Global Business and Management Research: An International Journal
Vol. 13, No. 4s (2021)

Investigating the Relationship between Gross Domestic Product, Foreign Direct Investment, Renewable Energy Consumption and Stock Market Performance in Malaysia

Nor Hamisham Harun *
Universiti Tenaga Nasional
Email: hamisham@uniten.edu.my

Durratun Nasihah M. Afanddi
Universiti Tenaga Nasional
Email: durraafanddi@gmail.com

** Corresponding Author*

Abstract
Purpose: The purpose of this research is to comprehend the relationship between gross domestic product (GDP), foreign direct investment (FDI), and renewable energy consumption (REC) towards stock market performance (SMP).
Design/methodology/approach: Time-series data for Malaysia from 1991 to 2020 was used. The method used in this study is multiple linear regression to define the relationship and impact between stock market performance and its determinants.
Findings: Research analysis found the existing relationship between the SMP and its determinants. However, only GDP and REC have a significant impact on SMP. GDP is the positive contributor, whereas REC negatively impacts SMP. FDI is the only variable that did not influence SMP, though positively correlated.
Research limitations/implications: The study's results help policymakers re-evaluate and design an appropriate regulatory policy and performance related to GDP, FDI and REC, structuring long-term and short-term future blueprint for the sector by targeting SMP development in Malaysia.
Practical implications: This study helps the government design various strategies for Malaysia's energy policy, highlighting the important determinants, particularly renewable energy consumption.
Originality/value: The originality of this research stems from including renewable energy consumption as one of the determinants that influence the stock market performance.
Paper type: Research paper

Keywords: Gross domestic product, Foreign direct investment, Renewable energy consumption, Stock market return

Introduction

The stock market is one of the mediums used by companies to trade shares to gather capital from the public (Corporate Finance Institute, 2015). The global financial crisis and the recent COVID-19 pandemic have led to the keen observation by central banks on the stock market structure in terms of systemic risk transmission and financial system stability. Several factors could influence the performance of the stock market; economic growth, interest rates, foreign

direct investment and others. Therefore, these factors indicate that the stock market is constantly changing and volatile, bringing huge gains or losses for investors.

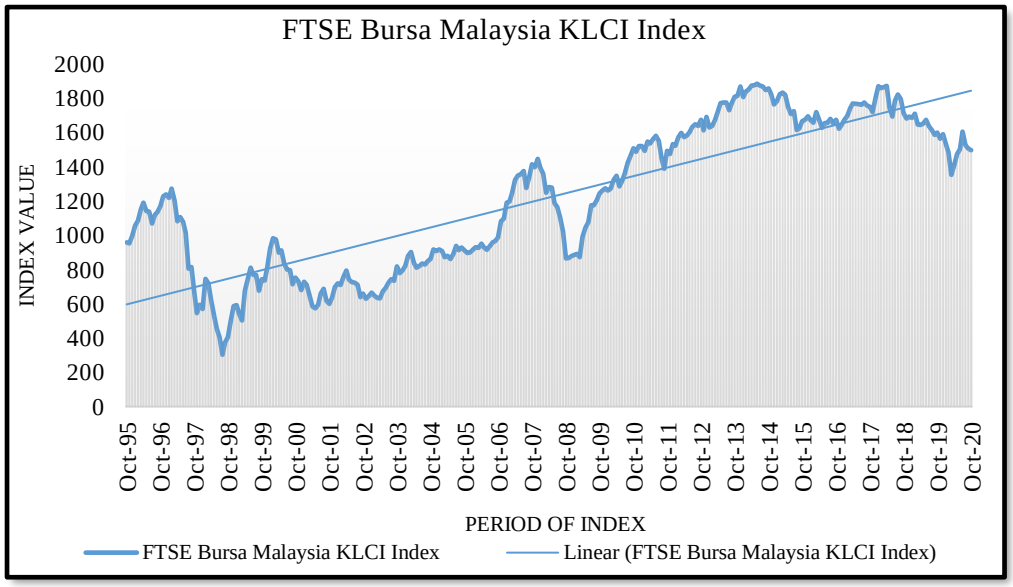

Figure 1 FTSE Bursa Malaysia KLCI Index (1995 – 2020)
Source: Trading Economics (2020)

Figure 1 demonstrates the stock market trend in Malaysia from 1995 to 2020 based on a report by Trading Economics (2020). The 1997 Asian financial crisis has led to a sharp downfall of the stock market performance (Pettinger, 2013), from RM1013 to RM303 in August 1998. For the next ten years, Malaysia's economy was on a slow recovery until the subsequent downfall in the 2007 global financial crisis (Wei & Said, 2021). The stock market value increased gradually and from RM864 in October 2008 to RM1870 in April 2018. However, the trend showed a decrease from RM1741 in May 2018 to RM1351 in March 2020 and increased to RM1519 in October 2020, from the impact of the recent COVID-19 pandemic on Malaysia's economy (Cheng, 2020).

