

THE IMPACT OF EXCHANGE RATE ON MALAYSIAN STOCK MARKET PERFORMANCE DURING CRISIS YEARS

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Abstract

This study examines the impact of a macroeconomic variable on the performance of the Malaysian stock market between 1990 and 2020. The currency exchange rate is used as the macroeconomic variable in this research. In this study, monthly data observations were analysed using Multiple Linear Regression, Diagnostic Checking (Multicollinearity), Autocorrelation (Durbin Watson Test), Descriptive Tests, and Normality Tests to determine the impact of specific variable on stock market performance over the past 30 years. The empirical research results indicate that the exchange rate has a statistically significant effect on the performance of the Malaysian stock market. The findings and conclusions of the study is valuable and relevant to governments, legislators, researchers, academics, and investors interested in the topic and field of study to which this research pertains. Lastly, new research can be undertaken by referencing the limits of the prior study and the recommendations for future routes of improvement. As a result of the findings of this study, the exchange rate affects the stock market, and future research must monitor any changes in the variables mentioned above and, more significantly, make good use of the information collected.

Index Terms—Crisis years, Exchange rate, FBM KLCI index, Macroeconomic determinant, Malaysia, Stock market performance.

INTRODUCTION

An investor can acquire a fractional stake in the business by purchasing shares, often known as equity. The stock market functions as a marketplace for selling and purchasing stocks[14]. Indices and stock returns are used to measure the stock market's performance, and global economic and political movements significantly impact the value of stock indices.

The primary objective of this study is to examine the relationship between exchange rate and the performance of the Malaysian stock market during the years financial crisis. The currency exchange rate apart, Gross domestic product growth, interest rates, unemployment rates, and inflation rates could also have an effect on the performance of stock market. The FTSE Bursa Malaysia KLCI index values is observed to understand the influence of the variable mentioned above.

The literature issue or gap that this study will address is that the impact of macroeconomic factors on stock market efficiency of the developing nations has received relatively little attention in the developed world in recent decades [22]&[15]. A study conducted by Shubita and AL-Sharkas[46] explores the impact of macroeconomic factors on the returns on the New York Stock Exchange, whereas Tangjitprom[51] investigates the impact of macroeconomic factors on the return on the Thai stock exchange. Consequently, given the insufficiency of research on emerging markets prompted to conduct this research in Malaysia in order to determine the macroeconomic factors that have a substantial impact on the performance of the Malaysian stock market [39]. According to Siew et al., [37], many studies on this issue have become obsolete as a result of contemporary occurrences. Nowadays, the conclusions of previous study are insufficient to describe contemporary economic conditions. Consider the research carried by Jones and Kaul [19], which concluded that fluctuations in oil prices had a negative effect on actual share prices in the United States, Canada, Japan, and the United Kingdom, but it is doubtful whether these inferences are valid in the present global scenario [8].

Additionally, this study also focuses on the practical issue or gap of analysing the impact of exchange rate on the share market that varies depending on the time period and geographical place in which it is measured [38]. Joseph and Eric [20], believed that inflation is always an outcome of economic activity in the short run. Kimani and Mutuku [26]&Moslehpour et al., [31] discovered that economic growth and equity markets are adversely related to one another, suggesting that inflation and stock prices are not related to each other. Based on the statements released by the strategists from Goldman Sachs [43] and Western Alliance Bancorporation [6] stated that it is vital for policymakers in Malaysia to understand the relationship between macroeconomic variables and the performance of the Malaysian stock market in order to be able to execute appropriate monetary policy that is beneficial to both the Malaysian economy and the Malaysian stock market especially during this era of pandemic [27], as stock market performance is highly impacted by the fluctuations of macroeconomic variable.

LITERATURE REVIEW

The exchange rate is the value of a country's currency when exchanged for another country's currency [48]. Participants in the market may directly quote the exchange rate or infer it from other sources. A direct quotation is the value of one foreign currency in domestic currency denominations, whereas an indirect quotation is a value of one domestic currency in foreign currency denominations [45]. Direct quotations are utilised more frequently than indirect quotations. In this sense, the terms "direct quotation" and "indirect quotation" are interchangeable [55]. According to Maposa & Muma [34], the impacts of a country's currency rate on its stock market are significantly influenced by its commercial activity. The higher a country's involvement in international trade or markets,

the more significant the impact of an exchange rate on stock values and on a country's currency [21]. Moreover, if a nation is essentially an importer, the exchange rate has a higher effect on domestic stock values than otherwise [22].

