

# Prospect Analysis of Indonesian Coffee Exports to Europe

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## ABSTRACT

This research is conducted to analyse the factors that influence Prospects of Indonesian export coffee to Europe. Factors observed in this research are price of Indonesian export coffee to Europe, exchange rate, the volume of Indonesian export coffee to Europe year ago, and total of Indonesian export coffee to Europe. The analysis, in object, introducing time series 30 data. Model used in this research, applied the ordinary least square (OLS). The research results show that price of Indonesian export coffee to Europe, the volume of Indonesian export coffee to Europe year ago, and total of Indonesian export coffee to Europe Significant effect Indonesian coffee export to Europe. While, exchange rate is not significant effect the Indonesian coffee export. And Indonesian export coffee to Europe shows a bright prospect in the future.

**Keywords:** *Coffee, Price, Exchange Rate, Export, Volume.*

## INTRODUCTION

The current globalization has improved relations between countries in the economic field. Trade between countries cannot be avoided because no country is able to produce all domestic needs. This occurs because each country and its trading partner countries have several differences, including differences in the content of natural resources, climate, population, human resources, labor specifications, geographical configuration, technology,

price levels, economic, social and political structures, and so on. (Halwani, 2002).

Indonesia has the potential to develop exports in the agricultural sector due to the region's conditions that are rich in natural resources. The value of Indonesia's agricultural exports has fluctuated from year to year, but from 2010 to 2012 it continued to increase. The agricultural sector in Indonesia has many sub-sectors, one of the potential sub-sectors is plantation. In table 1.2 it can be seen that the contribution of plantation crops always increases every year. In 2009, plantation crops contributed 1.84%, then increased to 2.51% in 2010 and finally reached 6.06% in 2011.

The Indonesian plantation sub-sector has a variety of crops, one of which is coffee. The coffee commodity as a type of plantation subsector is a plant that has long been cultivated in Indonesia. Coffee is one of the leading export commodities of the plantation sub-sector to various countries, in addition to several other export commodities such as palm oil, rubber and cocoa. It is noted that from year to year, the export value of Indonesian coffee continues to increase in export value even though it continues to fluctuate. In 2008-2012, Indonesia's coffee export growth continued to increase. This shows that the Indonesian coffee commodity has the potential to become a leading export commodity.

The export destination countries for Indonesian coffee are countries in Europe, Asia and America. In 2010, the countries

that were the biggest export destinations were Germany (63,688.4 tons), the United States (63,048.0 tons), Japan (59,170.9 tons), Italy (26,770.7 tons), Malaysia (26,200.1 tons), England (24,343.1 tons), and followed by other countries.

The development of Indonesian coffee exports to countries in the Asian, American and European regions has promising potential, especially countries in the European region. Based on data from the International Coffee Organization, the European region is the largest region in importing coffee. In 2011, total coffee imported by the world was 72,355,000 tonnes and European imports amounted to 40,428,000 tonnes or 55% of world imports. European countries that import coffee the most are Germany (23%), France (14%), Italy (14%), Spain (7%), England (7%) and other countries (35%). This is a bright prospect for Indonesia to increase coffee exports to the European region.

### **Hypothesis**

Based on the concepts described, the research hypothesis is formulated as follows:

1. The export price of coffee has a positive influence on Indonesia's coffee exports to Europe.
2. The rupiah exchange rate against the United States dollar has a positive effect on Indonesia's coffee exports to Europe.
3. The volume of Indonesian coffee exports to Europe in the previous year had a positive influence on Indonesia's coffee exports to Europe.
4. Indonesia's total coffee exports have a positive influence on Indonesia's coffee exports to Europe.
5. The development and prospects of Indonesia's coffee exports to Europe will increase.

### **MATERIAL AND METHODS**

This study discusses the effect of coffee export prices, the Indonesian Rupiah exchange rate against the United States Dollar, the volume of Indonesia's coffee

exports to Europe the previous year, and the total exports of Indonesian coffee. The discussion and analysis is more focused on the development of Indonesian coffee exports to Europe over a period of 30 years.