After the liberalisation of Malaysia's capital market in 1990, the economy experienced a growth spurt (Tan & Shafi, 2021), bringing opportunities to the Malaysian stock market and market efficiency (Ang & McKibbin 2007; Ben Rejeb & Boughrara 2013). However, the liberalisation of the capital market conversely brings financial market volatility (Chittedi 2014). Thus, there are several times the stock market trend shows fluctuations, especially during economic crises in 1998, 2008 and 2020 (Figure 1). Consequently, Malaysia's stock market performance is quite subtle to the external and internal financial, economic calamities. The Gross Domestic Product (GDP) hold a key indicator on economic position and better image of the nation. Risk Reward Return (2015) believed that stock market is impacted by the rises and falls of GDP from production and earnings of businesses. Malaysia as one of the ASEAN countries with a rapid growth of economy, has influenced by macroeconomic stability has turned Malaysia into a favourable country that gained international attention (Mansur et al. 2011). From 1987 onwards, Malaysia has played a vital role in the economic transformation from resource-based to market-based economy that resulting to the positive trend of GDP and had sustained Malaysia's development (Mansur et al. 2011). Also, GDP measures contraction or growth in a country's economy, a general instrument on economic health. Additionally, the stock price is commonly derived from a corporation's profitability (Levitt, 2020). Thus, the fall in GDP will reduce consumers' and business spending, and thus leading to a bearish stock

market (Abodunrin, Oloye, & Adesola, 2020). On the other hand, the economic crises in 1985, 1997, 2007 and the recent global pandemic in 2020 weakened the ringgit leading to the plunge in stock prices, affecting Malaysia's stock market sustainability and performance for several years (Ariff & Abubakar, 1999).

Foreign Direct Investment (FDI), also could affect the performance of stock market as it is one of the medium to expand the investment opportunity and economic growth. It is a source where its capital flow can contribute to the enhancement of managerial skills, technology and competitive environment (Osano & Koine 2016). Along with Malaysia's favourable economic situation, various incentive packages have been also offered by the country that may appeal more foreign investments into Malaysia by referring to the incentives of Income Tax Act 1967, Promotion of Investments Act 1986, and Special Incentive Package (Aruna, 2019).

Trend of Malaysia FDI inflows has gradually increased throughout the years after the global financial crisis in 2009 by an outflow of RM1.98billion until reached the peak of FDI inflows in 2019 by RM31.7billion (DOSM, 2020). However, as refer to the Trading Economics (2020), the FDI inflows once again faced a decline trend in the September quarter of 2020 by an outflow of RM0.8billion compared to the inflows of RM6.37billion in the first quarter of 2020 and the inflows of RM2.23billion in June quarter of 2020 from the bad impact of pandemic of COVID-19. Hence, a recent incentive has been introduced which is a zero percent tax rate for foreign investments into Malaysia for a period of 10 to 15 years depends on the capital investments of the companies as an initiative to help restart the economy of Malaysia (Povera et al., 2020).

Although these determinants (GDP, FDI) are pertinent, there are limited studies on emerging stock markets in developing countries (Abbam, 2014) like Malaysia (Rahman et al., 2009). Thus, previous studies on stock market performance in relation to GDP and FDI are critical for emerging financial markets, particularly in Malaysia. Therefore, the discussion on these variables is highlighted to improve the stock market performance. In addition, renewable energy consumption also plays an important role to improve the stock market performance. Theoretically, the investors will invest their money if the investment has the potential to gain more profit. In Malaysia, the investors will invest in renewable energy consumption as renewable energy consumption can reduce environmental pollution. Hence, renewable energy is a potential determinant for stock market performance.

In this era of globalisation, people are getting aware of the costs of conventional energy serves to the environment (Zakaria et al. 2019). National Academy of Engineering and National Research Council (2010) has mentioned that renewable energy technologies development that take advantage of geothermal energy solar, and wind is vital in resolving climate emergency, global heating and also other issues on environment. As the renewable energies is a climate-neutral and energy saving, Malaysia had started venturing into renewable energy projects (Raza et al. 2020). Although the projects were still recent and investment into it has a high degree of riskiness (Masini & Menichetti, 2013), it could be a good opportunity to enlarge renewable energy projects due to the suitableness of Malaysia's geography landscape for the exploration of solar, hydropower, waste and combustible renewable energy as a safer alternative source of energy (Raza et al. 2020). The Climate Group found that there are businesses targeting to achieve 100% renewable energy consumption by 2028. Several companies have already applied 75% renewable energy in their yearly energy consumption.

