Global Scientific JOURNALS

GSJ: Volume 7, Issue 10, October 2019, Online: ISSN 2310-9186
www.globalscientificjournal.com

THE INFLUENCE OF THE NUMBER OF LABOR FORCE AND INVESTMEN ON THE PERFORMANCE OF THE FISHERIES SECTOR IN THE CITY OF BEKASI

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KeyWords
Investment, Labor Force, Performance Of The Fisheries.

ABSTRACT

His research aims to analyze the factors that influence the performance of the fisheries sector in Bekasi City and both of these factors are not real or do not significantly influence the performance of the Bekasi City fisheries sector. This research was conducted in May to July 2019 in the city of Bekasi. The method used is a quantitative descriptive method using periodic data (time series). Literature study is a data collection technique using literature related to research objects in the form of data, notes or archives, the data obtained in the form of secondary data. Data analysis using multiple linear regression methods with the classic assumption test, overall test and partial test. The results showed that both investment and labor force factors did not significantly influence the performance of the fisheries sector in Bekasi.

INTRODUCTION

Bekasi City is a buffer for the capital of the Republic of Indonesia, DKI Jakarta. Located east of DKI Jakarta, with a height of 19 M above sea level. The area of Bekasi city is 28.43% from DKI Jakarta, which is 210.49 km2 and only 0.57% of the area of West Java province (BPS 2018). Population density in Bekasi City is 2,932 people / $km2$, with an area of 210.49 $km2$, 12 sub-districts and 56 villages. The district with the largest area is Mustika Jaya (2,473 Ha) or 11.75% of the area of Bekasi City (BPS Bekasi City 2018).

Based on the number of forces and the value of investment in 2017 in Bekasi City can affect performance in Bekasi City as said by Budiharsono (1996) that there are several factors that can affect performance in an area including natural resource factors which include natural resources that can be utilized either direct and indirect and the availability of stock and potential human resources (labor force). The next factor is the economic factor because this factor plays a major role in the size of investment in a region, and this factor also affects interest rates, the contribution of economic sectors, market demand, infrastructure availability and the level of technology. Government policies can also affect performance in an area because they relate to regulations that are applied in an area (BPS Bekasi City 2018).

Development performance in an area can be seen from the value of Gross Regional Domestic Revenue (GRDP), because according to A. Rizal (2013) GRDP of an area is a reflection of the development performance of the region. Based on BPS data (2018) the value of Bekasi City's GRDP for the agriculture, forestry and fisheries sectors for 2015 was 440,744.24 rupiahs, for 2016 it was 464,218.44 rupiahs, and for 2017 it was 2,264,023.7 rupiahs, seen from these values it turns out to be fluctuating. The number of labor force and investment are two factors that can affect performance in Bekasi City, while the value of Bekasi City's performance can be seen from its GRDP value. Looking at fluctuating GRDP data, it is necessary to review how the relationship between the number of labor force and investment to the performance in the fisheries sector in Bekasi City.

MATERIAL AND METHODS

Research on the Effect of Total Labor Force and Investment on City Fisheries Sector Performance was carried out in Bekasi City, West Java Province. The time of the research is carried out for three months, namely May 2019 - July 2019. Starting from the stage of data collection, data processing, writing and reporting of research results.

The method used in this research is quantitative descriptive. The method of data collection is done by the literature survey method. Research data only consists of secondary data.

Literature study is a data collection technique using literature related to research objects in the form of data, notes or archives, the data obtained in the form of secondary data. Secondary data in this research is time series data of the last seven years, namely 2012-2018 obtained from the Department of Fisheries in Bekasi City from the Department of Agriculture and Fisheries of the City of Bekasi, Bekasi City BAPPEDA, and Bada of the Bekasi City Statistics Center, the Office of Investment and Integrated Services One Door Bekasi City.

both investment factors and labor force are independent variables which will later be known how much influence each variable has on the performance of the fisheries sector. At the same time to find out the most influential factors significantly. The data analysis method used in this study is a quantitative description method, testing the model used consists of multiple linear regression with the classic assumption test, overall test and partial test.

