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ANALYSIS OF FACTORS AFFECTING THE EXPORT VALUE OF INDONESIAN COFFEE AND COMPETITIVENESS OF THE 2002-2017 PERIOD

I Kadek Donny Wishanesta
Faculty of Economics and Business, Udayana University (Unud), Bali, Indonesia
donnywisha11@yahoo.com

Nyoman Djinar Setiawina
Faculty of Economics and Business, Udayana University (Unud), Bali, Indonesia

Abstract

This study aims to determine the effect of the money supply, international prices, the US dollar exchange rate and inflation. The independent variables in this study are the Amount of Money Circulating, International Prices, US Dollar Exchange Rates and Inflation with the dependent variable, namely the Volume of Indonesian Coffee Exports and the State Foreign Exchange. This research uses a quantitative approach with path analysis techniques. The results showed that, the variable amount of money spent, the dollar exchange rate, the United States, was positive and significant for coffee exports and international prices, negotiations proved negative and not significant for coffee exports. While the amount of money spent, international prices, US dollars and exchange rates are significant to the country's foreign exchange reserves. This causes data fluctuations every year which causes the ups and downs of the data. Suggestions for Indonesian citizens who solve state financial problems, namely reducing the use of foreign products will reduce the interests and can save the country's foreign exchange.

Keywords: Amount of Money Supply, International Prices, US Dollar Exchange Rate, Inflations, Coffee Export Value, State Foreign Exchange

INTRODUCTION

Coffee commodity is one of Indonesia's leading export products and has an important role in the Indonesian economy, where the income derived from coffee exports can reach USD 1.3 billion or around Rp 17 trillion. In addition, coffee commodities also play an important role in the lives of rural communities where more than 1.84 million rural area families earn a living as coffee farmers. With the enactment of the ASEAN Economic Community (AEC) which is based on the principle of free markets inevitably forces ASEAN countries to improve the quality of their domestic products in order to be able to compete with other ASEAN countries. Likewise the Indonesian coffee commodity, If it is unable to compete, the Indonesian coffee plantation and processing industry will be threatened because its coffee from other countries dominates the market.

According to the International Coffee Organization (ICO) coffee consumption has increased from year to year so that the increase in coffee production in Indonesia has a great opportunity to export coffee to the world's major coffee consuming countries such as the European Union, the United States and Japan. Indonesian coffee beans are also supplied to coffee shops such as Starbucks and Quick Check which are located in Indonesia as well as those located abroad.

There are three things that form the basis of how a commodity can be traded on an international scale. The first thing, if the commodity or product has an absolute advantage or comparative advantage in the cost of production compared to the cost of producing the same commodity in another country. This relates to the cost of production, the level of productivity, and efficiency of the commodity. Second, if the commodity is in accordance with the tastes and consumers abroad. The demand for these commodities is high enough so that products will continue to be sought in the international market. Finally, the commodity is needed for export in the context of securing national strategic reserves. In the example of raising people's nutrition or changing existing consumption patterns, a country can export surplus rice and import wheat. In this case, coffee is used as an export commodity because it has a comparative advantage and is in accordance with the tastes of overseas consumers.

Coffee production contributes quite significantly to the export volume of plantation products. However, in recent years the volume of coffee exports has estimated to be lower than in 2013-20017 the contribution of export volume to export volumes is less than 10 percent. The volume of coffee export contribution to the export volume of plantation products in Indonesia in 2002-2017 can be seen in Table 1.

Table 1. The Contribution of Coffee Export Volume to The Export Volume Of Plantation Products in Indonesia For The Period 2002-2017

Years	Coffee Export Volume (kg)	Export Volume of Plantation Products (kg)	Contribution of Coffee Export Volume to Export Volume of Plantation Products
2002	3.462.608	3.808.637	90,91
2003	2.844.391	3.087.745	92,12
2004	2.143.889	2.358.510	90,90
2005	1.518.488	1.776.465	85,48
2006	1.041.316	1.148.191	90,69
2007	2.575.667	2.738.127.	94,07
2008	3.840.612	3.995.780	96,12
2009	1.381.465	1.464.756	94,31
2010	1.200.624	1.304.892	92,01
2011	146.337	508.537	28,78
2012	112.093	152.215	73,64
2013	4.448	62.944	7,07
2014	3.218	69.900	4,60
2015	3.541	44.470	7,96
2016	3.580	77.991	4,59
2017	5.634	75.892	7,42
	Average		61,93

Source: Statistics of Coffee Plantation Community

Table 1 shows that, on average, the contribution of coffee export volume to the export volume of plantation products was 61.93 percent. This shows how high the contribution of coffee export volume to the export volume of coffee plantations in the 2002-2017 period. Even before the period of the previous year the contribution of coffee export volume to the export volume of plantation products always reached above 85 percent, with the highest rate in 2008 which was 92.12 percent, and the lowest was in 2016, amounting to 4.59 percent.

The decline in the contribution of coffee export volume to the export volume of plantation products was due to the development of declining coffee export volumes during 2008-2017. Indonesia's coffee export volumes fluctuated from year to year and tended to continue to experience a decline in exports. This is because the price of coffee on the international market is still very low and the sluggishness of the market has helped to reduce the enthusiasm of

coffee exporters, as a result of the abundance of supply, the high stock in the hands of traders, increasingly intense competition among producing countries, speculators who have pushed down prices, and economic factors other politics. In addition, because not all of Indonesia's coffee production is exported abroad, it is also traded domestically to meet domestic needs, including coffee shops (coffee shops) which are mainly located in Indonesia.