According to past empirical research and historical evidence, the currency's value varies in reaction to the inflationary processes occurring inside the economy, [30]. In the context of Korea's stock market, the stock market and the evolution of the exchange rate are two-time series that interact, according to Cristiana and Carmen [11]. Using the Box-Jenkins Autoregressive Integrated Moving Average (ARIMA) model, Robert [41] analysed the time series correlations between the exchange rate and stock market indexes in the United States [39]. According to statistical analysis, the exchange rate does not correlate with Brazilian or Russian stocks.

According to a study undertaken by Aisyah et al [2], the exchange rate substantially impacts the long-term and short-term performance of the Malaysian stock market [13]. It coincides with Hussain and Mohamed Ibrahim's [18] finding that the exchange rate considerably impacts the Malaysian stock market's long- and short-term performance. Recent research by Mutuku and Ng'eny[35] indicates that the exchange rate positively impacts the stock market's performance. As a result of the decreased prices, profits for domestically manufactured goods would decline, and stock prices would plunge [34]. According to Sensoy and Sobaci[44] and Liew et al [27], when the value of the US dollar relative to the Ringgit rises, so does the value of stock market returns in Malaysia.

On the other hand, various research investigations have determined that exchange rates have a detrimental effect on the stock market's efficiency [31]. After examining the textile business, Haque and Sarwar [16] revealed a statistically significant negative correlation between exchange rates and stock returns. In other words, a more robust local currency facilitates the export of goods to foreign nations, which ultimately benefits the domestic economy [1]. Chiou [12], Mohammad Hussain Jalil and Ali [17], P. Singh [47], and Tsai [53] state that the currency rate and the stock market move in opposite directions. Consequently, it is anticipated that the Malaysian exchange rate will have a negative association with the performance of the stock market [2].

RESEARCH METHODOLOGY

In this study, secondary data is used. This study uses Malaysian time-series data from 1990 to 2020, which is based on monthly basis. The variables in this study has a total of 360 observations. Additional information has been gathered from papers, news, textbooks, and articles to make the unit calculation of each variable more accurate and compatible with the theory. Except for the dummy variable, all of the variables in this study are based on secondary data from World Bank Database and Thomas Reuters's DataStream. In addition, quantitative and time series data are obtained from the same

DataStream. In this study, the dummy variable "0" indicates that there will be no crisis that year, while "1" indicates that there was a crisis that year. In Malaysia, there have been three crises between 1990 to 2020. From 1990 to 2020, this study gathered data on all variables on monthly basis.

Not only that, it has been concluded that SPSS 24 will be used to conduct all hypothesis tests and diagnostics checks in this study. SPSS 24 has primary objective to conduct econometric and statistical research. This software is appropriate for this study since it is designed for studies that use time series data, cross-sectional data, or longitudinal data, and this study focuses on time series data. SPSS 24 is combined with dynamic and consumer-oriented technology and interface; thus, it can efficiently handle and operate data. It can also build graphs and tables for presentations, and it supports large bit Windows with wide memory.

SPSS will perform all identification tests for econometric problems such as multicollinearity, descriptive statistics, autocorrelation (Durbin Watson test), as well as any necessary remedial tests. To analyze the model's error term's stationery and normalcy distributions, the normality test will be utilized. Additionally, SPSS can be utilized for all the tests that be conducted in this study.

1 Data Analysis And Interpretation

1.1 Multiple Regression Model

The following is the Multiple Regression Model hypothesis for the relationship between exchange rate and stock market performance.

TABLE 1: RESULTS OF THE MULTIPLE REGRESSION MODEL.

