An Analysis Of The Effects Of Fiscal Decentralization On Economic Growth And Community Welfare In North Sumatra Province

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Abstract: With the aim to exam the effect of fiscal decentralization on economic growth and community welfare, this study was conducted by taking samples of all districts/cities in North Sumatra province during 2010-2017 with the exception 2016. Using panel data which is a combination of 33 cross section data with 7-year series length, the model is analyzed by Random Effect Model (REM). Because the endogenous variables in the model are related, the method used is two stage least square (2SLS). The dependent variable consists of real economic growth and population welfare proxied by the human development index (HDI). Fiscal decentralization as the main independent variable is approached by the ratio of the relative expenditure of district / city governments to central expenditure. In addition, control variables are also used, among others: population, investment, education level and total workforce. This study found that fiscal decentralization together with other variables had an effect on economic growth and community welfare in the province of North Sumatra for the research year. However, the results of partial estimation indicate that fiscal decentralization does not affect economic growth, but has a positive and significant effect on people's welfare. It was also found that economic growth had a positive and significant influence on people's welfare

Keywords : fiscal decentralization, economic growth, community welfare, Random Effect Model, 2SLS

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1. INTRODUCTION

Diverse forms and dimensions in terms of decentralization, especially concerning aspects of fiscal, political, administrative changes, and government systems and social and economic development make the debate on decentralization cover a variety of issues. However, it must be recognized that the basic motivations that drive the popularity of fiscal decentralization are the benefits to be gained from its application. Bahl (1999) explains there are two benefits of fiscal decentralization, they are: 1. Bringing the government closer to the community and 2. Increasing total revenues. The first benefit is that a government that is closer to the community will be more efficient in terms of providing better public services. Because basically each region has its own uniqueness, for example: an area with people who have different public needs as a result of differences in climate, natural conditions and economic levels, then the government that is closer to its people will more easily understand and meet the needs of the community by arranging varied budget structure. The second benefit of decentralization is increasing revenue, by broadening the overall tax base. This is made possible by the role of the local government which is directly involved in determining the new tax base so as to increase national income. The implementation of fiscal decentralization in Indonesia is also inseparable from the pros and cons, this relates to a very wide area and implementation in a short time. The implementation of decentralization in Indonesia began in 2001 after the reformation took place and was preceded by the enactment of Law Number 22 of 1999 which was revised to Act Number 32 of 2004 last revised to Act Number 23 of 2014 and Act Number 9 of 2015 concerning Government Regions and Law Number 25 of 1999 are revised to Law Number 33 of 2004 concerning Financial Balance between the Central Government and Regional Governments. The law is the beginning of a change in relations between the central and regional governments. It is hoped that the delegation of authority from the central government to regional governments and the implementation of policies that are more focused and close to the community will increase the effectiveness and efficiency of services.

Fiscal decentralization in Indonesia is decentralization in terms of expenditure rather than revenue, where most of the authority to collect taxes and potential sources of revenue is indeed owned by the central government. Fiscal decentralization from the expenditure side is defined as the authority to allocate expenditure in accordance with the discretion of each region. The impact of decentralization from the expenditure side is marked by the process of transferring financial resources to the regions through transfer funds in the form of balance funds aimed at reducing the gap between the center and the regions and also between regions. The context of decentralization in Indonesia is in line with the opinion of Malik (2006) which says that in a government system where the central government has the authority to collect strategic taxes and then distribute them to local governments while expenditure responsibility is given to local governments, then the expenditure side is an indicator of fiscal decentralization which is better than the income side. The granting of autonomy to the regions is expected to spur economic growth both nationally and regionally. But it cannot be denied that the implementation of fiscal decentralization in this country is running amid great challenges. Regional readiness both in terms of funding and in terms of the quality of human resources is a problem that must be resolved immediately for the successful implementation of decentralization itself. Bird & Vaillancourt (1998) argues that one of the conditions for successful decentralization is that the costs of decisions taken must be borne entirely by the local community. For this reason, there should be no need for export taxes and there will be no additional transfers from other levels of government. This implies that low local original income will cause the implementation of decentralization to be not optimal. North Sumatra Province is one of the regions that implemented decentralization since 2001, but after almost two decades, despite the visually growing economy, the poverty level of the population is still high with fluctuating developments. With economic growth of 5.12 percent in 2017, the poverty rate in the same year was 9.28 percent. On the other hand, regional dependence on funding from the center is still very high. Based on data from the Ministry of Finance, average ratio of