The rise and fall of coffee export volume is strongly influenced by the rise and fall of export prices of coffee itself, where the higher the price of coffee exports, the volume of coffee exports will also be higher and lower coffee export prices will cause the volume of coffee exports will also be lower. The price of Indonesian coffee exports in the 2008-2017 period fluctuated. This is due to an increase or decrease in the cost of production of coffee, which impact on the increase and decrease in export prices of coffee.

The formation of the price of an export commodity is influenced by the demand and supply conditions. However, because most of the domestic coffee production is exported, the price received by domestic coffee farmers will be related to fluctuations in world coffee prices and the state of the international coffee market as well. Following this development of world coffee commodity prices can be seen in Table 2

Table 2. Average Price of Coffee on The World Market

Years	Robusta Coffee ($/kg)	Arabica Coffee ($/kg)
2002	0,607	1,373
2003	0,662	1,357
2004	0,814	1,415
2005	0,793	1,774
2006	1,115	2,532
2007	1,489	2,522
2008	1,909	2,274
2009	2,321	3,082
2010	1,644	3,171
2011	1,736	4,320
2012	2,408	5,976
2013	2,267	4,111
2014	2,076	3,076
2015	2,216	4,424
2016	1,914	3,526
2017	1,950	3,610

Source: Statistics of Indonesian Coffee Commodities Plantation

Based on Table 2 since 2002 the average price of coffee on the world market tends to rise, but in 2016 and 2017 the average price of coffee on the international market has decreased both Robusta and Arabica. In general, the price of Arabica coffee beans is more expensive than Robusta because its cultivation tends to be more difficult than Robusta

Another factor that determines exports is the money supply (JUB). Monetaryist, Milton Friedman, stresses that behavior in JUB growth greatly influences a country's economic activities. If government spending rises, the money supply should also increase, because government spending is financed in rupiah. If foreign exchange reserves increase, the money supply should also increase, because existing foreign exchange reserves are usually spent on expenditures in the same year and exchanged for rupiah. Whereas the relationship with the money multiplier number is the increase in the money multiplier number to increase the money supply (Simorangkir, 2014). Table 3 shows the following money supply:

Table 3. Total Money Supply 2002-2017

Years	Total Money Supply (Milyar)				
	Narrow Circulating Money (M1)	Broad Money Supply (M2)	Currency outside commercial banks & rural banks	Demand Deposits (Rupiah)	Quasi Money
2002	1,926,148.00	9,440,892.00	789,253.00	1,134,507.00	7,514,814.00
2003	2,114,285.00	10,192,813.00	875,907.00	1,238,378.00	8,078,528.00
2004	2,379,237.00	10,847,840.00	969,709.00	1,407,827.00	8,194,227.00
2005	2,797,808.00	11,650,058.00	1,156,346.00	1,641,462.00	8,852,251.00
2006	3,176,545.00	13,104,826.00	1,315,197.00	1,861,348.00	7,972,688.00
2007	3,761,417.00	15,125,336.00	1,487,710.00	2,273,707.00	9,188,256.00
2008	4,629,922.00	17,538,119.00	1,759,784.00	2,870,138.00	10,471,604.00
2009	5,398,990.00	20,367,231.00	2,235,234.00	3,169,756.00	11,971,327.00
2010	5,711,367.00	23,659,962.00	2,408,844.00	3,303,016.00	16,479,598.00
2011	6,412,678.03	26,599,686.83	2,711,180.98	3,701,497.03	20,111,971.87
2012	7,617,459.22	30,854,553.28	3,249,559.39	4,367,899.82	23,099,712.97
2013	9,100,845.73	36,557,139.70	3,736,219.08	5,364,626.65	27,297,273.72
2014	10,115,204.98	41,588,463.28	4,227,608.93	5,887,596.06	31,265,645.93
2015	10,865,293.85	46,417,547.89	4,727,968.98	6,137,324.85	35,314,391.04
2016	12,047,371.15	52,290,233.80	4,998,670.69	7,048,700.45	40,059,241.38
2017	13,508,108.49	56,381,719.88	5,532,066.48	7,976,042.01	42,713,268.39

Source: SEKI BI, processed by the Center for Data and Information Systems, Ministry of Trade

The development of the money supply in Indonesia in the period 2002-2017 can be seen in Table 3. The amount of money in the 2002-2017 period continued to increase. The cause of all this increase in the money supply is due to the price of goods, demand for goods, interest rates,

the structure of the country's economy, the environment or supervision and public income. The money supply has never declined. Until the end of the 2017 period this must have been due to an increase in public's need for currency during Ramadan and long holidays on certain days.

In addition, export output is also influenced by inflation. This is because inflation is considered more real in influencing a country's export trade activities. The problem with this general increase in prices continues to be known as inflation. Inflation occurring in the country will then be followed by a decline in the value of the domestic money (depressed rupiah). This will automatically reduce people's purchasing power. With the increase in prices which also means an increase in the price of exported goods causes foreign demand for domestic goods to decline. Declining export goods demand will reduce foreign exchange supply and this shortage will eventually bring domestic value down. A country with an inflation rate above the normal limit will usually experience difficulties in conducting trade relations with foreign countries.