Multiple Linear Regression Analysis

In the multiple linear regression analysis model intended to analyze the magnitude of the influence of the independent variables on the dependent variable. The dependent variable is Performance of the Fisheries Sector (KS) and the independent variable is, investment in the fisheries sector (X1) and the fisheries sector workforce (X2).

So that it becomes a Regression Model:

$$LnKS = b0 + b1\ Ln\ X1 + b2\ LnX2 + Ɛi$$

Where is :

KS	: Performance of the Fisheries sector (Rupiah) X1 : investment (Rupiah)
X2	: fisheries sector workforce (Jiwa)
bo	: Intersep
Ɛi	: Error

Classic Assumption Test

Assumptions testing is done so that the resulting model is an efficient, consistent, and valid model so as to ensure that there are no violations of fundamental assumptions such as normality, multicollinearity, heteroscedasticity, and autocorrelation.

R-squared Test

The coefficient of determination is information that shows the amount of diversity of the dependent variable and how much influence the independent variable has on the dependent variable (Sugiyono 2014). The coefficient of determination that will be obtained ranges from zero to one, the closer to a large coefficient value, the more it can explain the effect of the independent variables on the dependent variable and the diversity of the dependent variable or it can also be said that the model has been made better. Vice versa if the coefficient of determination is low or near zero then the model is less able to explain the effect of the independent variable on the dependent variable and also less able to explain the diversity of the dependent variable. The formula for the coefficient of determination (R2) can be seen below:

$$R2 = \frac{\square\square\square}{\square\square\square}$$

In addition there is another measurement R2, R2 adjusted, which is the adjusted R2 value of the number of independent variables and the number of observations. The R2-adjusted formula is:

$$\textbf{R2-adj} = 1 - \frac{\left(Yi - Y'\right)^2 - (n-k)}{(Yi - Y')^2 - (n-k)}$$

Where is :

R2-adj : adjusted R2 value
K : the number of independent variables
n : the number of observations

Test F Statistics

This test is carried out to determine whether the independent variables jointly (simultaneously) have a real effect or not have a significant effect on the dependent variable, in this case the value of exports. (Nachrowi and Usman 2006).
Hypothesis H0: b1 = b2 = b3 = b4 = b5 = 0
H1: there is at least one variable that affects the dependent variable Statistics Test :

$$\textbf{Fhitung} = \frac{e2/(k-1)}{1-e2/(n-k)}$$

Where is:
e2 = number of regression squares
(1-e2) = number of squares remaining
n = number of sample
k = number of parameters

Test t Statistics

T test is a test that aims to determine whether the explanatory variables or independent variables individually or not simultaneously have a real (significant) or no significant effect (not significant) on the independent variables contained in a model (Sugiyono 2014).
Hypothesis H0: bi = 0 H1: bi ≠ 0

Where is:

$$\text{t count} = \frac{\beta i}{Sd\ \beta i}$$

t table = tα (n-k)
Sd (bi) = Standard deviation of parameters for βi bi = estimated i-th coefficient
n = number of observations
k = number of parameters

RESULTS

Geographically, the area of Bekasi City is 210.49 Km2 or around 28.43 percent of the total area of DKI Jakarta. Geographically, the area of Bekasi City is located in the East part of DKI Jakarta with coordinate boundaries between 106 ° 48'28 '' - 107 ° 27'29 '' East Longitude and 6 ° 10'6 '' - 6 ° 00'6 '' Latitude South or around 0.57 percent of the area of West Java Province. The biggest role in the formation of Bekasi's GRDP in 2015 was generated by the Manufacturing Industry, which reached 32.10 percent. This was followed by the Wholesale and Retail, Car and Motorcycle Repair business fields at 22.75 percent, the Construction business field at 10.40 percent, and the Transportation and Warehousing business sector at 9.98 percent. While the role of other business fields each still below 2.45 percent, including the fields of Agriculture, Forestry, and Fisheries.

