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THE EFFECT OF EXCHANGE RATE, MANUFACTURING PRODUCTION AND INTEREST RATE ON EXPORT VALUE IN EMERGING MARKET COUNTRIES REGIONAL COUNTRIES DURING COVID-19 PANDEMIC 2020-2021

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ABSTRACT:
This study aims to determine the effect of exchange rates, manufacturing production and interest rates on export values in emerging market countries during the 2020-2021 COVID-19 pandemic. The independent variable in this study is export. Then the dependent variable in this study is the exchange rate, manufacturing production and interest rates. In this study, the method used is quantitative, using multiple regression analysis with the Eviews 2010 program. In addition to the multiple regression test, this study also uses the classical acceptance test. Classical acceptance test includes normality test, multicollinearity test, autocorrelation test, and heteroscedasticity test. Meanwhile, the Fit Test quality test uses an interpretation formula, namely the interpretation of the R value (coefficient of determination), the interpretation of the F test, and the interpretation of the t test. The results showed that the exchange rate had a significant positive effect on the value of exports, manufacturing production had a significant positive effect on the value of exports and interest rates had a significant positive effect on the value of exports in emerging market countries. Future researchers are expected to be able to use other variables outside of the exchange rate, manufacturing production and interest rates to show other things that can affect the value of exports.

Keywords: exchange rate, manufacturing production, interest rate, export value, multiple regression analysis.

BACKGROUND

The Covid-19 pandemic has caused problems for almost all countries in the world. The Covid-19 pandemic began in Wuhan, Hubei, China, and has spread to all continents, including in Emerging Market Countries. Not only affects health problems but the Covid-19 pandemic also has a large social and economic impact. The spread of Covid-19 has forced governments in world countries to carry out policies by way of regional lockdowns and large-scale social restrictions (PSBB). The implementation of this policy disrupted social and economic activities.

International trade is one of the many sectors that have been severely impacted by the Covid-19 pandemic. The implementation of policies carried out by the government to reduce the impact of Covid-19 has caused disruption of international trade. Where the enactment of the Work Form Home policy and also the PSBB resulted in reduced production activities. This phenomenon also demands the government to temporarily close airports and ports which will hinder the movement of goods between countries.

According to data based on the World Trade Organization (WTO), on April 22, 2020, 80 countries have reported the implementation of 92 types of export bans or restrictions in their respective countries, 17 of which have also imposed food export restrictions (WTO, 2020). But not only that, the performance of the manufacturing industry also began to experience a significant decline which was marked by the weakening of the Manufacturing Production number in the manufacturing sector which of course could hamper imports and exports.

International trade can be carried out when the countries conducting the trade benefit and can provide opportunities for each country which certainly has a lot of energy resources to export goods and services, also provides import opportunities for countries that have high production. relatively more expensive by doing domestic production. If trade between countries is carried out properly and efficiently, and is able to recognize the opportunities it has, it will be able to become a driving force for the country's economy.

Export is one element that has an important role in the movement of a country's economy by conducting trade between countries with the aim of expanding the market and industrial sector so that it can encourage other sectors in a country's economy. The higher the export level of a country, the higher the percentage of the country's Gross National Product (GNP) (Murni, 2009). From this, we can conclude that exports play a very important role in the country's economy and have a positive effect on increasing the country's foreign exchange, expanding markets and increasing employment opportunities.

Several international institutions predict that Covid-19 will cause world economic growth in 2020 to slow down and be at a level below the 1997-1998 financial crisis. If there is no seasonal decline in the spread of the virus and the health systems are overwhelmed in different countries.

Texport value in 2020 and 2021 experienced unstable fluctuations so that it was always changing. Export restrictions or bans in some countries have only a temporary positive effect. Export restrictions can have detrimental long-term effects on both exporters and importers. When a country prohibits or restricts exports, domestic food prices rise, which in turn affects prices on world markets.

Price changes due to export bans generally depend on the concentration of imports from countries most affected by Covid-19 and the elasticity of export demand. With the decline in exports, the price is estimated to increase fourfold. Rising prices of goods and lack of supply will have a negative impact, especially on importing countries with low economic capacity. To close the gap in international markets and improve export performance, we need to know which variables affect the volume of exports in a country.

In essence, there are various domestic and foreign macroeconomic factors. At this time the pandemic is the main factor affecting exports, but there are several other factors as well. Factors include exchange rates, manufacturing production and interest rates.