Models	Anova (Significance)	B	Standard Error	Significant
Constant	0.000	3.022	0.009	0.000
FOREX	(Less than >0.05)	0.038	0.009	0.000
CR		-0.004	0.009	0.025
FOREX_CR		-0.027	0.010	-0.007

The Anova significance value is 0.000, less than 0.05, showing a strong association between stock market performance (dependent variable) and exchange rate (independent variable). The "B" number, also referred to as the unstandardised beta value that represents the slope of the line connecting the independent and dependent

variables. The "B" value in this study ranges from 3.022 to -0.027. In other words, when the exchange rate increases during a crisis, the KLCI decreases, and when the exchange rate increases under normal conditions, the KLCI increases. Aside from that, Standard Error illustrates the accurate precisions of predictions; based on the results, the value of standard error is less than 2, suggesting that all variables have precise precisions and the observed values lie on the regression line. In addition, significance values for all variables are less than 0.05, demonstrating a correlation between the exchange rate and stock market performance. The Anova significance and overall significance indicate that the exchange rate affects the long-term performance of the stock market.

1.2 Descriptive Tests

The following are tables for Descriptive Statistics analysis results for exchange rate and stock market performance

TABLE 2: RESULTS OF DESCRIPTIVE STATISTICS

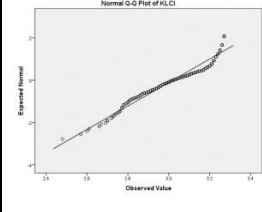
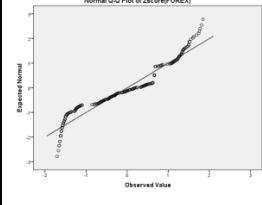
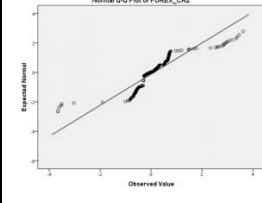
Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
KLCI	372	2.480	3.270	3.019	0.180
FOREX	372	2.440	4.480	3.421	0.575
FOREX_CR	372	0.000	4.350	0.594	1.347
CR	372	0	1	0.170	0.373

The mean of KLCI according to descriptive statistics is 3.019, with values ranging from 3.270 to 2.480. Therefore, the minimum value is 2.480, and the maximum value is 3.270. Furthermore, the standard deviation is 0.180, which is low and indicative of minimal volatility. In addition, the average exchange rate under normal conditions is 3.421, whereas it is 0.594% during times of crisis. During regular times, the exchange rate is 2.440, and during times of crisis, it is 0.000. In both instances, the maximum value differs somewhat. During normal times, the exchange rate reaches a peak of 4.480, but during times of crisis, it falls below 4.350. In both instances, the exchange rate has a very high standard deviation of 0.575% and 1.347%, indicating a variable with a significant degree of volatility and risk. The crisis years have a mean of 0.170 and a standard deviation of 0.373, ranging from 0 to 1.

4.3 Normality Tests

The following are tables for normality test' analysis results for exchange rate and stock market performance

TABLE 3: RESULTS OF THE NORMALITY TESTS

Variable	Significance (Shapiro-Wilk)	Skewness	Kurtosis	Q-Q Plot
KLCI	0.000	-.282	-1.014	
FOREX	0.000	-0.255	-1.173	
FOREX_CR	0.000	.288	5.752	

The preceding table demonstrates that all of the data are systematically dispersed. Shapiro-Wilk Significance, Skewness, Kurtosis, and the Q-Q Plot are used to determine the normality distribution of each variable. Variables are generally distributed if they pass any of the above distribution tests. If the significance value is less than 0.05, the Shapiro–Wilk test deems the data regularly distributed. According to the findings, the distribution of currency rates during regular times and crisis years is around 0.000. Likewise, the KLCI is under 0.05, indicating that the data are normally distributed. For the data to be normally distributed, the ranges of Skewness and Kurtosis must be less than -2×2 . The Skewness ratings for FOREX, FOREX CR, and KLCI in the results table are less than 2, indicating that the data are normally distributed. Kurtosis indicates that FOREX CR exceeds 2, indicating that it does not satisfy the fundamental requirement and is not regularly distributed. In contrast, KLCI and FOREX satisfy the criterion, showing that they are

regularly distributed. The null hypothesis was rejected since all of the data satisfied the criteria of one of the preliminary tests, showing that all data have a normal distribution.