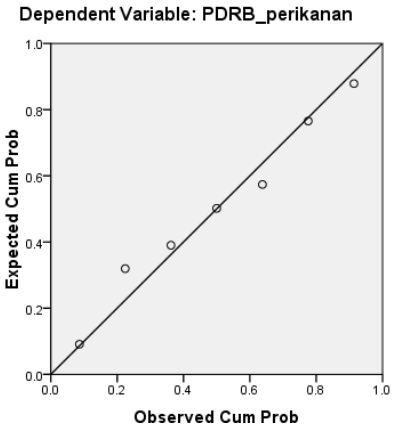
The number of fisheries workers in Bekasi City in general continues to increase every year. In 2013 there were 2,130 workers, in 2014 there were 3,314 people, in 2015 there were 3,651 people, in 2016 there were 3,957 people, and in 2017 there were 4,616 people. The decrease in the number of workers in ponds or ponds in 2017 due to the fisheries sub-sector has entered the Bekasi City Agriculture and Fisheries Office.

Analysis of Factors Affecting the Performance of the Fisheries Sector in Bekasi City.

The results of data analysis using SPSS 16 software. In order to obtain the best regression results, it must meet the following statistical criteria:

Normality test

In general, the model analysis of factors affecting the performance of the fisheries sector has met the normality test, this normality test is conducted to determine whether the performance of the fisheries sector is normally distributed or not to the expected independent variables (Sugiyono 2014). This method which will explain in detail the results of normality testing of the model formed and the Kolmogrov Smirnov test generally results in values greater than α of 5% or 0.05 in the investment value of the fisheries sector in Bekasi City of 0.880, and the value of the workforce the fisheries sector by 0.999 which shows that the performance of the fisheries sector is normally distributed to the investment in the fisheries sector and the workforce in the fisheries sector.

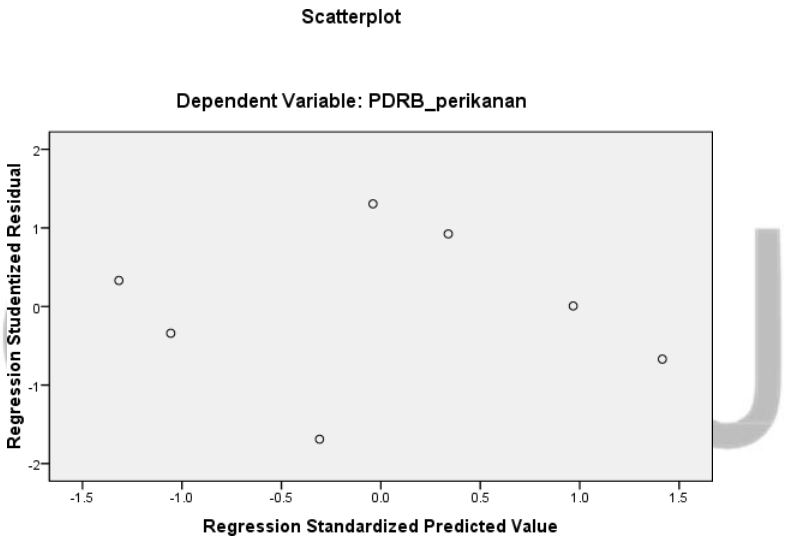


Gambar 1. Hasil Uji Normalitas

Heteroskesdacity test

The next test is the heteroskedacity test, this test is carried out to see whether the error variance is constant or not, if the residual variant is constant then homoskedacity occurs in a model that has been made. This test is carried out by looking at the plots formed in a scater graph (Sugiyono 2014). In addition, the plot that is formed can be said to be homoscedastic if it is spread evenly below and above the shadow line point 0 (Nawari 2010). The results of this test are the plots formed from this model tend to form a pattern or waves both below and above the zero line this means that the model used has heteroscedastic symptoms, it can be seen in Figure 2.

This happens because the data obtained is suspected to be insufficient so that the variables tested have less than optimal results, in addition, it is thought to occur because there is an error in the formation of the model so there are several assumptions that should be included in the model but not included in the model or in this case some estimating variables are less significant. This situation can be overcome by increasing the time spent in observation so that it can improve the results obtained and also determine the appropriate variables to be able to achieve homoskedacity (Nawari 2010).