(Sukirno, 2012) also suggests that exports increase when the exchange rate depreciates or the rupiah depreciates. This is because the price of domestic products is relatively cheap in the international market. If the exchange rate increases (appreciation), the number of goods exported will decrease. This is because domestic products are more expensive than foreign products. This economic slowdown was caused by a very sharp increase in the prices of goods and services. This reduces the country's export capacity (Sirait & Pangidoan, 2018).

The manufacturing industry is one of the factors that play an important role in increasing a country's exports. With the existence of manufacturing production activities, of course, it will have a big effect on the economy of a country. For example, domestic raw materials have increased, there is more absorption of local workers, and the country's foreign exchange earnings can also increase exports. Manufacturing production also has a relationship with the exchange rate, where in theory when the exchange rate depreciates, the value of exports will increase and so will increase manufacturing production.

Finally, interest rates are also a factor that affects a country's exports. Basically, if interest rates are too high, entrepreneurs and exporters will reduce their loans to banks, reducing the number of loans will disrupt productive capital and reduce the supply of exporters and producers. Seen in several countries including Indonesia, the interest rate on productive loans which has fallen since 2016 has been lowered to below 10%, according to data from OJK Bank. The working capital loan interest rate will be lowered from 11.74% in May 2016 to 9.27% in January 2021.

The investment loan interest rate was 11.42% in May 2016, but has fallen to 8.83% in January 2021. Meanwhile, the consumer loan interest rate fell from 13.74% in May 2016 to 10.95% in January 2021. This of course will make the value of a country's exports will decrease. On the other hand, the existence of a relatively low benchmark interest rate reduces lending rates and increases credit demand from entrepreneurs and exporters. In this way, credit for working capital increases, increasing the supply and volume of exports.

THEORETICAL FRAMEWORK

Export

The theory of absolute advantage or the theory of absolute advantage is a theory of international trade which is commonly referred to as the pure theory of international trade. This theory was put forward by Adam Smith in full in his work entitled "An Inquiry Into the Nutre and Causes on the wealth of Nations" in 1776 (Bjørnskov, 2005). Adam Smith put forward in this theory the benefits of international trade based on the doctrine of the division of labor (Shahriar et al., 2019).

This theory assumes that if a country can produce goods with lower production costs, then that country will be defeated by other countries in the process of producing goods. A country can gain absolute advantage by being able to substitute goods from other countries if they are produced domestically, have little profit, and require higher production costs. On the other hand, a country can produce goods and services that other countries cannot produce and have

an absolute advantage. For example, Indonesia can produce keris swords and Japan can produce motorcycles. The two countries produce different goods.

The theory of absolute advantage extends to the notion of international economics. The theory of absolute advantage is recognized in the division of labor, product specialization, and production efficiency in the international economy. The division of labor refers to the time spent on productive activities (Aprita & Adhitya, 2020).

A well-managed division of labor can reduce operational costs in production. Cost savings increase profits from product sales. This condition provides an absolute advantage in terms of sales and production costs. By specializing in the types of products produced, it also increases the advantages of domestic production.

Exchange Rate

The theory of exchange rates in this study is based on the theory of supply (supply). Supply theory is a theory that explains how the number of goods produced by producers or offered to consumers in the market. In the theory of supply, known as the law of supply, the law of supply is the statement that when the price of a commodity increases, producers increase the quantity of the good they supply to consumers, and vice versa. This can be seen in the supply curve, which is a curve that connects the price and quantity of goods offered by producers to consumers.

The causative factor that causes the curve to experience increases and decreases in supply is the rise and fall of input prices (Mankiw, 2006). There are several factors that can affect the offer. That is, the price of the good itself, the price of the source of production, the level of production, expectations or estimates.

Manufacturing Production

The Basic Concept of Production Theory is the theory of manufacturing production used in this study. According to Sukirno (1985) in Lestari & WSU (2017) production is the process of processing an input into an output. The relationship between a set of inputs and outputs is called production theory, sometimes referred to as a production function. Production theory describes the relationship between input and output or the relationship between the quantity of the product and the factors of production used in production activities. This relationship is stated as follows:

$$Q = f(K,L,T,N)$$

Where Q is output, K is capital factor, L is labor factor, T is technology and N is land. Therefore, the quantity produced is a function of or influenced by the quantity and quality of the factors of production or inputs used in production.

Production can be divided into two periods: short run and long run. This difference is not always related to time, but rather to the type of input used in production. In the short run, this means that production uses some inputs that are fixed, while others are variable, and in the long run all inputs are variable.