Indonesia's inflation rates for 2002-2017 can be seen in the table above. Based on Table 4, there are fluctuations in the development of inflation. The lowest inflation rate occurred in 2015 which amounted to 2.7%. The highest inflation rate occurred in 2005 amounted to 14.18%.

Table 4. Inflation Rate in Indonesia

Years	Inflation (%)	Fluctuation (%)
2002	12.16	10.22
2003	9.89	10.89
2004	5.28	9.09
2005	14.18	11.24
2006	3.14	11.16
2007	5.9	12.37
2008	9.62	-
2009	4.37	-5.25
2010	8.1	3.73
2011	3.75	-4.35
2012	4.71	0.96
2013	7.35	2.64
2014	8.03	0.68
2015	2.7	-5.33
2016	2.94	0.21
2017	3.31	0.37
Average	5.48	-0.63

Source: Statistics Indonesia 2018

High inflation in a number of years as can be seen above can be caused by depreciation of the exchange rate, the impact of foreign inflation especially trading partner countries, rising prices of government-regulated commodities such as fuel, basic electricity tariffs, telephone tariffs , cigarette excise and transportation rates. The occurrence of negative supply shock, such as crop failure and the scarcity of certain commodities due to natural disasters and disruption of distribution. This will automatically make production costs rise and prices soar. The high prices of goods and services relative to their availability also helped to increase inflation itself.

The condition of cross-border trade, which consists of export and import activities, is strongly influenced by fluctuations and foreign exchange rates, especially the US dollar exchange rate. The US Dollar exchange rate has an important role in international trade, because almost all transactions carried out and carried out mostly use the US Dollar. This is due to the fact that the US Dollar is convertible, that is, it can be accepted and recognized by the whole world as a means of payment and is not easy to experience fluctuations due to global economic shocks. The development of the value of the US Dollar exchange rate for the period 2012-2016 is seen in table 5.

Table 5. Development of US Dollar Exchange Rates in 2008-2017 in Indonesia

Years	US Dollar Exchange Rate (Rp / US $)	Change (%)
2002	13.084	2.21
2003	12.937	-1.47
2004	13.211	2.74
2005	13.332	1.21
2006	13.481	1.49
2007	14.027	5.46
2008	9.694	-
2009	0.305	6.11
2010	9.038	-12.67
2011	8.808	-2.3
2012	9.388	5.8
2013	10.524	11.36
2014	11.864	13.4
2015	13.363	14.99
2016	13.314	-0.49
2017	13.323	0.09
Average	**10.962**	**3.62**

Sources: Bank Indonesia

From table 5 above, that the exchange rate of the rupiah against the US dollar will have a positive impact on Indonesia's export activities. That is because the selling price of exported goods or services will be adjusted to the value of USD abroad. Usually any increase in the exchange rate will reduce the competitiveness of exports even though because the product will be more expensive if sold abroad. An increase in the exchange rate of the rupiah can cause an increase in exports, this is because the structure of the industry that produces exported goods is dominated by the supply of imported raw materials, so that an increase in the exchange rate will actually increase the purchasing power of raw materials and make production costs cheaper so that it increases export. The increase in exports is usually driven by rising prices of international market commodities so that the increase in the exchange rate of the rupiah against the USD is not too felt because overall the international market price also increased even greater. The exchange rate of the rupiah has decreased, meaning the value of the USD has risen against the rupiah and this is usually what will cause exports to go up even if not so large. The government should keep the rupiah exchange rate against the US dollar exchange rate so that it remains within reasonable limits. If the rupiah exchange rate is too high, causing the US dollar exchange rate to fall, exports will usually be reduced so that it has an impact on state income.

Besides exports, foreign exchange activities have an impact on the economy of a country and its people. One very important monetary indicator that shows the strength and weakness of a country's economic fundamentals is the country's foreign exchange. State foreign exchange in sufficient quantities is one of the guarantees for the achievement of a country's monetary and macroeconomic stability (Tambunan, 2001). The more active a country is in trading, the more foreign exchange is needed. Foreign exchange is also obtained from foreign aid either through foreign debt or through grants or often called capital out flow. Foreign exchange is used in the construction of industrial projects and projects such as roads, bridges, docks, airstrips and terminals. Foreign exchange reserves are an important source of funding used by Indonesia to carry out national development, which is held and accounted for by Bank Indonesia. The foreign exchange reserves are obtained from international trade activities. Trade between countries occurs because a country is unable to meet its needs, namely producing goods or services due to the limitations and scarcity of resources, both natural resources and human resources, so this can encourage a country to trade known as export activities and import.

Table 6. Development of State Foreign Exchange Reserves 2002-2017

Years	Foreign exchange reserves (billion rupiah)	I (%)
2002	31,571	10.7
2003	36,246	10.3
2004	36,321	10.9
2005	34,724	11.1
2006	42,586	11.15
2007	5,692	10.3
2008	96,207	18.2
2009	110,123	17.79
2010	112,781	18.27
2011	27047,4	18.66
2012	30754,34	15.77
2013	34724,37	9.92
2014	34724,08	8.58
2015	32774,19	11.5
2016	40697	9.26
2017	54556	8.96

Source: Statistics of Indonesia's Financial Economy 2008-2017

Table 6 shows developments in Indonesia's foreign exchange reserves from 2002-2017. That foreign exchange reserves every year has increased. According to Bank Indonesia (2017), in 2008 foreign exchange reserves declined due to the weakening of the global economy which caused a decline in the absorption capacity of trading partner countries, while from the other side it increased due to strong domestic demand. The foreign exchange reserves have increased due mainly to the issuance of global sukuk and the results of government oil and gas exports and the increase in deposits of foreign currency deposits of banks at Bank Indonesia.

