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# THE INFLUENCE OF FISCAL DECENTRALIZATION OF ECONOMIC GROWTH IN NIAS ISLANDS

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**ABSTRACT**

*In general, the fiscal decentralization policy has succeeded in reducing fiscal disparities between levels of government and between regions, as well as encouraging improvements in public services and competitiveness in the regions. Increasing regional revenues from balancing funds, the authority to determine expenditure allocations and the superiority of the position of regional governments that are closer to the people are able to increase economic efficiency and allocate more priority spending according to community needs. However, the conditions of each region in Indonesia vary greatly, so that the impact of fiscal decentralization policies on regional economic growth also varies. On this occasion, research was conducted to analyze the effect of fiscal decentralization on the economic growth of the Nias Islands. Fiscal decentralization analysis uses income indicators, expenditure indicators and autonomy indicators and includes the population growth factor as a control variable. This study uses panel data from five districts/cities in the Nias Islands during the 2010-2021 period using the Fixed Effect Model method. Based on the results of panel data estimation in this study, the results show that fiscal decentralization has proven to have a significant effect on economic growth in the Nias Islands.*

## INTRODUCTION

The implementation of regional autonomy is expected to increase the efficiency, effectiveness and accountability of the public sector. Law (UU) Number 22 of 1999 concerning Regional Government and Law Number 25 of 1999 concerning Financial Balance between the Central and Regional Governments are "big bang" in the implementation of fiscal decentralization in Indonesia. The scope of decentralization mandated by the regional autonomy law concerns regional financial management, economic planning including compiling regional development programs and other planning that is delegated from the center to the regions (Kharisma, 2013). Implementation of fiscal decentralization itself through the delegation of authority to the regions in managing fiscal both in terms of revenue and expenditure with the hope of encouraging economic growth in the regions.

Research conducted by Zhang and Zou (2001) in India, concluded that there is a positive effect of fiscal decentralization on regional economic growth. The results of the same research in Indonesia conducted by Wibowo (2008). Economists believe that fiscal decentralization encourages growth, improves equity, and improves the quality of public services and people's welfare.

Research by Phillips and Woller (1997) and Davoodi and Zou (1998) for cases in developing countries; reminded that fiscal decentralization can also have a negative impact on

economic growth. Fiscal decentralization policies can reduce government spending and taxes based on the central government which can be used to perform a stabilizing function, so that it can lead to macroeconomic instability which in turn will hamper economic growth. The study of the negative impact of fiscal decentralization on economic growth is also in line with the results of research by Simanjuntak (2010) for cases in Indonesia.

Fiscal decentralization in Indonesia places more emphasis on giving discretion to Regional Governments to spend budgets according to regional needs and priorities, while most sources of revenue are still controlled by the central government in the context of national and state integrity. Even so, the Regional Government is still given the authority to explore sources of local revenue which is regulated by law. The Nias Islands are one of the outermost islands in the western part of Sumatra which consists of four regencies and one city that are included in the territory of North Sumatra Province. based on data from the Ministry of Finance of the Republic of Indonesia for 2010-2022, districts/cities in the Nias Islands have obtained balancing funds within a 12-year period as follows (Table 1).

**Table 1.** Realization of District/City Balancing Funds in the Nias Islands for 2010-2021 (billions of Rupiah)

| Tahun | Dana Perimbangan (DP) | | | | Total |
|---|---|---|---|---|---|
| | DBH | DAU | DAK | DP-Lain | |
| 2010 | 70,10 | 717,16 | 201,43 | 95,28 | 1.083,97 |
| 2011 | 69,59 | 1.270,28 | 247,76 | 150,78 | 1.738,42 |
| 2012 | 73,88 | 1.409,39 | 259,39 | 90,22 | 1.832,88 |
| 2013 | 90,74 | 1.629,07 | 267,48 | 48,40 | 2.035,69 |
| 2014 | 75,31 | 1.829,04 | 318,56 | 97,67 | 2.320,58 |
| 2015 | 80,99 | 1.960,68 | 520,16 | 137,30 | 2.699,12 |
| 2016 | 89,76 | 2.161,98 | 684,82 | 387,23 | 3.323,79 |
| 2017 | 57,04 | 2.146,41 | 803,67 | 519,07 | 3.526,20 |
| 2018 | 121,55 | 2.172,69 | 804,67 | 518,17 | 3.617,08 |
| 2019 | 52,03 | 2.240,46 | 866,79 | 627,85 | 3.787,13 |
| 2020 | 67,32 | 2.175,29 | 816,22 | 494,18 | 3.553,01 |
| 2021 | 119,40 | 2.206,40 | 856,71 | 443,40 | 3.625,91 |
| **Jumlah** | **967,70** | **21.918,86** | **6.647,66** | **3.609,55** | **33.143,78** |

