EFFECT OF INFLATION, EXCHANGE RATES, AND INTEREST RATES ON FINANCIAL SECTOR SHARE PRICES

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Abstract

The financial sector share price has a high performance on the Indonesia Stock Exchange during 2010-2020. This condition indicates that investors have an interest in companies in the financial sector. This research aims to find out the effect of inflation, exchange rates, and interest rates on the stock prices of the financial sector. The study uses a quantitative approach, research data used during the years 2010-2020. Processing data uses reviews applications that first use classic assumption tests and multiple regressions. The research showed that simultaneously inflation, interest rates, and
exchange rates affect stock prices, while partially showed that exchange rates have a positive effect on stock prices, interest rates negatively affect stock prices, while inflation does not affect stock prices. This research model shows an effect on the stock price by 78%.

**Keywords:** Inflation; Exchange rate; Interest rates; Share Price; Financial sector.

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**Citation:**

**INTRODUCTION**

Indonesia's economy is one of the world's major emerging economies, the world's sixth-largest and the sixth-largest in Asia after China, Japan, India, Russia, and South Korea (Basit & Haryono, 2021). The country's economy ranks Indonesia as the world's 16th largest economic power which means Indonesia is also a member of the G-20 (Sudaryono, Rahwanto, & Komala, 2020).

For 2 (two) decades Indonesia revived the economy supported by export-based industrial and trade activities that drove the Indonesian economy into one of The East Asia Miracle (Faqih, 2018), where Indonesia was able to create political, social and defense-security stability that became a strong economic foundation to produce high economic development and growth supported by the growing financial industry sector (Rusydiana & Antonio, 2016).

The economic development of the financial sector is also characterized by the emergence of digital banking which began with the entry of stock exchanges and the increase of stocks in the financial sector (Palinggi & Allolinggi, 2019). This can be seen from the development of the financial sector stocks listed on the Indonesia Stock Exchange as follows:
Image 1 shows that the stock price of the financial sector has increased steadily, despite the decline during the covid-19 pandemic. This indicates that financial sector stocks are favorite stocks for foreign and local investors who invest in the Indonesia Stock Exchange.

Financial sector shares listed on the Indonesia Stock Exchange are 105 companies. There are banking sub-sectors, financing institutions, securities companies, and insurance in the financial sector. The financial sector became a sector that had positive growth before the covid-19 pandemic.

Reporting from the CNN Indonesia page (28/12/2018), in 2018 several achievements have been inscribed by the Indonesian financial services sector. In 2018, credit growth in the banking sector reached 9.3% while the growth of third-party funds (DPK) of banks was around 5% (YTD).

The Financial Services Authority (OJK) revealed several achievements in the financial sector’s performance in 2018. Although domestic financial conditions are hit by various external factors, economic growth at the end of the year can reach above 5 (five) percent (Liputan6.com, 02/01/2019).

Exchange data noted, the performance of the financial sector from the beginning of the year to the end of 2019 increased by 15.51%, the second-highest performance compared to other sectors (CNBC
Indonesia, 26/12/2019). Interestingly, when there is a covid-19 pandemic in 2020, the stability of the financial services sector is well maintained amid economic pressures caused by the Covid-19 pandemic.

OJK has prepared various further stimulus policies to maintain the financial services industry and increase its contribution in encouraging and restoring the national economy contained in the Masterplan of the Indonesian Financial Services Sector (MPSJKI) 2021 - 2025 (Kontan, 16/01/2021).

The development of stock prices, of course, is influenced by macro factors such as inflation, exchange rates, and interest rates, because investors view the macroeconomic situation as one of the indicators of the economic state of a country.

Theoretically, there is Arbitrage Pricing Theory (APT) which is an asset pricing model based on the idea that the return of an asset can be predicted using the relationship between the same asset and risk factors in general. APT theory shows that there is an effect of inflation, exchange rates, and interest rates on stock prices.

Research by Lintang, Mangantar, & Baramuli (2019), during the period 2013-2017 in Indonesia showed that inflation does not affect stock prices. Research by Pasaribu, Fernando, and Kowanda (Fernando & Kowanda, 2013) during the period 2003-2010 showed the results that inflation, exchange rates, and money supply influenced stock prices.

The results of the study have differences with Kewal’s research (2012) in Indonesia during the period 2000-2009 which showed that inflation rates, SBI interest rates, and GDP (Gross Domestic Product) growth did not have a significant influence on stock prices, while rupiah exchange rate had a negative and significant effect on IDX Composite (Indonesia Stock Exchange Composite).

Kewal’s research proves that the variable rupiah exchange rate affects positively significantly against IDX Composite which means that the stronger rupiah exchange rate against US $ (rupiah appreciates) will increase the stock price, and conversely if the weaker rupiah exchange rate against US $ will lower the stock price.
Empirically, there are differences in research results even though the variables studied are the same, it is due to many factors such as different periods, the focus of different research sectors, differences in research between developing and developed countries, and the influence of fundamental economic factors on stock prices. Based on previous research that shows differences in research results, the scope of this study will be further reduced to provide coherent research results.

The research was conducted on the financial sector contained on the Indonesia Stock Exchange (IDX) which aims to ascertain economic fundamental factors that affect stock prices. This is because each sector of the economy listed on the IDX has different characteristics, so focusing on one sector will be able to ensure economic fundamental factors that affect consistently.

