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INTEREST, EXCHANGE, AND INFLATION RATE AND STOCK PRICE IN ASIA COUNTRIES

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Abstract

This paper empirically investigates the relationship between macroeconomic variables namely the Interest rate, Inflation and Exchange rate on Stock price towards ASIA countries. Based from the past researchers studies the results shows that the macroeconomic fundamental have a significant impact towards the Stock price. This study uses annual data from 2009-2018 (10 years) on ten ASIA Countries, Malaysia, Thailand, Vietnam, Philippines, Singapore, India, Russia, South Korea, Japan and Qatar. The preliminary results by using Multiple Regression test to determine the significant impact between macroeconomic variables (inflation, interest rate and exchange rate) and stock prices. The result shows that only exchange rate does give significant impact on stock price. As for the investors, although the stock market is mainly influenced by economic effects and announcements, the investors can now consider the market size as a factor that will affect the stock returns. The smaller the market size, the greater the stock returns. A better result on this research could be found by employing more sample of study, gather more observation and include more variables such as market risk and systematic risk.

Keywords: Exchange Rate, interest rate, inflation, macroeconomic, stock price.

1. Introduction

Economic concept postulates the important variable in understanding behaviour of stock and predicting the trend and movements in exchange rates, include interest rates, inflation, the price level, money supply and other factors. The relationships between stock prices and foreign macroeconomic variable have drawn the attention of numerous economists, both for theoretical and empirical reasons, because they both play crucial roles in influencing the development of a country's economy. Actions of monetary authorities have a significant impact on stock prices and variance of interest rates signals good or bad information to investors (Lobo, 2000).

Stock market acts an essential persona mobilizing the resources within and from outside of an economic to enhance economic potentials. Therefore, higher stock returns implied higher profitability by firms and corporate bodies, in tum affect the growth of economy and vice versa. According to Fama (1981), the variables such as exchange rate, interest rate, industrial production, and inflation would be reflected by stock prices. This also supported by Ratanapakorn and Sharma (2007) on investigation the long run relationship between US stock prices and industrial production. A stock price reflects the value of anticipated future profits of companies. Since business cycle conditions impact the future profitability of firms, expectations about the business cycle will affect the current value of firms (Sadorsky, 2003).

The fundamental motivation behind this paper is to inquire about whether stock prices and exchange rates are identified with each other or not. The consequences of this investigation in the transient found that the exchange rate impact decidedly on stock market price index file for United Arab Emirate and there is no relationship between them. Other than the examination in the long haul found that the exchange rate impact adversely on stock market price index record for the United Arab Emirate as found by Mgammal (2012). The investigation took a gander at the connection between Stock Markets and Foreign Exchange advertise, and decided if developments in exchange rates affect stock market in Ghana. The Exponential Generalized Autoregressive Conditional Heteroskedascity (EGARCH) display was utilized as a part of building up the connection between conversion scale instability and securities exchange unpredictability. It was found that there is negative association between exchange rate unpredictability and stock market restores a devaluation in the nearby cash prompts an expansion in stock exchange returns over the long run (Adjasi & Agyapong, 2008).

Qamri et al. (2015) investigate the connection between stock price and inflation in Pakistan. Numerous past investigations around the globe tried the connection between stock price and swelling and proposed diverse results, a significant number of them found that there is certain connection amongst stock price and inflation. Then again, a few investigations understood the negative connection between these two terms. This examination relies upon recent years data of Karachi stock trade (KSE 100) and the factual consequences of this exploration demonstrates that there is negative connection between stock price and inflation. In addition, when costs of stock are firms avoid to enter in capital market until the point that the national bank offer exchange to affiliations mean to place assets into capital market. Additionally, association's value esteem is likewise hit by the startling swelling rate. In this manner, settling of fiscal arrangement can diminish expansion and stock costs both as people will be left with less cash to purchase merchandise or purchase stocks. Al-Rjoub (2003) did his study on five countries, which are Oman, Egypt,

Jordan, Bahrain and Saudi Arabia. He indicated that inflation is insignificant effect on stock price in Oman and Egypt, while has negative effect in Jordan, Saudi Arabia and Bahrain.