Fluctuations in both the volume and value of Indonesia's coffee exports are caused by many factors. Some factors that are thought to influence Indonesian coffee exports include international coffee prices, the money supply, the US dollar exchange rate, inflation, and Indonesian coffee exports. Based on the existing facts, it is necessary to conduct research to analyze how the competitiveness of Indonesian coffee commodities in the international market, besides that there are still problems in the export of Indonesian coffee into something that needs to be analyzed in order to maintain the sustainability of the coffee commodity so that it

remains a mainstay commodity of Indonesia in the next period. To that end, the formulation of the problem that the author will discuss is: 1) How is the development of Indonesian coffee exports in the period 2008-2017?; 2) What is the effect of the money supply, international prices, the US dollar exchange rate, and inflation on Indonesia's coffee exports?; 3) What is the effect of the money supply, international prices, the US dollar exchange rate, and inflation on foreign exchange? and 4) What factors drive and hinder the competitiveness of Indonesian coffee?. The purpose of this study is to analyze the development of Indonesian coffee exports from 2008-2017 and analyze the effect of Indonesian coffee exports and competitiveness.

Based on the background of the problem and previous research studies, a conceptual framework can be formed as shown in Figure 1.

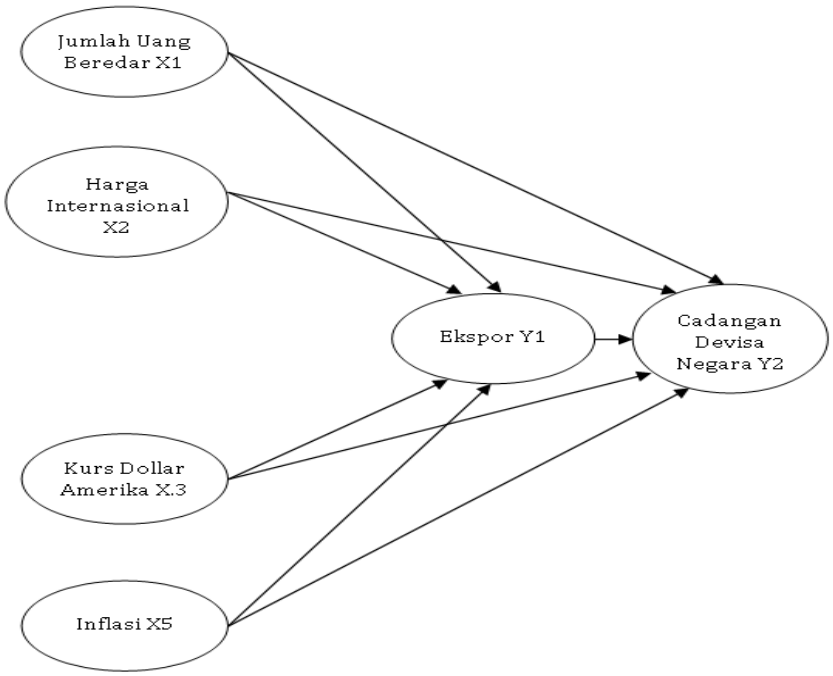

Figure 1. Conceptual Model

Based on the subject matter and literature review described, a hypothesis can be formulated that will be tested as follows:

H1: The Money Supply has a positive effect on coffee exports and the country's foreign exchange for the 2008-2017 period.

H2: International prices have a negative effect on coffee exports and the country's foreign exchange for the 2008-2017 period.

H3: Inflation has a negative effect on coffee exports and the country's foreign exchange for the 2008-2017 period.

H4: The US dollar exchange rate has a positive effect on coffee exports and the country's foreign exchange for the 2008-2017 period.
H5: Coffee exports have a positive effect on the country's foreign exchange for the period 2008-2017.
H6: There is an indirect effect on the money supply, international prices, the US dollar exchange rate and inflation on the country's foreign exchange through coffee exports in Indonesia.

RESEARCH METHODS

This research is included in the type of quantitative research because it is based on quantitative data or findings achieved using statistical procedures or other means of quantification. This research is located in Indonesia. Coffee is one of Indonesia's commodity trading businesses for types of agricultural products. This location was chosen because in Indonesia there are many coffee plantations that can be managed by a business. In addition, coffee production can contribute quite a lot to Indonesia.

There are 3 types of variables studied, namely the dependent variable, the independent variable, and the intervening variable. In this study, the dependent variable is the value of coffee exports (Y1) and the country's foreign exchange reserves (Y2). In this study the independent variables are the money supply (X1), international prices (X2), the US dollar exchange rate (X3) and inflation (X4). This variable also acts as the dependent variable. In this study the intervening variable is the value of coffee exports (Y1).