The factors that affect stock prices are macroeconomic and fundamental. Macroeconomic factors stem from broad economic problems, one of which is inflation. While fundamental factors can be seen from financial statements that can show the level of financial performance and the ability to generate profits (Sudarsono, 2016).

Inflation has a huge impact on a national economy. High inflation will push the price of building materials to be increasingly expensive, causing high production costs that must be borne by the company. Decreased purchasing power and high production costs will indirectly affect capital market conditions. The impact of inflation will be felt by all companies in the industry.

This condition will affect the performance of the capital market, because many companies are unable to operate optimally, as a result of which the capital market faces high uncertainty. A rational investor will try to get the maximum expected return with a minimum level of risk. Return is usually directly proportional to risk, which is the higher the level of risk faced, the higher the return on the investment, thus otherwise (Geriadi, 2017).

Interest rates have a great impact on investors to invest their capital, interest rates have an influence on stock prices with profitability as an intervening variable in Banking listed on the Indonesia Stock Exchange.
Previous research by Annisa (Annisa, 2012) proved that "partially the influence of the inflation rate has a positive influence on stock prices and the influence of interest rates partially negatively affects the stock price in banking recorded in LQ45".

Rupiah exchange rate is an economic symptom that will have an impact on economic activities on a domestic and global scale, depreciating rupiah against US$ causing most companies to be unable to repay their loans to the Bank.

One of the policies taken by the Government to reduce exchange rate turmoil, namely by raising interest rates through Bank Indonesia Certificate (SBI) and Money Market Securities (SBPU) instruments. Exchange rates have an impact on stock price movements. Based on macroeconomic theory if the exchange rate is expressed with the unit of domestic currency per foreign currency it will have a positive relationship with the stock price.

As an investor there is several important information that must be considered related to the very volatile stock price, this greatly influences the decision of investors in making wise decisions in choosing and managing stocks that are good and correct. An accurate stock valuation can minimize risk while helping investors make a profit (Prasetioningsih, 2018).

Based on this paradigm of thinking, researchers want to research the APT pattern of macroeconomic factors, namely the influence of inflation, exchange rates, and interest rates on the stock price of the financial sector in Indonesia.

LIBRARY REVIEW

Previous research on the influence of macroeconomics on stock prices was conducted in many countries, both in developed countries, emerging market countries, and previous research in Indonesia.

The results of previous studies show the following:

Rachmwati’s (2019) research results show that (1) Inflation has a negative and significant effect on the stock price of banking companies listed on the LQ45 Indonesia Stock Exchange. (2) Interest rates negatively and significantly affect the stock price of banking companies listed on the Indonesia Stock Exchange's LQ45. (3) Inflation and
Interest Rates negatively and significantly affect the shares in banking companies listed on the Indonesia Stock Exchange LQ45 in 2015-2017.

Astuti and Ardila (2019) showed that the interest rate of Bank Indonesia and rupiah exchange rate on the US Dollar partially had no significant effect on the price of LQ45 Shares, rupiah exchange rate on the US Dollar partially had no significant effect on the LQ45 share price, the interest rate of bank Indonesia and rupiah exchange rate on the US Dollar simultaneously together did not have a significant effect on the price of LQ45 shares on the Indonesia Stock Exchange from 2009 to 2015.

Efendi and Mardani’s (2018) samples used in this study are the value of interest rates and rupiah exchange rates with the highest and lowest stock prices in banking companies listed on the Indonesia Stock Exchange in 2013-2015. SBI has a significant positive effect on the stock price. This indicates that bank Indonesia’s rate hike will have an impact on the increase in stock prices. Exchange rates have a significant negative effect on stock prices. This indicates that the increase in the exchange rate will have an impact on the decline in the stock price, thus otherwise.

Rahayu and Masud (2019) the results of this study found that variable interest rates had a positive and insignificant effect on the stock price of manufacturing companies (food and beverage sub-sectors) listed on the Indonesia Stock Exchange. This explains that an increase in interest rates will be followed by an increase in stock prices and can be a benchmark for investors to invest in the stock market.

Rupiah exchange rate variables have a negative and insignificant effect on the share price of manufacturing companies (beverage food sub-sectors) listed on the Indonesia stock exchange. It can also be interpreted that rupiah exchange rate is inversely proportional to the stock price so an increase in rupiah exchange rate will lower the share price of manufacturing companies (food and beverage sub-sectors) listed in the Indonesia Stock Exchange.

The variable trading volume of shares has a positive and significant effect on the share price of manufacturing companies (food and beverage sub-sectors) listed on the Indonesia Stock Exchange.
volume is not only affected by the small frequency of trades but also by the value of the transaction.

Upadhyaya and friends (2018) this study investigated the relationship between stock prices and selected macroeconomic variables in India. Empirical results show that, in the long run, output growth and exchange rates are positively related to stock prices, while money supply indicates a negative relationship to stock market prices. In the short term, most variations in the stock market are captured by its innovation, although exchange rates, price levels, and interest rates seem to have some effect on short-term stock prices.

Based on previous research, it shows that there is a pattern of macroeconomic influence on stock prices. Based on this, the position of this study is aimed at finding patterns of influence between inflation, exchange rates, and interest rates on stock prices in the financial sector on the Indonesia Stock Exchange during the period 2010-2020.

RESEARCH METHODS

This type of research is a type of quantitative research that is a systematic scientific study of the parts and phenomena and causality of their relationships. Multiple regression research methods are regression or prediction models that involve more than one free variable or predictor. The term multiple regression can also be called multiple regression.

