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IMPACT OF NATURAL DISASTERS ON LOCAL TAX REVENUE

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Abstract
Poverty is one of the problems that always become main concern in Indonesia, the problem of poverty is worsen when economic shocks occur, one of which caused by natural disasters, these two things adding the burden on the government, especially at the regional level both in the context of fiscal management and countermeasures. By using panel data from 34 provinces in Indonesia, this study aims to find the effect of natural disasters and poverty rate on regional tax revenues at provincial level with foreign direct investment (FDI) as a moderating variable. The results of the regression shows that natural disasters and the poverty rate have positive effects on local tax revenues, but these two variables become negatively affected when moderated by FDI so that moderation weakens the effect of the two independent variables, the FDI variable itself when tested as an independent variable has positive effects on local tax revenues. This research is expected to assist local governments in formulating fiscal policy in the event of a post-disaster economic shock and its countermeasures as well as poverty alleviation efforts when the economy is running normally.
Keywords: FDI, Local tax, Natural Disaster, Poverty

INTRODUCTION

Fiscal decentralization in Indonesia has been implemented along with the implementation of post-reform regional autonomy, one form of fiscal decentralization is the imposition of local taxes that are separate from taxes collected by the Central Government through the Directorate General of Taxes. Although the initial objective is good because it can increase regional independence in financial management and expand the existing tax base in the regions, but in its development the imposition of local taxes has not been able to answer the needs in the context of fiscal optimization of each region. The lack of optimization of local taxes within the framework of fiscal decentralization is not only due to weak management but also due to unstable economic conditions. Fluctuating economic conditions are caused by many things, one of which is the poverty rate which is still quite high in many regions in Indonesia.

The issue of poverty is still one of the main factors that hold back economic growth and this happens in almost all parts of the world. One of the things affected by the problem of poverty is tax revenue as a financing instrument in the government budget, within the scope of local government, taxes collected as a representation of the implementation of fiscal decentralization is highly dependent on the level of community welfare. According to Kusuma and Wahyudi (2021) the increase in GRDP in a region indicates the growing prosperity and welfare of the community and will ultimately have implications for government revenue used to develop development programs. However, overcoming the problem of poverty is not easy because poverty alleviation efforts are always constrained by various problems, one of which is unpredictable economic shocks that affect regional development planning. According to Krichene et al (2020) the economy is very vulnerable to negative shocks, both those caused by financial and economic crises and those caused by nature in the form of disasters.

The occurrence of natural disasters is considered to have a tremendous impact on the economic conditions of a region depending on the scale and frequency of the disaster itself. Natural disasters generally cause damage and casualties that will directly impact the performance of the regional economy, the impact on the economy occurs due to material losses and it is very possible that it will hamper growth (Utomo et al., 2022). The decline in economic performance and the inhibition of growth will produce a negative domino effect, one of which will have an impact on the fiscal side of the government, especially local governments that are

responsible for restoring the state of their territory, especially if the natural disasters that occur are not categorized as national natural disasters. According to Heryati (2020) the obligations of the Regional Government in the context of natural disaster management are to allocate disaster management funds, integrate disaster management in regional development, protect the community from disaster threats, carry out emergency response, and carry out post-disaster recovery. In addition to burdening the fiscal side of local governments through spending, natural disasters can also reduce the independence of local governments through reduced local revenue, especially local taxes and levies. The decline in revenue can be caused by incentives for residents affected by disasters or due to a reduced tax base as a result of destructive natural disasters.

To reduce the impact of disasters on fiscal capacity and economic conditions, local governments need stimulus from external parties, one of which is investment from within and outside the country. Investment into areas that experience disasters can help post-disaster economic recovery, according to Wang et al (2021) investments such as those made by multinational companies to countries whose regions are affected by natural disasters have the potential to play a central role in disaster recovery, of course, this assumes that there is no *crowding out effect* or withdrawal of investments generally made by foreign companies. The role that foreign company investment can play in restoring the post-disaster economy is to absorb labor and supply local companies that are affected (Reinhardt, 2022).

In a country located on the ring of fire and incorporated in the Pacific islands, disasters seem to be a certainty to occur repeatedly, so that both central and local governments are required to be vigilant and prepare themselves to overcome them. Meanwhile, even without disasters, the government has also been bothered by the never-ending problem of poverty, which has become an economic burden that is difficult to solve. The job gets harder when fiscal decentralization requires local governments to be independent in managing their respective regions. The government needs assistance from the private sector or in this case foreign investment in order to help economic growth in the region.

