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# The Affirmation Special Allocation Fund and Regional Economic in Indonesia

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## *Abstract*

*Starting 2015, Government of Indonesia introduced Affirmation Special Allocation Fund (DAK). Affirmation DAK is expected to fund infrastructure, accessibility and improvement of basic services, as well as aiming to accelerate development in disadvantaged areas, border areas, outer islands, and transmigration areas. These targeted regions on average have low GRDP per capita. The purpose of this study is to determine the effect of Affirmation DAK on the regional economy in Indonesia. The existence of Affirmation DAK is expected to support equal distribution of basic infrastructure and services and accelerate development in Affirmation DAK receiving area which is a region with characteristics of disadvantaged areas, border areas, outermost islands and transmigration areas. This study uses panel data of 491 regencies/ municipalities in 2011-2018 and using the fixed effect estimation method. Empirical results show that Affirmation DAK has not had a positive effect on GRDP per capita. Limiting estimation only to Affirmation DAK recipient regions, there is also no positive association between Affirmation DAK and GRDP per capita. The results of this study also show that the impact of Affirmation DAK is very small on the recipient area, implying that Affirmation DAK in its current form and existing pool fund size, has not yet an effective policy for regions exiting from "the lagging regions trap". It is instead, still, revenue sharing and general allocation fund (DAU), that have consistent positive effect on regional economic growth, both are block grants that to an extent related to more discretionary to local governments in terms of use of fund.*

**Key words** : Intergovernmental transfer; Special allocation fund (DAK); Affirmation; Lagging region

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## INTRODUCTION

In the cotext of decentralized Indonesia and reflecting ti Indonesia characteristic, as an archipelagic country which naturally yet problem of regional disparaties between island are prevalent, a palce-based policy transfer is part of overall intergovernmental transfer that have been adopted. In the era of decentralization, local governments have the authority to improve public services in their regions and encourage the improvement of the regional economy, which is demonstrated through increased regional economic growth. Therefore, the central government implements a policy of transferring funds to the regions intergovernmental transfer. Intergovernmental transfers are an important part of increasing regional income as well as reducing regional disparities (Rosen & Gayer, 2010). Transfer funds aim to maintain fiscal balance between regions (Oates, 1999), improve efficiency in the allocation of public resources in each region (Musgrave, 1959); and ultimately can encourage regional economic growth (Martinez-Vazquez & McNab, 2003).

One of the transfer mechanisms that are specific puIDRose grants or conditional transfer funds is Special Allocation Fund (DAK), where the Central Government has a role in determining the use of these funds in the context of fulfilling basic services and activities that are the affairs or authorities of the regions in order to encourage national priorities. In the 2015-2019 National Medium-Term Development Plan (National IDRJM), one of Nawacita's third programs was to develop Indonesia from the periphery by strengthening regions and villages within the framework of the Republic of Indonesia.

Research related to specific regional fund transfer policies has been applied in the European Union called structural funds. Previous empirical studies have shown ambiguous results, including structural funds that have a positive effect on economic growth (Becker et al., 2010; Ederveen et al., 2003; Falk & Sinabell, 2008; Mohl & Hagen, 2010; Puigcerver & Penalver, 2007; Ramajo et al., 2008) but there are studies that state that structural funds have no effect on economic growth (Hagen & Mohl, 2008).

Some studies use the assumption that structural funds for disadvantaged areas have a catch-up effect, where disadvantaged regions can improve their economy or technology faster than developed regions. One of them is Ederveen et al., (2003) research in 183 European Union countries from 1981-1996, which states that structural funds have a positive effect on economic growth, assuming that all regions eventually catch up to the same level. Puigcerver & Penalver (2007) also showed that structural funds positively influenced the growth process of disadvantaged areas in the 1989-1993 period but not in the 1994-1999 period in 41 countries.

Another study by Becker et al., (2010) used a dummy variable that distinguishes areas that get funds from those who do not get funds, and the results of structural funds in disadvantaged areas have a positive and significant effect on economic growth. Research Rodríguez-Pose & Fratesi (2004), which concluded that structural funds have a positive effect but only funds related to education and human capital have a positive impact in the medium term while for agriculture does not affect economic growth.