The word multiple means plural or more than one variable (Norwanto, Noto & Fatta). While verification research or causality research is a study that tests the truth of causal relationships (cause and effect) which is the relationship between independent variables and dependent variables.

Luan, Yang, Fermüller, & Baras (2016) define a research object as an attribute or trait, or value of a person. Objects or activities that have certain variations are determined by the researcher to be studied and then concluded. The object in this study is macroeconomic factors against the stock prices of the financial sector listed on the Indonesia Stock Exchange.

Based on data sources, the study used secondary data. Secondary data is data sourced from records available to the company and from
other sources, such as conducting literature studies by studying books related to research objects or using data provided by the Indonesia Stock Exchange (Danang, 2013) and using the time series method.

The data used in this study is secondary data in the period 2010 - 2020 in the form of panel data. Data yang tersedia kemudian melalui proses pencatatan data, dan pengelompokan data berdasarkan kriteria variabel independen dan variabel dependen. The data obtained is derived from IDX and Bank Indonesia website data.

1. Data Collection Techniques

This research uses data collection techniques in the form of documentation because it uses secondary data. Documentation of research data was obtained from Bank Indonesia and the Indonesia Stock Exchange.

2. Population and Sample

Sugiyono’s (2013) population is a generalization area consisting of objects/subjects that have certain qualities and characteristics set by researchers to be studied and then drawn conclusions. The population in this study is a company listed on the Indonesia Stock Exchange. The population in this study is data on inflation, exchange rates, interest rates, and financial sector stock prices obtained from the IDX and BI websites. There are banking sub-sectors, financing institutions, securities companies, and insurance in the financial sector.

The sample size is the number of samples that will be taken from a population. The sampling technique used is a saturated sample which means the entire population is used as a sampling sample of 105 companies (attachments).

The sample used in this study is data on inflation, exchange rates, interest rates, and financial sector stock prices for 10 years, namely from 2010 to 2020. Related to the number of companies taken, all companies that are included in the financial sector on the Indonesia Stock Exchange.

3. Variable’s Definition

A variable is an attribute or trait or value of a person, object, or activity that has certain variations set by the researcher to be studied
and drawn conclusions (Ridha, 2017). Based on the frame of mind described earlier, the variables in this study consist of independent and dependent variables as follows:

a. Independent Variable (X)

Independent variables or also referred to as free variables are variables that affect or cause changes independent variables or bound variables. Independent variables are variables that affect dependent variables, both positively and negatively (Bougie & Sekaran, 2013). In this study, the independent variables used were as follows:

1. Interest

Fisher’s (1933) interest rates are the prices that lead to the equilibrium of the desire to store wealth in cash with a supply of cash resources, and the reward for parting with liquidity at the same time. The interest rate is the price of the use of investment funds (loanable funds). Interest rates are one of the indicators in determining whether someone will divest or save (Boediono, 1999).

2. Exchange rate

Rupiah exchange rate is the price of rupiah against the currencies of other countries. Thus, rupiah exchange rate is the value of rupiah currency that is translated into the currency of another country.

3. Inflation

Inflation is the tendency of prices to increase thoroughly and continuously. An increase in the price of one or two goods alone is not called inflation unless the increase is widespread or results in an increase in most prices of other goods.

b. Dependent Variable (Y)

Dependent variables or also referred to as bound variables are the main factors that want to be explained or predicted and influenced by several other factors (Noor, 2000). The dependent variable in the study was the stock price.
Variable Operationalization

Table 1. Variable Operationalization

<table>
<thead>
<tr>
<th>No.</th>
<th>Variable</th>
<th>Indicators</th>
<th>Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.</td>
<td>Exchange Rate</td>
<td>An exchange rate is the price of a currency against another or the value of one currency against the value of another currency.</td>
<td>Exchange rate</td>
</tr>
<tr>
<td>3.</td>
<td>Inflation</td>
<td>The trend of prices increases thoroughly and continuously. An increase in the price of one or two goods alone is not called inflation unless the increase is widespread or results in an increase in most prices of other goods.</td>
<td>Inflation rate</td>
</tr>
<tr>
<td>4.</td>
<td>Interest</td>
<td>That price leads to equilibrium the desire to store wealth in cash with a supply of cash resources, and rewards for parting with liquidity at the same time. Interest rates are the price of using investment funds.</td>
<td>Interest</td>
</tr>
</tbody>
</table>

This study uses statistical analysis to know the picture of the data used in the study, with the arrangement in such a way that it is easy to understand the characteristics possessed by the data (Bougie & Sekaran, 2013). In this study, the descriptive statistical analysis focused on maximum, minimum, average (mean), and standard deviation.

The approaching model in the calculation of the panel data regression model in this study uses the common effect model (Pool Least Square / PLS). Application for Perform data analysis using Eviews-9.
RESULTS AND DISCUSSIONS

A. Description of Financial Sector Shares

Indonesia Stock Exchange (IDX) is the party that organizes and provides a system as well as a means to bring together the offers of buying and selling securities of other parties with the aim of trading securities between them.

Indonesia Stock Exchange is an exchange resulting from the merger of the Jakarta Stock Exchange (BEJ) with the Surabaya Stock Exchange (BES). For the sake of operational and transaction effectiveness, the government decided to merge the Jakarta Stock Exchange as a stock market with the Surabaya Stock Exchange as a bond and derivatives market into IDX. The exchange began operations on December 1, 2007. Financial sector shares listed on the Indonesia Stock Exchange are 105 companies. All companies in the financial sector of 105 companies were sampled in the study.