4.4 Autocorrelation (Durbin-Watson) Tests

TABLE 4: RESULTS OF AUTOCORRELATION (DURBIN WATSON TESTS)

Model Summary	
Model	Durbin-Watson
1	0.028
a. Predictors: (Constant), FOREX_CR2, Zscore(FOREX), Zscore(CR)	
b. Dependent Variable: KLCI	

Time-series data are the most frequent cause of an autocorrelation issue in a model. Pure serial correlation and impure serial correlation are the two types of autocorrelation. The former results from a bias in the model definition, whereas the latter results from a well-defined equation. The Durbin Watson test is frequently used to analyse the residuals of regression or statistical models. The result of the Durbin-Watson test is always between 0 and 4. Autocorrelation does not exist in the regression model with a value of 2. Positive autocorrelation levels range from 0 to 2, whereas negative autocorrelation values range from 2 to 4. According to the table, the model has an autocorrelation value of 0.028, which is negligible and can be disregarded. The null hypothesis is therefore rejected.

4.5 Multicollinearity

TABLE 5: RESULTS OF MULTICOLLINEARITY

Coefficients						
Model		Correlations			Collinearity Statistics	
		Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)					
	FOREX	.215	.210	.208	.981	1.019
	CR	-.027	-.021	-.020	.939	1.065
	FOREX_CR	-.155	-.140	-.136	.949	1.054
a. Dependent Variable: KLCI						

Multicollinearity tests are analysed using VIF and Tolerance. Any value of VIF below of 4 and value of tolerance above 0.25 is considered that the models have no correlation among the dependent variables. The VIF of FOREX and FOREX_CR is 1.019 and 1.054 respectively and the tolerance is higher than 0.25 with values of 0.981 and 0.949. Aside from that, the Crisis years value of VIF and Tolerance is 1.065 and 0.939. All the values stated above clearly proves that this regression model have no multicollinearity problem. Thus, fail to reject null hypothesis

DISCUSSION

Some studies have focused on the relationship between the exchange rate (RM/USD) and the KLCI index (Misra,[29]; Keshav Garg&Rosy Kalra,[23]; Alaaeddin Al-Tarawneh1&Ghazi Al-Assaf1, [3]; Sin-Yu Ho, [49]; ShohaniBadullahewage, [42]; Sin-Yu Ho, [50] ; Kochetkova., [24]).

This analysis demonstrates a correlation between the real effective exchange rate and the Malaysian stock market index. Tian and Ma [52], Keh and Tan [21], and Liew et al. [27] all discovered a favourable association between the stock market and the exchange rate. The stock price will be affected from the depreciation of the local currency, Shamshudin[45]. Moreover, Bello [9] and Jaapar et al. [30] observed that the local currency appreciated when domestic imports increased and exports declined. This circumstance results in a fall in the value of foreign currency and a decrease in the local stock market. Kuwornu[25] and Md Isa et al., [28] supported these findings by examining how stock prices can shift positively in response to a decline in the exchange rate. In line with this, a fluctuation in the exchange rate reduces the cost of imported inputs, which boosts local economic activity and consequently stock returns [27].

According to Barakat et al [7], the exchange rate has the highest and most positive correlation when anticipating equity market performance. When the value of a nation's currency grows, people can invest more money in the stock market [39]. The stock market's popularity enhances trading activity, which raises stock returns. Consequently, a relationship exists between the exchange rate and the stock market index [1]. According to Najafzadeh et al [36], when the exchange rate increases by one unit, stock returns also increase, providing all other variables stay unchanged. Accordingly, increased foreign exchange market volatility will diminish investor trust in the currency market [15]. Consequently, the stock market will become a feasible option for investors wanting to decrease foreign exchange risk, avert losses, and generate profits, resulting in a rise in stock market prices [33].

In other words, with regard to the crisis years it has been shown that, generally, the foreign direct investment (FDI), exports and imports declined drastically which led to a depreciation of the local currency that increased the volatility of the value of FBM KLCI

index. For instance, during the Asian financial Crisis (1997-1998), Malaysia faced a large depreciation in the ringgit and a massive capital flight. Which caused the FDI to drop from \$5.14 billion to \$3.90 billion. Not only that, the export and import were affected largely. The exports value dropped from \$ 92.36 billion to \$ 83.53 billion while the imports fell from \$ 90.96 billion to \$ 67.66 billion. These factors played a big role in depreciating the local currency. The ringgit depreciated to RM3.88 from RM2.53 at peak of the financial crisis. Which later was pegged with US dollars to stop from further depreciation. While the average value of FBM KLCI index in 1996 was 1142.56 it dipped drastically to 949.09 in 1997 and to 512.74 by the end of 1998. Needless to say the drastic volatility is the combined effect of several macroeconomic factors including currency exchange rate.