*Source: Ministry of Finance of the Republic of Indonesia, (2010-2021)*

The Nias Islands, which are far from the provincial economic growth centers, let alone the national economic growth centers, have a high level of difficulty with accessibility. The rate of economic growth in Nias Regency in 1997-1999 (before the regional autonomy law was enacted) was 3.33%, -0.37%, 6.65%, respectively. In that year, the Nias Islands had not yet been divided as they are today. Until Law Number 22 of 1999 was repealed and replaced by Law Number 32 of 2004 concerning Regional Government and Law Number 25 of 1999 was replaced by Law Number 33 of 2004 concerning Financial Balance between the Government and Regional Government, the implementation of fiscal decentralization in the Nias archipelago had not been carried out. fully until 2008. After Nias Regency expanded into two autonomous regions in 2003,

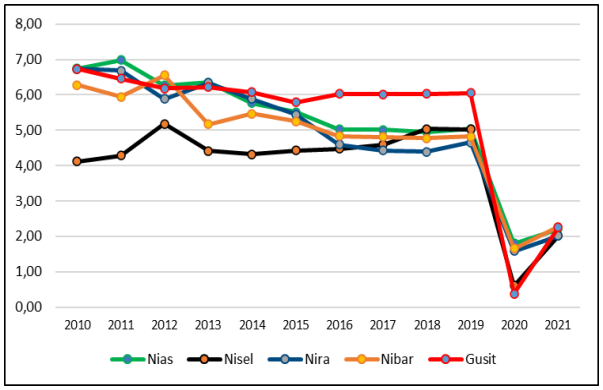
namely; Nias Regency and South Nias Regency, in 2008 Nias Regency was again divided into 4 new autonomous regions, namely; Nias, North Nias, West Nias and Gunungsitoli Municipalities. Along with the expansion of regions in the Nias Islands, in plain view the economic development in the Nias Islands appears to be more advanced than before. Economic growth in each autonomous region during the 2010-2021 period was in the range of 4% - 6.5% annually, except during the Covid-19 pandemic in 2020-2021 (Table 2).

**Table 2.** Economic Growth Rate of Districts/Municipalities in Nias Islands, 2010-2021

| Tahun | Laju Pertumbuhan Ekonomi (%) | | | | | Rata-Rata Kep. Nias |
|---|---|---|---|---|---|---|
| | Nias | Nisel | Nira | Nibar | Gusit | |
| 2010 | 6,75 | 4,12 | 6,73 | 6,28 | 6,73 | 6,73 |
| 2011 | 6,98 | 4,29 | 6,68 | 5,94 | 6,46 | 6,46 |
| 2012 | 6,27 | 5,18 | 5,88 | 6,55 | 6,18 | 6,18 |
| 2013 | 6,35 | 4,41 | 6,34 | 5,17 | 6,22 | 6,22 |
| 2014 | 5,77 | 4,32 | 5,89 | 5,47 | 6,07 | 6,07 |
| 2015 | 5,52 | 4,43 | 5,44 | 5,25 | 5,79 | 5,79 |
| 2016 | 5,03 | 4,48 | 4,59 | 4,83 | 6,03 | 6,03 |
| 2017 | 5,01 | 4,60 | 4,43 | 4,81 | 6,01 | 6,01 |
| 2018 | 4,95 | 5,04 | 4,39 | 4,77 | 6,03 | 6,03 |
| 2019 | 5,04 | 5,03 | 4,65 | 4,82 | 6,05 | 6,05 |
| 2020 | 1,80 | 0,61 | 1,58 | 1,66 | 0,38 | 0,38 |
| 2021 | 2,21 | 2,02 | 2,02 | 2,26 | 2,25 | 2,25 |