transfer funds to total regional income in North Sumatra districts/cities in 2017 was 74% with an average of region own source revenue ratio is 10%. Although in theory, fiscal decentralization will encourage economic growth, the results of studies that have been conducted are not uniform and consistent. Some empirical studies that support the theory of the benefits of fiscal decentralization such as research conducted by Akai & Sakata (2002) and Lindaman & Thurmaier (2002). However, empirical evidence that explains that fiscal decentralization has not yet provided significant benefits for development has been found as a result of studies conducted by several experts. Research conducted by Davoodi & Zou (1998) and Woller & Phillips (1998) show that fiscal decentralization has no significant impact on economic growth in developing countries. Furthermore, Zhang & Zou (1996) found that the implementation of fiscal decentralization had a negative impact on economic growth and was less favorable for development. Like studies conducted by experts with populations and samples abroad, research conducted in Indonesia also found non-uniform results. Adi (2016) examines the impact of fiscal decentralization on economic growth in the districts/cities of Java-Bali finding that fiscal decentralization drives economic growth so does the Sasana's study (2009) finding that fiscal decentralization has a positive and significant effect on economic growth in the province of Central Java . Contrast to these studies, the results of an empirical study conducted Swasono (2007) by taking samples the districts/cities in Indonesia and Saputra (2012) found that decentralization had a negative impact on economic growth. Based on the theory and results of previous studies, the objectives and hypotheses of this study were formulated. The first objective is to analyze the effect of fiscal decentralization on economic growth in the province of North Sumatra. Some studies of the relationship between fiscal decentralization and economic growth such as Davoodi & Zou (1998) use the Levine-Renelt conditioning variable or the Solow growth model including investment, population growth, and technological progress. The Solow growth model focuses on how capital stock growth, labor force growth, and technological progress and output interact in the economy. However Martinez-Vazquez & McNab (2003) explains that most studies that study the direct relationship of fiscal decentralization and economic growth apply Barro's endogenous growth model, where the production function consists of various inputs including private capital, and public expenditure at three levels of government. The growth model developed by Barro uses constant returns to capital including private capital and public services and broadly considers the input of public services in production, precisely the relationship that arises between government size and economic growth. In addition, the Barro model also assumes that all investments issued by the government are productive. According to Barro, the growth model at the central and regional levels starts with an endogenous growth model consisting of a production function with two inputs, that are private capital and government expenditure (Davoodi & Zou, 1998). The assumption of this model is that government spending is carried out by three levels of government, that are central and provincial and district/city. In the Barro model it is said that economic growth is influenced by tax rates and the share of expenditure at each level of government. Broadly speaking long-term economic growth is the contribution of expenditure at each level of government, tax revenues and other exogenous factors that influence. Economic growth is a

very important determinant of development. Economic growth is defined as a process of increasing output per capita in the long run (Boediono, 2002). However, the prevailing economic growth, although occurring continuously in the long term, does not necessarily give birth to economic development and an increase in the welfare (income) of the community (Sukirno, 2006). Todaro & Smith (2011) states that welfare is a function of income per capita with a positive relationship. This means that increasing economic growth should increase output growth per capita so that it can increase people's purchasing power. Correspondingly, several empirical studies have found that economic growth has an effect on people's well-being, such as studies conducted by Wu & Li, 2017 in China, Mirza (2012) who examined in Central Java province as well as Abraham & Ahmed (2011) in Nigeria found that in the long run economic growth has a positive effect on human development. From the explanation of theory and empirical studies, the second objective of this study is to analyze the effect of economic growth on the welfare of the people in the province of North Sumatra and the second hypothesis is formulated: economic growth has a positive and significant effect on community's welfare. Research conducted by Lindaman & Thurmaier (2002) on the effect of fiscal decentralization on people's welfare as measured by the achievement of basic needs found that fiscal decentralization had a positive effect on people's welfare. Their study uses revenues and expenditures to approach fiscal decentralization variables and the human development index is used as a proxy for public welfare. Likewise, the results of the Sasana (2009) which took districts/cities in Central Java province turned out to have fiscal decentralization and community welfare have a positive and significant impact. By looking at the results of the empirical study above, the third objective of this study is to analyze the effect of fiscal decentralization on public welfare with the hypothesis of fiscal decentralization that has a positive and significant effect on people's welfare.

2. RESEARCH METHODS

The statistical analysis in this study uses secondary dataobtained from the Central Statistics Agency (BPS), the Ministry of Finance and Bank Indonesia and other relevant sources. The data used is panel data which is a combination of cross section and time series data. The study population of all districts / cities in the province of North Sumatra during 2010-2017 with the exception of 2016 due to the unavailability of workforce data by district/city in that year. Series length on the 7-year model with many sections are 33.The variable fiscal decentralization is approximated by the ratio of relative district/city expenditure to central government expenditure as one of the approaches used by Zhang & Zou (1998). This study presents 2 outputs, for the first model analyzes the relationship of fiscal decentralization with economic growth, and the second model analyzes the relationship of fiscal decentralization and economic growth on community welfare. In addition to the decentralization variable, this study uses control variables in the form of: population, investment proxied by the ratio between gross fixed capital formation with GRDP, total labor force, education level using pure high school enrollment rates, and poor population. The operational definitions of the variables analyzed are explained as follows:

1. Economic growth (GROWTH) is annual real economic

growth.

