by risk-free security at time t and $\beta_{i,t}$ is beta (systematic risk estimated by CAPM) of at an index i at time t.

Modigliani & Modigliani (MM) measure is an extension to Sharpe Ratio. This relative risk adjusted performance measure provides a stock's performance to the market in percentage terms by taking same standard deviation. MM is computed as follow:

$$MM_{i,t} = (S_{i,t} - S_{m,t})\sigma_{m,t} \quad (4)$$

where $MM_{i,t}$ is Modigliani & Modigliani measures for index i at time t, $SR_{i,t}$ is Sharpe ratio for index i at time t, $SR_{m,t}$ is Sharpe ratio for benchmark index m at time t and $\sigma_{m,t}$ is the standard deviation of benchmark index m at time t.

2.2 Empirical findings

Many empirical studies have been conducted based on the theory of CAPM to evaluate the stock market performance. In general, the validity of CAPM is based on the following main conclusions: (1) beta alone determines the stock return with liner relationship; (2) expected return is higher than the return of free risk assets and (3) to get beta with zero, assets must have expected returns equal to risk-free rate (Fama & Frecnch, 2004). Among the earlier studies on testing CAPM, Lintner (1965) failed to report supportive results of CAPM with greater intercept value than risk-free rate and higher market excess return than beta. On the other hand, Miller and Scholes (1972) revealed that both beta and residual variance are determinants of return which contradict with the CAPM that suggested beta as the only determinant. Other results against CAPM also reported in Choudhary & Choudhary (2010), Bajpaia & Sharmab (2015) and Lam (2001). There are few studies reported supportive results on the theory of CAPM. The study conducted by Fama and MacBeth (973) supported the theory of CAPM, where beta is the only explanatory factor. Also, Black et al. (1972) found a linear relationship between expected return and risk of asset.

Some studies evaluated the performance of portfolio using risk-adjusted performance measures based on the information obtained from the theory of CAPM. Among them include Rudholm-Alfvin and Pedersen (2003), Eling and Schumacher (2007), Glawischnig and Sommersguter-Reichmann (2010) and Hamzah *et al.* (2010). For instance, Hamzah *et al.* (2010) examined the performance of Real Estate Investment Trusts (REITs) by Sharpe Index, Treynor Index and Jensen Index for data period from 1995 to 2005. Risk-adjusted performance of REITs varies over time and outperformed the market portfolio during the 1997-1998 financial crisis but underperformed in the pre-crisis (1995-1997) and post-crisis period (1998-2005). The average systematic risks of REITs were slightly higher than the market portfolio during the pre-crisis and crisis period but were significantly lower in the post-crisis period. On the other hand, Rana and Akhter (2015) applied MM Measure and other risk adjusted performance measures of Jensen's Alpha, Sharpe Ratio and Treynor Ratio to study the performance of KSE Meezan Index (KMI-30) and Karachi Stock Exchange (KSE-100) of Pakistan. The study showed consistent results of MM Measure with the other performance measures where KMI-30 yields lower returns than KSE-100.

While CAPM suggested beta as the only factor that determine the market performance, empirical studies have extended to testing on other macro variables as determinants to stock market return. Among these variables include interest rate, exchange rate, oil price and other commodity prices. Interest rate was tested in many research papers (Alam & Uddin, 2009; Mukit, 2013; Ali, 2014; Sutrisno, 2017). Those research papers showed that there exists a negative relationship between interest rate and stock returns. When the deposit rate or interest rate on deposit increases, people will switch their capital from share market to bank, this will lead to a decline in the stocks demand, and hence the lending rate rises, which will lead to a negative impact on investment, therefore stock prices will drop (Barakat *et al.*, 2016).

Exchange rate also leads to a significant effect on stock returns. Nagayasu (2001) and Sutrisno (2017) and found that there is negative correlation between exchange rates and stock returns and hence a depreciation of the domestic currency or increase in the exchange rate was associated with a fall in stock price. Kasman (2003) and Barakat *et al.* (2016) used Johansen's cointegration test and revealed that there existed long run equilibrium relation the exchange rate and stock returns. Kasman (2003) applied Granger non-causality test and showed that exchange rate did Granger-cause the sectors, but in the opposite direction of causality, where sectors affected the currency, except industry sector.

Gold price was found to impact stock returns significantly by Mishra *et al.* (2010) who conducted analysis on the effects of gold prices on stock returns in India and found that there existed long run stable relationship between gold prices and stock market returns in Johansen's cointegration test and these two variables did Granger-cause each other. However, the study of Smith (2001) using the United States data claimed that the short-run correlation between returns on gold and returns on US stock price indices were small and negative, as time periods insignificantly different from zero. In Engle-Granger cointegration test, gold prices and US stock price indices were not cointegrated over the examined period from January 1991 to October 2001, hence there was no long-run equilibrium between gold prices and US stock price indices.

