Berkala Ilmiah Agribisnis AGRIDEVINA

ISSN 2301 - 8607

Vol. 6 No. 2

THE INFLUENCE OF VALUE ADDED TAX EXEMPTION TOWARDS PROCESSED SEAWEED EXPORTS OF INDONESIA

Pengaruh Nilai Tambah Pembebasan Pajak Terhadap Ekspor Olahan Rumput Laut Indonesia

Nevadea Tiara Anugrahayu[1], Dwidjono Hadi Darwanto[2] ,Jamhari*[2]
[1]Graduated student of Agricultural Economics, Faculty of Agriculture, UGM
[2]Lecturers, Faculty of Agriculture UGM, Yogyakarta
Jl. Flora, Bulaksumur, Kabupaten Sleman, Daerah Istimewa Yogyakarta 55281
email : jhrpande@yahoo.com

ABSTRACT
Seaweed is one of the prospective cultivated marine commodity that supports fishery revitalization program that is enacted by the government. In the downstream, the government has made many efforts to increase the value added gain from this commodity. One of the efforts is by enacting a value added tax exemption policy through Government Regulation about Import and/or Refferal of Certain Strategic Taxable Goods that are Free from Added Value Tax. This policy is enacted to encourage the business world especially in agriculture, where it is needed to give easier tax facility by establishing agricultural products that are Taxable Goods. The purpose of this research is to analyze the influence of value added tax exemption policy that is enacted to domestic seaweed processing industry, towards Indonesia's processed seaweed export. Indonesia was the world's biggest seaweed exporter for the last few of years. The government, through its value added tax exemption policy, aimed to encouraged domestic processing industry to not only exporting seaweed as the raw materials but also to export processed products that have added value. The model used in this research was Error Correction Model (ECM). This research found that value added tax exemption policy has positive and significant influences towards processed seaweed export in the long and short-run. This show that the government's policy in relation to value added tax exemption was effective in increasing exports.

Keywords: export, ECM, value added tax, seaweed

INTISARI
Rumput laut adalah salah satu komoditi laut dibudidayakan untuk mendukung program revitalisasi perikanan yang ditetapkan oleh pemerintah. Di hilir, pemerintah telah membuat banyak usaha untuk meningkatkan nilai tambah keuntungan dari komoditas ini. Salah satu upaya dengan memberlakukan nilai ditambahkan kebijakan Pembebasan pajak melalui peraturan pemerintah tentang impor dan/atau Refferal strategis kena pajak barang tertentu yang bebas dari nilai tambah pajak. Kebijakan ini ditetapkan untuk mendorong dunia bisnis terutama di bidang pertanian, dimana diperlukan untuk memberikan fasilitas pajak lebih mudah dengan membangun produk-produk pertanian yang barang kena pajak. Tujuan dari penelitian ini adalah untuk menganalisis pengaruh nilai ditambahkan kebijakan Pembebasan pajak yang ini diundangkan untuk domestik rumput laut industri, menuju Indonesia olahan rumput laut ekspor pengolahan. Indonesia adalah eksportir rumput laut terbesar di dunia untuk beberapa tahun terakhir. Pemerintah, melalui nilainya ditambahkan kebijakan Pembebasan pajak, yang bertujuan

untuk mendorong industri pengolahan domestik untuk tidak hanya mengekspor rumput laut sebagai bahan baku, tetapi juga untuk mengekspor produk olahan yang memiliki nilai tambah. Model yang digunakan dalam penelitian ini adalah kesalahan koreksi Model (ECM). Penelitian ini menemukan bahwa nilai tambah pajak pembebasan kebijakan memiliki pengaruh positif dan signifikan terhadap rumput laut diproses ekspor dalam panjang dan jangka pendek. Ini menunjukkan bahwa kebijakan pemerintah sehubungan dengan nilai ditambahkan Pembebasan pajak adalah efektif dalam meningkatkan ekspor.

Kata Kunci: ekspor, ECM, rumput laut, nilai tambah pajak

INTRODUCTION

Indonesia, as the biggest archipelago state in the world with sea width reaching 5.8 million km^2, including 3.1 millions km^2 territorial water and 2.7 km^2 Indonesia's Exclusive Economic Zone (EEZ) and 17,508 islands with coast length reaching 104,000 km. Indonesia has abundant various natural marine resources (Ministry of Maritime and Fisheries Affairs, 2014).