Production theory has basic assumptions about the nature of the production function. That is, the law of diminishing (law of diminishing returns). This law states that if one factor of

production is used continuously and other inputs are held constant, an increase in the use of that input will increase total output at an increasing rate, which will result in constant output and will increase when it reaches a certain level of production. Growth decreases, becomes negative over time, increases total production, reaches a maximum, then decreases (Damayanti, 2020).

Interest Rate

This research is based on the classical theory of interest rates. According to the classical theory put forward by Adam Smith, bank interest affects savings and investment. The higher the interest rate, the more people want to save, but the less they invest and the lower the interest rate, the less people want to save, but the more they want to invest.

Therefore, if there is a negative or inverse relationship between the interest rate on the loan and the investment, the investment will be a function of the interest rate. This shows that when monetary policy raises loan interest rates, investment decreases because economic agents obtain capital for their business by lending to banks by paying loan interest equal to the cost of capital (Laksono, 2017).

The Effect of Exchange Rate on Export Value

The exchange rate affects the supply of a commodity. According to Mankiw (2012) if the exchange rate depreciates, where the domestic exchange rate against foreign exchange rates decreases, exports will increase. (Sukirno, 2012) also suggests that exports increase when the exchange rate depreciates or the rupiah depreciates. This is because the price of domestic products is relatively cheap in the international market. According to research conducted by Hidayati (2019) The exchange rate is an important indicator in a country's economy because it is determined by supply and demand that occurs.

If the rupiah depreciates or there is a currency devaluation, the country's exports to foreign markets become cheaper, thereby increasing exports. However, during the current pandemic, the exchange rate has depreciated and the price of goods in the country of origin is more expensive than goods abroad, causing exports of goods to other countries to decline. The exchange rate fluctuated unstable so that it could slow down exports and reduce the rate of economic growth.

The Effect of Manufacturing Production on Export Value

According to Moorman & Slottegraaf (1999) in Darajah (2018) the manufacturing industry is an industry that processes raw materials, spare parts, or other components into finished products. The role of the manufacturing industry in the economic development of various countries is very important because the manufacturing industry has several advantages such as its contribution to employment and the ability to provide higher added value to various commodities produced. The use of technology is needed to increase productivity in the manufacturing industry. Technology not only inspires creativity and inspires new products, but also plays an important role in accelerating product development.

One of the export factors that drives economic growth is the manufacturing industry. The presence of high-tech export activities in manufacturing can encourage economic growth through manufacturing companies. Manufacturing companies apply machines that use

technology from monitoring to computing in the production of their products (Darajah, 2018). Therefore, when the manufacturing industry is high with the technology used and several other factors, exports will also increase and will encourage the economic growth of a country.

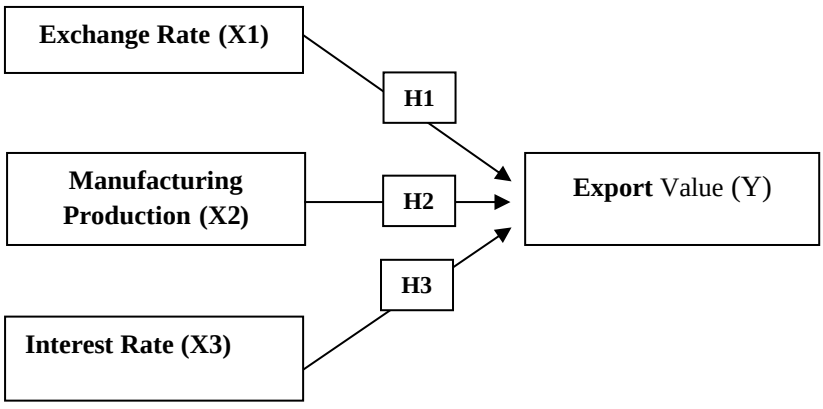
The Effect of Interest Rate on Export Value

According to Sudarusman et al (2021)the interest rate is the percentage of interest on borrowed funds. Investors or lenders need high interest rates because they provide higher returns. However, the higher the interest rate, the higher the fees to be paid by the lender. High interest rates will prevent producers from obtaining capital.

Limited capital can then reduce production capacity. Reducing production capacity will inevitably reduce the number of products that can be exported. According to Fahima & Fethi (2018), higher interest rates increase the demand for local currency, so that the local currency appreciates and thus increases inflation. This inflation makes domestic goods and services more expensive.