The type of data used in this study is secondary data based on time series data from 1981-2010. Secondary data is sourced from the North Sumatra Central Statistics Agency, Bank Indonesia Medan, and reading materials related to research such as journals, scientific papers, websites and others. The procedure will be carried out in data collection in order to solve problems and test the research hypothesis.

The sampling technique is carried out by means of the census method, which according to Sugiyono (2011) is the selection of samples based on certain characteristics that are considered to have something to do with previously known population characteristics. The sampling method was using the census formula so that the number of samples in this study amounted to 30 data.

## **RESULTS AND DISCUSSION**

### **Development of Indonesian Coffee Production**

In line with the development of Indonesia's coffee plantation areas, Indonesia's coffee production has also increased. The most rapid development of Indonesian coffee production occurred in the period 1986-1996. In 1986, Indonesian coffee production was recorded at 356,822 tons, then increased to 459,206 tons in 1996. Then in 1997 Indonesian coffee production decreased to 428,418 tons. In 1998 coffee production increased by 20.08 percent from the previous year. After that, the development of production was slow and even there was a decrease in production after reaching the highest production of 682,019 tons in 2002.

In the 1981-2010 period, the development of Indonesian coffee production averaged 2.96 percent annually. The highest development in Indonesian coffee production occurred in the period

1997-1998, which was 20.08 percent, while the lowest development was in the form of a decrease in Indonesian coffee production occurred in the 1981-1982 period, which decreased by 10.68 percent. Based on the table, it can be seen that coffee production in smallholder plantations is greater than coffee production in large state and private estates. This is due to the larger area of smallholder plantations than state and private plantations.

Coffee production on smallholder plantations more than doubled in the period 1982-2002. If in 1982 coffee production on smallholder plantations was 262,247 tonnes, in 2002 coffee production on smallholder plantations increased to 654,281 tonnes. After that coffee production has decreased, in 2003 Indonesia's coffee production amounted to 644,657 tonnes. In the 1981-1996 period, coffee production fluctuated in the country's large plantations. Then the development of coffee production in the country's large plantations has been slow, even there has been a decline in coffee production after reaching the highest production of 29,754 tonnes in 2000.

In large private plantations, coffee production fluctuations also occur. Based on the table, it can be seen that in 1999 the largest coffee production reached 19,021 tonnes. Then the development of coffee production on private large estates has decreased, in 2005 recorded coffee production on private large estates of 7,775 tonnes. In terms of the development of the share of Indonesian coffee production, the share of coffee production in smallholder plantations is greater than that of coffee production in large state plantations and large private plantations.

### **Development of Indonesian Coffee Exports to Europe**

Until now, Europe is still one of the potential areas for Indonesian coffee exports. During the period 1981-2010, the export volume of Indonesian coffee to Europe averaged 76.21 thousand tons per year with an average export value of USD

103.02 million. The highest volume of Indonesian coffee exports to Europe occurred in 1990, amounting to 158.3 thousand tons and the lowest export volume occurred in 1981 at 18.9 thousand tons. Meanwhile, the highest export value occurred in 2008 amounting to USD 263.6 million and the lowest export value occurred in 2001 amounting to USD 30.0 million.

The development of the volume and value of Indonesian coffee exports to Europe during the 1981-2010 period fluctuated from year to year, but on average it has increased every year. During the period 1981-2010, the growth in the volume of Indonesian coffee exports to Europe increased by an average of 13.86 percent each year with an average export value growth of 103.0 percent. The highest growth in export volume and export value occurred in the 1985-1986 period with 122.18 percent and 187.35 percent, respectively. Meanwhile, the lowest growth in volume and export value occurred in the 2000-2001 period amounting to -40.36 percent and -52.23 percent (decrease), respectively.

The development of the export price of Indonesian coffee has fluctuated from year to year, but on average it increases every year by 3.82 percent. The highest export price growth occurred in the period 1993-1994 amounting to 123.19 percent, while the lowest export price growth occurred in the 1995-1996 period amounting to -37.72 percent (decrease). Meanwhile, while Indonesia exported coffee to Europe in the 1981-2010 period, the highest price for Indonesian coffee exports was 2738.2 USD / ton in 1986 and the lowest price was 545.6 USD / ton in 2002.