In 2020, the FDI net inflow fell by \$17.8 billion, making the total amount to \$14.6 billion from \$32.4 billion previously. The exports fell from \$237.85 billion to \$206.95 billion while the imports fell from \$210.71 billion to 185.27 billion, which appreciated the local currency against USD from RM 4.09 previously to RM 4.04 in 2020, and thus the value of FBMKLCI did a big dip from 1631.62 to 1503.09.

Not only that, During the financial crisis (2007 – 2008), the effect was seen through out the year of 2009. The FDI value dropped drastically from \$7.57 billion to 0.11 billion within the span of one year. In addition, the exports and imports fell severely too. The exports fell from \$229.66 billion to \$184.90 billion while the imports fell from \$178.12 billion to \$143.89 billion. Which appreciated the currency value from RM 3.45 to RM 3.42, causing the value of FBM KLCI to drop from 1135.79 to 1090.34.

During the years of pandemic and the global financial crisis, the local currency did not depreciate despite a fall in FDI and international trade. This is mainly due to the fact that the global crisis adversely affected the base currency that is the US dollars as well[54]. Concluding that exchange rate has a effect on the stock performance, especially during the crisis years.

CONCLUSION AND RECOMMENDATION

Conclusion

This study aims to determine how exchange rate influence the performance of the Malaysian stock market during crisis years. It is categorically found that the during the Asian crisis, the local currency depreciated and the stock market volatility downwards was drastic. However, during the global crisis of 2007-2008 and 2020, the currency did not depreciate but the stock market index dropped. The stable exchange rate can attributed to the depreciation in the value of US dollars.

The limitation of this study is that the data for the variables used in this study are obtained in monthly basis. However, variables such as the currency rate and stock market index

have daily fluctuations. As a result, findings obtained from daily data may differ from those derived from monthly. In conclusion, monthly data may overlook the degree to which these variables affect stock price volatility when compared to higher frequency data such as daily or weekly data.

This study used the FBMKLCI as a proxy for stock market volatility in Malaysia. Malaysia has a total of 936 publicly traded companies as of 31st December 2020. However, the FBMKLCI included just the top 30 publicly traded companies in Malaysia, which is insufficient to reflect the bulk of these firms. Additionally, these 936 businesses span a variety of industries, including manufacturing, technology, and plantation. Each industry may be more or less sensitive to various macroeconomic conditions.

Recommendation

Behavioural Finance

Several conventional financial theories are predicated on the premise that investors behave rationally. However, when trading equities in the real world, investors are not always rational. According to behavioural finance, psychological and emotional elements can have a substantial impact on financial decisions [10]. A well-known example of behavioural finance is herd instinct [40]. According to this idea, investors typically make trading decisions based on a single data source or a tiny sample size or follow the majority.

Psychological variables and human sentiment will inhibit the efficiency of the stock market. As a result, market prices tend to vary in the opposite direction of the company's underlying values, resulting in the mispricing of the stock. In order to more accurately reflect changes in stock market performance, researchers may wish to include qualitative variables that are crucial to behavioural finance.

6.2.2 Include Qualitative Variables

When establishing the price of a stock index, qualitative aspects such as investor behaviour are crucial. Qualitative data can provide quantitative information data regarding an investor's emotions, behaviours, and personal qualities [32]. When including qualitative data, researchers are not confined to numerical data. Consequently, future studies will be able to capture the aspects that affect stock market performance more accurately.

References

- [1] Adam, N., Sidek, N. Z. M., & Sharif, A. (2022). The Impact of Global Economic Policy Uncertainty and Volatility on Stock Markets: Evidence from Islamic Countries. *Asian Economic and Financial Review*, 12(1), 15–28.