Based on the description above, it is deemed necessary to conduct secondary data-based research to understand the relationship related to the phenomenon that has been mentioned to be a consideration for policy makers and contributions to related disciplines. Therefore, this study will look for the effect of natural disasters and poverty on local tax revenues at the provincial level, in the relationship between the influence of the three variables will be moderated using foreign investment or *Foreign Direct Investment* (FDI), while the object of research is all provinces in Indonesia in the 2015 to 2020 time span.

LITERATURE REVIEW

Poverty

Many researchers define poverty as broader than just material and health deprivation, but rather a lack of social attachment, cultural identity, dignity, information, and education (Engle & Black, 2008). Poverty alleviation can be done mainly by increasing growth, but the growth that occurs must also be balanced by decreasing inequality so that the existing growth will be categorized as pro-poverty growth (Auwalin, 2015). The issue of poverty is generally the responsibility of both central and local governments, but because according to the World Bank and BPS in Kamaludin (2023), four out of five of the world's poor live in rural areas and in Indonesia 60% live in rural areas, local governments are more concerned because they are closer to the poor.

Natural Disasters

Natural disasters are one of the shocks to people's lives that have an impact on the economy through damage such as damage to people's homes, government buildings and

facilities, health facilities, economic facilities, public facilities, road damage and land damage and other damage. The impacts of losses include trade losses, agricultural, livestock and fisheries losses, losses unable to work and other losses (Isa, 2016). The impact on the economy can also be interpreted as an impact on state revenue, because when the economy falls the tax base will also fall, thus affecting the government's ability to finance spending. Reconstruction and recovery after natural disasters are generally the responsibility of local governments, so that local government spending becomes swollen and one of the most effective ways to increase revenue is to pressure local taxpayers to deposit more tax than they should (Siyi et al, 2018).

Foreign Direct Investment (FDI)

According to OECD (1996) and International Monetary Fund (1993) FDI is defined as an investment that involves a long-term relationship and reflects interest and control by an entity (investor or holding company) with an economic entity located in a country other than where the investor is located. The difficulty in finding the effect of FDI on post-disaster economic recovery is due to the *crowding out effect* that makes foreign companies generally withdraw investment after natural disasters. In the short term, FDI will be negatively affected by the disaster, but about 3-5 years after the disaster FDI *inflow* will gradually increase, but this is inseparable from factors such as disaster relief, government effectiveness, regulatory quality, and the availability of insurance services (Neise et al, 2022).

Tax Revenue

Collecting taxes is fundamental for countries to generate revenue that allows them to finance investments in human capital, infrastructure, and the provision of services to citizens and businesses (World Bank, 2023). When there is a natural disaster, the tax allocation post will increase for the recovery of the situation affected by the natural disaster, but the problem arises when the revenue side is affected so that there is an increase in spending coupled with a contraction in revenue. Revenue contraction occurs when there is an economic contraction due to a disaster that reduces the government's capacity to obtain revenue from normal tax collection (Benali et al, 2019).

Previous Research

This research was compiled with reference to research that has been done before. Some of the research that has been done before this, among others:

Table 1. Previous Research

No.	Title	Author (year)	Research Results	Journal
1	Are Disasters a Risk to Regional Fiscal Balance? Evidence from Indonesia	Astrid Wiyanti and Alin Halimatussadiah (2021)	All disaster impact variables have significant negative effects varying at the provincial and district/city levels.	International Journal of Disaster Risk Science
2	Effect of Natural Disasters on Local Economies: Forecasting Sales Tax Revenue after Hurricane Ike	Orkhan Ismayilov and Simon A. Andrew (2016)	*Sales Tax Revenue* rises in the short term and falls in the long term after Hurricane Ike	Journal of Contemporary Eastern Asia
3	Natural Disasters and Financial Implications for Subnational Governments: Evidence from China	Qing Miao, Can Chen, Yi Lu, and Michael Abrigo (2020)	Disasters have little impact on local tax revenue	Public Finance Review, 48(1), 72-101