The marine and fisheries sector currently has very important role in supporting the nation's economy. This sector are not only source of foreign exchange, but also providing food and raw materials for the industry, providing employment, increasing people's income and becoming source of healthy and nutritious food. Global trade competition especially in fishery will become increasingly tight. The Government is required to conduct some strategic efforts in saving domestic fishery products from threats of influx of fishery products from foreign country. Improved competitiveness and increased added value become the key to win the competition (Pregiwati, 2014).

Seaweed is one of the prospective cultivated marine commodity that supports fishery revitalization program that is enacted by the government. This is due to the continues increase in demand of seaweed, whether for domestic or overseas needs. Necessity for seaweed is calculated to be continualy increasing, following the increase of the need for immediate consumption and industry needs (Kordi, 2011). Indonesia's potential seaweed could be one of income source for the country's foreign exchange and could make Indonesia as the biggest raw seaweed exporter in the world. However, that export is still in the form of raw material, therefore the export price is low and the foreign exchange income that is gained is not maximum.

In the downstream, the government has made many efforts to increase the value added gain from this commodity. One of the efforts is by enacting a value added tax exemption policy through Government Regulation No. 7/2007 about Import and/or

Refferal of Certain Strategic Taxable Goods that are Free from Added Value Tax. This policy is enacted to encourage the business world especially in agriculture, where it is needed to give easier tax facility by establishing agricultural products that are Taxable Goods, which reagarded as strategic Taxable Goods that is free from Value Added Tax (Djuanda, 2011). Based on the background stated, this study aimed to analyze the influence of value added tax exemption policy that is enacted to domestic seaweed processing industry, towards Indonesia's processed seaweed export.

METHODS

Data and Method of collecting data

The data that are used in this research are secondary data that were collected as time-series data from the year 1993 to 2014, including the export data of Indonesia's processed seaweed and other variables that were expected influence Indonesia's seaweed export. GDP data and inflation are taken from Germany, Japan, and the United States of America. Those countries were selected, since those countries are Indonesia's three main seaweed export destination countries that give biggest export value for Indonesia. Besides that, there were also export data from Chile, Morocco, and Spain, that were chosen since those three countries are Indonesia's main competitive exporter countries in seaweed world trade which volume of exports show positive increase for the last three years (2012-2014). Those data were taken from some institutions, such as Ministry of Maritime and Fisheries Affairs Republic of Indonesia, FAO (Food and Agriculture Organization) Fisheries and Aquaculture Department, UN Comtrade (United Nations Commodity of Trade), World Bank, and Bank of Indonesia.

Methods of Analysis

The theory that was used in this research was international trade theory, market balance theory, and trade balance theory by Dornbusch et al (2008) which stated that net export, was depended on income, which influenced import expense, on overseas income, Y_f, which affected overseas demand towards export, and on real exchange rate, R. The increase of R or a real depreciation increased trade balance with the shifting of the demand of domestic produced products.

That equation could be described as follows:

$$NX = f(Y, Y_f, R)$$

$$R = e\ P_f/P$$

NX : net export

Y_f : income or gross domestic product of the importer country

R : real exchange rate

E : nominal exchange rate

P_f : price rate or inflation in export destination and

P : price rate or domestic inflation

Variables in this theory were combined with dummy variable of value added tax exemption policy to test its significance towards seaweed export.

Furthermore, those variables were analyzed using Error Correction Model (ECM) method. The Error Correction Model (ECM) developed by Engel and Granger is means of reconciling the short-run behavior of an economic variabel with its long-run behavior (Gujarati & Porter, 2009). The influence of changing export variable towards other macroeconomics variable could be known through the ECM method. Besides that short or long-term effect could be analyzed. Actually, there were three stages of EG-ECM analysis was done.