Stock market plays an important role in the economic development of a country. The statistical techniques utilized include unit root Augmented Dickey Fuller test, Johansen's co-integration and Granger's causality test. (Ali et al., 2010) The investigation discovered co-integration between industrial production index and stock exchange prices. However, no causal relationship was found between macro-economic indicators and stock exchange prices in Pakistan. Which means performance of macro-economic indicators cannot be used to predict stock prices; moreover, stock prices in Pakistan do not reflect the macro-economic condition of the country. (Flannery and James, 1984), this paper inspects the relation between the interest rate sensitivity of common stock returns and the maturity composition of the firm's nominal contracts. Using a sample of actively traded commercial banks and stock savings and loan associations, common stock returns are found to be correlated with interest rate changes. The co-movement of stock returns and interest rate changes is positively related to the size of the maturity difference between the firm's nominal assets and liabilities.

Gupta et al. (2001) investigated the causality between interest rate, exchange rate and stock price in Jakarta Stock Exchange and failed to find any relationship between interest rate and stock price. This includes the data between 1993 until 1997. Beirne et al. (2009) inspected the affectability of financial sector stock returns to market, interest rate, and exchange rate risk in three financial sectors (Banking, Financial Services and Insurance) in 16 countries, including various European economies, the US and Japan. We find in most cases a significant positive effect of stock market returns on mean returns in each sector; by contrast, interest rates and exchange rates have a significant effect (negative and mixed, respectively) in a fewer number of cases (Alagidede, 2009). The topic of whether common stocks can act as a hedge against inflation has received tremendous attention in the economics and finance literature, but with little or no evidence for African countries. This letter examines the Fisher theory for 6 African countries. Utilizing OLS estimates we find positive relationship between inflation and stock returns in Kenya and Nigeria. This suggests that investors should expect stocks to be a good hedge against inflation over long horizons.

2. Problem Statement

In recent times, stock market has become a popular issue discussed by many researchers. Stock market comprises of corporate capital and ownership, which is essential to reflect economy condition of a country. In details, it acts as a crucial tool to indicate performance and serve as a barometer of the country financial competitiveness, while providing guidelines for implementation of monetary policy. The previous work history related to the impact interest rate, inflation and exchange rate towards GCC countries, Malaysia, Kenya and other countries with reference is reviewed in this chapter for the purpose of making evaluation, verification and distinction. The existence of well-developed of stock market will help to stimulate the course of economic growth in a country, providing a connection between the government and investors and stabilizing the prices of securities and providing benefit to investor. Currently there are very limited studies which determine the impact of interest rate, inflation and exchange rate on stock price towards Asia countries. This study will help to understand the impact of Interest Rate, Inflation and

Exchange Rate on Stock Price towards Asian countries. On the other hand, this will also help others to understand the impact of Stock Price in Asia Countries.

Hence, aim of this research is to study studies on the impact of inflation, interest rate and exchange rate on stock price towards ASIA countries which received a very little attention from other researchers.

3. Research Questions

For continuing this research, the research question that will be conduct in order to get the result are as follow:

3.1 What is the significant impact between the macroeconomic variable (inflation, interest rate and exchange rate) and stock prices towards ASIA countries?

4. Purpose of The Study

This study aims to achieve the following objective:

4.1 To study the significant impact between macroeconomic variable (inflation, interest rate and exchange rate) and stock prices towards ASIA countries?

5. Research Methods

This study uses annual data from 2009-2018 (10 years) on ten ASIA Countries, Malaysia, Thailand, Vietnam, Philippines, Singapore, India, Russia, South Korea, Japan and Qatar which will be tested for the macroeconomics variables (inflation rate, exchange rate and interest rate) and stock price for research purpose. The data of stock price for each country are obtained from International Monetary Fund (IMF), Bursa Malaysia, International Financial Statistics (IFS), World Bank Group and Thomson Reuters. The data that has been used in this study is time series data which is collected over ten-year period from 2009 to 2018 on yearly basis. The data will be analysed through regression analysis to find out the impact between stock price and the said independent variables.

5.1. Research Hypothesis

H01: There is no impact between inflation rate and stock price.
H11: There is an impact between inflation rate and stock price.

H02: There is no impact between exchange rate and stock price.
H12: There is an impact between exchange rate and stock price.

H03: There is no impact between interest rate and stock price.
H13: There is an impact between interest rate and stock price.

5.2. Model Equation

SPit = α + β (INTit) + β (EXCit) + β (INFit) + εit

Where;

SPit	=	Stock price.
α	=	Constant.
β	=	Coefficient beta value.
INT	=	The slope and the value of Interest Rate.
EXC	=	The slope and the value of Exchange Rate.
INF	=	The slope and the value of Inflation Rate.
ε	=	Random error term.