4	Do Natural Disasters Hurt Tax Resource Mobilization?	Somlanare Romuald Kinda, Rasmane Ouedraogo, and Eric Nazindigouba Kere (2015)	State revenue reduced after natural disaster events	SSRN Electronic Journal
5	Does Poverty Matter for Tax Revenue Performance in Developing Countries?	Sèna Kimm Gnangnon (2022)	A higher level of poverty will reduce tax revenue significantly.	South Asian Journal of Macroeconomics and Public Finance
6	The Effect of Economic Growth, Poverty, and Wages on Tax Revenue	Fibria Anggraini Puji Lestari and Yolanda (2022)	Poverty has a negative and significant effect on tax revenue	Eduvest - Journal of Universal Studies
7	Effect of Poverty Volatility on Tax Revenue Instability in Developing Countries	Sena Kimm Gnangnon (2020)	Poverty volatility is related to low tax revenue stability	Journal of International Commerce, Economics and Policy
8	The Effect of Foreign Direct Investment on Tax revenue in Development Countries	Arif Widya Pratomo(2020)	FDI *inflow has* no significant effect on tax revenue	International Institute of Social Studies
9	The Effect of Foreign Direct Investment on Tax Revenue	Abdramane Camara (2023)	FDI *inflow has a* significant effect on tax revenue	Comparative Economic Studies
10	Effect of Total Labor Force and Investment on Local Revenue	Reza Tianto (2022)	Investment has a positive effect on PAD	Samudra Journal of Economics and Business

No previous research has been found that combines testing the effect of disaster events and poverty levels on provincial local tax revenues using the moderating variable of foreign investment or FDI in Indonesia, so it is necessary to test the extent of the influence of the two variables when intervened by other variables that become moderation.

METHODS

The type of research chosen by the author is quantitative research. The data used is secondary data on Provincial Local Tax Revenue, Number of Natural Disaster Events, Poverty Level, *Foreign Direct Investment* (FDI), obtained from the Directorate General of Fiscal Balance, Investment Coordinating Board, Central Bureau of Statistics, and National Disaster Management Agency. The sample in this study is 34 provinces in Indonesia in the 2015-2020 period.

The data that has been obtained in this study will be analyzed to prove the hypothesis using panel data regression analysis. Panel data is a combination of cross-section and time series data. This study intends to find the effect of the number of natural disaster events and poverty levels on provincial tax revenues by using moderation in the form of *Foreign Direct Investment*. In this research data there are several empty *values* in local tax revenue, to overcome this, data imputation is carried out using the *mean* method, this is in accordance with the opinion of Khan

and Hoque (2020) that filling in empty data in the form of *mean, median,* and *mode* is a statistical approach that has been commonly used to overcome empty *values*.

In panel data analysis, one of 3 models will be selected, namely *Fixed Effect, Random Effect,* and *Pooled Least Square* (PLS). The PLS model is one type of model that adopts constant coefficients, referring to the intersection and slope. The *Fixed Effect* model assumes the consistency of variables whose values do not change over time and thus does not estimate them. On the other hand, the *Random Effect* Model estimates the effects of time invariant variables (Seddighi et al., 2000).

Table 2. Panel Data Model Selection Test

Testing Type	H_0	H_1
Chow	*Common Effect Model is better and selected*	*Fixed Effect Model is better and selected*
Hausman	*Random Effect Model is better and selected*	*Fixed Effect Model is better and selected*
Lagrange Multiplier	*Random Effect Model is better and selected*	*Common Effect Model is better and selected*

After selecting the panel data research model, the next stage is the classical assumption test to prove that the data used is *Best Linear Unbiased Estimator* (BLUE).

Table 3. Classical Assumption Testing

Testing Type	H_0	H_1
Skewness and kurtosis tests	Normally Distributed Data	Data is not normally distributed
Variance Inflation Factor	There is a linear relationship between variables	There is no linear relationship between variables
Breusch-Pagan/Cook-Weisberg test	Homokedastic data variance	Heteroscedastic data variance
Wooldridge test	No Autocorrelation	There is Autocorrelation

Furthermore, after the model is selected, the *Goodness of Fit Test* will be tested which is used to test the goodness of the research model before regression analysis is carried out.

Table 4. *Goodness of Fit Test*

Testing Type	H_0	H_1
Coefficient of Determination / R-Square	-	-
Simultaneous Test / F-Statistic	All variables have no effect	There is at least 1 influential variable
Partial Test / T Test	Certain independent variables have no effect	Independent variables have an effect

The coefficient of determination denoted by R-Squared explains how much the independent variable affects the dependent variable, there are many opinions regarding the limits of the R-Squared criteria, one of which is according to Rowley & Kwon (2015) which classifies the level of R-Square, where 0-40 indicates a low correlation, 40-70 is a medium correlation, while above 70 is a high correlation.