### **Data Interpretation**

The relationship between the independent variables, namely the export price of Indonesian coffee to Europe, the US dollar exchange rate, the volume of coffee exports to Europe in the previous year and the total exports of Indonesian coffee to the dependent variable, namely the volume of

Indonesian coffee exports to Europe, is used multiple linear regression.

Based on the data obtained from the research results, namely data that has been

processed into the model through computer calculations using the Eviews 5.1 program, it can be seen in the table as follows

**Results of Regression Analysis of Factors Affecting Indonesian Coffee Exports to Europe**

Dependent Variable: Y				
Method: Least Squares				
Date: 07/17/13 Time: 17:17				
Sample: 1981 2010				
Included observations: 30				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-53590.43	17230.32	-3.110240	0.0046
X1	-10.74089	4.909386	-2.187827	0.0382
X2	-1.162688	0.885890	-1.312451	0.2013
X3	0.228565	0.089735	2.547125	0.0174
X4	0.408191	0.048970	8.335573	0.0000
R-squared	0.876187	Mean dependent var	76213.33	
Adjusted R-squared	0.856377	S.D. dependent var	36914.91	
S.E. of regression	13989.90	Akaike info criterion	22.08107	
Sum squared resid	4.89E+09	Schwarz criterion	22.31460	
Log likelihood	-326.2161	F-statistic	44.22923	
Durbin-Watson stat	1.867307	Prob(F-statistic)	0.000000	

Based on the results of multiple linear regression, the estimation results can be obtained as follows:

- 1) The export price of Indonesian coffee to Europe (X1) has a negative effect on the volume of Indonesian coffee exports to Europe with a coefficient of 10.74089. This means that if the export price of Indonesian coffee to Europe increases by one US \$ / ton, it will cause the volume of Indonesian coffee exports to Europe to fall by 10.74089 tons. This is not in accordance with the hypothesis because the coffee price used in the analysis is not the international coffee price but the European coffee demand price.
- 2) The US dollar exchange rate (X2) has a negative effect on the volume of Indonesian coffee exports to Europe with a coefficient of 1.162688. This means that if there is an increase in the rupiah exchange rate against the US dollar by one Rp / US \$, it will cause the volume of Indonesian coffee exports to Europe to fall by 1.162688 tons. This is not because the effect of coffee prices used in the analysis is not international coffee prices.

- 3) The volume of Indonesian coffee exports to Europe in the previous year (X3) had a positive effect on the volume of Indonesian coffee exports to Europe with a coefficient of 0.228565. This means that if the volume of Indonesian coffee exports to Europe in the previous year increased by one ton, it would result in the volume of Indonesian coffee exports to Europe increasing by 228.565 kg. This is consistent with the hypothesis which states that the volume of Indonesian coffee exports to Europe in the previous year had a positive effect on Indonesia's coffee exports to Europe.
- 4) The total export of Indonesian coffee (X4) has a positive effect on the volume of Indonesian coffee exports to Europe with a coefficient of 0.408191. This means that if the total export of Indonesian coffee increases by one ton, it will cause the volume of Indonesian coffee exports to Europe to increase by 408.191 kg. This is in accordance with the hypothesis which states that Indonesia's total coffee exports have a positive effect on Indonesia's coffee exports to Europe.

Prospects of Indonesian Coffee Exports to Europe

Indonesia was ranked third as a world coffee exporter in 2010. This position has the potential to continue to increase the number of Indonesian coffee exports. Indonesia's coffee production in 2010 amounted to 10,255 thousand tons with coffee exports amounting to 6,922 thousand tons.