2. People's welfare (IPM) is proxied by the human development index (HDI)
3. Fiscal Decentralization (DF) is measured by the relative ratio between the district/city expenditure to central expenditure.
4. Population (POP) is the total population of the year concerned.
5. Investment (INVEST) is approached with the proportion of gross fixed capital formation (PMTB) to Gross Domestic Regional Product.
6. Education (EDUC) uses a pure participation rate at the high school level.
7. The labor force (AK) is proxied by the number of the workforce in the current year.
8. Poverty (POV) is the number of population below the poverty line in district/city per year according to the data from Central Bureau of Statistics Republik Indonesia (BPS).

Because the endogenous variables in the model are interrelated, the statistical analysis used is the simultaneous method. Based on the results of the identification test, it was found that the model was overidentified so that the variables of this study were analyzed by the two stage least square (2 SLS) method, with the following steps:

A. Regressing the dependent variable of economic growth to the independent variable fiscal decentralization and the variable with the following equation:

$$Yit = \propto 1 + \beta 1 DF + \beta 2 POP (\ln) + \beta 3 INVEST + \beta 4 EDUC + \beta 5 AK (\ln) + \epsilon_1 it$$

B. Regressing social welfare variables towards fiscal decentralization, economic growth and the number of poor people using the equation:

$$Z\_it = \propto 2 + \beta 6\ DF + \beta 7\ \dot{Y}it + \beta 8\ POV + \epsilon_2 it$$

3. RESULTS AND DISCUSSION

To determine the best model for analyzing this study the Chow test and Hausman test were used. From the two tests it was concluded that the best model was the random effect model (REM). In addition, the Hausman test was also used to test the simultaneity of economic growth variables and it was found that there was a simultaneous relationship between economic growth and population welfare at a 90% confidence level. The statistical analysis results both of the models are presented as follows:

Tabel 1. The first step's result: a statistical analysis with dependen variable economic growth

Variable	Koefisien	P value	Conclusion
1. Fiscal Decentralization(DF)	2.4241	0.572	Not significant
2. Population (lnPOP)	-1.3572	0.072	Significant
3. Invesment (INVEST)	3.2193	0.039	Significant
4. Labourfoce (lnAK)	1.2022	0.120	Not significant
5. Level of education (EDUC)	-0.0260	0.000	Significant
6. Constanta	9.1369		
R –sq	0.0958		
Prob>Chi2 (F Test)		0.002	Significant

Based on the estimation results it was found that the analysis of the effect of fiscal decentralization and control

variables on economic growth gave a p value (Prob> Chi2) of 0.0002. When compared with Alpha 10%, the probability value obtained is smaller than the alpha set (0,0001 <0.10). Thus we draw the conclusion that the fiscal decentralization variable together with other variables consisting of: population, education, investment, and number of labor force have an influence on economic growth in the province of North Sumatra. Likewise, the results of the estimation of the effect of fiscal decentralization on community welfare show significant value. Thus the conclusion is drawn that the fiscal decentralization variable and other variables consisting of economic growth, and the number of poor people together have a significant effect on the welfare of the people in North Sumatra province in the research year. Statistical estimation conducted to examine the variable's effect partially shows that from a total of five independent variables in the model that analyze the relationship of fiscal decentralization with economic growth, there are three variables that have a significant relationship with the dependent, while the other two variables are not significant. The main variable in this study has insignificant relationship with economic growth, as well as labourforce. Population and education turned out to have a negative and significant relationship based on the results of the analysis, likewise the investment had a significant effect on economic growth but in a positive direction. Based on the above results, the first hypothesis of this study was rejected. The absence of the effect of fiscal decentralization on economic growth in the province of North Sumatra indicates that the authority to manage the regional budget in accordance with regional government discretion has not yet reached productive sectors that can boost economic growth. The reason the influence of fiscal decentralization is not significant on economic growth is the improper allocation of expenditure. Although there is no law that regulates the ideal local government budget (APBD) posture, the implied expectation is that direct spending is greater than indirect spending. Thus it is hoped that expenditures managed by local governments will be directly related to the dynamics of development. In fact, local government spending in the province of North Sumatra so far is still dominated by indirect spending. Based on data released by the Central Statistics Agency, the proportion of direct expenditure districts / cities in North Sumatra province for 2017 is lower than indirect spending, which is in the range of 45%.This condition is in accordance with the opinion of Barro (1990) which states that the effect of government spending on economic growth depends on the type of expenditure, if used for investment and other productive expenditures, will have a positive effect. But in some cases, government spending can actually hamper economic growth. Furthermore, Davoodi & Zou (1998) also explained that economic growth would be positive through capital expenditure and infrastructure, and the effect of economic growth would be negative through spending on welfare (social security) and routine expenditure. The accuracy of expenditure allocations will affect the impact of these expenditures on economic growth. Excessive expenditure on the wrong post will lead to lower economic growth. The results of this study are also in line with the findings of Wholler and Philips (1998) and Thornton, 2007 who find that fiscal decentralization has no effect on economic growth.