*Source: BPS, Indonesia*

**Figure 1.** Economic Growth Rate of Districts/Municipalities in Nias Islands, 2010-2021




*Source: BPS, Indonesia (processed)*

Fiscal decentralization is intended to realize at least two main objectives, namely to achieve a level of fiscal equity both vertically and horizontally (Martinez-Vazquez & McNab, 2014). Vertical fiscal equalization when there is fiscal equalization between the central and regional governments, while horizontal equity is fiscal equalization between autonomous regions. Between the central and regional governments as well as between regional governments, fiscal imbalances can occur due to differences between fiscal capacity and fiscal needs. Fiscal capacity between different regions has an effect on the ability to increase revenue, while fiscal needs are related to differences in the level of achievement of the public service efforts undertaken.

Based on the data in previous tables, the fiscal decentralization policy has accumulated the doubling of the regional income sector from transfers of balancing funds and even transfers of funds to these regions from the central government to become the main revenue for the regions and continues to increase from year to year. This is also the case with the delegation of authority by the central government in spending activities to regional governments with the hope that the regions will better understand the needs and scale of development priorities needed by the community.

**Table 3.** Composition of Nias Islands Regional Revenue, 2010-2021 (Billion Rupiah)

| Tahun | Pendapatan Daerah (Rp) | Share (%) | |
|---|---|---|---|
| | | DP | PAD |
| 2010 | 1.194,33 | 90,76% | 2,27% |
| 2011 | 1.875,71 | 92,68% | 2,90% |
| 2012 | 1.973,57 | 92,87% | 3,73% |
| 2013 | 2.217,29 | 91,81% | 4,01% |
| 2014 | 2.527,46 | 91,81% | 4,46% |
| 2015 | 3.158,26 | 85,46% | 4,21% |
| 2016 | 3.730,94 | 89,09% | 4,50% |
| 2017 | 4.025,51 | 87,60% | 4,98% |
| 2018 | 4.236,41 | 85,38% | 5,39% |
| 2019 | 4.418,23 | 85,72% | 4,96% |
| 2020 | 4.339,78 | 81,87% | 4,29% |
| 2021 | 4.178,52 | 86,77% | 4,06% |

*Source: BPS, Indonesia (processed)*

**Table 4.** Composition of Regional Capital Expenditure, Nias Islands, 2010-2021 (Billion Rupiah)

| Tahun | Total Belanja Daerah (Rp) | Belanja Modal | |
|---|---|---|---|
| | | Jumlah | share (%) |
| 2010 | 1.203,89 | 307,34 | 25,53% |
| 2011 | 1.811,98 | 616,28 | 34,01% |
| 2012 | 2.139,84 | 773,01 | 36,12% |
| 2013 | 2.347,63 | 845,00 | 35,99% |
| 2014 | 2.409,15 | 750,84 | 31,17% |
| 2015 | 3.016,58 | 896,58 | 29,72% |
| 2016 | 3.576,12 | 1000,40 | 27,97% |
| 2017 | 4.096,74 | 1128,51 | 27,55% |
| 2018 | 4.259,74 | 1051,83 | 24,69% |
| 2019 | 4.410,78 | 928,07 | 21,04% |
| 2020 | 4.390,66 | 853,51 | 19,44% |
| 2021 | 4.222,60 | 711,30 | 16,85% |

*Source: BPS, Indonesia (processed)*

Allocation of spending that is appropriate and on target, it is hoped that the quality of service and the benefits of local government spending can be more effective and efficient, so that it can make a major contribution to accelerating regional economic development. Regional autonomy followed by decentralization policies aimed at accelerating the attainment of regional self-reliance, improving services and welfare of the people in the regions. However, the rate of economic growth and the ratio of district/city PAD gains in the Nias Islands during the study period tended to be stagnant. Therefore, researchers are interested in further studying how fiscal decentralization has affected regional economic growth in the Nias Islands so far.

***Hypothesis I:***

1) H0: Balancing Fund ratio has no positive and significant effect on the economic growth of the Nias Islands region.
2) H1: Balancing Fund Ratio has a positive and significant effect on the economic growth of the Nias Islands region.