First stage, stationarity test was done to check whether the observed variable varieties had the same degree of integration or not. This research used the unit root test method developed by Dickey and Fuller, which also known as ADF (Augmented Dickey Fuller) test. Second stage, the long-term equation was estimated. If the observed variables were from the co-integration stationer equation, that meant the residual could be used as assessor for disequilibrium error. Co-integration test to know the long-term relation and predict the balance by using Engel Granger Co-integration Test. The regression model that was used in this long-term equation was linear model as follows:

$$\begin{aligned} X\_indo = {} & \alpha + \beta_1\, GDP\_as + \beta_2\, GDP\_ger + \beta_3\, GDP\_jep + \beta_4\, INF\_as + \beta_5\, INF\_ger \\ & + \beta_6\, INF\_jep + \beta_7\, INF\_indo + \beta_8\ KURS + \beta_9\, X\_chile + \beta_{10}\, X\_mar \\ & + \beta_{11}\, X\_spain + \beta_{12}\, DUMMY + \varepsilon \end{aligned}$$

The third stage, Error Correction Model (ECM) was formed by regressing the equilibrium error which acquired in long-term co-integration equation together with other

variables that were used in this research. That equation was known as the short-term equation. Therefore, that equation was as follows:

$$\Delta(X\_indo) = \alpha + \beta_{13}\Delta(GDP\_as) + \beta_{14}\Delta(GDP\_ger) + \beta_{15}\Delta(GDP\_jep) + \beta_{16}\Delta(INF\_as) + \beta_{17}\Delta(INF\_ger) + \beta_{18}\Delta(INF\_jep) + \beta_{19}\Delta(INF\_indo) + \beta_{20}\Delta(KURS) + \beta_{21}\Delta(X\_chile) + \beta_{22}\Delta(X\_mar) + \beta_{23}\Delta(X\_spain) + \beta_{24}\Delta(DUMMY) + \beta_{25}RES(-1)$$

where :

X_indo : Indonesia's seaweed export,
GDP_as : USA's Gross Domestic Product,
GDP_ger : Germany's Gross Domestic Product,
GDP_jep : Japan's Gross Domestic Product,
INF_as : USA's Inflation,
INF_ger : Germany's Inflation,
INF_jep : Japan's Inflation,
INF_indo : Indonesia's Inflation,
KURS : Rupiah Exchange Rate towards US Dollar,
X_chile : Chile's seaweed export,
X_mar : Morocco's Seaweed Export,
X_spain : Spain's Seaweed Export,
DUMMY : value added tax exemption policy variable where 0 was for before the enactment of value added tax exemption policy (1993-2006) whereas 1 was for after the enactment of value added tax exemption policy (2008-2014),
RES(-1) : residual on the period of t-1,
α : intercept,
β_1- β_{12} : regression coefficients in long-term,
β_{13}- β_{24} : regression coefficients in short-term,
β_{25} : *Error Correction Term* (ECT) regression coefficient.

RESULTS AND DISCUSSION

Unit Root Test

Data stationarity test was done in each variables that were used in seaweed export test. Various results were obtained after the data stationary test. INF_as, INF_ger,

INF_jep, KURS, X_chile, and X_spain variables were stationer in level 1 to 10%. Whereas X_indo, GDP_as, GDP_ger, GDP_jep, INF_indo, and X_mar variables were not stationer in *level* 1 to 10%, therefore a stochastic differential process must be done, that was by deciphiring sets of time-series data with the unit root. Stochastic differential process was going to change the time-series data, from not stationery time-series data becomes stationer and had the means and variants that were constant in between periods. After the stochastic differential was done, X_indo, GDP_as, GDP_ger, GDP_jep, INF_indo, and X_mar variables are stationer on *first difference* 1 to 10%.

Tabel 1. Unit Root Test Result

Variable	ADF Stat	
	Level	First Difference
X_indo	-0.75 ^{NS}	-5.42***
GDP_as	0.26 ^{NS}	-2.86*
GDP_ger	-0.40 ^{NS}	-3.82***
GDP_jep	-2.59 ^{NS}	-4.41***
INF_as	-4.03***	-5.56***
INF_ger	-4.65***	-4.28***
INF_jep	-2.67*	-4.82***
INF_indo	-2.10 ^{NS}	-4.15***
KURS	-7.45***	-3.92**
X_chile	-3.59**	-4.62***
X_mar	-0.55 ^{NS}	-4.17***
X_spain	3.61**	-4,68***