In this study there are several hypotheses, including:

1. The number of natural disasters has a significant negative effect on provincial local tax revenue
2. Poverty level has a significant negative effect on local tax revenue in the province
3. FDI has a significant positive effect on local tax revenue in the province of

4. FDI as a moderating variable is able to strengthen the negative effect of the number of natural disasters on GDP on local tax revenues in the province
5. FDI as a moderating variable is able to strengthen the negative effect of poverty level on GDP on local tax revenues in the province

The model formulated in this study can be displayed as follows:

$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_1 X_3 + \beta_5 X_2 X_3 + \varepsilon$

Y = Provincial Local Tax Revenue
β_0 = Constant
$\beta_1\ \beta_2\ \beta_3\ \beta_4\ \beta_5$ = Regression coefficient
X_1 = Number of Natural Disasters
X_2 = Poverty Level
X_3 = *Foreign Direct Investment*

RESULTS AND DISCUSSION

Descriptive Statistical Analysis

The first stage in data testing is descriptive analysis of the data that has been obtained with the following results:

Table 5. Descriptive Analysis

Descriptive	Local Tax	Number of Disasters	Poverty Level	FDI	FDI-Number of Disasters	FDI-Poverty Level
Mean	3.734.617.347.622	95	10.94	9.624.258	84.062.125	84.062.125
Standard Deviation	7.004.683.586.149	180	5.75	13.301.499	7.184.871.908	113.241.132
Min	25.214.353.977	1	3.42	82.390	322.055	1.171.420
Median	839.447.831.408	33,5	9,26	3.890.331	148.672.771	42.286.805
Max	40.298.695.642.932	1.123	28.40	66.217.837	63.106.145.557	655.924.961

Source: Data Processing (2023)

The results of descriptive analysis show that the largest tax revenue occurred in DKI Jakarta in 2019, while the smallest tax revenue was achieved by West Sulawesi in 2016.The achievement achieved by DKI Jakarta is inseparable from its status as the capital and largest city in Indonesia so that revenue is also the highest, according to the Directorate of Capacity and Transfer Implementation of DJPK (2021). Directorate of Transfer Capacity and Implementation of DJPK (2021) Jakarta contributes up to 14.95% of the total provincial tax revenue throughout Indonesia with an average growth of 5.41% annually, so it is not surprising that before the pandemic Jakarta was able to collect the largest provincial tax revenue. On the other hand, West Sulawesi is the province with the lowest provincial tax revenue during the 2015-2020 period, this is in line with the opinion of the Secretary of West Sulawesi Province, Ismail Zainuddin that the regional ability to finance its own activities is still very low and dependence on the center is still high (BPKPD West Sulawesi Province, 2017).

The most frequent natural disaster events in the 2015-2020 timeframe occurred in West Java Province in 2020. Many natural disaster events occur in West Java because according to the Center for Volcanology and Geological Disaster Mitigation (PVMBG) in the 2015-2020 timeframe. Ichsan (2021) almost all regencies / cities in the province have landslide-prone status, with the number of events in 2020 totaling 843 times. The least number of disaster events occurred in North Kalimantan Province in 2018 and West Papua in 2015, this is in accordance with the calculation of the Indonesian Disaster Risk Index published by the National Disaster Management Agency (2018) West Papua is ranked 22 provinces with the highest disaster vulnerability in Indonesia, while in the 2015 IRBI North Kalimantan had the lowest social losses due to disasters of all provinces.

In terms of poverty, the province with the lowest poverty rate during 2015-2020 was Jakarta in 2019, while the highest was Papua in 2015. Poverty in Jakarta has decreased from year to year before the pandemic, which is indicated to be the effect of the DKI Jakarta collaboration pathform that can accelerate poverty reduction (Syebubakar, 2022). Meanwhile, Papua is still struggling with poverty, this is due to the lack of quality and quantity of facilities and infrastructure, lack of human development, low skills and quality of human resources (Anandanisa, 2018).

For the FDI variable, the highest figure was achieved by Jakarta Province in 2019, while the lowest was Maluku Province in 2015. Jakarta's high FDI in 2019 was allegedly due to the Jakarta Provincial Government's focus on strengthening complex factors related to one another including; integrated investment institutions; effective and efficient regional investment promotion; physical infrastructure development; the implementation of licensing services that are fast, easy, safe and comfortable; and the creation of a productive workforce. In addition, the DKI Jakarta Provincial Government also ensures the security of business activities in DKI Jakarta with related agencies, good regional economic performance, increases the role of the business world in the regional economy, and most importantly, there is a commitment to developing the business world (Tobing, 2020). In contrast to Jakarta in 2019, Maluku Province in 2015 was actually dry for foreign investment, according to the Governor of Maluku, this is a paradox where the regional potential is quite large in the fisheries, plantation, tourism, mining, and other sectors, but investor interest is very low (SIWALIMA, 2020).