6. Findings

6.1. Descriptive Statistics

The means represent the average of each variable throughout 10 years. Inflation rate has the maximum mean value, which is 4.673, followed by exchange rate, stock price and interest rate which is 3.16, 3.04 and 1.35 respectively. The standard deviation used for measuring the risk of the variable. Stock price has maximum value of standard deviation which is 2.977 and the lowest value of the standard deviation is 0.671 which is represented by inflation rate. The detailed of it was presented in table 01.

Table 01. Descriptive Statistics

	Stock Price	Interest Rate	Exchange Rate	Inflation Rate
Mean	3.036684	1.348455	3.160067	4.673
Standard deviation	2.977029	.861962	1.842131	.671167

6.2. Regression Analysis

Based on the model summary (see table 02), all the three variables have a significant coefficient to the regression model. The co-efficient of multiple determinations R-square value is 0.5002 which is equivalent to 50.02%. 50.02% indicates the variance of the independent variable which are stock price explained by the three predictors which is inflation, exchange rate and interest rate respectively. From the ANOVA table; Ƒ Value = 38.03 and ρ-value at 0.000 is less than 0.05 alpha, if $p<0.05$ then H0 is rejected. Thus, it could be concluding that the predictor is strongly effect to the stock price.

Table 02. Pooled Ordinary Least Square (POLS) test

Variables	Stock returns		
	Coefficient	Standard error	P>|Z|
Interest Rate	-.067252	.1474621	0.649
Exchange Rate	-.8123769	.0762731	0.000
Inflation Rate	-.1210785	.1878363	0.520
_cons	7.702278	492.632	0.000
R2	0.5002		
Adj R2	0.4870		
F-statistic	38.03		
Prob (F-Statistic)	0.000		

According to coefficients in table 02 above, the research regression model can be rewrite as SP = **7.7023 + -0.0673 (INT) + -0.8124 (EXC) + -0.1211 (INF)**. This explain that the independent variable which is interest rate have positive impact on the stock price. Therefore, the independent variable which is exchange rate and inflation have negative impact on the stock price.

The coefficient for each of independent variable indicates the amount of change that one could expect in the dependent variable given a one unit change in the value of the that particular variable, given that all the other variable constant. Based to the above table, we would expect an increasing one percentage of interest rate, it will give no effect on stock price as it shows insignificant result. This is aligned with research done by Gupta et al. (2001). In briefly, when inflation increases about one percentage, it also not give any impact on stock price as per research done by Al-Rjoub (2003). If holding other variable is constant, increase one percentage of exchange rate it will increase stock price decrease by 0.8124 unit as supported by Mgammal (2012).

7. Conclusion

This study examines the determinants that have impact towards the stock price in Asia Countries for period of 10 years starting from 2009 till 2018. The independent variables of this study are interest rate, inflation and exchange rate whereas the dependent variable is stock price. This research covers 10 years which is from 2007 until 2016 on yearly basis. The data that analysed using STATA version 10 in order to achieve to objective and complete this research paper. The test used to run the data is regression analysis method. The study reveals that only one variable has a significant impact towards the stock price which is exchange. As for the investors, although the stock market is mainly influenced by economic effects and announcements, the investors can now consider the market size as a factor that will affect the stock returns. The smaller the market size, the greater the stock returns. A better result on this research could be found by employing more sample of study, gather more observation and include more variables such as market risk and systematic risk.

Investor will somehow grip the risk factor on how macroeconomic variables will give effect on Stock Price and will help them to take better decision to invest in the stock. Therefore, this research provides signal to investors whether to invest and divest in the stock. Apart from that, by hedging the stock price, investors are able to lessen government movement. This actually preserve worth portfolio. When Inflation increase, the stock price increases as well therefore Asian countries government should securitize more on their country's consumption of government expenditure since these variable (inflation) has a significant relationship towards stock price. Therefore, this research helps government to predict macroeconomic variables such as inflation, growth or consumption, and to create statistical models in economics and use them to predict responses to economic policy. The future researcher can intensify their methodology by utilizing alternate time frequency like monthly, weekly or daily basis while including more test using latest frequencies like E-views and Ordinary Least Square (OLS). The future researcher may use different method as supported by the previous studies such as Vector Correction Model (VECM). Future researcher is recommended to concern lag length in those tests because the wrong lag length can lead to the false outcome.

outcome.

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