- [2] Aisyah Abdul Rahman, Noor Zahirah Mohd Sidek and Fauziah Hanim Tafri (2009). Macroeconomic determinants of Malaysian stock market. *African Journal of Business Management*, 95-106.
- [3] Alaaeddin Al-Tarawneh & Ghazi Al-Assaf (2018). Macroeconomic Drivers of Stock Market Development: Evidence from Jordan. *International Journal of Financial Research*, 117 - 130.
- [4] Al-Tarawneh, A., & Al-Assaf, G. (2018). Macroeconomic Drivers of Stock Market Development: Evidence From Jordan. *International Journal of Financial Research*, 9(3), 117. <https://doi.org/10.5430/ijfr.v9n3p117>
- [5] Ali, M. (2021). Impact Of Macroeconomic Variability On The Stock Market Volatility Of Bangladesh. *Biltürk Journal Of Economics And Related Studies*. <https://doi.org/10.47103/Bilturk.837413>
- [6] Bancorporation, W. A. (2021, September 23). Western Alliance Bancorporation: Rosy Earnings Outlook But Stock Price Is High. Retrieved from Seeking Alpha: <https://seekingalpha.com/article/4456749-western-alliance-bancorporation-wal-rosy-earnings-outlook-but-stock-price-is-high>
- [7] Barakat, M. R., Elgazzar, S. H., & Hanafy, K. M. (2016). Impact of macroeconomic variables on stock markets: Evidence from emerging markets. *International Journal of Economics and Finance*, 8(1), 195-207.
- [8] Bhattacharya, M., & Bhattacharya, S. N. (2022). Macroeconomic factors and emerging equity market: A contextual analysis using quantile regression. *Corporate Governance and Sustainability Review*, 6(1), 22–31. <https://doi.org/10.22495/cgsrv6i1p3>
- [9] Bello, Z. (2013). The association between exchange rates and stock returns. *Investment Management and Financial Innovations*, 10(3), 40-45.
- [10] Birau, F. R. (2012). The impact of behavioral finance on stock markets. *Annals Economy Series*, 3, 45-50.
- [11] Cristiana, T., & Carmen, P. D. (2012). On the causal relationship between stock returns and exchange rates changes for 13 developed and emerging markets. *International Conference on Asia Pacific Business Innovation and Technology Management*, 57, 275-282.
- [12] Chiou, W. S. (2007). The macroeconomic determinants of stock price volatility: Evidence from Taiwan, South Korea, Singapore and Hong Kong. *Journal of Environment and Management*, 8(2), 114-134.
- [13] Erer, E., & Erer, D. (2022). Stock Market Responses to Monetary and Fiscal Policies. *Handbook of Research on Current Trends in Asian Economics, Business, and Administration*, 266–282. <https://doi.org/10.4018/978-1-7998-8486-6.ch014>
- [14] Fontanills, G. A., & Gentile, T. (2001). *The stock market course* (1sted.). New York: John Wiley & Sons, Inc.
- [15] Haseeb, M., Mahdzan, N. S., & Wan Ahmad, W. M. (2022). Are Shariah-compliant firms less prone to stock price crash risk? Evidence from Malaysia. *International Journal of Islamic and Middle Eastern Finance and Management*, ahead-of(ahead-of-print). <https://doi.org/10.1108/imefm-06-2021-0223>
- [16] Haque, A., & Sarwar, S. (2012). Macro-determinants of stock return in Pakistan. *Middle-East Journal of Scientific Research*, 12(4), 504-510.
- [17] Hussain, A., Jalil, A., & Ali, A. (2009). Impact of macroeconomics variables on stock prices: Emperical evidence in case of KSE (Karachi Stock Exchange). *European Journal of Scientific Research*, 38(1), 96-103.
- [18] Hussain, M., & Mohamed Ibrahim, D. (2012). Impact of exchange rate on foreign direct investment in Pakistan. *Advances in Economics and Business*, 2(6), 223-231.
- [19] Jones, C. M., & Kaul, G. (1996). Oil and the stock markets. *The Journal of Finance*, 2, 463-491
- [20] Joseph, M. F., & Eric, F. O. (2010). When is inflation harmful? Estimating the threshold effect for Ghana. *American Journal of Economics and Business Administration*, 2(3), 232-239.
- [21] Keh, , & Tan, (2021). COVID 19: The Impact of Government Policy Responses on Economic Activity and Stock Market Performance in Malaysia. *Jurnal Ekonomi Malaysia*, 55(1), 123–133.