***Hypothesis II:***

1) H0: The Capital Expenditure Ratio has no positive and significant effect on the economic growth of the Nias Islands region.
2) H1: The Capital Expenditure Ratio has a positive and significant effect on the regional economic growth of the Nias Islands.

***Hypothesis III:***

1) H0: The Autonomy indicator has no positive and significant effect on the economic growth of the Nias Islands region.
2) H1: The Autonomy indicator has a positive and significant effect on the economic growth of the Nias Islands region.

***Hypothesis IV:***

1) H0 : Population growth has no positive and significant effect on the economic growth of the Nias Islands region.
2) H1: Population growth has a positive and significant effect on the economic growth of the Nias Islands region.

## METHODS

Based on the theory of the impact of fiscal decentralization on the regional economy, in analyzing the effect of fiscal decentralization on regional economic growth in the Nias Islands, research samples were taken from all districts/cities in the Nias Islands, North Sumatra Province, consisting of Nias District, South Nias District, North Nias, West Nias Regency and Gunungsitoli City. The type of data used is panel data for the period 2010 – 2021. The data source comes from the Central Statistics Agency (BPS) for each district/city and data from the Indonesian Ministry of Finance.

In order to determine the effect of fiscal decentralization on economic growth, the economic growth model approach is used in terms of capital growth and labor force growth as with the Solow growth model by adopting the variable population growth as the controlling variable as developed by Akai and Sakata (2002). Furthermore, to describe the variable fiscal decentralization indicators of decentralization of revenues and indicators of decentralization of spending. This research model is formulated as follows:

$$Eco.Growth_{it} = a_0 + \beta_1 \mathrm{RDP}_{it} + \beta_2 \mathrm{RBM}_{it} + \beta_3 AI_{it} + \beta_4 Pop.Growth_{it} + \varepsilon_{it}$$

In which:

| | | | |
|---|---|---|---|
| Eco. Growth | : Economic growth; | $\beta_{1,2,3,4}$ | : Estimation of the controlling variable's paarameter value; |
| RDP | : Balancing fund ratio (*Rasio Dana Perimbangan*); | *i* | : Region (District/city); |
| | | *t* | : Time period; |
| RBM | : Capital expenditure ratio (*Rasio Belanja Modal*); | ε | : Random error |
| AI | : Indikator Otonomi; | | |
| Pop. Growth | : Population growth; | | |
| $a_0$ | : Intercept; | | |

Analysis of the effect of fiscal decentralization on economic growth using panel data regression method. Estimating model parameters using panel data, by selecting the best approach from the Common Effect Model, Fixed Effect Model or Random Effect Model (Widarjono, 2007). Determine the best panel data estimation technique using F Statistical Test, Hausman Test and Lagrange Multiplier or LM Test. Data processing for analysis uses the Eviews-12 application program.

This research consists of classical assumption testing and hypothesis testing. The tests includes the Normality Test, Autocorrelation Test, Heteroscedasticity Test and Multicollinearity

Test. However, not all classical assumption tests must be performed on panel data, for random effect models it is not necessary to test classical assumptions because it is assumed that the Generalized Least Square (GLS) estimation method can overcome heteroscedasticity and autocorrelation. While testing the hypothesis includes the determinant coefficient, F test and T test.

Analysis of the effect of fiscal decentralization on regional economic growth in the Nias Islands was carried out using several research variables. Economic growth is described from GRDP growth in each district/city, in this study it is the dependent variable. While fiscal decentralization is generally represented using two variables as proposed in the research of Zhang and Zou (1998), Woller and Philips (1998). These two variables are indicators of revenue decentralization and expenditure decentralization indicators. The fiscal decentralization indicator from the revenue side through the Balancing Fund Ratio (RDP) variable received by the regions is a proxy for measuring the ability of regional capital accumulation in creating economic growth, because one of the factors that influence economic growth is capital accumulation. The Balancing Fund ratio is obtained from the share of transfer funds from the central government to the regions in the form of DBH, DAU and DAK to the total district/city regional income.