Note : * significant on α=10%
** significant on α=5%
***significant on α=1%

Co-integration Test

The next step that could be done was doing a co-integration test. Co-integration test was done to know the long-term relation that happens between the research variables. The purpose of co-integration test between the variables was to show the presence of relation or long-term balance on independent variables towards dependent variables. However, in short-term, there was possibility that such imbalance occurs between the variables. It is imbalance that we often encounter in behavioral economics, where this is due to the inability of the economy to adjust the changes that occurred in economic variables (Harris & Sollis, 2003). That is the reason for which it used Error Correction Model (ECM). ECM utilized the residual error of long-term relationship to balance short-term relationship.

Tabel 2. Result of Long-Term Equation on Indonesia's Seaweed Export

Variable	Coefficient	Probability
C	4009547.00	0.33
GDP_as	9.05	0.04**
GDP_ger	-8.43	0.46
GDP_jep	-1.75	0.03**
INF_as	1336070.00	0.00***
INF_ger	-423281.80	0.27
INF_jep	-418362.00	0.25
INF_indo	-2744.23	0.92
KURS	-134.99	0.55
X_chile	0.01	0.89
X_mar	-0.02	0.89
X_spain	0.06	0.53
DUMMY	4945173.00	0.00***
Adjusted R-Squared		0.96
F-statistic		40.01
Probability (F-statistic)		0.00***

Note : * significant on α=10%
** significant on α=5%
***significant on α=1%

After obtaining the long-term equation, then a test was needed to be done to determine whether there was a co-integration relation between the variables in the model. The test was done by doing data stationary test on residual equation.

Tabel 3. Co-integration Test Results

		t-Statistic	Probability
t-statistic Augmented Dickey-Fuller value		-5.07	0.00
Critical Value	1% level	-3.88	
	5% level	-3.05	
	10% level	-2.67	
*MacKinnon (1996) one-sided p-values			

Figures at the table above show that there was a co-integration in the model. This result was obtained from residual probability value that was less than 10% alpha level (prob = 0.000 < 0.10) and t-statistic ADF value that was bigger than critical value on 1 to 10% level, therefore H_0 was rejected, so there was stationarity on equilibrium error variable. Stationer variables show that there was a co-integration relation in the model, therefore, it could be confirmed that there was a co-integration relation between X_indo, GDP_as, GDP_ger, GDP_jep, INF_as, INF_ger, INF_jep, INF_indo, KURS, X_chile, X_mar, X_spain DUMMY variables. The movement showed the relation or attachment between variables that could be used to make a long-term estimation or it could be said

that in every short-term period, all variables that were researched tend to adjust to each other, in order to reach a long-term balance.

The Formulation of Error Correction Model (ECM)

The formulation of ECM was done by regressing equilibrium error that was obtained in the long-term co-integration equation together with other variables that were used in this research. After the classic assumption test was done, in the form of multicollinearity test, heteroskedasticity test, autocorrelation test, and normality test, therefore it could be concluded that the estimation model had BLUE quality or best, linear, unbiased, and estimeate. Therefore the parameters of the model could be immediately estimated using Error Correction Model. The results of the formation of the ECM on the factors that affect the exports of seaweed Indonesia, either simultaneously or partial served at table 4.

Table 4. Result of ECM Test Results on Indonesia's Seaweed Export

Variable	Coefficient	Probability
C	-528231.40	0.24
Δ (GDP_as)	1.39	0.13
Δ (GDP_ger)	-9.93	0.09*
Δ (GDP_jep)	-1.62	0.00***
Δ (INF_as)	1106078.00	0.00***
Δ (INF_ger)	-554469.80	0.01**
Δ (INF_jep)	-553596.80	0.00***
Δ (INF_indo)	-33906.19	0.03**
Δ (KURS)	23.70	0.78
Δ (X_chile)	0.03	0.36
Δ (X_mar)	0.02	0.77
Δ (X_spain)	0.10	0.04**
Δ (DUMMY)	6655124.00	0.00***
RES(-1)	-1.59	0.00***
Adjusted R-Squared		0.95
F-statistic		29.52
Probability (F-statistic)		0.00***