Data analysis techniques used to solve the problem in this study are path analysis techniques, namely to find out the Amount of Money Supply (X1), International Prices (X2), US Dollar Exchange Rate (X3) and Inflation (X4) directly affect exports coffee (Y1). To find out the Amount of Money Supply (X1), International Prices (X2), US Dollar Exchange Rate (X3) and Inflation (X4) directly influence the country's foreign exchange reserves (Y2). To find out the Amount of Money Supply (X1), International Prices (X2), US Dollar Exchange Rate (X3) and Inflation (X4) have an indirect effect on the country's foreign exchange reserves (Y2) through coffee exports (Y1). The structural equation models are as follows:

Substructure Equation I $Y_1 = \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4\ e_1$ .....(1)

Substructure Equation II $Y_2 = \beta_5X_1 + \beta_6X_2 + \beta_7X_3 + \beta_8Y_4 + e_2$ .....(2)

Information:

Y1 = Coffee Export Y2 = State Foreign Reserves

X1 = Amount of Money Supply X2 = International Prices

X3 = USD Exchange Rate X4 = Inflation

β1, β2, β3, β4, β5, β6, β7, β8 = Regression coefficients for each variable e1, e2 = error

RESULTS AND DISCUSSION

Path coefficient calculation is done using SPSS 18.0 for Windows software, and the results shown in Table 7 are obtained below:

Table 7. Path Analysis Test Results (Structure 1)

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	-6.070	1.528		-3.973	.002
	Amount of Money Supply	1.488	.625	1.487	2.380	.037
	International Price	-.775	1.140	-.409	-.680	.511
	USD Exchange Rate	5.198	1.044	1.067	4.979	.000
	Inflation	-.324	.262	-.192	-1.241	.241

Based on the results of substructure 1 path analysis as presented in Table 7, the structural equation can be made as: $\mathbf{Y1 = 1{,}488\ X_1 - 0{,}775\ X_2 + 5{,}198\ X_3 - 0{,}324\ X_4 + e_1}$

The regression coefficient value of the variable money supply, and the US dollar exchange rate, has a significance value of t test less than 0.050. This shows that the independent variable, namely the money supply (X1), and the US dollar exchange rate (X3), has a significant influence on the variable of Indonesian coffee exports (Y1). International prices and inflation have a significance value of t test of more than 0.050. This shows that international prices (X2) and inflation (X4) do not affect Indonesian coffee export (Y1).

Table 8. Path Analysis Test Results (Structure 2)

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	T	Sig.
1	(Constant)	.243	.166		1.465	.174
	Amount of Money Supply	.246	.053	1.128	4.601	.001
	International Price	-.579	.081	-1.400	-7.159	.000
	USD Exchange Rate	.627	.131	.590	4.789	.001
	Inflation	-.048	.019	-.129	-2.452	.034
	Export	.049	.021	.227	2.360	.040

Based on the results of substructure 2 path analysis as presented in Table 8, the structural equation can be made as: $\mathbf{Y2 = 0{,}246\ X_1 - 0{,}579\ X_2 + 0{,}627\ X_3 - 0{,}048\ X_4 + 0{,}049 Y_1 + e_2}$

The regression coefficient value of each independent variable has a significance value of t test less than 0.050. This shows that the money supply (X1), international prices (X2), US dollar exchange rate (X3), inflation (X4) and Indonesian coffee exports (Y1) have a significant influence on the variable foreign exchange reserves (Y2).

The coefficient of determination essentially measures how far the model's ability to explain the variation of the dependent variable (Ghozali, 2016). In this statistical calculation, the value of R^2 used is adjusted R^2 because this is one indicator to determine the effect of adding an independent variable into a regression equation. The results of the coefficient of determination in this study are summarized in Table 9.

Table 9. Determination Coefficient Results

Structure	Formula	*R Square*	*Adjusted R Square*
1	$Y1 = 1{,}488\ X_1 - 0{,}775\ X_2 + 5{,}198\ X_3 - 0{,}324\ X_4 + e_1$	0,907	0,873
2	$Y2 = 0{,}246\ X_1 - 0{,}579\ X_2 + 0{,}627\ X_3 - 0{,}048\ X_4 + 0{,}049 Y_1 + e_2$	0,991	0,987

Table 9 shows the determination value (Adjusted R Square) of 0.873 which means that 87.3% of variations in Indonesian coffee exports (Y1) are influenced by variations in the money supply (X1), international prices (X2), US dollar exchange rates (X3), and inflation (X4) while the remaining 12.7% is explained by other factors not included in the model.

The value of determination (Adjusted R Square) in equation structure 2 (path analysis 2) is 0.987 which means that 98.7% of the variation in the country's foreign exchange reserves (Y2) is influenced by variations in the money supply (X1), international prices (X2), the US dollar exchange rate (X3), inflation (X4) and Indonesian coffee exports (Y1), while the remaining 1.3% is explained by other factors not included in the model.