The indicator of fiscal decentralization from the expenditure side is through the Capital Expenditure Ratio (RBM) variable, the government expenditure variable using the RBM is obtained from the share of district/city capital expenditure to total district/city spending. The Capital Expenditure Ratio is a proxy for measuring regional capacity in implementing regional capital expenditures in connection with the delegation of authority from the central government. Several studies that have been carried out by previous researchers were adopted in this study including the inclusion of autonomy indicators in the form of Authority Indicators (AI) and control variables. The Autonomy indicator is the share of total district/city PAD to total district/city revenue excluding transfer receipts from the province. Autonomy Indicator is a modification of the indicator proposed by Akai and Sakata (2002) is a proxy for measuring the ability of the region to devolve authority from the central government to the regions as a consequence of decentralization of revenues by providing the widest possible opportunity for the regions to explore the potential of regional original income. The control variable included is the Population Growth factor. Population is a proxy used to describe one of the driving factors of economic growth.

## RESULTS AND DISCUSSION

### Instrument Accuracy Test and Estimation Results

The results of testing the most appropriate model used to estimate panel data in this study, are shown by the results of the F Statistical Test, to determine the best model between the Common Effect Model and the Fixed Effect Model shown with a probability value that is smaller than the error level 5 percent (0.0134 <0.05). Thus the Fixed Effect Model is a better method to use.

**Table 5.** Statistical Test Results F

| Effects Test | Statistic | d.f. | Prob. |
|---|---|---|---|
| Cross-section F | 3.499421 | (4,51) | 0.0134 |
| Cross-section Chi-square | 14.551559 | 4 | 0.0057 |

*Source: Research Analysis Results*

Furthermore, this FEM method must be compared again with the Random Effect Model (REM) method through the Hausman Test. From the results of the Hausman Test in Table 5, which tests the Fixed Effect Model and the Random Effect Model, the test results show that the probability value is smaller than the 5 percent error level (0.0073 <0.05). Thus, to analyze panel data on research on the effect of fiscal decentralization on economic growth in the Nias Islands, the Fixed Effect Model or FEM is used.

**Table 6.** Hausman Test Results

| Test Summary | Chi-Sq. Statistic | Chi-Sq. d.f. | Prob. |
|---|---|---|---|
| Cross-section random | 13.997683 | 4 | 0.0073 |

*Source: Research Analysis Results*

As the procedure for using the Fixed Effect Model requires a classic assumption test, then after going through the testing stages no symptoms of heteroscedasticity or multicollinearity are found so that panel data analysis using the Fixed Effect Model method can be continued. The panel data estimation results as shown in Table 6 show an estimated R2 value of 0.583929 which means that the fiscal decentralization indicator variables (RDP variables, RBM variables, Autonomy Indicator variables) and control variables (Population Growth) together contribute 58.39 percent on the economic growth of the Nias Islands. The results of the F test with a value of 0.0000 indicate that all variables together have a significant effect on economic growth, where the F test value is smaller than the 5 percent error level (0.0000 <0.05).

**Table 7.** Estimation Results with the Fixed Effect Model

Dependent Variable: PERTUMBUHAN_EKONOMI
Method: Panel Least Squares
Date: 06/16/23 Time: 14:02
Sample: 2010 2021
Periods included: 12
Cross-sections included: 5
Total panel (balanced) observations: 60

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| C | 0.411055 | 1.407036 | 0.292143 | 0.7714 |
| R_DANA_PERIMBANGAN | 4.512666 | 1.183916 | 3.811644 | 0.0004 |
| R_BELANJA_MODAL | 8.371579 | 1.884380 | 4.442618 | 0.0000 |
| INDIKATOR_OTONOMI | -17.42288 | 7.758299 | -2.245709 | 0.0291 |
| PERTUMBUHAN_PENDUDUK | -1.305898 | 0.647766 | -2.016002 | 0.0491 |

Effects Specification

Cross-section fixed (dummy variables)

| | | | |
|---|---|---|---|
| R-squared | 0.583929 | Mean dependent var | 4.847333 |
| Adjusted R-squared | 0.518663 | S.D. dependent var | 1.630511 |
| S.E. of regression | 1.131223 | Akaike info criterion | 3.221957 |
| Sum squared resid | 65.26294 | Schwarz criterion | 3.536109 |
| Log likelihood | -87.65871 | Hannan-Quinn criter. | 3.344839 |
| F-statistic | 8.946911 | Durbin-Watson stat | 1.287926 |
| Prob(F-statistic) | 0.000000 | | |