- [22] Kh Khaled Kalam (2020). The Effects of Macroeconomic Variables on Stock Market Returns: Evidence from Malaysia's Stock Market Return Performance . *Journal of World*
- [23] Keshav Garg , Rosy Kalra (2018). Impact of Macroeconomic Factors on Indian Stock Market. *KIIT Journal of Management* , 134-145.
- [24] Kochetkova, E. (2021). Malaysia in 2020–2021. *South East Asia Actual Problems of Development*, 3 (52), 177–189. <https://doi.org/10.31696/2072-8271-2021-3-3-52-177-189>
- [25] Kuwornu, J. K. M. (2012). Effect of macroeconomic variables on the Ghanaian stock market returns: A co-integration analysis. *Agris on-line Papers in Economics and Informatics*, 4(2), 15-26.
- [26] Kimani, D. K., & Mutuku, C. M. (2013). Inflation dynamics on the overall stock market performance: The case of Nairobi Securities Exchange in Kenya. *Economics and Finance Review*, 2(11), 1-11.
- [27] Liew, V. K. S., Chia, R. C. J., Riaz, S., & Lau, E. (2022). Is There Any Day-Of-The-Week Effect Amid The Covid-19 Panic In The Malaysian Stock Market? *The Singapore Economic Review*, 1–19. <https://doi.org/10.1142/S021759082250014x>
- [28] Md Isa, M. A., Ismail, N., a Latif, R., & Samsudin, S. (2021). Sensitivity of Banks' Stock Returns to the Changes in The Market, Interest and Exchange Rates: Evidence from Malaysia. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 11(1). <https://doi.org/10.6007/ijarafms/v11-i1/8830>
- [29] Misra, P. (2018). An Investigation of the Macroeconomic Factors Affecting the Indian Stock Market. *Australasian Accounting, Business and Finance*, 71-86.
- [30] Mohd Jaapar, A., Ahmad Chukari, N., &Tarmizi, S. N. S. (2021). The Effect of Covid-19 Pandemic on Large-cap Stocks in Malaysia. *Malaysian Journal of Science Health & Technology*, 7(2), 8–14. <https://doi.org/10.33102/mjosht.v7i2.167>
- [31] Moslehpour, M., Al-Fadly, A., Ehsanullah, S., Chong, K. W., Xuyen, N. T. M., & Tan, L. P. (2022). Assessing Financial Risk Spillover and Panic Impact of Covid-19 on European and Vietnam Stock market. *Environmental Science and Pollution Research*. <https://doi.org/10.1007/s11356-021-18170-2>
- [32] Madrigal, D., & McClain, B. (2012). Strengths & weaknesses of qualitative and quantitative research.
- [33] Musneh, R., Abdul Karim, M. R., &ArokiadasanBaburaw, C. G. A. (2021). Liquidity risk and stock returns: empirical evidence from industrial products and services sector in Bursa Malaysia. *Future Business Journal*, 7(1). <https://doi.org/10.1186/s43093-021-00106-4>
- [34] Maposa, L., & Muma, F. M. (2017). The Impact of Financial Development on Economic Growth in Zimbabwe: Comparative Analysis of Stock Markets and Commercial Banks. *OALib*, 04(08), 1–27. <https://doi.org/10.4236/oalib.1103808>
- [35] Mutuku, C., &Ng'eny, K. L. (2015). Macroeconomic variables and the Kenya equity market: A time series analysis. *Business and Economic Research*, 5(1), 1-10.
- [36] Najafzadeh, B., Monjazed, M., &Mamipour, S. (2016). The analysis of real exchange rate volatility and stock exchange return with PANEL-GARCH Approach (Case study: D8 countries). *Iranian Economic Review*, 20(4), 525-550.
- [37] Ng Siew Wen, So Boon En, Tan Wee Kiong, Teo Kheng Hwang & Yu Khai Chien. (2015). The determinants of Malaysian Stock Market Performance. (Thesis or dissertation)
- [38] Prasad, A., Bakhshi, P., & Seetharaman, A. (2022). The Impact of the U.S. Macroeconomic Variables on the CBOE VIX Index. *Journal of Risk and Financial Management*, 15(3), 126. <https://doi.org/10.3390/jrfm15030126>
- [39] Qadri, S. U., Naveed Iqbal, & Syeda Shamaila Zareen. (2021). Stock Return Predictability and Market Efficiency in Pakistan; A Role of Asian Growing Economies of India and Malaysia. *ANNALS OF SOCIAL SCIENCES AND PERSPECTIVE*, 2(2), 257–267. <https://doi.org/10.52700/assap.v2i2.95>
- [40] Rasheed, A., Saeedi, M., Gebriil, N., & Hariraj, K. (2020). Impact of Macroeconomic Variables on Stock Market of Malaysia. *International Journal of Psychosocial Rehabilitation*, 24(02), 1205–1214. <https://doi.org/10.37200/ijpr/v24i2/pr200420>