This study differs from previous studies for two reasons. First, this study stresses the selection of appropriate determinants by including renewable energy consumption (Razmi et al., 2020) along with GDP and FDI. It is applied to highlight the relationship of these determinants towards the stock market performance in Malaysia. Second, Malaysia is chosen because it is categorised as a developing country in the emerging stock market. Thus, industries can raise

and circulate capital within the broader economic system (Razmi et al. 2020; Abbam, 2014). The results of this study provide recommendations for future research. Therefore, this study attempts to investigate the relationship between GDP, FDI and REC and the stock market in Malaysia. The structure of this study is organised as follows: literature review, hypothesis development, methods, findings, and finally discussion and conclusion.

Literature Review

A stock market is a place where shares are traded, and economic factors generally influence the returns (Reddy, 2012). Numerous studies were conducted to test macroeconomic variables, including inflation rate, exchange rate, and interest rate, that affect movements in stock prices (Ilahi et al., 2015). The stock market helps increase the country's financial progress by providing investment opportunities (Ali, 2014). Thereby allowing investors to understand the stock market and the opportunity for decent returns, besides supporting Malaysia's economic development (Azizan & Sorooshian, 2014).

Previous research conducted in Saudi Arabia on GDP and stock market value found a positive influence on the macroeconomic variables in the long run (Algarini, 2020). A study in Pakistan found a positive relationship but an insignificant result of GDP on market capitalisation (Ali, 2014). Similar outcomes were discovered from a study in India (Reddy 2012). A study on GDP and stock prices in Iran found a positive relationship in the long run (Oskooe 2010), whilst a study in Turkey found a short-run positive relationship (Türsoy, 2017). GDP and stock prices unidirectional short-run causal relationship propose a prediction on short-term stock returns with growth as a strong predictor. It demonstrates past GDP values that can explain future stock prices.

On the other hand, a study on FDI's influence on market capitalisation found a positive but insignificant relationship among the variables (Ali, 2014). Another study in Greece discovered a weak positive result and symmetric long-run relationship between FDI and the stock market (Tsagkanos et al., 2019). Past research found a significantly positive influence of FDI on macroeconomic variables as determinants of the stock market value in Saudi Arabia (Algarini, 2020). Additionally, another study found a positive relationship of FDI influencing the Indian stock market. Analysed by using merged multi regression of two significant models, the result showed the variables are significant predictors, pointing out a significant impact of FDI on the stock market (Sultana & Pardhasaradhi, 2012).

In recent years, REC has gradually become an interesting topic in most countries. Nevertheless, there is limited research that has been conducted on the impact of REC on SMP. Conversely, a study in Turkey on the influence of stock market capitalisation on REC found an insignificant relationship between these variables (Er et al., 2018). Another study in Iran confirms a positive impact of the stock market development on REC (Razmi et al., 2020).

In this study, the highlighted determinants (GDP, FDI, REC) are applied to analyse their relationship with the stock market performance. However, the focus is more on the REC as there is limited study on REC, especially in Malaysia. Figure 2 shows the research framework to achieve the objective of this study.

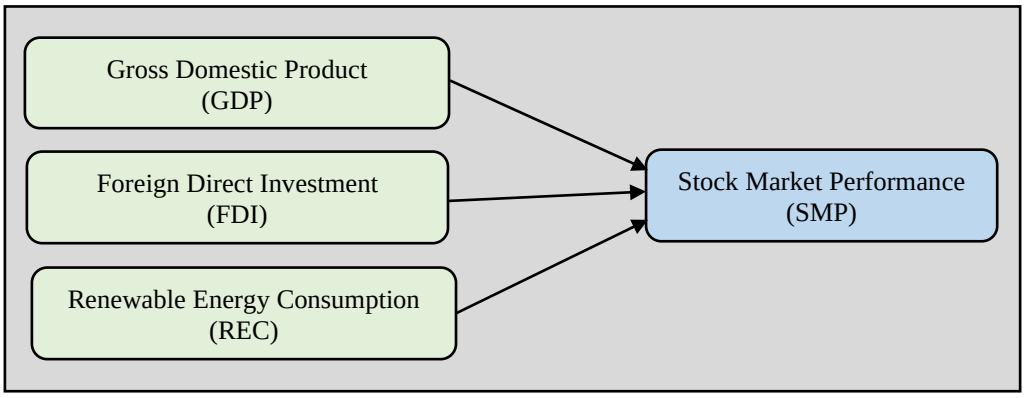

Figure 2: Research Framework

Hypotheses Development

Based on previous studies, the three variables were categorised as determinants for stock market performance. The results of the previous study on these determinants differ according to country. Thus, to achieve the objectives of this study, the hypotheses were formulated as follows;

H11: There is a significant impact between gross domestic product and stock market performance.
H12: There is a significant impact between foreign direct investment and stock market performance.
H13: There is a significant impact between renewable energy consumption and stock market performance.