In addition, research by Ramajo et al., (2008) also states that the European Union's regional policies are explicitly designed for underdeveloped regions and are quite effective in encouraging economic growth and regional spillover. Similar to Ramajo's research, Falk & Sinabell (2008) also stated that regions that received structural funds, especially in disadvantaged areas, had much higher GDP per capita growth, but the effect was only marginally significant.

Research by Hagen & Mohl (2008) which states that structural funds show a positive but not significant relationship to economic growth in 1995-2005, because his research uses total structural funds rather than structural funds specifically for disadvantaged regions to economic growth. Then Mohl & Hagen (2010) reexamined the effect of structural funds specifically for disadvantaged areas and added control of spatial spillover effects. The results of his research show that structural funds for disadvantaged areas have a positive effect but very little impact on GDP per capita which is around 0.05 percent (Mohl & Hagen, 2010).

Aside from being based on certain regions, affirmative action is also applied in other countries based on population/ groups, especially in the countries of the United States, South Africa, Malaysia, Fiji, and so forth. Affirmative action arises because of economic inequality, which affirmative action involves the government in designing and implementing policies that support certain groups (Ratuva, 2002). The majority of the beneficiaries of this affirmative action are based on ethnicity, race, indigenous people, women, and disability groups (Sabbagh, 2011).

Previous research on regionally based transfer funds in Indonesia has been done but is limited. An example of a place-based social assistance policy that was implemented in Indonesia prior to decentralization was the Instruction of Disadvantaged Villages (IDT), where the allocation of funds was given to underdeveloped villages for infrastructure development and job creation. In 1994, the villages that would get IDT funds reached 20,633 underdeveloped villages (Shah et al., 1994), then in 1998 covered all villages in 4 (four) provinces namely Irian Jaya, Maluku, East Nusa Tenggara and East Timor. Research on regionally based social assistance that was carried out in Indonesia before decentralization, namely the Inpres of Disadvantaged Villages (IDT). Hill (1998) states that IDT has a positive impact because it distributes aid directly to disadvantaged villages, but this program has a weakness in the selection of underdeveloped villages that is less thorough and arbitrary. The IDT program targets poor people in disadvantaged villages, but Rothenberg & Temenggung (2019) find weaknesses in determining inefficient IDT targets, because funds are distributed to village or sub-district heads, then distributed to communities/ individuals determined by regional/ village leaders. Yamauchi's research (2010) also shows a positive relationship between inequality and targeted disadvantaged villages, villages with high population density and educated villages can determine households that meet the requirements to receive these funds, but if the village head is not involved then household selection becomes not on target.

After the decentralization era, the IDT policy was replaced with DAK transfer funds with a target of allocating funds for disadvantaged areas and border areas, especially for increasing regional recommendations and infrastructure. Determination of disadvantaged areas aimed at mainstreaming development funds has a significant effect and causes a decrease in poverty levels and poverty depth, where disadvantaged areas have an average poverty rate of 0.75% lower and have a poverty depth index of 7% lower (Nasrudin, 2016). Then Nukman's research (2013) shows that balance funds have a positive and significant impact on economic growth in 199 underdeveloped districts in 2005-2009, but the value of growth is included in the low category, because the average GRDP per capita of underdeveloped areas is far below the average national GDP per capita average. The results of research conducted by Sari (2014) in 183 underdeveloped districts in 2010-2012 showed that the influence of DAK was not significant to economic growth in

disadvantaged areas. This DAK transfer fund is known to have a greater impact on increasing capital expenditure compared to General Allocation Fund (DAU), but the DAK allocation is less than optimal in providing stimulus to regional capital expenditure for infrastructure compared to the social sector or other capital assets (Lewis, 2013).

In this study, there are two main reasons to explore the implementation of Affirmation DAK transfer funds in Indonesia. First, the economy in the recipient areas in the 2011-2018 period, if viewed by island, shows a significant difference between the western region, which is developed and the eastern region, which is underdeveloped or less developed. Second, there is no research on the effect of region-based transfer fund policies on regional economies in Indonesia, namely the Affirmation DAK transfer funds.