Thus, the interest rate on loans is suspected to have a direct influence on exports. Basically, if interest rates are too high, entrepreneurs and exporters will reduce loans to banks. This reduction in the number of loans will disrupt productive capital and have an impact on reducing the number of offers offered by producers and exporters (Hadi et al., 2021). This of course reduces the volume and value of the country's exports. On the other hand, a relatively low benchmark interest rate can lead to lower loan interest rates and increased demand for credit from entrepreneurs and exporters. In this way, working capital credit increases and increases the volume of supply and exports (Davidson, 2002).

Conceptual framework that can be formed in this research are as follows:



Picture 1. Framework

Based on the theoretical framework above, the formulation of the hypothesis is:
1. There is an influence between the exchange rate on the value of exports.
2. There is an influence between manufacturing production on the value of exports.
3. There is an influence between interest rates on the value of exports.

METHOD

The objects in this study are countries in the Emerging Market Countries Region with a total of 20 countries in the 2020-2021 period. This study uses a quantitative approach to secondary data by taking data from Trading Economics and CEIC Data. The independent variables take data related to exchange rates, manufacturing production and interest rates. The dependent variable in this study takes data related to the value of exports. Variables of exchange rates and exports in USD are processed by converting the data into logarithms. The goal is to change the measurement scale from the original data to another form so that the data can meet the assumptions underlying the analysis of variance.

Analysis of the data used in this study is a multiple linear regression technique which is calculated through the Eviews 2010 software program. Regression analysis is a technique for building equations and using these equations to make predictions.

This study uses panel data regression analysis with the aim of knowing the relationship between the dependent variable and the independent variable whether it is negatively or positively related in the period 2020-2021. According to Gurajati (2004) panel data is a combination of time-series data and cross-section data. Panel data regression is a regression technique that combines cross-section data and time-series data, so of course it will have more observations than cross-section data and time-series data only. So in other words, panel data is data from the same individuals who are observed over a certain period of time.

Data Analysis Technique

Estimated Panel Data Regression

In panel data analysis, there are three approaches known as Common Effect, Fixed Effect, and Random Effect. These three approaches are carried out in panel data analysis which can be explained as follows:

1. Common Effect Model

The common effect model is an estimation model that combines cross section with time series data (data pool). Then after the data is combined it is treated as a single observation to estimate the OLS method. However, with this model we cannot see the differences between individuals and over time. In other words, this approach does not pay attention to the individual dimension or the time dimension. So it is assumed that the behavior of data between companies is the same in several periods of time (Faurani, 2018).

2. Fixed Effect Model

This model is one of the models used in panel data regression which in the estimation process will produce variations in effects between individuals. The fixed effect model differs from the common effect, but still uses the most unusual of the ordinary least squares principle (OLSP).

Fixed effect assumes that differences between individuals (cross section) can be accommodated from different intercepts. To estimate the Fixed Effect Model with different intercepts between individuals, the dummy variable technique is used. Such an estimation model is often called the Least Squares Dummy Variable technique or abbreviated as LSDV (Zulfikar, 2020).

3. Random Effect Model

The random effect model is a panel data regression model which is different from the fixed effect model. In the Random Effect Model (REM), it is assumed that all differences in objects are reflected by intercepts, but differences in objects in the sample are chosen randomly. Random object differences can be used in the model by determining the intercept that represents the population mean and the random object difference from the population mean (Putri, 2022).

Model Fit Test
The selection of the model to be used in the study really needs to be done based on statistical considerations. From the description above, there are three estimation techniques in panel data, namely: Common Effect, Fixed Effect, and Random Effect. There are two methods used in the selection of the model, namely the Chow Test (F-statistical test) and the Hausman test.

1. Chow test (F-statistic test)

The Chow test is used to determine whether the FEM model is better than the CEM model (Falah et al., 2016). Furthermore, the Hausman Test was carried out on the best model obtained from the results of the Chow Test with the model obtained from the Random Effect method.

2. Hausman test

Hausman test is used to select the best model, whether Fixed Effect Model (FEM) or Random Effect Model (REM). If H0 is accepted, the Random Effect Model (REM) is more efficient, whereas if H0 is rejected, the Fixed Effect Model is more appropriate than the Random Effect Model (Sunengsih & Jaya, 2009).

Statistical Hypothesis:

H0 : Appropriate Random Effect Model (REM)

H1 : Appropriate Fixed Effect Model (FEM)

Classical Assumption Test
Classical assumption tests carried out are normality test, multicollinearity test, autocorrelation test, and heteroscedasticity test (Ghozali, 2018).