Data and Methodology

This study uses annual time-series data from 1991–2020. Data were collected from World Development Indicator (WDI) by The World Bank. The options for variables usage and data selection is based on past studies and research framework. The availability and appropriate data used are important to ensure the data analysis is significant to the study's objective. Table 1 summarises the measurement and proxy of each variable and source of data in this study.

Table 1: Measurement of Variables

No.	Variables	Proxy	Past Studies
1	SMP	KLCI Index	Ilahi et al. (2015); Ali (2014) Reddy (2012).
2	GDP	GDP at current prices (RM Million)	Algarini (2020); Türsoy (2017)
3	FDI	Net Outflows (% of GDP)	Algarini (2020); Tsangkanos et al. (2019)
4	REC	(% of total final energy consumption)	Razmi et al. (2020)

*Note: SMP – stock market performance; GDP – gross domestic product; FDI – foreign direct investment; REC – renewable energy consumption.

The data were analysed using the statistical social science software (SPSS) version 25. SPSS has a progressive level of statistical analysis, open-source extensibility, and an impeccable space of algorithms for machine learning. This study applied descriptive statistics, normality

tests, correlation analysis and multiple regression analysis to analyse the chosen sample data for the research.

A descriptive statistic is a method used to summarise a chosen set of data, where it represents measures of variability and the central tendency (Kenton, 2019). It also represents the description data conveniently by simplifying the data accordingly (Trochim, 2020). Normality test is a method used to find out if data used is well-modelled by a normal distribution and also to figure out whether the data is normally distributed or not (Zubry, 2018). Based on Laerd statistics (2018), this model is a prerequisite for most statistical tests as a fundamental assumption in parametric testing is by applying normal data. Only extreme non-normal data is detected if using less than fifty observation samples. Wide-range sample size is needed for the data set to be well distributed. For this study, the Shapiro-Wilk test is used instead of Kolmogorov-Smirnov as the data set in this study is less than fifty samples. The null hypothesis will be rejected if the significance value is smaller than 0.05; $p < 0.05$ (Berg, 2020).

The correlation analysis is a procedure that analyses whether the quantitative variables involved are in a strong suit of relationship by indicating a high correlation as strongly related, whereas a low correlation is almost not associated between the variables (Franzee & Iuliano, 2018). The intensity of the linear relationship between the variables is observed from the sample correlation coefficient, where 'r' can be varied in the middle of -1 and +1 (Senthilnathan, 2019). Based on Statistics Solutions (2020), there are two types of correlations, where the first one is Pearson, a parametric test which measuring the relationship degree of linearly related variables, while Spearman, a non-parametric test functioning as a measurement upon association strength between the statutory and response variables.

Furthermore, multiple regression is a methodology that analyses a number of variables involved in a research to find out the outcome of the variables or any relationships between the independent and dependent variables (Kenton, 2020). According to Statistics Solutions (2020), several functions of multiple regression are to ascertain the strength of determinants onto response variable, to foresee the inclination of values and trends, to make a prediction on any impacts due to changes, and also to identify whether the hypothesis on the relationship of variables is proven right or otherwise. Based on the same source, this model could determine the model's overall fit in terms of the variance explained and discover the total variance explained by each predictor's relative support. The regression model for the analysis is expressed through a mathematical equation as in Eq. (1):

$$l\mathrm{SMP}_t = \beta_0 + \beta_1 l\,\mathrm{GDP}_t + \beta_2\, l\mathrm{FDI}_t + \beta_3\, l\mathrm{REC}_t + \mathcal{E}_t \quad (1)$$

Whereas l symbolises the natural logarithm of the stock market performance (SMP), gross domestic product (GDP), foreign direct investment (FDI) and renewable energy consumption (REC). Then, β_0 is the constant value, βjs (j=GDP, FDI and REC) indicates the coefficient of these variables, and ε_t represents the error term, and t indicates the yearly time series data.