3. Data and methodology

We focus the study on eight sectorial stock indices in Malaysia. These sectors include consumer product, plantation, finance, property, industrial product, trading/ service, construction and technology. The data spans from 3 January 2007 to 30 December 2016 with 2465 observations in total. The daily closing prices of the sample indices are from the database of Bursa Malaysia. For the purpose of this study, the market return is proxy by return of the Kuala Lumpur Composite Index (KLCI). On the other hand, the risk-free rate is represented by the daily yield of 3-month Treasury bill rate. This risk-free rate, together with the overnight policy rate (interest rate) and exchange rate in RM/USD are collected from the Bank Negara Malaysia. On the other hand, the data of gold price is collected from the Federal Reserve Bank of St. Louis while the data of crude oil price (West Texas Intermediate, WTI-Cushing, Oklahoma) is obtained from the U.S. Energy Information Administration. The study focuses on daily returns of the stock indices compared with the previous trading day, which is defined as the log first differenced of prices of each index, $ln\, P_t - ln\, P_{t-1}$ (Graham *et al.*, 2012; Loh, 2013).

This study performs two parts of analysis. The first part of analysis is based on CAPM theory using TGARCH modeling. In the second part, we further apply the risk-adjusted measures to evaluate the performance of sectoral indices.

3.1 Risk analysis based on CAPM – TGARCH model

TGARCH is one of the extensions of the classic GARCH model that allows for leverage effects. TGARCH is proposed by Zakoian (1991) who extended the TS-GARCH (p, q) model to allow the conditional standard deviation to depend upon the sign of the lagged innovations. Compared to the GARCH model, the TGARCH models is preferred to capture some stylized facts. TGARCH relax the linear restriction on the conditional variance dynamics. The TGARCH model consists of mean equation and the conditional variance equations. We assume that the mean equation is the modified CAPM equation by adding four explanatory factors.

$$(R_{i,t} - R_{f,t}) = \alpha_{i,t} + \beta_{i,t}(R_{m,t} - R_{f,t}) + \gamma_1 \Delta \ln INT_t + \gamma_2 \Delta \ln FX_t + \gamma_3 \Delta \ln OIL_t + \gamma_4 \Delta \ln GOLD_t + \varepsilon_t \quad (5)$$

where the CAPM equation is as explained above; $\Delta \ln INT_t$ is the changes of the overnight policy rate, $\Delta \ln FX_t$ is the changes in exchange rate; $\Delta \ln OIL_t$ *and* $\Delta \ln GOLD_t$ are changes in crude oil and gold respectively. ε_t is the discrete time stochastic term with $\varepsilon_t = z_t \sigma_t$, $z_t \sim iid(0,1)$ and σ_t is the conditional standard deviation at time t. The conditional variance equation is also modified by adding the four explanatory factors. We assume the model take the one lag specification as lag one model is parsimonious representation of H_t (Bollerslev et. al., 1988).

$$\sigma_t^2 = a_0 + b\sigma_{t-1}^2 + a_1 \varepsilon_{t-1}^2 + a_2 I_{t-1} \varepsilon_{t-1}^2 + \theta_1 \Delta \ln INT_t + \theta_2 \Delta \ln FX_t + \theta_3 \Delta \ln OIL_t + \theta_4 \Delta \ln GOLD_t \quad (6)$$

where $I_{t-1} = \begin{cases} 1 & \varepsilon_{t-1} < 0 \\ 0 & \varepsilon_{t-1} \geq 0. \end{cases}$

σ_t^2 is the conditional variance, σ_{t-1}^2 is the long-run effect, ε_{t-1}^2 is the short-run effect, S_t is the threshold effect. a_2 is expected to be positive, so that bad news would have a more powerful effect on volatility than good news (Wu, 2010). Depending on the ε_{t-1} being above or under the threshold value (which equals zero), ε_{t-1}^2 will have different effects on the conditional variance σ_t^2, as it follows:

When ε_{t-1} is positive, total effects are given by $a_1 \varepsilon_{t-1}^2$;

When ε_{t-1} is negative, total effects are given by $(a_1 + a_2)\varepsilon_{t-1}^2$.

4. Results and discussion

Initially, we perform preliminary tests (ADF and KPSS tests) on all our variables to check for the stationarity of each variable. Overall, these tests give a very consistent result in which all variables are stationary at first differenced and we proceed by using all variables in first differenced form.