The next step is panel data analysis is to test the panel data regression model. This panel data model test uses two tests, namely the Chow test (Likelihood test ratio) to select the best model between the Fixed Effect Model (FEM) and Common Effect (Pooled Least Square), the Lagrange Multiplier (LM) test to select the best model between the Random Effect Model and PLS, and the Hausman test to select the FEM and REM models, from these three tests the most appropriate model for estimating panel data will be known.

Table 6. Chow, Hausman and Lagrange Multiplier Test Results

Test	Hypothesis	Prob
Chow	*H_0 : Common Effect Model* *H_1 : Fixed Effect Model*	0.0000
Hausman	*H_0 : Random Effect Model* *H_1 : Fixed Effect Model*	0.0000
Lagrange Multiplier	*H_0 : Common Effect Model* *H_1 : Random Effect Model*	0.0000

Source: Data Processing Results (2022)

From Table 1, the probability value of *Prob> F is* 0.0000, less than 0.05 so reject H_0 in the Chow Test which means FEM is chosen over PLS. In the Hausman Test *Prob> chi2* obtained 0.0000, less than 0.05 which means reject H_0 so that FEM is chosen over REM. The LM test no longer has an effect because from the two previous model tests, FEM has been selected as the research model.

Classical Assumption Test

From the results of the classical assumption test, the following results are obtained:

Table 7. Classical Assumption Test

Test	Testing	Prob
Normality	*Skewness and kurtosis tests*	0.0032
Multicollinearity	*Variance Inflation Factor*	308.77

Heteroscedasticity	*Breusch-Pagan/Cook Weisberg test*	0.0317
Autocorrelation	*Wooldridge test*	0.0609

Source: Data Processing Results (2022)

Table 7. Shows the results of classical assumption testing performed on simple linear regression between dependent and independent variables. Normality test in the form of Skewness and kurtosis tests shows Prob>chi2 of 0.0032, smaller than 0.05 so it is declared to reject H_0 which means it does not pass the normality test. Multicollinearity test in the form of Variance Inflation Factor results in a Mean VIF number of 308.77, this number exceeds the limit of 10 which means there is multicollinearity in the data. Heteroscedasticity test obtained Prob>chi2 number of 0.0317, below the threshold of 0.05 so that the data is heteroscedasticity. As for the Autocorrelation Test using the Wooldridge test results in Prob> F of 0.0609 where the value is above 0.05 so that it passes the autocorrelation test on the variables studied. Overall in this study the data contained multicollinearity, heteroscedasticity, and did not meet normality. According to Ajija et al (2011) if the number of observations is more than 30, then there is no need to do a normality test because the distribution of the sampling error term is close to normal, so in this study the normality problem can be ignored. As for the multicollinearity problem, according to Disatnik & Sivan (2016) multicollinearity that often occurs in moderated multiple regression is only an illusion of *interval scaling* and does not create a real multicollinearity problem so that no multicollinearity test is needed, then for heteroscedasticity symptoms can be overcome using the generalized least square GLS estimation method (Greene, 2008).

Simultaneous Test (F-Statistic)

Based on the simultaneous test, the *Prob> F* value of 0.0000 < α (0.05) means that all independent variables, namely natural disasters and poverty with moderation of foreign *direct investment*, have a significant influence on provincial tax revenue together. As for R-Squared in generalized least square regression, it cannot be defined as in other regression models, so it cannot help as a diagnostic *tool* in this model (McDowell, 2023).

Partial Test (t Test)

After testing with estimation using the *Fixed Effect Model, the* following results were obtained:

Table 8. Results of the t-test

Variables	Coefficient	Std. Error	z	P>|t|
Disaster	.0219129	.0087258	2.51	0.012
FDI	1.104593	.1151785	9.59	0.000
Poverty Level	.5459733	.130804	4.17	0.000
FDI-Disaster	-.0387855	.0089245	-4.35	0.000
FDI-Poverty Level	-.0011817	.0005059	-2.34	0.019
Cons	11.2072	1.767753	6.34	0.000

Source: Data Processing Results (2023)

$$Y = 11.2072 + 0.0219129X_1 + 0.5459733\ X_2 + 1.104593\ X_3 - 0.0387855X_1X_3 - 0.0011817X_2X_3 + \varepsilon$$