Gambar 2. Hasil Uji Heteroskedasitas

The pre requirement that must be fulfilled in the regression model is the absence of heteroscedasticity symptoms. From the picture above it can be seen that the distribution of points forms a certain pattern or path, so it can be concluded that heteroscedasticity occurs or in other words homoscedasticity occurs (Sugiyono 2014). The classical assumptions about heteroscedasticity in this model are not fulfilled, namely the occurrence of symptoms of heteroscedasticity.

Multicollinity Test

The next test is multicollinearity testing, this test is conducted to see whether one independent variable in the model will affect other independent variables in the same model (Sugiyono 2014). Then this test can be seen from the value of the Variant Inflation Factor (VIF). If the VIF value obtained is less than 10 then the equation does not have a multicollinity problem. The results of this test are that the model that has been formed does not experience multicollinity because the results of the VIF in general from each of the predictor variables that have been tested are at values less than 10, explained in table 1.

Tabel 1. Hasil Uji Multikolineritas

Tolerance	***Variance Inlation Factor* (VIF)**
Investment	1,767
Labor force	1,767

Based on table 1, the value of variance inlation factor (VIF) shows investment (X1), labor force (X2), smaller than 10, this means that the two independent variables do not occur multicollinearity, so the level of collinearity of this model can still be tolerated.

Autocorrelation Test

This test is used to determine whether there is a relationship between past errors and current errors in a model that has been created. What is expected in this test is that the model formed does not experience autocorrelation because if this happens it will cause the parameters to be biased, so the parameter estimation becomes inefficient. This test is usually done on time series data, because it tends to be prone to experiencing autocorrelation, given that time series data uses time series related to the state of past and present data. The basis of this test is to look at the values of the Watson Durbin table (Gurajati 1997). The Durbin Watson table is a table for the autocorrelation test which will produce the du and dl values which will then be adjusted to the criteria (Gurajati 1997). The value of Durbin Watson in the tested model yields a value of 2.358, which is explained in table 2 below.

Tabel 2. Result Durbin Watson Test

Model	**R**	**R Square**	**Adjusted R Square**	**Std. Error of the Estimate**	**Durbin-Watson**
1	0.838[a]	0.703	0.555	4.39382E9	2.358

The results of the above test are then adjusted to the Watson durbin table to get the dl and du values and the dl value of 0.4672 and a du value of 1.18964 are obtained. After that it is interpreted in the autocorrelation framework table and the results are in accordance with the value of durbin watson 2 <DW <4 - du. Which means accept H0, there is no correlation in the model. With this, it can be concluded that the model that has been created does not experience correlation.

Model of Fisheries Sector Performance in Bekasi City

The model that has been made ideally will be able to determine which factors are most significant in influencing the performance of the fisheries sector in Bekasi City. The results of the regression model of the performance of the fisheries sector in Bekasi City are explained in table 3 and the model formed is as follows:

Y = 5.795 -2,055(X1) – 5,176(X2)

Based on the results of the regression equation above, it can be formulated the value of the factors that influence the performance of the fisheries sector in the City of Bekasi, with estimating factors namely investment and labor force. Regression results from the two estimating factors are explained in Table 3.

Tabel 3. Result Regression Performance of the Fisheries

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	5.795E10	9.421E9		6.151	.004
	Investasi_perikanan	-2.055	9.494	-0.078	-0.216	.839
	Angkatan_kerja_Perikanan	-5.176E6	2.389E6	-0.785	-2.166	.096

Exp : * Real On Level 5%

The results of the significance value will be seen based on the value of the level used, in this research the significance level or α value used is 0.05 or 5%. From the results of the significance of the two independent variables namely investment in the fisheries sector and the workforce of the fisheries sector respectively have values of 0.839 and 0.096, which means they do not have a significant effect on the performance of the fisheries sector in Bekasi City.