4.1 Analysis on return

Table 1: Result of TGARCH –mean equation (adjusted significant factors)

Sector	Construction	Consumer product	Financial	Industrial product
β	0.8770***	0.6122***	0.7081***	0.7661***
γ_1	-0.0435**	-0.04144***	-0.0406***	-0.0289***
γ_2	-0.0521	-0.0761***	-0.1444***	-0.0492*
γ_3	0.0223**	0.0098**	-	-
γ_4	0.0360**	-	0.0504***	-
α	0.000041	0.00033***	-0.00018	-0.00005

Sector	*Plantation*	*Property*	*Trading/service*	*Technology*
β	0.69857***	0.74674***	0.74952***	0.70566***
γ_1	-0.029045***	-0.038494***	-0.050138***	-
γ_2	-0.140986***	-0.11021**	-0.094132***	0.12812***
γ_3	0.025966***	0.023121***	0.019653***	0.017597*
γ_4	0.0413***	-	-	0.0111
α	0.0002	0.00014	0.00011	-0.00032

Remark: Value in bracket indicates p-value of significance
*significant at 10%, **significant at 5%, ***significant at 1%

Table 1 shows the results of mean equation (TGARCH) for each sector. In case any coefficient from the four explanatory factors is not significant, we may exclude them from the model. The risk premium term β remains significant for all sectors. β is significant and less than 1 ($0 < \beta < 1$), indicating the sectorial returns move in the same direction, but less volatile than the market, KLCI. α near to zero and all sectors so that CAPM theory is valid. As observed, construction has the largest β, indicating that construction price index is more volatile compare to other sectors.

The policy rate ΔINT_t, shows negative significant coefficient for all sectors except for technology sector. The result implies higher policy rate leads to the drop in the stock return. As the policymaker tighten the monetary policy by increasing the policy rate to control inflation, investment and market demand will drop, so that stock return is lower.

For factor ΔFX_t, it is significant for all sectors except for construction sector, and this factor also shows negative relationship towards its majority significant sectors, except for technology sector which shows positive relationship. As an increase in exchange rate of RM/USD, it means more RM is needed to exchange for 1 USD and that reflects depreciation in our home currency. According to portfolio adjustment theory in Makori (2017), a lower interest rate encourages outflow of foreign asset to capitalize on high interest rates in other economies. In turn, a decrease in demand of domestic currency leads to devaluation of the domestic currency. The implication of the theory is that depreciation of home currency is attributed to low stock price. So, this negative relationship shows as our home currency depreciates, the sectorial return will drop. Among the significant sectors, financial shows the most negative parameter γ_2, followed by plantation, property, trading/service, consumer product and industrial product sector. According to traditional theory in Makori (2017), a depreciation of the local currency encourages export trade and this boosts the revenue of firms participating in international trade, which in turn leads to higher stock prices.

For factor ΔOIL_t, it is significant for all sectors, except financial and industrial product sector, and this factor shows positive relationship towards its significant sectors. According to one of the theoretical transmission mechanisms between oil and stock market returns in Degiannakis *et. al* (2017), it mentioned that fiscal channel is primarily concerned with oil-exporting economies (Malaysia is one of the oil-exporting countries), which are financing physical and social infrastructure using their oil revenues. An increase in oil price leads to increase in the country income, thus result in higher government and household consumption. In such a case, firms are expected to increase their cash flows and thus their profitability. Such developments will push stock prices to higher levels and the stock market will exhibit a bullish period. Among the significant sectors, plantation sector has the highest parameter γ_3 in this factor, followed by property, construction, trading/service, technology and consumer product sector.

For factor $\Delta GOLD_t$, it is significant for construction, financial and plantation sectors as this factor shows positive relationship towards its all significant sectors.. As the classical theory states that there exists a positive relationship between gold price and real income, we can say that as the real income increases, people will have more money to do investment and thus the stock market surges. Among the significant sectors, financial sector has the highest parameter γ_4 in this factor, followed by plantation and construction sector.

4.2 Analysis on volatility of return

Table 2: Result of TGARCH – Conditional variance equation

Sector	Construction	Consumer product	Financial	Industrial product
a_0	0.000046***	0.000002***	0.00003***	0.000011***
a_1	0.0907***	0.2183***	0.0612***	0.2127***
a_2	-0.0522***	-0.1562***	-0.0879***	0.3207***
b	0.5740***	0.8346***	0.5863***	0.5335***
θ_1	-0.00062***	-0.00011***	-0.00022***	-0.00013***
θ_2	0.0010**	0.00003	0.0018***	0.0008***
θ_3	0.0004***	-0.00005***	-	-
θ_4	0.0001***	-	-0.0004***	-
Sector	Plantation	Property	Trading/service	Technology
a_0	0.000004***	0.000037***	0.000015***	0.000056***
a_1	0.1576***	0.0996***	0.0781***	0.1570***
a_2	0.1544***	-0.0578***	-0.0179	-0.0416***
b	0.7641***	0.5674***	0.5591***	0.5430***
θ_1	0.00001	-0.0005***	-0.0002***	-
θ_2	-0.0007***	0.0013***	0.0004**	0.0043***
θ_3	-0.000085***	0.000089***	0.000086***	0.000382***
θ_4	0.0002***	-	-	-0.0004**

Remark: Value in bracket indicates p-value of significance
*significant at 10%, **significant at 5%, ***significant at 1%

Table 2 summarizes the results of conditional variance and covariance. The coefficient a_0 indicates the mean volatility of return which is very small for all sectors. Among all sectors, technology sector has the highest value of a_0, followed by construction, property, financial, trading/service, industrial product, plantation and consumer product. All sectors show significant short run volatility a_0 and long run volatility b, where larger impact of long run volatility over short run volatility. Thus GARCH long run volatility is the main determinant to all sectorial return volatility.