Based on the substructure 1 and substructure 2 models, the final path diagram model can be arranged. Before constructing the final path diagram model, first calculate the standard error value as follows:

$$Pe_1 = \sqrt{1 - R_1^2} = \sqrt{1 - 0{,}873} = 0{,}356$$

$$Pe_2 = \sqrt{1 - R_2^2} = \sqrt{1 - 0{,}987} = 0{,}114$$

Based on the calculation of the effect of error (Pei), the result of the effect of error (Pe1) is 0.356 and the effect of error (Pe2) is 0.114. The results of the total determination coefficient are as follows:

$R^2m = 1 - (Pe1)\ 2\ (Pe2)\ 2$

$= 1 - (0.356)\ 2\ (0.114)\ 2 = 0.9983$

A total determination value of 0.9983 means that 99.83% of the variation in the country's foreign exchange reserves (Y2) is influenced by variations in the money supply (X1), international prices (X2), US dollar exchange rates (X3), inflation (X4) and Indonesian coffee exports (Y1), while the remaining 0.169% is explained by other factors not included in the model. Based on the results of path 1 and 2 analysis, the path coefficient results in this research hypothesis are as follows:

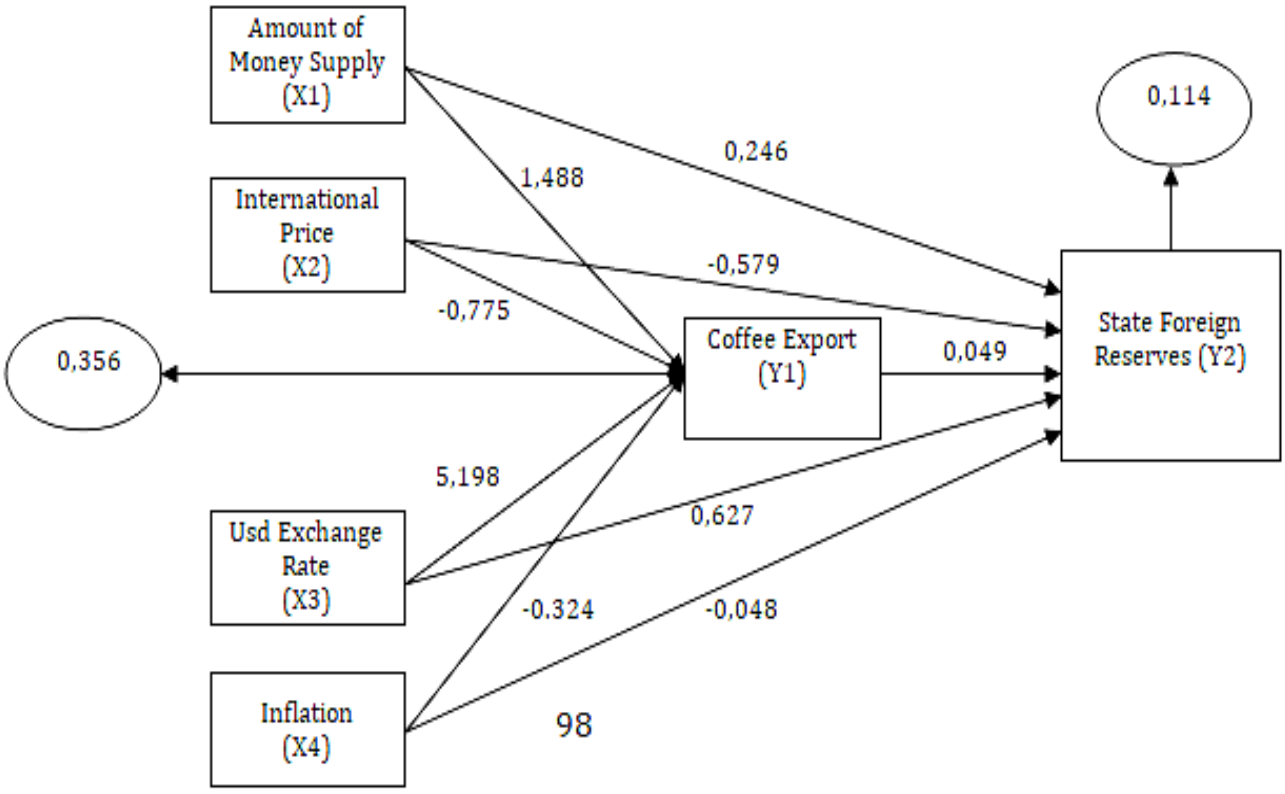

Figure 2. Final Pathways Model

Based on the path diagram in Figure 2, the magnitude of direct and indirect effects and the total effect between variables can be calculated. The calculation of influence between variables is summarized in Table 10 below.

Table 10. Direct Effects and Indirect Effects and Total Influence of Research Variables

Influence of Variables	Direct Influence	Indirect Effects through Indonesian Coffee Exports	Total Influence
$X_1 \rightarrow Y1$	1,488	-	1,488
$X_2 \rightarrow Y1$	-0,775	-	-0,775
$X_3 \rightarrow Y1$	5,198	-	5,198
$X_4 \rightarrow Y1$	-0,324	-	-0,324
$Y1 \rightarrow Y2$	0,049	-	0,049
$X_1 \rightarrow Y2$	0,246	(1,488 x 0,049) = 0,073	0,319
$X_2 \rightarrow Y2$	-0,579	(-0,775 x 0,049) = -0,038	-0,617
$X_3 \rightarrow Y2$	0,627	(5,198 x 0,049) = 0,255	0,882
$X_4 \rightarrow Y2$	-0,048	(-0,324 x0,049) = -0,016	-0,064

Based on the results of the analysis of the influence of the money supply to the export of Indonesian coffee obtained a significance value of 0.037 with a regression coefficient of 1.488. Significance value of 0.037 <0.050 indicates that H0 is rejected and H1 is accepted. This result means that the money supply has a positive and significant effect on Indonesia's coffee exports. The results in this study indicate that the Money Supply has a positive and significant effect on exports and foreign exchange reserves. This means that the money supply does not significantly influence short-term or long-term foreign exchange reserves during the 2002-2017 study period. These results are consistent with previous research conducted by Agnes Putri Sonia and Nyoman Djinar Setiawina (2016). In this research, it is stated that JUB has no indirect effect on foreign exchange reserves through imports. This is not consistent with the theory that if government spending rises then the money supply should also increase, because government spending is financed in rupiah. If foreign exchange reserves increase, the money supply should also increase, because existing foreign exchange reserves are usually spent on expenditures that year and are exchanged for rupiah. In addition it must focus more on exports rather than imports in order to increase the country's foreign exchange.