The government implements a regional transfer fund policy that can increase local government revenue, which is then used to improve infrastructure and public services. The effect of the DAK affirmation policy is not yet known whether it will have a positive, negative or unrelated effect on the regional economy. This study will identify whether Affirmation DAK has effect on local government economy. It should be noted how the receiving area which is a region with characteristics of disadvantaged areas, border areas, outermost islands and transmigration areas can support the distribution of services and encourage accelerated development in the area so that the area can reach the minimum target of providing infrastructure and basic services of the region. If the region only receives an Affirmation DAK which is around 0.7% of equalization fund or 4.61% of total DAK, how does this affect the regional economy in Indonesia. The regional economy referred to in this study is seen through indicators of regional income per capita and fund transfers Affirmations DAK. In addition, other factors that influence the regional economy also become a control variable in this study, including population, population density, labor, education level as measured by the average length of school, population density, and other transfer funds received regions.

The theoretical framework in this study is built on the theory of transfer funds which states that the existence of Affirmation DAK from the central government to local governments will have a higher income effect so that the provision of public goods will increase. This Affirmation DAK then becomes one of the functions of regional government spending, namely capital expenditure on infrastructure infrastructure and basic services in the region. Compared to general DAU transfer funds, DAK special transfer funds have a greater impact on regional government spending (Lewis, 2013).

The transfer funds received by local governments, will channel to government expenditure. Thus, by theory, adequate additional transfer fund will affect output expansion, referring to public goods provision, in the form of infrastructure and basic services in each region. This public goods provision, can be utilized by the community or the community in neighboring districts/ cities which can increase economic activity in each region, reflecting an improved social welfare. This is supported by the production efficiency theory on the production possibility curve and social welfare. The provision of public goods by the government aims to maximize welfare and the economy in each region. One of the policies are transfer funds through regional government spending, so that by increasing public services, the welfare and economic activity in an area can increase.

This research will identify relationship between this Affirmation DAK on regional economies in Indonesia, whether the implementation of the Affirmation DAK policy can support equal distribution of infrastructure and basic services and ultimately accelerate development in areas receiving Affirmation DAK.

## METHOD

The econometrics model that will be used to see the effect of the management and use of Affirmation DAK on GRDP per capita, with variables including capital capital/ investment (measured from transfer funds to local revenue), the amount of labor, population growth, and the quality of human capital/ human capital (as measured by the average length of school), and population density.

The scope of this research covers all regencies/ municipalities in Indonesia without DKI Jakarta province, where 17 municipalities that undergo expansion will be returned to the parent regency so that the total regencies/ municipalities are 491 regencies/ municipalities, consisting of 239 Affirmation DAK recipient local governments and 252 non-recipient Affirmation DAK local governments. Period of 2011-2014 is the year before the Affirmation DAK policy adopted, and 2015-2018 when the Affirmation DAK policy has been implemented.

Equation 1 will be applied to 491 regencies/ municipalities which are a combination of receiving and non-receiving Affirmation DAK local governments. In this study robustness check will be conducted to see the effect on the recipient area of 239 regencies/ municipalities (sub sample) with the same equation.

$$GRDPcap_{it} = \alpha_0 + \alpha_1 AFFIRMATION_{it-1} + \alpha_2 LABOR_{it} + \alpha_3 MYS_{it} + + \alpha_4 POPGROWTH_{it} + \alpha_5 DENSITY_{it} + \alpha_6 DBH_{it-1} + \alpha_7 DAU_{it-1} + \alpha_8 DAK_{it-1} + \alpha_9 OTSUS_{it-1} + \beta_0 Dyear\_island_{it} + \beta_1 Dyear_t + \varepsilon_{it} \quad (1)$$

Where $\alpha_0$ is a intercept which is the level Gross regional domestic product per capita (GDIDR per capita) when there is no change by others factors. $\alpha_1$ is a coefficient estimator of the main variable Affirmation DAK realization (AFFIRMATION). $\alpha_2 - \alpha_8$ are respectively estimator of each (other) control variable in regency/ municipality $i$ in year $t$. These control variables include labor (LABOR), Average length of study/ Mean Year School (MYS); Population growth rate (POPGROWTH); Revenue Sharing Funds realization (DBH); General Allocation Fund realization (DAU); Special Allocation Fund realization minus Affirmation DAK (DAK); Adjustment Fund and Special Autonomy realization (OTSUS). $\beta_0 - \beta_1$ is a constant dummy variable including year island dummy; and year dummy. $\varepsilon_{it}$ is an error value.