Financial sector companies listed on the IDX (Indonesia Stock Exchange) are one of the stock indices that are part of the sectoral index subsector. Financial Sector Companies in IDX have several subsectors, namely: a) Insurance Subsector; b) Bank Subsector (Banking); c) Subsector of Financing Institutions; d) Subsector of Securities Companies, and d) Other Financial Subsectors.

The insurance subsector consists of an insurance company which is an institution that provides various insurance policies to protect each customer from the potential risks that occur (according to the insurance policy) held. The bank subsector is one of the financial subsectors where the company is most widely registered with the IDX.

For banks, maybe you are already familiar. Yes, a bank is a business entity or entity that collects funds from the financier community and then distributes the funds to the community in the form of credit or other.

The subsector of financing institutions consists of companies (business entities) that are not banks, often also called LKBB (Non-Bank Financial Institutions). This financial institution was established to carry out business activities related to SGU (Rent for Business),
Factoring Receivables, Credit Financing, etc. The subsector of securities companies consists of companies engaged in securities transactions (securities) on the Indonesia Stock Exchange (IDX). Securities companies are also often referred to as intermediaries for investors who want to invest in the capital market. Other financial subsectors are also engaged in the financial industry, but the business that is run does not belong to the insurance subsector, banks, financing institutions, and securities.

In its development, IDX makes several sectors of companies listed in the IDX. There are banking sub-sectors, financing institutions, securities companies, and insurance in the financial sector. This sector is the sector that showed the best performance over the last 10 years, namely 2010-2020. In addition, since 2020 the number of digital banks both sharia and conventional in IDX makes this sector's shares very interesting to conduct research related to macroeconomic influences on stock prices.

**B. Hypothesis Testing Plan**

1. Test (Simultaneous Test)

   The F test is performed to test whether simultaneously independent variables have an effect on dependent variables with a confidence rate of 95% (α = 0.05). The research hypothesis is simultaneous as follows:

   $H_0: b_1,...,b_8 = 0$, meaning that exchange rates, interest rates, and inflation together do not affect stock prices;

   $H_0: b_1,...,b_7 ≠ 0$, meaning that exchange rates, interest rates, and inflation jointly affect stock prices.

   If the test has been carried out with $F_{count}$ results, then the next step of the test results is compared with $F_{table}$ to determine the area of the hypothesis with the following testing criteria:

   - if $F_{count} > F_{table}$, then $H_0$ is rejected
   - if $F_{count} < F_{table}$, then $H_0$ is accepted
2. T-Test (Partial Test)

The partial test (t-test) is performed to partially test the influence between independent variables against dependent variables assuming that other variables are considered constant with a confidence rate of 95% (α = 0.05). The partial research hypothesis is as follows:

a) $H_{05}: b_1 = 0$, which means that interest rates do not affect the stock price.

$H_{15}: b_1 \neq 0$, which means that interest rates affect the stock price.

b) $H_{06}: b_2 = 0$, which means that the exchange rate does not affect the stock price.

$H_{6}: b_2 \neq 0$, which means that the exchange rate affects the stock price.

c) $H_{07}: b_3 = 0$, which means that inflation does not affect stock prices.

$H_{17}: b_3 \neq 0$, which means that inflation affects the stock price.

If the test has been done, the test results $t_{\text{count}}$ compared $t_{\text{table}}$ with the following conditions:

a) Reject $H_0$ and accept $H_1$ if $t_{\text{count}} > t_{\text{table}}$, receive $H_0$ in other respects, and

b) Reject $H_0$ and accept $H_1$ if $-t_{\text{count}} < -t_{\text{table}}$, accept $H_0$ in other respects.

R-square is used to find out how much ability variable Exchange Rate Ratio, Interest Rate and Inflation in explaining Stock Price. To test researchers' data in calculations, the help of the E-views 9.0 program is used.

C. Presentation of Analyzed Data

1. Heteroskedasticity Test

Heteroskedasticity is a test of classical assumptions used to see if there are deviations in assumptions in regression models. This deviation is due to the residual variance inequality for all observations in the regression model. The condition that must be met is the absence
of deviation of heteroskedasticity.

**Heteroskedasticity Test: Glejser**

<table>
<thead>
<tr>
<th></th>
<th>F-statistic</th>
<th>Prob. F(3,128)</th>
<th>Obs*R-squared</th>
<th>Prob. Chi-Square(3)</th>
<th>Scaled explained SS</th>
<th>Prob. Chi-Square(3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>F-statistic</td>
<td>1.638985</td>
<td>0.2110</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Obs*R-squared</td>
<td>3.663373</td>
<td>0.7989</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scaled explained SS</td>
<td>3.825369</td>
<td>0.4659</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Based on the data, it shows that the F-statistic results are 16.38985 and Obs * R-squared 3.625369. If Prob. Chi-Square < α, then there are symptoms of heteroskedasticity, whereas if Prob. Chi-Square > α, then there are no symptoms of heteroskedasticity (homoskedasticity). Based on the data, it can be concluded that accept H₀ or no symptoms of heteroskedasticity occur, because 0.7989 > 0.05.

2. Multicollinearity Test

The Multicollinearity test aims to test whether in regression models there is a high or perfect correlation between independent variables. If X’s intervariable independent multicollinearity occurs perfectly, then the regression coefficient of variable X cannot be determined and the standard value of error becomes infinite.