Findings

The first analysis conducted is a descriptive analysis that focuses on summarising data from all variables involved. Table 2 presents descriptive summary data regarding variables involved in the research: SMP, GDP, FDI, and REC. The most known types of descriptive statistics used for a study consists of mean, median, and mode, which are classified as measures of centre (Kenton, 2019).

Table 2: Result for Descriptive Statistic

	N Statistic	Minimum Statistic	Maximum Statistic	Mean Statistic	Std. Deviation Statistic
SMP	30	10.68	154.64	73.27	46.69
GDP	30	49.14	364.68	180.96	107.55
FDI	30	0.12	15.12	6.43	3.72
REC	30	3.82	11.15	6.29	2.00

Table 2 shows GDP as the highest mean among other variables with 180.96 as the average data. The other mean statistics are SMP (73.27), FDI (6.43), and REC (6.29). The mean ratio indicates the rise in determinants could bring significant impact onto SMP. The highest standard deviation statistic is GDP with 107.55, while the lowest is REC with 2.00. The standard deviation for SMP and FDI is 46.69 and 3.72, respectively. The high standard deviation value indicates the data could spread farther than the mean, whilst the low standard deviation value indicates a small distribution of data from the mean.

Normality test is a method used in determining the normality of the data, whether the result will come out as a normal or non-normal distribution. The analysis is focused only on the Shapiro Wilk test instead of the Kolmogorov-Smirnov test as the sample data used is less than 50. The larger p-value will indicate the normal distribution of the data. Thus, the hypotheses used are:

H_0: The sample data is normally distributed

H_1: The sample data is not normally distributed

Table 3: Result for Normality Test

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
SMP	.125	30	.200*	.918	30	.024
GDP	.211	30	.001	.865	30	.001
FDI	.198	30	.004	.950	30	.166
REC	.173	30	.022	.881	30	.003

*This is a lower bound of the true significance.

Table 3 demonstrates that only FDI is the only variable that is normal as the p-value is larger than 0.05, indicating that H_0 is accepted for this variable. However, the data of other variables, GDP, FDI, and SMP, have a p-value that is smaller than 0.05 are not normal; thus, H_0 is rejected. Since the dependent variable, SMP, is normally distributed, the study can proceed to the subsequent analysis.

On the other hand, the type of correlation used in this study is Pearson, a parametric test that analyses the relationships amongst all variables that are related linearly. Shown below is the result of the correlation test of the research data.

Table 4 indicates each determinant involved is statistically significant with SMP at 0.01 level. The results showed that GDP and FDI have a positive relationship with SMP, by 0.902 and 0.770, respectively, indicating the greater value of GDP and FDI would lead to the greater value of SMP. It specifies the strong correlation among the variables; thus, the relationship magnitude is good. However, REC has a negative value of -0.705 towards SMP, which means that the higher the value of REC will impact the lower the value of SMP. Hence, the relationship magnitude is bad and represents a weak correlation.

The multiple regression test is implemented for the research analysis to foresee the influence of GDP, FDI and REC as determinants of SMP.

Table 4: Result for Correlation Analysis

		SMP	GDP	FDI	REC
SMP	Pearson Correlation	1	.902**	.770**	-.705**
	Sig. (2-tailed)		.000	.000	.000
	N	30	30	30	30
GDP	Pearson Correlation	.902**	1	.784**	-.659**
	Sig. (2-tailed)	.000		.000	.000
	N	30	30	30	30
FDI	Pearson Correlation	.770**	.784**	1	-.446*
	Sig. (2-tailed)	.000	.000		.014
	N	30	30	30	30
REC	Pearson Correlation	-.705**	-.659**	-.446*	1
	Sig. (2-tailed)	.000	.000	.014	
	N	30	30	30	30

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

*Correlation is significant at the 0.05 level (2-tailed).

Table 5: Regression Analysis Result

	B	Std. Error	t	Sig.
(Constant)	42.21	21.117	1.99	.056
GDP	0.26	0.06	4.07	.000
FDI	2.53	1.55	1.63	.114
REC	-5.12	2.36	-2.16	.040

*Note: Dependent Variable – SMP; R2 = 0.851; F-statistic = 49.42 (0.000)

Table 5 shows the value of 0.851, which represents the determinants that explain 0.851 or 85.1% of the variability of the SMP. It indicates that the changes in determinants will influence SMP by 83.4%. The F-statistic = 49.421, $p < 0.05$ represents the regression model that fits nicely for data analysis. Besides that, the coefficient table shows the p-value of GDP and FDI are less than 0.05 ($p < 0.05$), which is significantly different to 0 (zero) and significantly associated with SMP. However, only FDI has an insignificant relationship with SMP as the p-value is more than 0.05 ($p > 0.05$). Thus, GDP and FDI have a positive relationship with SMP, whereas REC has a negative relationship.