Then to find out the double difference, which is to see the effect of Affirmation DAK before and after the Affirmation DAK in the recipient and non-recipient regions, especially those with the same GRDP characteristics in 323 regencies/ municipalities with 96 regencies/ municipalities and 227 non-recipient regencies/ municipalities. The estimation that uses double difference is as follows in equation 2.

$$GDRPcap_{it} = \alpha_0 + \alpha_1 LABOR_{it} + \alpha_2 MYS_{it} + \alpha_3 POPGROWTH_{it} + \alpha_4 DENSITY_{it} + \alpha_5 DBH_{it-1} + \alpha_6 DAU_{it-1} + \alpha_7 DAK_{it-1} + \alpha_8 OTSUS_{it-1} + \beta_0 Dummy\_recipient\_regions_i + \beta_1 Dummy\_time\_policy_t + \beta_2 Dummy\_recipient\_regions_i * Dummy\_time\_policy_t + \beta_3 Dummy\_year\_island_{it} + \beta_4 Dummy\_year_t + \varepsilon_{it} \quad (2)$$

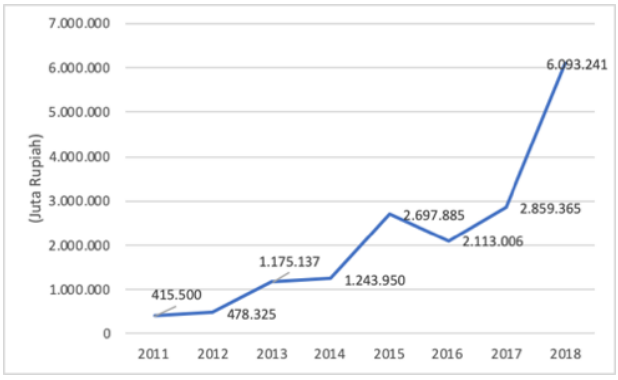
Where $\alpha_0$ is a intercept which is the level Gross regional domestic product per capita (GDIDR per capita). $\alpha_1 - \alpha_8$ are respectively estimator of each (other) control variable in regency/ municipality $i$ in year $t$ to get better estimation. Varible control in this equation including labor (LABOR), Average length of study/ Mean Year School (MYS); Population growth rate (POPGROWTH); Revenue Sharing Funds realization (DBH); General Allocation

Fund realization (DAU); Special Allocation Fund realization minus Affirmation DAK (DAK); Adjustment Fund and Special Autonomy realization (OTSUS). $\beta_0 - \beta_4$ is a constant every dummy variable including dummy recipient regions of Affirmation DAK (0 for non-recipient regions; 1 for recipient regions 4 times in 2015-2018); dummy of Affirmation DAK time policy (0 for 2011-2014; 1 for 2015-2018); interaction dummy between recipient regions dummy and time policy dummy; year island dummy; and year dummy to capture time-variant fixed effect. $\varepsilon_{it}$ is an error value.

The data used in this study is sourced from the publication of the Central Statistics Agency (BPS) and the Indonesia Database for Policy and Economic Research (INDODAPOER), covering the Regional Review of regencies/ municipalities to obtain regencies/ municipalities GRDP at constant prices; Provincial Publication in Figures to obtain population, total workforce, and Human Development Index (HDI) to obtain average length of schooling. Financial data in the form of realization of Affirmations DAK, DBH, DAU, DAK, and OTSUS, were obtained from the Directorate General of Fiscal Balance of the Ministry of Finance.

Based on PMK No. 48/PMK.07/2016 concerning Management of Transfers to Regions and Village Funds (TKDD), DAK is divided into physical and non-physical DAK, then physical DAK is divided into 3 (three) parts, namely regular DAK, assignment DAK, and Affirmation DAK. Affirmation DAK is an application of place-based policy, where the puIDRose of giving Affirmation DAK is to help accelerate the development of infrastructure and basic services in priority locations, namely in areas with disadvantaged areas, border areas, outer islands and transmigration areas. Prior to the Affirmation DAK policy, in 2011-2014 there were certain regional-based policies, namely the DAK for the Disadvantaged Areas Infrastructure and Border Area Infrastructure Facilities. Then in 2015, the DAK Affirmation policy became part of the DAK called "additional Affirmations DAK ". Then in 2016, Affirmations DAK are in the regional financial posture and become part of the physical DAK.