If X’s intervariable multicollinearity is not perfect but high, then the regression coefficient X can be determined, but it has a high standard error value which means the regression coefficient value cannot be estimated correctly.

<table>
<thead>
<tr>
<th>EXCHANGE RATE</th>
<th>INTEREST</th>
<th>INFLATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXCHANGE RATE</td>
<td>1</td>
<td>-0.3633601721167784</td>
</tr>
<tr>
<td>INTEREST</td>
<td>-0.3633601721167784</td>
<td>1</td>
</tr>
<tr>
<td>INFLATION</td>
<td>-0.4401588887495445</td>
<td>0.7465194743981357</td>
</tr>
</tbody>
</table>

Multicollinearity test results showed no high correlation value between free variables or did not exceed 0.80, so it was concluded that there was no multicollinearity between free variables.
3. Normality Test

The normality test aims to test whether, in regression models, confounding or residual variables have a normal distribution. A commonly used normality test is the Jarque-Bera (JB) test. The JB test is one of the testing methods used for large (asymptotic) samples.

The Normality test is useful for determining data that has been collected in the normal distribution or taken from a normal population. The classical method of testing the normality of data is not complicated. Based on the empirical experience of some statisticians, data that is more than 30 numbers (n > 30), can be assumed to be a normal distribution.

It is commonly said to be a large sample. But to provide certainty, the data owned is the normal distribution or not, should be used normality test. Because not necessarily data that is more than 30 can be ascertained to be the normal distribution, so on the contrary, data that is less than 30 is necessarily not a normal distribution, for that it needs proof. The statistical test of normality that can be used is Jarque-Bera.

The results of the residual normality test above are jarque bera value of 2.051013 with a p-value of 0.358615 where > 0.05 to receive H₁ or which means residual normal distribution. Results showing such normal distributed data showed the research data qualified for the classical assumption test.

4. Autocorrelation Test

Autocorrelation is one of the classic assumption tests used to determine assumption deviations, namely the existence of correlations caused by residuals in one observation with other observations in regression models. The requirement that must be met is the absence of autocorrelation. A frequently used testing method is the Durbin-Watson (DW test). In addition to using the Durbin Watson test,
autocorrelation testing can also be done with the Breusch-Godfrey Serial Correlation LM Test.

The autocorrelation test aims to test whether in a linear regression model there is a correlation between residual errors in the "t" period and errors in the "t-1" period (previously). If there is a correlation, then there is a problem of autocorrelation. Autocorrelation arises because successive observations over time are related to each other. This problem arises because residual (error disruptors) are not free from one observation to another. It is often found in time series data due to "interference" in the same individual/group in the following period.

**Breusch-Godfrey Serial Correlation LM**

<table>
<thead>
<tr>
<th></th>
<th>F-statistic</th>
<th>Obs*R-squared</th>
</tr>
</thead>
<tbody>
<tr>
<td>F-statistic</td>
<td>0.490112</td>
<td>1.019281</td>
</tr>
<tr>
<td>Prob. F(2,125)</td>
<td>0.6137</td>
<td>0.6007</td>
</tr>
<tr>
<td>Prob. Chi-Square(2)</td>
<td>0.6137</td>
<td>0.6007</td>
</tr>
</tbody>
</table>

The autocorrelation test is primarily used for many above 100 observations. This test is indeed more appropriate to use than DW tests, especially when the sample used is relatively large and the degree of autocorrelation is more than one. The LM test will produce Breusch-Godfrey statistics so the LM test is also sometimes called the Breusch-Godfrey test (BG test).

The above results show that if the hypothesis in the autocorrelation test is the LM test above shows the value p of the value Obs*R-squared = 1.019281 is statistically significant (more than 0.05) meaning that there is no autocorrelation. In addition, the Prob value. F (2.125) is 0.6137 and Prob. Chi-Square(2) is 0.6007 which means above 0.05, so it can be concluded that there is no autocorrelation.

5. Multiple Regression Test

Regression tests are aimed at testing the simultaneous and partial influence of macroeconomics on financial sector stock prices. The F test is a statistical test that aims to determine the influence of all free variables together (Simultaneously) on bound variables. In EViews, the output of the F test can be seen at point 1, namely F-statistic and/or
Prob(F-statistic). F-statistics are also referred to as F-count, while Prob (F-statistic) is also called the p-value. The “t” test is a statistical test that aims to determine the effect of free variables individually (partially) on bound variables. The output of the “t” test on EViews is t-Statistic and Prob.

Based on the data shows that prob (F-statistic) of 0.000000 which means simultaneous exchange rates, interest rates, and inflation affect the stock price of the financial sector. While partially, the exchange rate has a positive effect with Prob 0.0000 and coefficient 90.12438 against the stock price of the financial sector which means the higher the exchange rate, the higher the stock price increases. Interest rates negatively affect prob 0.0000 and coefficient -69.94733 against the stock price of the financial sector, which means the more interest rate rent, then the stock price increases. Meanwhile, during 2010-2020 inflation has no effect with Prob 0.1155 > from 0.05 to the stock price which means the increase or decrease in inflation has no impact on the stock price of the financial sector. This research model shows an influence on the stock price by 78% so that the model can be used as a reference in knowing the movement of financial sector stock prices.
Simultaneous test results showed that inflation, exchange rates, and interest rates affect the stock price of the financial sector, while partially inflation does not influence stock prices, interest rates negatively affect and exchange rates have a positive effect on stock prices.