Note : * significant on α=10%
** significant on α=5%
***significant on α=1%

All variables that were inputted in the model above could affect Indonesia's seaweed export as big as 95 %, whereas the rest in the amount of 5% was affected by variables outside the model, therefore it could be said that types of independent variables that were inputted in the model were properly good. Speed of adjustment value that was obtained from ECT coefficient value in the model showed that it was approaching the

value of 1 (one). This stated that to adjust actual value to the direction of new balance value, really fast adjustment change was needed. ECT coefficient value analysis concluded the presence of long-term relation indication between the variables. This indicate that every unit change will generate a change of seaweed export value at bigger than one unit, and fluctuation would adjust to the new balance. The magnitude of error correction was -1.59, indicates that adjustment to processed seaweed export equilibrium condition was as big as 0,63 years (1/1.59). This result showed that the long-term equilibrium condition was going to happen in the period of 0.63 years. According to Widarjono (2007), ECT coefficient imbalance correction in the form of absolute value explained how fast was the time that was needed to obtain a balance value.

According to the result of Error Correction Model test, both in the long and short-term, dummy of value added tax exemption policy had a positive and significant coefficient. The coefficient for the long-term model was 4,945,173; whereas the coefficient for short-term was 6,655,124. This numbers showed that value added tax exemption policy affected positively towards Indonesia's seaweed export. If two conditions (0 and 1) were inputted to the model, both in the long and short-term, that assuming if X_indo, INF_as, INF_ger, INF_jep, INF_indo, KURS, X_chile, X_mar, DUMMY, GDP_as, GDP_ger, GDP_jep, X_spain were constant for two possibilities (0 and 1), therefore a different intercept would be obtained.

In long-term, when D=0 or before the enactment of value added tax exemption policy, it was 4,009,547; whereas when D=1 or after the enactment of value added tax exemption policy, it was 8,954,720. In short-term, when D=0 or before the enactment of value added tax exemption policy, it was -528,231.40; whereas when D=1 or after the enactment of value added tax exemption policy, it was 6,126,892.60. This can be meant that the condition after the enactment of value added tax exemption policy (D=1) Indonesia's export volume of seaweed increased.

Based on this research, value added tax exemption policy that was enacted to domestic seaweed processing industry was considered effective. By giving tax facility, the world business of manufactured seaweed was became more encouraged. Considering there was free market and the threat of fisheries products entry from overseas to Indonesia, then increasing this value added product was important to be done. In this case, the government was urged to continue the betterment in doing various strategic efforts in saving fisheries products in domestic market.

CONCLUSION AND SUGESSTION

The research result showed that value added tax exemption policy variable affect significantly and positively towards Indonesia's processed seaweed export, both in long and short-term. Indonesia's processed seaweed export volume showed enhancement after the enactment of value added tax exemption policy. This means that value added tax exemption policy that was regulated in Government Regulation No. 7 /2007 was effective to be enacted.

REFERENCES

Djuanda, Gustian. 2011. Pelaporan Pajak Pertambahan Nilai Dan Pajak Penjualan Atas Barang Mewah. Jakarta : Gramedia Pustaka Utama.

Dornbusch, Rudiger; Fischer, Stanley; Startz Richard. 2008. Macroeconomics. New York : Mc-Graw-Hill.

Gujarati, D.N; D. C. Porter. 2009. Basic Econometrics 5th Ed. New York : Mc Graw Hill.

Harris, Richard; Sollis, Robert. 2004. Applied Time Series Modelling and Forecasting. International Journal of Forecasting, 20 (1): 137-139.

Kordi, MGH. 2011. Kiat Sukses Budidaya Rumput Laut di Laut dan Tambak. Yogyakarta : Penerbit Andi.

Ministry of Maritime and Fisheries Affairs. 2014. Statistik Ekspor Perikanan 2014. Jakarta : Kementrian Kelautan dan Perikanan.

Pregiwati, Lilly Aprilya. 2014. Industrialisasi Perkuat Daya Saing Produk Perikanan. http://kkp.go.id/index.php/pers/industrialisasi-perkuat-daya-saing-produk-perikanan/.

Widarjono, A. 2007. Ekonometrika Teori dan Aplikasi untuk Ekonomi dan Bisnis. Yogyakarta : Penerbit Ekonisia