Affirmation DAK budget has increased since it was implemented in 2015. Initially the Affirmation DAK budget was IDR 2.8 trillion in 2015, IDR 2.6 trillion in 2016, then increased to IDR 2.8 trillion in 2017, and in 2018 increased significantly to IDR 6.6 trillion.




*Source*: Ministry of Finance, 2019 (processed)

**Figure 6.** Realization of DAK in infrastructure Facilities for Disadvantaged Regions and Border Areas in 2011-2014 and Affirmation DAK in 2015-2018

Affirmation DAK consists of 6 (six) fields, namely education; health; drinking water; sanitation; housing and settlements; and transportation. The determination of priority areas and Affirmation DAK locations varies each year because they refer to the Government Work Plan (RKP). The eligibility criteria for Affirmation DAK are local governments that are categorized as disadvantaged areas, border areas, outer small islands that are inhabited, and transmigration areas in Indonesia. Local governments receiving Affirmation DAK in 2015-2018 are 239 regencies/ municipalities. There is a difference in the frequency of Affirmation DAK allocation among recipient local governments across each year as it refers to the RKP.

**Table 1.** Affirmation Special Allocation Fund 2015-2018

| | Recipient Regions of Affirmation DAK | 2015 | 2016 | 2017 | 2018 |
|---|---|---|---|---|---|
| **1.** | Recipient Regions | 194 | 172 | 169 | 171 |
| **2.** | Non-recipient Regions | 45 | 67 | 70 | 68 |
| Total | | **239** | **239** | **239** | **239** |

Source: Ministry of Finance, 2019 (processed)

In 2015-2018, local governments that received 1 time were 61 regencies/ municipalities, local governments that received 2 times were 24 regencies/ municipalities, regions that received 3 times were 17 regencies/ municipalities, and local governments that received 4 times as many as 137 regencies/ municipalities.

The statistical description of the variables in this study will shown in Table 2 which describes variations in the value of regional economic variables that originate from per capita GRDP at constant prices (GRDP); regional transfer funds consisting of Affirmations DAK (AFFIRMATION), Revenue Sharing Funds (DBH), General Allocation Funds (DAU), Special Allocation Funds (DAK), Adjustment Funds and Special Autonomy (OTSUS); labor seen from the number of workers (LABOR); population seen from population growth (POPGROWTH) and population density (DENSITY); and human capital as seen from the average length of schooling (MYS).

**Table 2.** Statistic Descriptive

| Variable | Regions | Obser-vation | Mean | Standard Deviation | Min | Max |
|---|---|---|---|---|---|---|
| GRDPcap (IDR Million/ person) | Recipient | 1,666 | 30.94 | 43.88 | 3.27 | 385.40 |
| | Non-recipient | 1,759 | 33.86 | 30.79 | 2.73 | 299.98 |
| AFFIRMATION (IDR Million) | Recipient | 1,666 | 4,581.22 | 9,070.60 | 0.00 | 124,109.60 |
| | Non-recipient | 1,759 | 0 | 0 | 0 | 0 |
| DAK (IDR Million) | Recipient | 1,666 | 99,716.99 | 76,439.64 | 0.00 | 505,214.40 |
| | Non-recipient | 1,759 | 100,365.20 | 104,822.20 | 0.00 | 665,664.00 |
| DBH (IDR Million) | Recipient | 1,666 | 114,378.00 | 279,912.60 | 0.00 | 3,335,178.00 |
| | Non-recipient | 1,759 | 151,399.10 | 358,548.80 | 0.00 | 5,275,758.00 |
| DAU (IDR Million) | Recipient | 1,666 | 514,789.20 | 213,999.00 | 0.00 | 2,141,776.00 |
| | Non-recipient | 1,759 | 670,554.90 | 319,524.80 | 0.00 | 2,163,439.00 |
| OTSUS (IDR Million) | Recipient | 1,666 | 85,540.16 | 75,784.37 | 0.00 | 637,140.10 |
| | Non-recipient | 1,759 | 130,103.2 | 111,061.50 | 0.00 | 715,262.60 |