A. The Effect of Exchange Rates on Stock Prices

The results of this study showed that the exchange rate has a positive effect on the stock price of the financial sector which means the higher rupiah exchange rate against foreign currencies or rupiah appreciates the stock price of the financial sector increases. The results indicate that investors will be more optimally profitable, when buying stocks in the financial sector when rupiah exchange rate is appreciative of foreign currencies because high exchange rates will be more favorable to them, especially for foreign investors who are very dependent on exchange rates.

The results are in line with previous research conducted by Pasaribu, Fernando, and Kowanda (2013) during the period 2003-2010 showing the results that exchange rates have a positive influence on stock prices. Similarly, Upadhyaya and friends (2018: 35) this study investigated the relationship between stock prices and selected macroeconomic variables in India. Empirical results show that, in the long run, exchange rates are positively associated with stock prices. In the short term, most variations in the stock market are captured by its innovation, although exchange rates seem to have some effect on short-term stock prices.

Based on these comparisons, this study shows conformity with the APT theory that asset pricing can be predicted by looking at macroeconomic movements in a country. This indicates that there is a conformity between theoretical and empirical studies of exchange rates and the stock prices of the financial sector.

Exchange rate movements will have a direct effect on the valuation of the product. This is because exchange rate fluctuations contribute to adjustments in the company’s sales and costs that impact the company’s profit and loss. Changes in exchange rates will also have an impact on financial output and product profitability. This effect is caused by changes in exchange rates that affect changes in cash inflows.
and exits, especially for companies with domestic currency supremacy. Aside from sales, changes in exchange rates will also change the amount of foreign debt, which in turn will affect the company's revenues and losses.

But in some previous studies, the exchange rate negatively affects stock prices, such as Devi research (2021) which showed that rupiah exchange rate/exchange rate negatively and significantly affects the Indonesia Stock Exchange Composite (IDX Composite) on the Indonesia Stock Exchange (IDX) in January-December 2020, so $H_2$ is accepted. This is because uncertainty due to the impact of covid-19 causes investors to be more interested in foreign currencies compared to rupiah. Soeni research and friends (2021) showed that exchange rate variables negatively affect IDX Composite on the Indonesia Stock Exchange (IDX) in the period leading up to and during the Covid-19 pandemic.

The increase in the value of the currency (appreciation) contributed to the decrease in inflation expectations due to the increase in rupiah supply. Currency exchange rates are a function of the relationship of foreign exchange demand to supply forces. Determining rupiah exchange rate against foreign currencies is very important for players in the Indonesian capital market. Because exchange rates have a large influence on the volume of taxes to be paid, and on the valuation of equity and bond sales in the capital markets. An unstable adjustment in the exchange rate will reduce foreign investors' confidence in the Indonesian economy. This will undoubtedly hurt financial markets for the stock market, as foreign investors will continue to withdraw their funds, which will contribute to a cash breakout, reducing the declining rate of return to spread.

These factors suggest that a shift in rupiah exchange rate from the dollar will also change the amount of the company's revenue and losses. Especially for the hospitality industry that uses different types of currencies. An increase in rupiah exchange rate will also increase business profits in rupiah amounts. The difference between this year and last year is known as an exchange rate increase. Several studies have been conducted, some of which have considered changes in exchange rates to help stock returns. This means that the business's return tolerance will increase as the exchange rate rises.
The weakness and high volatility that occurs at the rupiah exchange rate to the US dollar has a negative impact on almost all issuer sectors. The biggest negative impact hit import-based issuers. Issuers who also feel the negative impact of the weakening of the rupiah exchange rate are companies that have large debts in U.S. dollars. This condition indicates that the increase in the exchange rate will decrease the profits of the stock.

The exchange rate in this study shows a positive influence on the stock price of the financial sector because the Indonesian banking system is macro in solid condition. Thus, banks will withstand the impact of the depreciation of the rupiah. Especially banks that have a systemic impact, regulators both BI (Bank Indonesia) and OJK (Financial Services Authority) also periodically conduct stress tests of banking conditions in case of rupiah weakness and in general, the banking system remains stable. This condition has an impact on the unaffected shares of the financial sector due to changes in exchange rates.

B. The Effect of Interest Rates on Stock Prices

The results of this study show that interest rates negatively affect the stock price of the financial sector, which means the lower the interest rate, the higher the financial sector stock price. The results indicate that investors will be more interested in investing in financial sector stocks in Indonesia when interest rates are low because if interest rates are high, investors are more interested in placing deposits because of minimal risk, while investments in the capital market have high risk.

This research shows conformity with previous research by Annisa (2012) proving that partially the influence of interest rates negatively affects the stock price in banking recorded in LQ45". Similarly, Rachmawati's research (2019) results showed that interest rates negatively and significantly affect the stock price in banking companies listed on the LQ45 Indonesia Stock Exchange.

The results of this study show conformity with the APT theory that asset pricing can be predicted by looking at macroeconomic movements in a country. Interest rates which are macroeconomic factors can affect the increase, as well as a decline in stock prices in the financial sector. This indicates that there is a conformity between theoretical and
empirical studies of exchange rates and the stock prices of the financial sector.