Discussion and Conclusion

This study investigates the relationship between Malaysia's stock market performance and its determinants (GDP, FDI, REC). Time series data from 1991 to 2020 is used. For the research, a multiple regression test is applied to examine the relationship between stock market

performance (SMP) and other determinants, which are gross domestic product (GDP), foreign direct investment (FDI), and renewable energy consumption (REC). The study discovers that all the determinants have a relationship with SMP. However, only a few of them have a significant impact on SMP. Gross domestic product has a positive effect on SMP (Algarini, 2020; Ali, 2014; Türsoy, 2017; Reddy, 2012), whereas REC has a negative influence on SMP, where it might have a minimal positive impact in the long run, as proven by Er et al. (2018). The only independent variable that did not influence SMP is FDI, though it is positively correlated (Sultana & Pardhasaradhi 2012; Tsangkanos et al. 2019). Therefore, we can conclude that GDP is the main contributor to SMP's performance towards a better future. It is a vital indicator of economic condition in every nation. It is proven essential as the results indicate the value significant by 0.000 at a 1% significance level, the smallest significant value among the other determinants. Besides, the 1% increase in GDP will result in the influence on SMP by 0.260. It indicates that GDP holds a vital role in influencing SMP as the rise in GDP will assist the stock market's performance.

Furthermore, GDP is the highest variable that positively influences SMP (Table 5). This is because a good economic activity will increase the country's financial stability, thus leading to a relatively large increase in the performance of the stock market and vice versa. This result is the same as the previous research (Algarini, 2020) conducted in Saudi Arabia. The research results showed that GDP has a long-run positive relationship with stock market values and other economic variables. Thus, it signifies that GDP plays a key role in improving the stock market's performance.

Foreign direct investment (FDI) is the only independent variable that is not significant with SMP, which is 0.114. On the other hand, it has a relatively positive impact on SMP, indicating the 1% rise in FDI will likely move along with the increase of SMP by 2.534. Although FDI does not influence SMP, it has a positive relationship with the stock market's performance, as proven in the correlation analysis. FDI has contributed to the economy directly through investment opportunities and indirectly injecting technology, skills, and a competitive environment that can heighten Malaysia's economic condition. Though the positive value is insignificant, it may have a small and weak influence on SMP. A study by Ali (2014) showed a positive impact of FDI on Pakistani's stock market development. In addition, other research by Sultana and Pardhasaradhi (2012) attained a strongly positive significant correlation between FDI and India's stock market.

Furthermore, renewable energy consumption (REC) also has a significant relationship with SMP, by 0.040. Contrary to the other determinants with a positive relationship with SMP, REC has an unfavourable negative relationship with the SMP. It indicates that the 1% increase in REC will decrease SMP by a negative value of -5.125 and vice versa.

The result is quite intriguing as past research has various outcomes. For example, a previous study by Razmi et al. (2020) found a favourable positive relationship between stock market development with renewable energy consumption. In contrast, Er et al. (2018) found an insignificant relationship between stock market capitalisation and REC, but it has a small impact in the long run. The mixed outcomes in the results may be due to investors' readiness in the research in Iran and Turkey, respectively. On the contrary, the investors in Malaysia are not confident with the risks faced by the companies in the market that implements renewable energy. The negative influence may be due to the precautionary measures taken by the investors towards the high degree of risk in the renewable energy sector, as investors do not know what the future may hold. Therefore, the relationship between SMP and REC is significant but negatively correlated.

Practical and Social Implications

This study helps the government design various strategies for Malaysia's energy policy for stock market performance by highlighting the important determinants, particularly renewable energy consumption.

Limitations and Suggestions for Future Research

One of the limitations of this study is the insufficient data provided by World Development Indicator (WDI) from the World Bank platform. The data for renewable energy consumption (REC) can be retrieved only up to 2015, which may impact the research outcome. Although this study aims to estimate the latest data for the analysis, the accuracy of the outcome for the research might be imperfect because the renewable energy sector may already evolve to better performance. However, the most recent performance is not known due to the lack of data. Consequently, it does affects the results of the study. For future research, the alternative methodology of co-integration and long-run causality among these variables using this time series data could be used to capture more precise findings.

Acknowledgment

This study is a part of the research project granted by IRMC, UNITEN under Pocket Grant 2021 (J510050002/2021117). The valuable comments and suggestions of the anonymous reviewers were highly appreciated.