| | | | | | | |
|---|---|---|---|---|---|---|
| LABOR (person) | Recipient | 1,666 | 122,962.90 | 128,285.90 | 4,793.00 | 1,044,137.00 |
| | Non-recipient | 1,759 | 331,343.80 | 314,939.50 | 6,845.00 | 2,356,875.00 |
| POPGROWTH (%) | Recipient | 1,666 | 1.64 | 1.00 | -4.89 | 7.72 |
| | Non-recipient | 1,759 | 1.26 | 0.94 | -1.23 | 7.46 |
| DENSITY (person/ km²) | Recipient | 1,666 | 139.89 | 311,18 | 0.64 | 2,734.99 |
| | Non-recipient | 1,759 | 1,658.80 | 2,744.91 | 3.67 | 15,306.82 |
| MYS (year) | Recipient | 1,666 | 7.24 | 1.68 | 0.49 | 11.66 |
| | Non-recipient | 1,759 | 8.27 | 1.52 | 4.48 | 12.60 |

*Source*: Data Processed, 2019

## RESULTS AND DISCUSSION

The relationship between GRDP per capita with Affirmation DAK shows the pattern of distribution or allocation pattern of Affirmation DAK where regions that have low GRDP per capita tend to get Affirmation DAK. This indicates that there is bias, because regions with high GRDP per capita also receive Affirmations DAK. If grouped by island, specifically for the islands of Sumatra, Kalimantan, and Papua, there are several regions with high GRDP per capita which also receive the Affirmation DAK. The high GRDP value per capita is suspected because the area has a low population, so the value of GRDP per capita is high, or these areas get Revenue Sharing Funds (DBH) for Kalimantan Island and the Special Autonomy Fund in the Provinces of Aceh, Papua and West Papua which certainly can increase revenue from each region, so that for DBH and the special autonomy fund will be used as a control variable in addition to other funds also received by the regencies/ municipalities, namely the General Allocation Fund (DAU), and the Special Physical Allocation Fund (after deducting Affirmation DAK).

The best model with fixed effect estimation in this study is shown in Model 1 in Table 3. Comparison of research results and with robustness check on two sub sample, namely 1) sub sample 239 regencies/ municipalities receiving Affirmations DAK; and 2) sub samples in 323 regencies/ municipalities that have the same GRDP per capita characteristics consisting of 96 recipient regencies/ municipalities continuously in the period of 2015-2018 (receiving 4 times) and 227 regencies/ municipalities of non-recipient regions.

The estimation results of sub-sample recipient areas in Table 3 show that the first lag affirmation DAK is still consistent with the previous model, namely the first lag affirmation DAK variable is negative although not significant. Furthermore, a robustness check is carried out on a sub-sample of districts/ cities that have the same characteristics, which is to see the effect of affirmative DAK before and after the existence of affirmative DAK in recipient and non-receiving areas (double difference), especially in areas having the same per capita GRDP characteristics. To this estimate, the recipient area dummy is added continuously, the time policy dummy, and the interaction dummy between the receiving area dummy and the time policy dummy. The estimation results in Table 4 also show consistent results where the

affirmation DAK interest variable on the interaction dummy of the recipient area and the time policy dummy shows a negative and significant sign.