But it also showed differences with the results of Kewal research (2012) in Indonesia during the period 2000-2009 which showed that interest rates did not have a significant influence on stock prices. Astuti and Ardila (2019) showed that bank Indonesia’s interest rate partially had no significant effect on the LQ45 share price. Similarly, Efendi and Mardani’s research (2018) on banking companies listed on the Indonesia Stock Exchange in 2013-2015 showed SBI had a significant positive effect on the stock price. Rahayu and Masud (2019) the results of this study found that variable interest rates had a positive and insignificant effect on the stock prices of manufacturing companies (food and beverage sub-sectors) listed on the Indonesia Stock Exchange.

One important contribution to investment decisions is interest rates and the estimated potential return of an investment (Sudiyatno, 2010). A rate hike would in turn lower the current value of dividend payments, thereby driving up the stock market's share price. For example, investors tend to invest their funds in a certain way by holding capital in banks rather than investing in stocks. High-interest rates reduce the market's valuation of a business's cash flow so that investment incentives are no longer desirable. High-interest rates will also increase the cost of business capital, and also contribute to an increase in expected returns by shareholders.

Thus from several studies referenced, the results of research in developed countries there is a one-way relationship where interest rates affect stock prices, and there is no reciprocal relationship that stock prices can affect interest rates, this is the same as the study of the authors in emerging market countries.

In the Indonesian context, fixed interest rates are seen as an influential aspect of a company's earnings. In this case, there is a signal for investors of the existence of interest rate policy. If interest rates rise, then it is seen as a bad signal, but if interest rates fall, then it is seen as a good signal by investors.

Interest rates are the attraction of investors to invest in deposits or SBI so that investments in the form of shares will be targeted. There are
two explanations for why rising interest rates can push stock gains down. First, rising interest rates change the map of investment returns. Second, a rate hike would cut corporate profits. It happens in two ways.

Changes in relative interest rates affect investments in foreign securities, which will further affect foreign exchange demand and supply. This will also affect the currency exchange rate. Falling interest rates will reduce investor interest in holding the rupiah because the incentives received decrease so that the Rupiah exchange rate will weaken.

Rising interest rates will increase the interest burden of issuers so that profits can be cut. In addition, when interest rates are high, production costs will increase and the price of the product will be more expensive so that consumers may delay their purchase and keep their funds in the bank. As a result, the company’s sales declined. A drop in company sales and profits will swallow the stock's profits. This condition indicates that the increase in interest rates will reduce the profits of financial sector stocks in Indonesia.

In response to the Covid-19 pandemic has been spreading for a year in Indonesia and impacting the contracting economy, the first time since the 1998 crisis. In terms of monetary, Bank Indonesia (BI) has cut the benchmark interest rate or BI-7 Day Reverse Repo Rate (BI7DRR) by 150 basis points to a low of 3.50 percent. The Central Bank during the pandemic has worked hard to use all its policy instruments to promote national economic recovery. In addition to the interest rate policy, BI has also made additional liquidity or quantitative easing (QE) in banking. As of February 16, 2021, QE conducted by BI has reached Rp750.38 trillion, or equivalent to 4.86 percent of GDP since 2020. BI has also purchased state securities (SBN) with a burden-sharing scheme of Rp40.77 trillion, starting from the beginning of the year until February 16, 2021, by BI's joint decision with the Minister of Finance on April 16, 2020, which was extended until December 31, 2021 (Bisnis.com. 02/04/2022).

This condition makes people's interest in investing in financial products remain. The situation is also supported by changes in investor behavior that are more adaptive to technology to invest. However, investors need to pay attention to their investment options. Changes in
the global economy and fluctuating interest rates make investors have to be observant in investing strategies. Thus, interest rates become an important aspect to choose investment products, such as stocks, bonds, and deposits.

C. The Effect of Inflation on Stock Prices

The results of this study simultaneously have an impact or influence on the stock price of the financial sector, when there is inflation the cost of a company will increase and if the increase in costs is higher than the company's income, then the profitability of the company decreases. When inflation increases the stock price of the income usually decreases. This also means that when there are inflation the stock price decreases so that investors can take advantage of the situation by buying the stock price at a lower price.

The results showed that partially inflation has no effect on the stock price of the financial sector which means the increase or decrease in inflation has no impact on the stock price of the financial sector. This indicates that investors over the past 10 years do not need to consider inflation factors to invest in Indonesia, this condition is because Indonesia's inflation over the past 10 years has been maintained, in contrast to inflation in 1998 of 77.63% which is the highest inflation since Indonesia's independence.

The results of the study are by Kewal’s research (2012) in Indonesia during the period 2000-2009 which shows that the inflation rate does not have a significant influence on stock prices. A previous study by Annisa (2012) proved that partially the influence of the inflation rate has a positive influence on the banking stock price recorded in LQ45”. Similarly, Rachmawati’s research (2019) results showed that inflation had a negative and significant effect on the stock price of banking companies listed on the LQ45 Indonesia Stock Exchange.

Theoretically, this study has differences with the APT theory, because inflation as a macroeconomic is not able to affect the increase or decline in the stock price of the financial sector. Empirically this suggests investors holding shares in the business in the sector will experience inflationary effects. This situation will affect the efficiency of the stock market, as many companies are unable to function optimally, creating great confusion in the capital market. Fair investors
should aim to achieve the highest anticipated returns with reduced risk. Profits are usually directly proportional to risk, that is, the greater the amount of risk, the higher the return on investment, and vice versa (Nugroho & Triyonowati, 2013).

An investor doesn’t just analyze the state of the market. Business knowledge in the form of a surge in inflation indicates that the economy is in an unstable state, thus increasing the cost of investment. The inflation rate will affect investor decisions. Higher inflation indicates that the risks of investing are large enough to lower demand for stocks, thereby reducing stock returns.