The investment variable (X1) uses an estimator variable having a coefficient value of -2.055, meaning that if investment is increased by one unit, the performance value of the fisheries sector in Bekasi City decreases by 2,055 units. Negative coefficient means that the relationship between investment and fisheries sector performance is not in the same direction.

Force variable (X2) using estimator variables has a coefficient of -5,176, meaning that if the workforce is increased by one unit, the performance value of the fisheries sector in Bekasi City has decreased by -5,176 units. A negative coefficient means that the relationship between the workforce and the performance of the fisheries sector is not in the same direction.

R SQUARE

Square will provide a value that can describe the accuracy of an independent variable. R square will show the magnitude of the diversity of the dependent variable and how much influence the independent variable has on the dependent variable (Sugiyono 2014). In this research, it will be known how much influence (1) fisheries sector investment, (2) fisheries sector workforce has on the performance of the fisheries sector in Bekasi City.

This determination coefficient value will produce a number between zero and one. If the value approaches one, it can explain the effect of the independent variable with the dependent variable. However, if the results obtained are close to zero then it can be said that the model is less able to explain the effect of the independent variables on the dependent variable (Sugiyono 2014). The R square obtained from this model is 0.703, meaning that 70.3% of the estimating variables can affect the performance of the fisheries sector and the remaining 29.7% is the influence of other variables that are not included in the model or can be explained in error. This result is closer to one and it can be said that the formulated model can explain the effect of the independent variable with the dependent variable.

F Test Statistics

F test or overall test is conducted to determine whether the independent variables jointly or simultaneously (overall) have a significant effect or not on the dependent variable or in this case the performance of the fisheries sector in Bekasi City. The results of the F test in this model are explained by the significance value obtained at 0.088. This means that the value is greater than α by 5% or 0.05, which states that the model created can be said to be insignificant. The F test resulted in H0 being accepted and H1 rejected which can be concluded that including (1) investment in the fisheries sector, (2) labor force in the fisheries sector, did not have a significant effect on the performance of the fisheries sector in Bekasi City The results can be explained in Table 4.

Tabel 4. Hasil Uji F (*Overall*) Pada Model Regresi

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.828E20	2	9.140E19	4.734	.088[a]
	Residual	7.722E19	4	1.931E19		
	Total	2.600E20	6			

t Test Statistics

T test or partial test is done to determine the effect of each independent variable Existing, estimating variables in this research are (1) investment in the fisheries sector, (2) labor force in the fisheries sector, individually or not simultaneously have a real or not significant effect on the dependent variable, namely the performance of the fisheries sector in Bekasi City. For all t test variables explained in Table 5.

Tabel 5. Result of t Test Statistics

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	5.795E10	9.421E9		6.151	.004
	Investasi_Perikanan	-2.055	9.494	-.078	-.216	.839
	Angkatan_Kerja_Perikanan	-5.176E6	2.389E6	-.785	-2.166	.096

a. Dependent Variable: PDRB_perikanan

From the results of the statistical t test above it can be seen that the investment variable (X1) and the labor force variable (X2) with a significance value of 0.0839 and 0.096 compared with a sig value of 0.05. So that the two independent variables, namely the investment in the fisheries sector and the workforce of the fisheries sector, are not significant to the performance of the fisheries sector in Bekasi City. Viewed from t calculate that the investment variable (X1) and the labor force variable (X2) with values of -0.216 and -2.166, respectively. This value states that t arithmetic <t table which means H0 is accepted and H1 is rejected. Then it can be concluded that there are investment variables in the fisheries sector and the labor force variable in the fisheries sector does not affect the performance of the fisheries sector in Bekasi City.

CONCLUSIONS

Based on the analysis of the factors that influence the performance of the fisheries sector in Bekasi City, the conclusions obtained are the factors that influence the performance of the fisheries sector including (1) investment in the fishing sector, (2) labor force in the fisheries sector. Both of these factors include investment and the labor force of the fisheries sector in Bekasi City are not significant to the performance of the fisheries sector. This needs to have other factors to be able to describe the effect of the performance of the fisheries sector in Bekasi in order to produce accurate data.

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