Based on the analysis of the effect of international prices on Indonesian coffee exports, a significance value of 0.511 was obtained with a regression coefficient of -0.775. Significance value of 0.511> 0.050 indicates that H0 is accepted and H2 is rejected. This result means that international prices have no significant effect on Indonesian coffee exports. This result is supported by research by Amirus Saleh (2016) that the international price variable has a negative effect and partially does not significantly influence the volume of Indonesian tea exports and Abolagba, et al. (2010) which explains that international prices are not a variable

that significantly influences the volume of Nigerian cocoa and rubber exports. In accordance with the law of demand, demand and prices are negatively related. If the international price of tea goes up, the demand for tea will go down, and vice versa. Partially insignificant results cannot be separated from the Indonesian tea export system which more often uses MoU (Memorandum of Understanding) or cooperation contracts. The contract was signed between a producer company (national tea exporter) and a consumer company (tea importer). The tea trade price has been set in the contract by looking at the producer currency exchange rate with the US Dollar. The prevailing international tea prices are rarely used so that it has a negative and insignificant effect on tea export volumes.

Based on the analysis of the effect of the US Dollar exchange rate on Indonesian coffee exports, a significance value of 0,000 was obtained with a regression coefficient of 5.198. Significance value of 0,000 <0.050 indicates that H0 is rejected and H3 is accepted. This result means that the US Dollar exchange rate has a positive and significant effect on Indonesian coffee exports. This result is in accordance with the theory which states that if the foreign exchange rate increases against the domestic currency, this can increase exports and vice versa if the foreign exchange rate depreciates against the domestic currency, then this can reduce exports (Gede Yoga Mahendra , 2015). The results of this study are also in line with research conducted (Wirahasta 2011) which concluded that, the US dollar exchange rate had a positive and significant effect on handicraft exports in the province of Bali. The value of β3 is actually 0.625 which means, if the US dollar exchange rate increases by 1 percent assuming other variables are considered constant, then Indonesia's exports in 1992-2012 are expected to increase by 0.625 percent. This shows that the US dollar exchange rate has a positive relationship with Indonesia's exports, where this statement is in line with the researcher's hypothesis.

Based on the analysis of the effect of inflation on Indonesian coffee exports, the significance value of 0.241 was obtained with a regression coefficient of -0.332. Significance value of 0.241> 0.050 indicates that H0 is accepted and H4 is rejected. This result means that inflation has no significant effect on Indonesian coffee exports. It is suspected that importers and collectors from abroad do not pay attention to the percentage of the inflation rate. In addition, because the coffee production offered by Indonesia has a different aroma, taste, and texture between Arabica and Robusta which can add interest in coffee production so that importers are interested in buying the product. However, this coffee can also meet daily needs because drinking 2 cups of coffee a day will create more energy. This result is supported by research by Agnes Putri Sonia which states that the inflation rate does not have a negative effect on exports. Based on the results of the study, it is show that there was no significant

negative effect between the inflation rate and export variables. This can be interpreted that if the inflation rate increases, exports will not necessarily experience a decline. The results of this other study are supported by research conducted by Prami Gayatri (2015) which states that there is no significant effect between inflation variables on exports. This could be because exporters' interest in domestic processed products continues to increase, so exports continue to increase despite domestic inflation.

Based on the results of the analysis of the influence of the money supply to the country's foreign exchange reserves obtained a Significance value of 0.001 with a regression coefficient of 0.246. Significance value of 0.001 <0.050 indicates that H0 is rejected and H5 is accepted. This result means that the money supply has a positive and significant effect on the country's foreign exchange reserves. The positive relationship between the jub variable with foreign exchange reserves is in line with the theory that if foreign exchange reserves increase, the money supply should also increase, because the existing foreign exchange reserves are usually spent on expenditures in the same year and exchanged for rupiah. While the relationship with the money multiplier number is the increase in the number of money multipliers affect the increase in the money supply (Simorangkir, 2014).

Based on the analysis of the effect of international prices on foreign exchange reserves obtained a significance value of 0,000 with a regression coefficient of -0.579. Significance value of 0,000 <0.050 indicates that H0 is rejected and H6 is accepted. This result means that international prices have a negative and significant effect on the country's foreign exchange reserves. In the law of supply the nature of the relationship between the supply of goods is explained with the price level. The law of supply is essentially a hypothesis which states: the lower the price of an item, the less the supply of that item. Conversely the higher the price of an item, the higher the supply of the item will be assuming ceteris paribus (Sukirno, 2002: 87). Therefore, the supply of exported goods is also determined by the price of the exported goods. Where, the higher the price of export goods, the supply of these export goods will increase. Conversely, the lower the price of imported goods, the lower the supply of export goods will be assuming ceteris paribus (other factors are considered constant or unchanged). So, between the export price of an item has a positive relationship with the export volume of that good. So it will be able to increase the country's foreign exchange.