*Source: Research Analysis Results*

Based on the estimation results, two of the three fiscal decentralization indicator variables consisting of the Balancing Fund Ratio (RDP) proxy variable from the revenue decentralization indicator and the Capital Expenditure Ratio (RBM) proxy variable from the expenditure decentralization indicator both show coefficients that are consistent with theory. The income decentralization indicator (RDP variable) has a positive coefficient, which means that the revenue from balancing funds received by the local government in the Nias Islands has succeeded in increasing economic growth in each district/city. Every increase of one RDP unit will increase economic growth by 4.5127, with a partial contribution of 3.8116 and has a significant effect. The greater the income from balancing funds received by the local government in the Nias Islands, the greater the rate of economic growth in all districts/cities. As a region with four regencies in the category of underdeveloped regions, regional revenues from central government transfer funds are still the mainstay of regional revenues with the largest composition reaching 81-92 percent of all regional revenues. This balancing fund acts as the main source of capital accumulation that encourages increased economic activity in the region. The results of research related to indicators of income decentralization which have a positive coefficient are the same as the results of research conducted by Akai and Sakata (2002), Wibowo (2008), Faridi (2011), Khamdana (2016). Based on the estimation results of the balancing fund ratio variable, it can answer hypothesis I, namely H0 is rejected and H1 is accepted; the ratio of balance funds has a positive and significant effect on the regional economic growth of the Nias Islands.

Meanwhile, the indicator for decentralization of spending (RBM variable) also has a positive coefficient, which means that capital expenditure by the local government in the Nias Islands has succeeded in increasing the rate of economic growth in each district/city. Each increase in one RBM unit will increase economic growth by 8.3716 with a partial contribution of 4.4426 and have a significant effect. Decentralization in the expenditure aspect has opened opportunities for local governments to allocate more priority capital expenditure budgets according to the needs of local communities because local governments have superior information, physical and institutional proximity to the community so that they can achieve economic efficiency in providing public services in the regions (Oates, 2007 ). Based on the results of estimates made on the RBM panel data for 2010-2021, all regencies/cities in the Nias Islands have shown the results of the realization of capital expenditure budget allocations that are right on target, even though the volume of contribution is not too large but has a significant influence on the rate of economic growth in each regency/city. The research results regarding the positive and significant influence of government spending indicators on economic growth are also in line with the results of research by Akai and Sakata (2002), Iimi (2005), Wibowo (2008) and Faridi (2011). However, contrary to the results of similar studies found by Zhang and Zou (1998), Davoodi and Zou (1998) and Pose and Ezcurra (2010) which state that the decentralization of spending received by local governments tends to hamper the regional economy. Based on the estimation results of the capital expenditure ratio variable, it can answer hypothesis II, namely H0 is rejected and H1 is accepted; the capital expenditure ratio has a positive and significant effect on the regional economic growth of the Nias Islands.

The third fiscal decentralization indicator variable is the autonomy indicator (AI), showing the estimation results with a negative coefficient. In essence, fiscal decentralization encourages regions to increase their fiscal independence, so that gradually transfers of general allocation funds to close fiscal gaps in the regions can decrease. Increasingly strong fiscal independence can be seen from the increasing PAD ratio. This increase in PAD indicates a better development of the community's economic activities, resulting in an increase in the volume of local taxes and regional levies collected. The negative coefficient found in this study indicates the opposite condition where the policy of obtaining regional original income tends to burden the economy in the region. Research results like this were also found by Akai and Sakata (2002) and Wibowo (2008) in their research. However, based on data on PAD acquisition during the period studied from 2010-2021, the contribution of PAD to total regional revenues in all districts/cities in Nias Islands is only 2-5 percent (Table 1.3a). From this small PAD contribution the results of regional taxes and regional levies are relatively small on average of 10-40 percent, while other larger incomes are obtained from other legitimate PAD consisting of bank checking services, rent and other regional revenues. Other types of legitimate PAD income are not directly related to regional economic activities, so that their increase or decrease does not affect regional economic growth.