**Table of Development of Total Coffee Production in Exporting Countries**

No	Country	Production	Exports
1	Brazil	43.783	24.773
2	Vietnam	18.646	17.251
3	Indonesia	10.255	6.922
4	Columbia	8.311	7.022
5	Ethiopia	7.216	3.919
6	Lainnya	39.939	29.343
	Total	128.148	89.228

Source: www.ico.org (data processed)

**Importing Countries Consumption Table, 2005-2010, (in 000 bags)**

Country	Year					
	2005	2006	2007	2008	2009	2010
European Union	39.414	41.103	40.670	40.230	39.657	40.764
Austria	772	612	847	908	886	903
Belgium	1.158	1.537	1.103	650	934	871
Bulgaria	430	420	364	445	409	395
Cyprus	70	55	69	77	75	74
Czech Republic	656	631	679	621	525	470
Denmark	795	822	794	688	676	806
Estonia	145	167	101	154	123	105
Finland	1.102	1.047	1057	1 115	1 058	1 080
France	4.787	5.278	5628	5 152	5 677	5 713
Germany	8.665	9.151	8627	9 535	8 897	9 292
Greece	870	857	1015	978	974	994
Hungary	570	598	522	494	445	376
Ireland	223	203	244	115	134	160
Italy	5.552	5.593	5821	5 892	5 806	5 781
Latvia	144	181	131	115	88	99
Lithuania	193	213	230	204	210	223
Luxembourg	227	233	251	239	222	232
Malta	16	29	16	23	14	12
Netherlands	1.927	2.129	2 292	1 324	898	1 347
Poland	2.267	1.993	1 554	1 681	2 001	2 156
Portugal	656	671	684	654	709	750
Romania	857	835	824	807	775	796
Slovakia	293	281	356	341	213	337
Slovenia	181	176	195	194	198	205
Spain	3.007	3.017	3 198	3 485	3 352	3 232
Sweden	1.170	1.315	1 244	1 272	1 133	1 221
UK	2.680	3.059	2 824	3 067	3 220	3 134
Japan	7.128	7.268	7 282	7 065	7 130	7 192
Norway	743	721	771	715	715	746
Switzerland	1.099	932	989	1 149	966	1 012
Tunisia	190	200	253	317	289	301
Turkey	464	497	516	484	521	610
USA	20.998	20.667	21 033	21 652	21 436	21 783

Source: www.ico.org

The average development of Indonesian coffee exports from 1981-2010 was 13.86%. This shows that there is an increase in Indonesia's coffee exports to Europe every year. The prospect of Indonesian coffee exports is quite high if you look at the comparison of the number of European coffee imports and the number of Indonesian coffee exports. In Table 4.4., It can be seen that in 2010, the total amount of

coffee imported by Europe was 18,207,000 bags (UK = 3,134,000 bags, Italy = 5,781,000 bags, Germany = 9,292,000 bags). Meanwhile, the number of Indonesian coffee exports was only 6,922,000 bags or only 38% of the total imports of Britain, Italy and Germany, while 62% were imported from other countries.

## CONCLUSIONS AND RECOMMENDATIONS

### CONCLUSIONS

The conclusions in this study are:

1. The export price of Indonesian coffee to Europe (X1) has a negative and significant effect on the 95% confidence level of the volume of Indonesian coffee exports to Europe.
2. The US dollar exchange rate (X2) has a negative and insignificant effect on the 95% confidence level of the volume of Indonesian coffee exports to Europe.
3. The volume of Indonesia's coffee exports to Europe in the previous year (X3) had a positive and significant effect on the 95% confidence level of the volume of Indonesian coffee exports to Europe.
4. The total export of Indonesian coffee (X4) has a positive and significant effect at the 95% confidence level on the volume of Indonesian coffee exports to Europe.
5. The prospect of Indonesian coffee exports to Europe is quite bright because the average development of coffee exports each year is 13.68% and the percentage of Indonesia's export volume is only 38% of total European imports, while 62% is contributed by other countries.

### RECOMMENDATIONS

The suggestions in this study are:

1. The need to increase the development of coffee production by mastering technology, carrying out research and development and developing business networks to increase Indonesian coffee production.
2. The factor that most influences the volume of Indonesian coffee exports to

Europe is the total exports of Indonesian coffee. If you want to increase the volume of Indonesian coffee exports to Europe, the total exports of Indonesian coffee must be increased.

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