- [41] Robert, D. (2008). Effect of macroeconomic variables on stock market returns for four emerging economies: Brazil, Russia, India, and China. *International Business & Economics Research Journal*, 7(3), 1-8.
- [42] ShohaniBadullahewage (2018). The Effects of Macroeconomic Factors on the Performance of Stock Market in Sri Lanka. *International Journal of Innovation and Economic Development*, 33-41.
- [43] Sraders, A. (2021, September 23). What investors should worry about more than a government shutdown? Retrieved from Fortune.com: <https://fortune.com/2021/09/22/government-shutdown-stocks-stock-market/>
- [44] Sensoy, A., & Sobaci, C. (2014). Effective transfer entropy approach to information flow between exchange rate and stock markets (Working Paper No. 14). Retrieved from Research Department of Borsa Istanbul website: <http://www.borsaistanbul.com/docs/default-source/research/14-effective-transfer-entropy-approach-to-information-flow-between-exchange-rates-and-stockmarkets.pdf?sfvrsn=4>
- [45] Shamsudin, N., Rosmi, M. I., & Mohamed, S. (2021). Macroeconomic Variables Influence on Stock Market Performance. *International Journal of Academic Research in Business and Social Sciences*, 11(8), 1364–1376
- [46] Shubita, M. F., & AL-Sharkas, A. A. (2010). A study of size effect and macroeconomics in new york stock exchange stock returns. *Applied econometrics and international development*, 10(2), 137-151.
- [47] Singh, P. (2014). An empirical relationship between selected Indian stock market indices and macroeconomic indications. *International Journal of Research in Business Management*, 2(9), 81-92
- [48] Singh, T., Mehta, S., & Varsha, M. S. (2011). Macroeconomic factor and stock returns: Evidence from Taiwan. *Journal of Economics and International Finance Vol. 2(4), 2*, 217–227.
- [49] Sin-Yu Ho (2018). Macroeconomic Determinants of Stock Market Development in South Africa. *International Journal of Emerging Markets*, 322-342.
- [50] Sin-Yu Ho (2020). The Macroeconomic Drivers of Stock Market Development: Evidence from Hong Kong. *Journal of Financial Economic Policy*, 185-207.
- [51] Tangjitprom, N. (2012). Macroeconomic factors of emerging stock market: The evidence from Thailand. *International Journal of Financial Research*, 3(2), 105-114.
- [52] Tian, G. G., & Ma, S. (2010). The relationship between stock returns and the foreign exchange rate: The ARDL approach. *Journal of the Asia Pacific Economy*, 15(4), 490-508.
- [53] Tsai, I. (2012). The relationship between stock price index and exchange rate in Asian markets: A Quantile Regression Approach. *International Finance Markets Institution and Money*, 22, 609-621.
- [54] The Economist. (2021, February 5). Why has the dollar weakened during the pandemic? <https://www.economist.com/the-economist-explains/2021/02/04/why-has-the-dollar-weakened-during-the-pandemic>
- [55] Ya'acob, F. F., Akbar, A., Ghul, Z. H., Ismail, M. Z., & Mokhtar, N. A. (2021). The Relationship between Macroeconomic Factors and The Performance of Stock Market in Malaysia: The Case of Malaysia Industrial Product and Services Sector. *International Journal of Academic Research in Business and Social Sciences*, 11(8), 1102-1116.