**Table 3.** Results of Estimated Full Samples and Sub Samples (Robustness Check)

Dependent Variable: GRDPcapita

| Variable | (Model 1) FE | (Model 2) FE | (Model 3) FE |
|---|---|---|---|
| AFFIRMATION_L1 | **-0.000028**** | -0.000028 | |
| | (0.000014) | (0.000018) | |
| DBH_L1 | **0.000006***** | **0.000004***** | **0.000004***** |
| | (0.000001) | (0.000001) | (0.000001) |
| DAU_L1 | **0.000005***** | **0.000005**** | **0.000004***** |
| | (0.000001) | (0.000002) | (0.000001) |
| DAK_L1 | -0.000001 | **0.000007**** | **-0.000003***** |
| | (0.000002) | (0.000003) | (0.000001) |
| OTSUS_L1 | **-0.000004***** | 0.000000 | **-0.000003***** |
| | (0.000001) | (0.000002) | (0.000001) |
| POPGROWTH | **-0.272862**** | **-0.329215*** | -0.022846 |
| | (0.132220) | (0.182307) | (0.085169) |
| DENSITY | **0.002644***** | 0.011830 | **0.002316***** |
| | (0.001017) | (0.009866) | (0.000471) |
| LABOR | -0.000004 | 0.000003 | **-0.000006**** |
| | (0.000004) | (0.000012) | (0.000002) |
| MYR | 0.740010 | **2.006725***** | 0.005313 |
| | (0.500009) | (0.773257) | (0.273775) |
| Dummy_recipient_regions | | | -0.460701 |
| | | | (0.314074) |
| Dummy_timepolicy | | | **8.348290***** |
| | | | (0.584663) |
| Dummy_recipient_regions* dummy_time_policy | | | **-0.760593***** |
| | | | (0.288017) |
| Constant | **17.966344***** | 7.645901 | **17.462616***** |
| | (3.990792) | (5.968304) | (2.238888) |
| N | 3425 | 1666 | 2251 |
| R-squared | 0.331074 | 0.249652 | 0.707699 |
| Adj R-squared | 0.205549 | 0.092057 | 0.649426 |
| Dummy_year | yes | yes | Yes |
| Dummy_year_island | yes | yes | Yes |
| Regions | 491 (Recipient & Non-recipient ) | 239 (Recipient) | 323 (Recipient & Non-recipient with the same characteristic) |

Number in parentheses are Standard Error (SE)

*** = level of significance 1%, ** = level of significance 5%, * = level of significance 10%.

*Source*: Regression results, 2019

**Table 4.** Results of Estimated Robustness Check The Affirmation Special Allocation Fund and Regional Economic in Indonesia with the same characteristics

Dependent Variable: GRDPcapita

| Variable | (Model 4) FE | (Model 4a) FE | (Model 4b) FE |
|---|---|---|---|
| AFFIRMATION_L1 | | -0.000013 | |
| | | (0.000008) | |
| DBH_L1 | **0.000004***** | **-0.000006***** | **0.000005***** |
| | (0.000001) | (0.000002) | (0.000001) |
| DAU_L1 | **0.000004***** | **0.000004***** | **0.000004***** |
| | (0.000001) | (0.000001) | (0.000001) |
| DAK_L1 | **-0.000003***** | 0.000001 | **-0.000005***** |
| | (0.000001) | (0.000001) | (0.000001) |
| OTSUS_L1 | **-0.000003***** | 0.000002 | **-0.000004***** |
| | (0.000001) | (0.000001) | (0.000001) |
| POPGROWTH | -0.022846 | -0.101193 | -0.037113 |
| | (0.085169) | (0.087342) | (0.110258) |
| DENSITY | **0.002316***** | -0.012024 | **0.002039***** |
| | (0.000471) | (0.041281) | (0.000433) |
| LABOR | **-0.000006**** | 0.000012 | **-0.000006***** |
| | (0.000002) | (0.000008) | (0.000002) |
| MYR | 0.005313 | 0.841106 | -0.356462 |
| | (0.273775) | (0.600701) | (0.319476) |
| Dummy_recipient_regions | -0.460701 | | |
| | (0.314074) | | |
| Dummy_timepolicy | **8.348290***** | | |
| | (0.584663) | | |
| Dummy_recipient_regions* | **-0.760593***** | | |
| dummy_time_policy | (0.288017) | | |
| Constant | **17.462616***** | **13.430201**** | **19.723831***** |
| | (2.238888) | (5.288571) | (3.100114) |
| N | 2251 | 383 | 1584 |
| R-squared | 0.707699 | 0.663494 | 0.769206 |
| Adj R-squared | 0.649426 | 0.499824 | 0.721958 |
| Dummy_year | yes | yes | yes |
| Dummy_year_island | yes | yes | yes |
| Regions | 323 (Recipient & Non-recipient) | 96 (Recipient continuously) | 227 (Non-recipient) |

Number in parentheses are Standard Error (SE)

*** = level of significance 1%, ** = level of significance 5%, * = level of significance 10%.

*Source*: Regression results, 2019

The results of this study indicate that Affirmation DAK first lag has not had a positive influence on the dependent variable namely GDP per capita. The estimation results have not been able to capture the effect of reliable optimistic from Affirmation DAK, because the number of recipient regions (treatment groups) and non-recipients (control groups) is indeed not equal, especially for non-recipient regions that on average have a higher GRDP per capita than the regions receiver. In addition, also because the receiving area is relatively less than the non-receiving area.