1. Normality test

Normality test is a test carried out with the aim of assessing the distribution of data in a group of data or variables, whether the distribution of the data is normally distributed or not (Suliyanto, 2011). It is known that the t and F tests assume that the residual value follows a normal distribution.

If the assumption is violated, the statistical test becomes invalid for a small number of samples (Ghozali, 2018). In Eviews software the normality of a data can be known by comparing the Jarque-Bera (JB) value and the Chi Square table value. The Jarque-Bera (JB) test is obtained from the normality histogram as shown below:

Hypothesis used:

H0 : Data has normal distribution

H1 : Data is not normally distributed

If the significant value is > 0.05, then H0 is accepted, meaning that the residual data is normally distributed and vice versa if the significance value is <0.05, then H0 is rejected, meaning that the residual data is not normally distributed (Ghozali, 2018)

2. Multicollinearity Test

According to Ghozali (2018), the multicollinearity test aims to test whether the regression model finds a correlation between the independent (independent) variables. A good regression model should have no correlation between independent variables. If the independent variables are correlated with each other, then the variable is not orthogonal. Orthogonal variables are independent variables whose correlation value between independent variables is equal to zero (Mulyana, 2014).

3. Autocorrelation Test

According to Ghozali (2018), the Autocorrelation Test aims to test whether in the linear regression model there is a correlation between the confounding error in period t and confounding error in period t-1. If there is a correlation, it is called an autocorrelation problem. Autocorrelation arises because successive observations over time are related to each other. This problem arises because the residual (interference error) is not independent from one observation to another. The hypotheses to be tested are:

Ho : no autocorrelation (r = 0)

Ha : there is autocorrelation (r 0)

4. Heteroscedasticity Test

Heteroscedasticity test aims to test whether in the regression model there is an inequality of variance from the residuals of one observation to another observation. If the residual variance from one observation to another observation remains, it is called Homoscedasticity and if it is different it is called heteroscedasticity. A good regression model is one that has homoscedasticity or not heteroscedasticity. Most cross-sectional data contain heteroscedasticity situations because this data collects data that represents various sizes (small, medium, and true) (Ghozali, 2018).

Test Statistics

The results of the regression equation are interpreted to determine how much change occurs if there is a change in the dependent variable, in this case to find out how much change occurs if the independent variable will affect the export value.

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1. F Uji test

The F test is used to test the effect of all independent variables on the dependent variable or is called the model significance test. The F test can be explained by using analysis of variance (ANOVA) (Widarjono, 2018).

2. T test (Partial Test)

T test is a test used to see the effect of individual independent variables on the dependent variable. The difference between the T test in simple regression and multiple regression is that it lies in the magnitude of the degree of freedom (df) which for simple regression is n-2 while multiple regression depends on the number of independent variables added to the constant, namely n-k (Widarjono, 2018).

3. Determination Test (R^2)

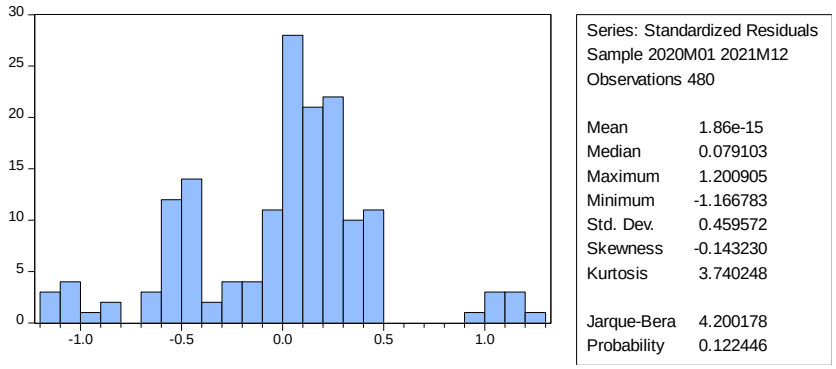
According to Widarjono (2018), the Coefficient of Determination Test (R-Squared) is a test to explain the amount of variation in the proportion of the dependent variable explained by the independent variable. In addition, the coefficient of determination test can also be used to measure how well the regression line we have. If the value of the coefficient of determination (R-squared) in an estimate is close to one (1), it can be said that the dependent variable is well explained by the independent variable.