References

Abbam, G. (2014). A study of the Ghana stock market performance before and after general elections. *Slideshare.*

Abodunrin, O., Oloye, G., & Adesola, B. (2020). Coronavirus pandemic and its implication on global economy. *International Journal of Arts, Languages and Business Studies, 4,* 13-23. http://www.ijalbs.gojamss.net/index.php/ijalbs.

Algarini, A. (2020). Impact of GDP, Foreign direct investment, inflation rate, and interest rate on stock market values in Saudi Arabia. *International Journal of Social Science and Economic Research, 5*(7), 1667-1678. https://doi.org/10.46609/IJSSER.2020.v05i07.002.

Ali, H. (2014). Impact of interest rate on stock market: Evidence from Pakistani Market. *IOSR Journal of Business and Management*, *16*(1), 64-69.

Ang, J. B., & McKibbin, W. J. (2007). Financial liberalisation, financial sector development and growth: Evidence from Malaysia. *Journal of Development Economics*, 84(1), 215–233. https://doi.org/10.1016/j.jdeveco.2006.11.006.

Ariff, M., & Abubakar, S. Y. (1999). The Malaysian financial crisis: Economic impact and recovery prospects. *The Developing Economics*, 37(4), 417–438.

Aruna, P. (2019). *Revamping tax incentives to fight for FDI*. *The Star*. https://www.thestar.com.my/business/business-news/2019/10/12/revamping-tax-incentives-to-fight-for-fdi

Azizan, N. A., & Sorooshian, S. (2014). Stock market performance and modern portfolio theory: Case on Malaysian stock market and Asian indices. *WSEAS Transactions on Business and Economics*, *11*(303), 2224–2899.

Ben Rejeb, A., & Boughrara, A. (2013). Financial liberalisation and stock markets efficiency: New evidence from emerging economies. *Emerging Markets Review*, 17, 186–208. https://doi.org/10.1016/j.ememar.2013.09.001

Berg, R. G. (2020). *SPSS Shapiro-Wilk test - Quick tutorial with example*. *SPSS Tutorial.*

Cheng, C. (2020). *COVID-19 in Malaysia: Economic impacts & fiscal responses*. *ISIS.* https://www.isis.org.my/2020/03/26/covid-19-in-malaysia-economic-impacts-fiscal-responses/

Chittedi, K. R. (2014). Financial development and instability: A theoretical perspective. *Journal of Stock and Forex Trading*, *3*(3), 1-5.

Corporate Finance Institute. (2015). *What is the stock market?* Corporate Finance Institute. https://corporatefinanceinstitute.com/resources/knowledge/trading-investing/stock-market/

Er, B., Güneysu, Y., & Ünal, H. (2018). Financing renewable energy projects: An empirical analysis for Turkey. *International Journal of Energy Economics and Policy*, *8*(6), 180–185. https://doi.org/10.32479/ijeep.7025

Franzee, M & Iuliano, A (2018). *Correlation analysis*, https://www.researchgate.net/publication/322572432_Correlation_Analysis.

Ilahi, I., Ali, M., & Jamil, R. A. (2015). Impact of macroeconomic variables on stock market returns: A case of Karachi Stock Exchange. *SSRN Electronic Journal*, 1–13. http://dx.doi.org/10.2139/ssrn.2583401

Kenton, W. (2019). *Descriptive statistics*. *Investopedia.* https://www.investopedia.com/terms/d/descriptive_statistics.asp

Kenton, W. (2020). Multiple linear regression (MLR). *Investopedia.* https://www.investopedia.com/terms/m/mlr.asp

Laerd Statistics. (2018). *Understanding descriptive and inferential statistics.* Laerd Statistics. https://statistics.laerd.com/statistical-guides/descriptive-inferential-statistics.php

Levitt, A. (2020, February 18). Macroeconomic indicators that affect the U.S. stock market. *Investopedia.* https://www.investopedia.com/articles/investing/031413/economic-indicatiors-affect-us-stock-market.asp

Mansur, K., Mamalakis, M., & Idris, S. (2011). Savings, investment & FDI contribution to Malaysian economic growth in the globalisation era. *International Business & Economics Research Journal (IBER)*, *2*(8), 1–14. https://doi.org/10.19030/iber.v2i8.3826

Masini, A., & Menichetti, E. (2013). Investment decisions in the renewable energy sector: An analysis of non-financial drivers. *Technological Forecasting and Social Change*, *80*(3), 510-524. https://doi.org/10.1016/j.techfore.2012.08.003.