The implementation of the fiscal decentralization policy, especially the authority to obtain direct regional revenues through the mechanism for increasing and developing regional tax and

retribution instruments by regional governments throughout the Nias Islands has not yet been optimized. The tax extensification and intensification program is not just a discourse, but must be able to be implemented to explore and develop regional revenues for existing and potential tax objects and subjects. This condition indicates that even though there has been a delegation of authority accompanied by the transfer of funding, the local government is still unable to optimize the management of existing local resource potential and other natural resources in the region as a source of local revenue. The negative effect of the PAD ratio on economic growth in the case of the Nias Islands area is not caused by the application *(best practice)* of taxes and regional retrusions that are not appropriate, but rather due to changes in the PAD ratio which are dominated by increases in other revenue sectors of legitimate PAD, which are not directly related to the creation of economic growth in the region. Based on the results of the estimation of this autonomy indicator variable, it can answer hypothesis III, namely H0 is accepted; the autonomy indicator does not have a positive and significant effect on the regional economic growth of the Nias Islands and H1 is rejected.

The effect of the population growth control variable on economic growth, as shown by the estimation results, has a negative coefficient, which means that an increase in one unit of population growth has an impact on decreasing economic growth by 1.3059. This finding is in line with the theory put forward by Robert M. Solow, who is of the view Population growth can have positive or negative impacts. The negative impact occurs as a result of the smaller amount of capital per capita of workers which causes low output per worker. Therefore, this growth must be utilized as a productive resource. Solow's view is also in line with David Ricardo who gave a different opinion from Adam Smith that population growth actually causes an excess of labor so that the wages given decrease. The wages are used to finance the minimum standard of living of the workers. As a result, economic conditions will stagnate. Based on the results of the estimation of the population growth variable, it can answer hypothesis IV, namely H0 is accepted; Population growth has no positive and significant effect on the economic growth of the Nias Islands region and H1 is rejected.

The four variables representing fiscal decentralization in this study, two of which have a positive influence and two other variables have a negative effect, each of which has a significant effect on economic growth in the Nias Islands. The fiscal decentralization policy in the Nias Islands region as a whole has had a significant influence on economic growth which can be shown by the F test value of 0.0000 which is smaller than the 5 percent error level (0.0000 <0.05).

## CONCLUSION

The Nias Islands area, which is located off the coast of the western part of Sumatra Island, as an outermost and underdeveloped area, has a large dependency on funding sources from transfers from the central government and provincial governments. The very low regional fiscal capacity of PAD causes a very large fiscal gap to finance the implementation and management of local government and realize social welfare through good economic development. The condition

of the fiscal gap which is generally very large in underdeveloped regions encourages local governments to struggle to get an increase in the value of balance funds from transfers from the central government as well as from the provincial government. The fiscal decentralization policy from the revenue and expenditure side no longer only has an effect but has a very significant effect on creating economic growth in the regions.

The negative effect of the PAD ratio on economic growth is more due to the fact that the regions have not yet focused on development which directly creates sectors that encourage the growth of productive economic centers for the community, so that the objects and subjects of sources of regional taxes and regional levies have not actually developed. The capital expenditure structure is more directed at spending to meet basic infrastructure needs and efforts to overcome high regional accessibility difficulties as well as regular supervisory financing.

Overall, the fiscal decentralization policies that have been implemented in the last 12 years in the Nias Islands have produced results and have had a major impact on accelerating the development of the Nias Islands region, although the level of achievement is still very far from being achieved in comparison to other regions in the Province of North Sumatra.

The effect of fiscal decentralization from the revenue side needs to be increased in quantity in regencies/cities throughout the Nias Islands, as the frontier, outermost and lagging regions still have very large fiscal gaps.

Expenditure decentralization in the programmatic capital expenditure allocation policy has begun to be directed at sectors that strengthen and encourage the growth of community economic centers, without neglecting the procurement of priority main infrastructure needs.

In connection with the limited regional spending capacity for vital sectors such as; roads and bridges, sea and air transportation facilities as well as main economic facilities in the regions can be spent through the central government's spending authority in the Special Allocation Fund (DAK) mechanism which is increasingly being increased for the Nias Islands region.

With the decentralization of the revenue-receiving sector in the regions, it is hoped that regional governments can optimally utilize this policy through programs of extensification and intensification of quality and productive regional tax and retribution objects and subjects as well as increased ability to understand best practices of budget management by regional service *units* . This will encourage development and better regional economic growth.

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