RESULT

Classical Assumption Test Results

Normality Test

The results of the normality test have been found and can be seen from the picture below:



Picture 2. Normality Test Result
Source: Normality test results in Eviews 10, processed by the author(2022)

Based on the output above, it shows that the value with probability 0.122446 whose value is greater than the significant level of 0.05, then the data is normally distributed.

Multicollinearity Test

The results of the multicollinearity test have been found and can be seen from the table below:

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Table 1. Multicollinearity Test Results

	X1	X2	X3
X1	1.000000	-0.054851	0.217245
X2	-0.054851	1.000000	-0.359718
X3	0.217245	-0.359718	1.000000

Source: Multicollinearity test results in Eviews 10, processed by the author (2022)

From the table above, it is known that the multicollinearity test results show that all correlation coefficients are less than 0.8, which means the model in this study is free from multicollinearity problems.

Heteroscedasticity Test

The results of the heteroscedasticity test have been found and can be seen from the table below:

Table. 2 Heteroscedasticity Test Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.005858	0.023688	0.247305	0.8050
X1	0.008245	0.005598	1.472934	0.1428
X2	0.000256	0.000676	0.379321	0.7050
X3	0.012004	0.005329	2.252589	0.0657

Source: Heteroscedasticity test results in Eviews 10, processed by the author(2022)

In the heteroscedasticity test the probability value must be > 0.05. Based on the table above which shows the results of the heteroscedasticity test where the export value variable has a probability of 0.8050 > 0.05, the exchange rate variable has a probability of 0.1428 > 0.05, the manufacturing production variable has a probability of 0.7050 > 0.05 and the interest rate variable has a probability of 0.0657 > 0.05. The results show that the probability magnitude of all variables is more than 0.05. So it means that in this research model there is no sign of heteroscedasticity.

Autocorrelation Test

The results of the autocorrelation test have been found and can be seen from the table below:

Table 3. Autocorrelation Test Results

R-squared	0.281136	Mean dependent var	0.218059
Adjusted R-squared	0.267312	S.D. dependent var	0.079020
S.E. of regression	0.067639	Sum squared resid	0.713704
F-statistic	20.33639	Durbin-Watson stat	0.736565
Prob(F-statistic)	0.000000		

Source: Autocorrelation test results in Eviews 10, processed by the author (2022)

Based on the table above, the results of the autocorrelation test can be seen in the Durbin

Watson stat of 0.736565. Then the results are compared with the Durbin Watson (DW) table using a significant value of 0.05. After comparing the Durbin Watson (DW) with Durbin Lower (DL) and Upper Durbin (DU) values, the results show that the DW value is smaller than the DL value, which is 0.736565 and the DL value is 1.7035. So it means that in this research model there are symptoms of autocorrelation.

Differentiation method is used to eliminate autocorrelation symptoms, and get the following results:

Table 4. Autocorrelation Test Results Using the Differentiation Method

R-squared	0.112065	Mean dependent var	0.024821
Adjusted R-squared	0.092478	S.D. dependent var	0.049301
S.E. of regression	0.046967	Sum squared resid	0.299996
F-statistic	5.721460	Durbin-Watson stat	2.531868
Prob(F-statistic)	0.001021		

Source: Output Eviews 10, processed by the Author (2022)

Based on the table above, the results of the autocorrelation test can be seen in the Durbin Watson stat of 2.531868. Then these results are compared with the Durbin Watson (DW) table using a significant value of 0.05. After comparing the Durbin Watson (DW) with Durbin Lower (DL) and Upper Durbin (DU) values, the results show that the DW value is greater than the DL value, which is 2.531868 and the DL value is 1.7035. So it means that in this research model there is no autocorrelation symptom.

Regression Estimation Results

The analysis used to determine the effect of independent variables on related variables in the form of panel data regression analysis. Based on the results of the Chow Test and Hausman Test, the panel data regression estimation uses the Random Effect Model approach in the table below:

Table 5. Random Effect Model Test Results

Dependent Variable: Y
Method: Panel EGLS (Cross-section random effects)
Date: 08/13/22 Time: 08:54
Sample: 2020m01 2021m12
Periods included: 24
Cross-sections included: 20
Total panel (balanced) observations: 480
Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	4.192550	0.109969	38.12490	0.0000
X1	0.018285	0.008620	2.121150	0.0355
X2	0.006442	0.000864	7.458594	0.0000
X3	0.026949	0.008371	3.219153	0.0016
	Effects Specification			
			S.D.	Rho

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Cross-section random	0.474106	0.9800
Idiosyncratic random	0.067780	0.0200

Weighted Statistics

R-squared	0.281136	Mean dependent var	0.218059
Adjusted R-squared	0.267312	S.D. dependent var	0.079020
S.E. of regression	0.067639	Sum squared resid	0.713704
F-statistic	20.33639	Durbin-Watson stat	0.736565
Prob(F-statistic)	0.000000		

Source: Output Eviews 10, processed by the Author (2022)

From the regression equation above, it can be interpreted as follows:

1. Constant

The estimation results of the Random Effect Model regression equation above show a constant of 4.192550 indicating that without the influence of the independent variables, namely the exchange rate, manufacturing production, and interest rates, the increase is 4.192550 %.