National Academy of Engineering and National Research Council (2010). *The power of renewables: Opportunities and challenges for China and the United States*. The National Academies Press.

Osano, H. M., & Koine, P. W. (2016). Role of foreign direct investment on technology transfer and economic growth in Kenya: a case of the energy sector. *Journal of Innovation and Entrepreneurship*, *5*(31). https://doi.org/10.1186/s13731-016-0059-3

Oskooe, S. A. P. (2010). Emerging stock market performance and economic growth. *American Journal of Applied Sciences*, *7*(2), 265–269. https://doi.org/10.3844/ajassp.2010.265.269

Pettinger, T. (n.d.). *Asian financial crisis 1997*. Economics Help. https://www.economicshelp.org/blog/glossary/financial-crisis-asia-1997/

Povera, A., Harun, H. N., & Yunus, A. (2020). Zero-rated tax incentives for new investments in manufacturing sector, fixed assets [NSTTV]. *New Straits Times.* https://www.nst.com.my/news/nation/2020/06/598267/zero-rated-tax-incentives-new-investments-manufacturing-sector-fixed

Rahman, A. A., Sidek, N. Z. M., & Tafri, F. H. (2009). Macroeconomic determinants of Malaysian stock market. *African Journal of Business Management*, *3*(3), 95–106.

Raza, M., Ahmed, A. E., Alshebami, A. S., & Polyakova, A. G. (2020). Renewable energy use and its effects on environment and economic growth: Evidence from

Malaysia. *International Journal of Energy Economics and Policy*, *10*(5), 50. https://doi.org/10.32479/ijeep.10219.

Razmi, S. F., Bajgiran, B. R., Behname, M., Salari, T. E., & Razmi, S. M. J. (2020). The relationship of renewable energy consumption to stock market development and economic growth in Iran. *Renewable Energy*, *145*, 2019-2024. https://doi.org/10.1016/j.renene.2019.06.166.

Reddy D. V. L. (2012). Impact of inflation and GDP on stock market returns in India. *International Journal of Advanced Research in Management and Social Sciences,* 1(6), 120-136.

Senthilnathan, S. (2019). *Usefulness of correlation analysis*. International Training Institute. https://dx.doi.org/10.2139/ssrn.3416918.

Statistics Solutions. (2020). *What is multiple linear regression?* Statistics Solutions. https://www.statisticssolutions.com/free-resources/directory-of-statistical-analyses/what-is-multiple-linear-regression/

Sultana, S. T., & Pardhasaradhi, S. (2012). Impact of flow of FDI & FII on Indian stock market. *Finance Research, 1*(3), 4–10.

Tan, Y. L., & Shafi, R. M. (2021). Capital market and economic growth in Malaysia: the role of ṣukūk and other sub-components. *ISRA International Journal of Islamic Finance*, *13*(1), 102-107. https://www.emerald.com/insight/content/doi/10.1108/IJIF-04-2019-0066/full/html

Trading Economics (2020), *Malaysia Stock Market: FTSE Bursa Malaysia KLCI Index*. https://tradingeconomics.com/malaysia/stock-market.

Trading Economics (2020). *Malaysia foreign direct investment* https://tradingeconomics.com/malaysia/foreign-direct-investment

Trochim, W. M. K. (2020). *Descriptive statistics*. Research Methods Knowledge Base. http://www.socialresearchmethods.net/kb/statdesc.php

Tsagkanos, A., Siriopoulos, C., & Vartholomatou, K. (2019). Foreign direct investment and stock market development: Evidence from a "new" emerging market. *Journal of Economic Studies, 46*(1), 55–70. https://doi.org/10.1108/JES-06-2017-0154

Türsoy, T. (2017). Causality between stock prices and exchange rates in Turkey: Empirical evidence from the ARDL bounds test and a combined cointegration approach. *International Journal of Financial Studies, 5*(1), 8. https://doi.org/10.3390/ijfs5010008

Wei, T. K., & Said, R. (2021). Non-performing property loans and its origination in the real estate finance system: Case study of Malaysia. *International Journal of Property Sciences (E-ISSN: 2229-8568), 11*(1), 35-59. http://mojes.um.edu.my/index.php/IJPS/article/view/25423

Zakaria, S. U., Basri, S., Kamarudin, S. K. & Majid, N. A. A. (2019). Public awareness analysis on renewable energy in Malaysia. *IOP Conference Series: Earth and Environmental Science, 268.* https://iopscience.iop.org/article/10.1088/1755-1315/268/1/012105/meta

Zubry, B. (2018). *Quality control/quality assurance and improvement*. 1st Edition. Lulu.com.