Tabel 2. The first step's result: a statistical analysis with dependen variable economic growth

Variable	Koefisien	P value	Conclusion
1. Fiscal Decentralization(DF)	98.16522	0.001	Significant
2. Economic Growth (GROWTH)	1.81869	0.086	Significant
3. POVERTY (POV)	-0.00005	0.091	Significant
4. Constanta	55.0308		
R –sq	0.1214		
Prob>Chi2 (F Test)		0.004	Significant

The model that analyzes the effect of fiscal decentralization on community welfare partially shows that all variables in the model have a significant effect on community welfare, although in different directions. Variable fiscal decentralization and economic growth have a significant positive effect, whereas the number of poor people is found to have a negative relationship with community welfare. Thus it was concluded that the second and third hypotheses of this study were accepted. Basically, economic growth is one of the most important determinants of development. The relationship of economic growth with public welfare is supported by the "trickle down effect" hypothesis attached to the "growth paradigm" which states that rapid economic growth will trickle down to people's welfare (human development) (Kuncoro, 2004). The positive relationship between economic growth and the welfare of the community concludes that along with the increase in economic growth, the welfare of the community will also increase. This condition shows that the economic growth achieved by the province of North Sumatra is able to encourage opportunities for people to get a decent life. The results of this study are in line with the opinion of Todaro & Smith (2011) which states that welfare is a function of income per capita with a positive relationship. This means that increasing economic growth should increase output growth per capita so that it can increase people's purchasing power. The high purchasing power of the people will encourage the welfare of the community through the ability to increase consumption. The results of this study are also consistent with the results of research conducted by Wu & Li (2017) who found that economic growth has a positive effect on welfare in China. A study conducted by Mirza (2012) which examined the effects of poverty, economic growth and capital expenditure on the Human Development Index in Central Java Province also found a positive relationship between economic growth and the human development index. Abraham & Ahmed (2011) also analyzed the relationship between economic growth and the human development index in Nigeria. This study found that in the long run economic growth has a positive effect on human development even though in the short term the relationship is both negative. Furthermore, Ranis & Ramirez (2000) conducted a study of the relationship between economic growth and human development in developing countries. This study was conducted by testing two chains, the first testing the effect of economic growth on people's welfare and the second chain examining the effect of human development on economic growth. This study concludes that economic growth with human development has a two-way relationship. The majority of the literature on fiscal decentralization shows that decentralization brings significant welfare and economic benefits to society. The results of this study also show that fiscal decentralization has a positive effect on the welfare of the community, which means that the higher the degree of decentralization will encourage the increase in people's welfare. In line with the opinion of experts who state that with fiscal decentralization, local governments better understand the needs and desires of their people by providing appropriate public services so that people more easily meet their daily needs. The findings in this study are in line with the opinion that the regional government should behave differently when the central government surrenders various authorities to the local government, which is trying to improve the welfare of local communities compared to when in a centralized system. This theory is supported by experts such as: Oates (1993); Bird (1993); Bird and Wallich (1995); Bahl and Linn (1992). Furthermore, this finding is also consistent with the results of a previous study conducted by Lindaman & Thurmaier (2002) who found that fiscal decentralization had a positive effect on the achievement of basic needs, Sasana (2009) who found a positive relationship with fiscal decentralization with the welfare of the people in the province of Central Java .

4. CONCLUSION

Based on the results of research conducted, it was found that fiscal decentralization did not affect economic growth in the province of North Sumatra for the study year. This condition is due to the greater expenditure allocation for indirect expenditure so an evaluation of regional expenditure allocation is needed so that the district's regional government budget posture in North Sumatra province is more dominated by productive sectors that can encourage economic growth. In accordance with the results of the statistical analysis, the second hypothesis of this study is accepted, that economic growth has a positive and significant relationship with community welfare. This means that the increase in economic growth will encourage the level of public welfare. Thus it can be concluded that economic growth in the province of North Sumatra is on the right track and indeed comes from sectors that are able to provide employment opportunities for residents and encourage people to raise their living standards. Fiscal decentralization apparently also had a positive influence on the welfare of the people in North Sumatra province. This means that the higher the degree of fiscal decentralization, the level of public welfare will also rise. This significant positive relationship illustrates that the decision of the central government to transfer some of its authority to local governments can in fact encourage better public service delivery so that the welfare of the community also increases. From these explanations, it was concluded that the third hypothesis of this study was also accepted.

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