2. X1 Coefficient (Exchange Rate)

The exchange rate has a significant positive effect on the export value of 0.018285. This means that if the export value increases by one percent, the exchange rate will increase by 0.018285. Conversely, if the exchange rate decreases by one percent, the export value decreases by 0.018285.

3. X2 Coefficient (Manufacturing Production)

Manufacturing production has a significant positive effect on the export value of 0.006442. This means that if manufacturing production increases by one percent, the value of exports will increase by 0.006442. On the other hand, if manufacturing production decreases by one percent, the value of exports will also decrease by 0.006442.

4. X3 Coefficient (Interest Rate)

Interest rates have a significant positive effect on the export value of 0.026949. This means that if the interest rate decreases by one percent, exports will also decrease by 0.026949. On the other hand, if the interest rate increases by one percent, exports will increase by 0.026949.

F test, t test, and determinant test (R^2)

Overall Test (F Test)

Based on the results of the analysis from table 4.6, the p-value of 0.000000, then the formulation of the hypothesis with H0: there is no significant effect between the constant or coefficient of the independent variable on the model and H1: there is at least one (independent variable constant or coefficient) which has a significant effect against the model.

Table 6. Overall Test (F Test) Result

R-squared	0.281136	Mean dependent var	0.218059
Adjusted R-squared	0.267312	S.D. dependent var	0.079020
S.E. of regression	0.067639	Sum squared resid	0.713704
F-statistic	20.33639	Durbin-Watson stat	0.736565
Prob(F-statistic)	0.000000		

Source: Output Eviews 10, processed by the Author (2022)

With a significant level of 0.05, then H0 is rejected because the p-value <α or 0.000000 <0.05. So it can be concluded that the exchange rate, manufacturing production, and interest rates have a significant effect on the value of exports.

Partial Test

It can be seen from Table 4.7 below that the Exchange Rate variable (X1) with a probability of 0.0355 <0.05, the exchange rate variable has a significant effect on the export value in the Emerging Market Countries area.

Table 7. Partial Test Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	4.192550	0.109969	38.12490	0.0000
X1	0.018285	0.008620	2.121150	0.0355
X2	0.006442	0.000864	7.458594	0.0000
X3	0.026949	0.008371	3.219153	0.0016

Source: Output Eviews 10, processed by the Author (2022)

Manufacturing Production Variable (X2) with a probability of 0.0000 < 0.05, then the manufacturing production variable has a significant effect on the value of exports in the Emerging Market Countries area. And Interest Rate (X3) with a probability of 0.0016 < 0.05, then the interest rate variable has a significant effect on the value of exports in the Emerging Market Countries area.

Determination Test (R^2)

The determination test is shown by R-Squared in table 4.8 with the statistical value of R^2 Random Effect Model below:

Table 8. Determination Test Results (R^2)

R-squared	0.281136	Mean dependent var	0.218059
Adjusted R-squared	0.267312	S.D. dependent var	0.079020
S.E. of regression	0.067639	Sum squared resid	0.713704
F-statistic	20.33639	Durbin-Watson stat	0.736565
Prob(F-statistic)	0.000000		

Source: Output Eviews 10, processed by the Author (2022)

The results of the determination test are shown at 0.281136. Thus, it means that the exchange rate, manufacturing production and interest rates together affect the export value by 28.11 percent, the remaining 71.89 percent is influenced by other variables outside of this study.

DISCUSSION

The Effect of Exchange Rate on Export Value

Based on the results of the regression carried out in this study, it shows that the exchange rate variable has a positive influence and there is a significant influence on the export value in the Emerging Market Countries region in 2020-2021. From the results of data processing, it is known that the exchange rate has a coefficient of 0.002568. This shows that the exchange rate has a positive relationship with the value of exports, which means that every one percent increase in the exchange rate will increase the value of exports by 0.018285, and vice versa. In addition, the exchange rate has a probability of 0.0355 <0.05, which means that the exchange rate variable is significant in explaining changes in the export value. This is contrary to the results of previous research conducted by Simanjuntak et al. (2017) whose results show that the exchange rate has a significant negative effect on exports, namely if a country's exchange rate decreases, exports will increase.