Inflation that has a negative impact means that rising inflation rates will help consumers protect their income and use them more to make ends meet, meaning that investment interest will decline and ultimately lead to lower returns on stocks. High inflation will lead to reduced purchasing power and higher interest rates.

The measure of the inflation rate will have an impact on the interest rate and financial results of the company, especially in terms of profitability. Inflation that is too high will reduce business productivity and the otherwise. The higher the productivity ranking, the more organizations use their assets to benefit. This keeps buyers interested in buying business shares and affects the value of equity, which increases, followed by high stock returns.

High inflation will lead to reduced purchasing power and higher interest rates. Measures of the inflation rate will have an impact on business interest rates and financial outcomes, especially in terms of profitability. Inflation that is too high will reduce business productivity and the otherwise. The cost of construction materials will increase as a result of rising inflation, increasing production costs that must be paid by the client. The reduction in purchasing power and the high cost of output will indirectly have an impact on stock market conditions. Investors are not interested in investing their capital and the demand for stocks, especially immovable and immobile inventories, will fall (Arifin and friends: 2018).

The impact of inflation will be felt by all companies in the industry. This condition will affect the performance of the capital market, because many companies are unable to operate optimally, as a result of
which the capital market faces high uncertainty. A rational investor will try to get the maximum expected return with a minimum level of risk. Profits are usually directly proportional to risk, i.e. the higher the level of risk faced, the higher the profit from the investment, and the otherwise (Nugroho & Triyonawati, 2014).

High inflation will cause people's purchasing power decrease and interest rates increase. The small rate of inflation will affect interest rates and the financial performance of companies, especially in terms of profitability. Inflation that is too high will reduce the profitability obtained by the company and the otherwise. The greater the value of profitability means that the better the company uses its assets for profit. This makes investors interested in buying the company's shares and has an impact on the increasing stock price and is followed by a high rate of return on shares (Gunadi & Kesuma, 2015).

Inflation enhancement is a negative signal for investors in the capital market (Tandelilin, 2010). Inflation ascension will lower capital gains, and lead to reduced profits earned by investors. The risk that investors will face becomes greater if they continue to invest in stocks, resulting in demand for shares will fall (Ishomuddin, 2010).

Inflation affects stock prices because high inflation will encourage basic needs in society to become more expensive, causing high expenditures that must be borne by individuals. An increase in the high price will indirectly affect the behavior of investors to make stock purchases. Investors will not be interested in investing their capital and demand for stocks, especially financial stocks, is falling. So that with every increase in inflation, there will be a reduction in the profits of financial sector stocks in Indonesia.

D. The Simultaneous Effect of Macroeconomics on Stock Prices

The results of simultaneous research showed that Prob (F-statistic) of 0.000000 which means simultaneous exchange rates, interest rates, and inflation affect the stock price of the financial sector. The results of this study have an R-squared value of 0.78 or the model in this study can predict the increase or decline in the stock price by 78%. Empirically investors can consider exchange rates, interest rates, or inflation to decide to buy or sell stocks.
The results of this study have similar results with Pasaribu, Fernando, and Kowanda Research (2013) during the period 2003-2010 which shows the results that inflation, exchange rates, and money supply influence stock prices. The results of Rachmawati’s research (2019) simultaneously showed inflation and interest rates negatively and significantly affect the stock price in banking companies listed on the Indonesia Stock Exchange LQ45 in 2015-2017.

Efendi and Mardani’s (2018) samples used in this study are the value of interest rates and rupiah exchange rates with the highest and lowest stock prices in banking companies listed on the Indonesia Stock Exchange in 2013-2015. SBI has a significant positive effect on the stock price. This indicates that bank Indonesia’s rate hike will have an impact on the increase in stock prices. Exchange rates have a significant negative effect on stock prices. This indicates that the increase in the exchange rate will have an impact on the decline in the stock price and the otherwise.

The results of the research conducted show the suitability or strengthening of APT theory because asset pricing can be predicted by looking at macroeconomic movements. The basis of the theory, empirically in the context of Indonesia in the financial sector shows an influence of 78%. This indicates that it is important for investors who will invest in Indonesia to assess the macroeconomic situation.

However, this study is also different from the results of research conducted by Kewal (2012) in Indonesia during the period 2000-2009 which showed that inflation rates, SBI interest rates, and GDP growth did not have a significant influence on stock prices which indicated macroeconomic models had no impact on stock prices. Astuti and Ardila (2019) showed that bank Indonesia’s interest rate and rupiah exchange rate on the US Dollar together had no significant effect on the price of LQ45 shares on the Indonesia Stock Exchange during the period 2009 to 2015.

Macroeconomics as a cause of the increase and decline in stock prices because it has a big effect on the development of the company, exchange rate, interest rates, and inflation is a signal for the company both in deciding business strategy and making company policy.
The action that needs to be done by investors in making investments is to sort out in advance the stock sector to be invested because each sector has a different tendency. This indicates the need for the financial literacy of investors in conducting investment activities so that the profits obtained are maximal.

**BIBLIOGRAPHY**


Sitasari, I. & Yoga, F.  \textit{Effect of Inflation, Exchange Rate, and Interest Rates on Financial Sector Stock Prices.}


Sitasari, I. & Yoga, F.  
Effect of Inflation, Exchange Rate, and Interest Rates on Financial Sector Stock Prices.