Based on the analysis of the effect of the US dollar exchange rate on the country's foreign exchange reserves, a significance value of 0.001 was obtained with a regression coefficient of 0.627. Significance value of 0.001 <0.050 indicates that H0 is rejected and H7 is accepted. This result means that the US Dollar exchange rate has a positive and significant effect on the country's foreign exchange reserves. The results of this study are supported by

(Bali Post Daily: Wednesday, June 8, 2016, page: 1) in which the causes of foreign exchange decline include the use of foreign exchange to repay foreign debt in a row and the Central Bank uses foreign reserves to maintain the stability of the rupiah exchange rate in accordance with fudamentalnya.

This result is supported by Cassey and Dhanireddy (2011) stating that in doing business there must be transactions conducted by business people, where agreed goods and services will be exchanged for money. But when dealing with international trade, there are transactions carried out in conducting international trade transactions, namely: Transactions made between buyers and sellers must agree on payment at the price stated in the agreement, namely at the foreign exchange rate. Foreign currencies will be traded to adjust prices in US dollars. Foreign exchange reserves have an important impact on a country's exchange rate position, an increase in reserves in the balance of payments provides a stimulus to make the rupiah appreciate. The more foreign exchange or foreign exchange that is owned by the government and residents of a country, it means the greater the country's ability to conduct international economic and financial transactions and the stronger the value of the currency. In addition, the higher exchange rate of the country's own currency shows that the country's economy is stronger so that it can obtain more foreign exchange. If the rupiah strengthens supported by stable economic conditions, Indonesia's foreign exchange reserves will also increase, this is due to the encouragement of investors who are interested in investing in the domestic financial market which will result in a surplus in the current account balance so that foreign exchange reserves will also increase, if The rupiah continues to experience depreciation which will result in a reduction in foreign exchange reserves. To stabilize the value of the rupiah, the solution of Bank Indonesia's policy is to pour out or issue foreign exchange reserves and directly intervene in the foreign exchange market.

Based on the analysis of the effect of inflation on the country's foreign exchange reserves obtained a significance value of 0.034 with a regression coefficient of -0.048. Significance value of 0.034 <0.050 indicates that H0 is rejected and H8 is accepted. This result means that inflation has a negative and significant effect on the country's foreign exchange reserves. Inflation variable has a negative and significant effect on Indonesia's foreign exchange reserves in the short and long term during the study period 2002-2017. This is consistent with previous research conducted by Agustina and Reny (2014). The results of his study concluded that the value of inflation affects foreign exchange reserves negatively and significantly. This is in line with the theory that if the prices of goods and service sectors tend to increase, or called inflation, it will hamper economic activity in the country concerned. The country needs more foreign exchange to be able to transact outside the country. Therefore, to prevent inflation from

increasing, the amount of currency in circulation must be in accordance with needs, so that the stability of the exchange rate can be maintained.

In this study is not in line with research conducted by Ida Bagus Putu Purnama Putra and I G. B. Indrajaya (2013). In this study the inflation rate did not have a partial effect on Indonesia's foreign exchange reserves. The research is not in line with the theory if inflation occurs resulting in an increase in food and oil prices so that there is a gap between supply and demand where import flows will increase and export flows will be hampered or decrease continuously because domestic goods are much more expensive than the price of goods a kind of foreign-made. In the end, this will result in Indonesia's trade balance deficit which will result in a decrease in Indonesia's foreign exchange reserves.

Based on the analysis of the effect of coffee exports on the country's foreign exchange reserves obtained a significance value of 0.040 with a regression coefficient value of 0.049. Significance value of 0.040 <0.050 indicates that H0 is rejected and H9 is accepted. These results mean that coffee exports have a positive and significant effect on the country's foreign exchange reserves. The results of this study are in line with the results of research conducted by I Putu Kusuma Juniantara and Made Kembar Sri Budhi which states that exports have a significant positive effect on foreign exchange reserves. If Indonesia often exports goods to other countries, Indonesia will obtain foreign exchange from the importing country, so the more goods exported, the more foreign exchange will be obtained. With the increasing value of exports, it shows that the country is increasingly receiving income from foreign countries, or commonly referred to as receiving foreign exchange or foreign exchange which is one of the sources of state income.

CONCLUSION AND RECOMMENDATIONS

This study uses a PATH analysis model or path analysis, PATH results appear to have met the criteria in other words the model in this study can be used to analyze the factors affecting the volume of Indonesian coffee exports and their competitiveness for the period 2002-2017.

Based on the results of the discussion and analysis of research data it can be concluded that the variable money supply, the US dollar exchange rate has a positive and significant effect on coffee exports and international prices, inflation has a negative and not significant effect on coffee exports. While the money supply, international prices, the US dollar exchange rate, and inflation have a significant effect on the country's foreign exchange reserves. This is due to fluctuations in data each year that cause the ups and downs of the data.

Based on the results of the study, it is recommended that Indonesian citizens understand the country's economic conditions, reducing the use of products from abroad will reduce imports and can save the country's foreign exchange.

The further researcher is expected to be able to develop this research by adding other economic variables such as foreign debt, the rupiah exchange rate and so on. It is also expected to add a period of data retrieval in the study. Further researches should develop exports in Indonesia, especially in the field of coffee and expand the scope of coffee exports.

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