For threshold or asymmetric effect, construction, consumer product, financial, property and technology sectors have significantly negative threshold coefficient, implying a good news effect which indicates a better stock performance compared to other sectors. As consumer product sector has the largest negative value a_2 of -0.15623, so this indicates that consumer product sector has the strongest good news effect, followed by financial, property, construction and technology sectors. Besides, industrial product and plantation sectors have significantly positive threshold coefficient, indicating a bad news effect. On the other hand, trading/service sector has an insignificant threshold effect.

The four explanatory factors although show some significant effects on the return volatility of each sector, the effects are limited/ very small. These factors are influential on determining the stock return but not much affecting volatility of return. This implies that the overall stock market for all sectorial indices is random walk determined, where statistically stock-price fluctuations are independent over time.

At last, we apply ARCH-LM test on our TGARCH model. Table 3 shows that the null hypothesis of no autocorrelation in the error of estimates is not rejected in all cases, indicating no autocorrelation problem and the results are reliable.

Table 3: ARCH-LM test

Sector (best adjusted significant factors)	F-statistic (p-value)
Construction	0.1981 (0.6563)
Consumer Product	0.0454 (0.8313)
Financial	0.0505 (0.8223)
Industrial Product	0.1220 (0.7269)
Plantation	0.0638 (0.8006)
Property	0.1181 (0.7311)
Trading/Service	0.0001 (0.9916)
Technology	0.5185 (0.4716)

4.3 Risk-adjusted measure

Based on the estimation of TGARCH on CAPM, we further apply the risk-adjusted measures to compare the performance of stock across sectors. As summarized in Table 4, the higher value of the measure index indicates a better performance of a stock. The four measures show very consistent results, suggesting consumer product the sector that performs the best. On the other hand, trading/service, construction and technology sectors show the worst performance with rank 6, 7 and 8 respectively. However, the ranking for the other sectors is slightly different using different measures. The risk-adjusted measures show very consistent results to the TGARCH estimates. Consumer product is ranked the best consistent to TGARCH that reports the largest mean return (α), the smallest mean volatility of return (a_0) and the largest negative value in b, indicating the largest good news effect. The technology sector is ranked the worst consistent to the results reported in TGARCH with the smallest mean return and the largest mean of volatility of return.

Table 4: Rankings of Jensen's Alpha, Sharpe Ratio, Treynor Ratio and MM Measure

Sectors	Jensen's Alpha	Rank	Sharpe Ratio	Rank
Construction	0.000014415	7	0.012069	7
Consumer Product	0.00023248	1	0.034574	1
Financial	0.00010111	3	0.020757	2
Industrial Product	0.000091554	5	0.019205	3
Plantation	0.00011098	2	0.018916	4
Property	0.000098112	4	0.018282	5
Trading/Service	0.000047209	6	0.016665	6
Technology	-0.00017887	8	-0.0036409	8

Sectors	Treynor Ratio	Rank	MM Measure	Rank
Construction	0.000204271	7	-0.000035896	7
Consumer Product	0.000534252	1	0.000183414	1
Financial	0.000269794	3	0.000048769	2
Industrial Product	0.000259083	4	0.000033646	3
Plantation	0.000313169	2	0.000030825	4
Property	0.000257448	5	0.000024643	5
Trading/Service	0.000206835	6	0.000008887	6
Technology	-0.000150836	8	-0.000188992	8

5. Conclusion

This paper focuses the study on eight sectoral stocks in Malaysia. The main purpose is to compare the stock performance across sectors by applying the theory of CAPM. The TGARCH model is applied to capture the threshold effect of news and to model the volatility of stock return using the modified CAPM as mean equation. After that, we ultilize the results obtained to calculate the four risk-adjusted measures in comparing the ranking of the stock performance. Overall, our results show that consumer product sector outperforms the other sectors with higher return and the highest ranking in all risk-adjusted performance measures. The results also reveal that long-run volatility is the main causes to the volatility of sectorial returns. The four factors (gold price, oil price, exchange rate and policy rate) can be influential on determining the stock return. However, they have limited impact to affect the volatility of stock return across sectors. Overall, these sectoral indices are less volatile compared to the KLCI stock market.

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