However, the results of this study are supported by Silaban & Nurlina (2022) and Taufiq & Natasah (2019) which also show that the exchange rate has a significant positive effect on exports. According to Mishkin (2008) in Risma et al (2019) discussing the exchange rate more deeply, there is a theory that underlies the results in this variable. Purchasing power parity theory is a theory that is very well known for the international class economy where this theory says the exchange rate between two currencies will always make adjustments that reflect changes in prices of the two countries.

The findings show that the country that has the most influence on its exchange rate on exports is Singapore, which according to the researcher can be caused by changes in currency that affect trade and the current exchange rate instability that will affect fluctuations in the value of exports in a country because demand for goods continues to increase in recent years. the time of the covid-19 pandemic.

The Effect of Manufacturing Production on Export Value

Then the results of data processing show that manufacturing production has a coefficient of 0.006442. This shows that manufacturing production has a positive relationship with the value of exports. This means that if manufacturing production increases by one percent, the value of exports will also increase by 0.006442, and vice versa. In addition, the exchange rate has a probability of 0.0000 < 0.05 which means that there is a significant effect on the export value.

This is contrary to the results of research conducted by Chandra (2019) which shows that manufacturing exports are not significantly positively related to the output of the manufacturing sector in Nigeria. This will give producers the opportunity to gain access to loans that will help them increase their productive output. Thus, a viable domestic manufacturing subsector will be achieved. The government should encourage exports of domestically manufactured products. This will increase the economic output of a country.

However, with the results found by the most influential country researcher, namely Japan, that manufacturing production is explained by the number of factories that stopped operating during the pandemic and the large-scale social restrictions (PSBB) causing a sharp decline in the demand for manufactured goods. This is also followed by the size of the workforce. On the other hand, many factories reduce purchasing activity and production investment. In terms of production costs, producers also bear quite a lot of impact from the weakening of the exchange rate and the lack of supply of raw materials. The decline in production output was also in line with total new demand, which was largely due to falling exports.

The Influence of Interest Rates on Export Values

Finally, the results of data processing show that the interest rate has a coefficient of 0.026949. This shows that interest rates have a positive relationship to the value of exports, which means that for every one percent increase, the value of exports will also increase by 0.026949 and vice versa. In addition, the interest rate has a probability of 0.0016 < 0.05, which means that the interest rate variable has a significant effect on the value of exports.

The research findings are not in line with the results of research conducted by Purbadharmaja & Raisaba (2021) that interest rates have a negative and significant effect on the value of Indonesian exports. That an increase in lending rates means less working capital. This causes the amount of production to decrease which in turn has an impact on the decline in export volume, so that it will automatically affect the smaller export value.

However, the results of this study are supported by Syaifudin (2020) that interest rates have a positive effect on Indonesia's non-oil exports. It can be concluded from the results of the study that the most influential country, namely Singapore, this can happen because fluctuating interest rates in conditions during the pandemic illustrate the large operating costs of banks in the midst of narrow income space. Although banks have lowered interest rates, this will not stimulate the performance of the real sector due to the high number of COVID-19 cases.

The private sector will also remain cautious in expansion (an action taken for growth/development) especially if the source is bank debt, it will be even more careful because there is an obligation to pay installments. Thus, they do not dare to borrow from the bank where it will interfere with production capital which will then have an impact on decreasing the number of offers provided by exporters.

CONCLUSION

The purpose of this study is to determine the effect of exchange rates, manufacturing production and interest rates on values in Emerging Market Countries during the 2020-2021 Covid-19 pandemic. After testing the data, it was found that the exchange rate, manufacturing production and interest rates simultaneously affected the export value.

Partially, it shows that the exchange rate variable has a coefficient of 0.002568 with a probability of 0.0355, which means that the positive exchange rate variable is significant in explaining changes in export values. Then the manufacturing production variable has a coefficient of 0.006442 with a probability of 0.0000 which means that manufacturing production has a significant positive effect on the value of exports. Finally, the results of data processing show that the interest rate has a coefficient of 0.026949. with a probability of 0.0016 which means that the interest rate variable has a significant positive effect on the value of exports.

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