From the data of all provinces in Indonesia in the period 2015 to 2020 the number of disaster events has a significant positive effect on local tax revenue, each disaster increases provincial local tax revenue by 0.022 percent. The findings of this study are not in accordance with the results of research from Kere et al (2015) where in the study disaster events (represented by epidemics, droughts, floods, storms, and extreme temperatures) generally have a negative effect on state revenue in 120 developing countries. The phenomenon of increasing provincial local taxes when the number of disaster events increases can be caused by many factors, one of which is the vehicle tax bleaching policy, this is in accordance with research by Ichlas et al (2022). Ichlas et al (2022) in 2019-2020 in West Java when the number of disasters

set a record for the last five years along with the Covid-19 pandemic, the bleaching program proved to be able to have a positive effect of up to 90% on motor vehicle tax revenue. Another reason for the positive effect of disasters on taxes is the type of tax, Benson and Clay (2003) Benson and Clay (2003) state that disasters have no effect or actually have a positive effect on tax revenue if the object is dominated by sectors that are not affected by disasters. In provincial taxes, the largest contributor to revenue is motor vehicle tax, as it is well known that motor vehicles continue to grow every year and are relatively unaffected by economic shocks.

When moderated by FDI, the positive effect of the disaster weakens to negative, every 1 percent increase in this moderating variable will reduce local taxes by 0.039 percent. This result seems to confirm the results of research from Neise et al (2022) that FDI will be indirectly affected by natural disasters, but this impact can be minimized depending on the presence of factors such as disaster relief, government effectiveness, regulatory quality, and the availability of insurance services.

The test results on the poverty level variable found a significant positive effect on provincial local tax revenue, every one percent increase in poverty will actually increase provincial local taxes by 0.54 percent. This is not in accordance with the results of research Lestari and Yolanda (2022) in the object of research that is almost the same as this study. The positive relationship between provincial tax revenue and poverty can be explained as in the research of Pramudyasmono et al (2011) community behavior that perpetuates poverty is the courage to buy goods on credit such as motorbikes, so that motor vehicle taxes tend to rise when poverty gets worse.

When the poverty variable is moderated using the FDI variable, the effect on provincial tax revenue becomes significantly negative, a one unit increase in this moderating variable will reduce tax revenue by 0.001 percent, based on these results it can be concluded that moderation weakens the positive effect of poverty on provincial tax revenue. Changes in influence can be caused by the absence of correlation between poverty and FDI in Indonesia (Alfiyanti, 2022). This may make the direction of moderation indeterminate.

The moderating variable, namely FDI when it becomes an independent variable, has a significant positive effect on provincial local tax revenue, each one unit increase in FDI will increase tax revenue by 1.1 percent. The results obtained are in accordance with research Tianto (2022) which was conducted on almost the same object as this study.

CONCLUSION

Indonesia is a country that is still struggling with the problem of poverty, where it is still difficult to overcome, but sometimes the problem becomes more complicated when poverty is exacerbated by shocks to the economy, one of which is natural disasters. The existence of poverty followed by natural disasters makes economic conditions even worse, this makes the burden on the government, especially in the regions, in carrying out its role even heavier, especially those related to the fiscal because spending will increase for the recovery of the situation and revenue will decrease because the tax base narrows. This study has discussed the effect of poverty and natural disasters on local tax revenues at the provincial level using the moderating variable of *Foreign Direct Investment* (FDI).

The results of the study show that the poverty rate and natural disasters have a significant positive effect on local tax revenue at the provincial level. The positive effect of disasters can be caused by the existence of tax facilities in the year of the disaster, but it can also be caused by tax objects that are not disaster-affected sectors. Meanwhile, the positive effect of poverty can be caused by the behavior of the poor who are too brave to buy motorcycles on credit, so that poverty is perpetuated when motorcycle taxes grow. When the two variables above are moderated by FDI, the results change to a significant negative effect

because FDI is indirectly affected by the disaster, and has no correlation to poverty so that the moderation results will lead to negative.

This study takes data from all provinces in Indonesia, so that the results obtained can be taken into consideration by local governments to manage fiscal policy when faced with an economic situation that is being shaken when a natural disaster occurs and its mitigation, as well as when the economy is running normally in the context of poverty alleviation.

This study has not been able to explain the impact of disasters on local tax revenue as a whole because it only takes local tax variables at the provincial level, while local taxes are vulnerable to the impact of disasters. In addition, because in this study natural disasters are generalized only in the number of events, so that in future studies, disaster categorization can be done according to size and impact to get better accuracy on the effect of disasters.

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