The effect of Affirmation DAK in 239 regencies/ municipalities of the receiving regions (sub sample) shows that the first lag Affirmation DAK also has not had a positive effect on GRDP per capita. These results indicate that the influence of the Affirmation DAK, especially in the area of the Affirmation DAK recipient, has not shown promising results on GRDP per capita. In these recipient regions, effective transfer funds affecting the regional economy through GRDP per capita are DBH, DAU, and DAK. This may be due to the relatively large contribution of DAU and DBH to regional revenues when compared to DAK and the special autonomy and adjustment funds. The low average contribution of the Affirmation DAK in the receiving region to the regional revenue of around 1.21% is thought to be the cause of the impact of the very small Affirmation DAK on the GRDP per capita.

Other causes allegedly due to Affirmation DAK activities include the construction of basic infrastructure/ services that tend to provide a low multiplier, for example in the field of education in the form of construction of official homes for elementary and junior high school teachers; and the health sector in the form of providing health facilities and infrastructures and medical devices. Regarding the housing and settlement sector, sanitation and drinking water sector, the majority of activities are on the settlement/ local scale in the form of the construction of livable homes and improving the quality of houses equipped with environmental roads, domestic wastewater management systems and the construction of drinking water supply systems. The same thing also happened in the transportation sector where Affirmation DAK was allocated for the procurement of transportation modes, inter-village connecting roads, community docks, boat moorings and suspension bridge construction/ renovation.

This study is also to determine the effect of Affirmations DAK before and after the application of the Affirmation DAK policy between recipient and non-recipient regions (double difference) applied to regencies/ municipalities that have similarities in per capita GRDP between IDR 9.39 million/ person - IDR 47.71 million/ person in 323 regencies/ municipalities (sub-sample), namely 96 regencies/ municipalities that have been receiving 4 years continuously (2015-2018) and 252 regencies/ municipalities of non-receiving Affirmations DAK (Table 4). When compared between the recipient regions in a row in 2015-2018 and the non-recipient regions, the recipient regions were regions with an average GRDP per capita lower than non-recipient regions. Therefore, it is natural for the recipient region to receive an additional Affirmation DAK transfer fund. From this study it is also known that all regions in Indonesia, both recipient and non-recipient regions compared to the period before and after the DAK Affirmation policy, experienced an increase in GRDP per capita of IDR 8.34 million/ person because this is also an increase in the economy each year.

Giving Affirmation DAK in the receiving area shows that the Affirmation DAK is not sufficient to accelerate the equitable distribution of infrastructure and basic services in the region

because there are indications that the average impact of the Affirmation DAK in the receiving area is still lower than the non-receiving area. So it can be said that the change in GRDP per capita of the receiving region when compared to the change in GRDP per capita of non-recipient regions shows a significant difference (still lagging) even though it has received additional Affirmation DAK funds for 4 (four) years. This is allegedly due to the small Affirmation DAK budget allocation, although the recipient regions received successive Affirmation DAK during 2015-2018 had a small impact on the regional GRDP per capita.

The impact of the administration of Affirmations DAK still leaves behind the GRDP per capita of IDR 760,593/ person. This also shows that if the recipient regions does not receive an Affirmation DAK, the underdeveloped receiving area will be even higher than the non-recipient area, for example, it can reach IDR 1,000,000/ person up to IDR 2,000,000/ person. The results of this study also show that the impact of giving Affirmation DAK is very small on the recipient area, so the position of the area of the Affirmation DAK recipient is still included in the lagging region category.

Problems in the allocation and management of Affirmation DAK also hampered the implementation, including the discrepancy in the use of funds with regional needs in 2015 where DAK allocations are still top-down. Then in 2016 the DAK allocation was based on a proposal that is the allocation of DAK based on proposals from their respective regions that referred to the interests of the central government (national priority), where this was possible by the regional government as well not knowing the priority needs in accordance with the intended use of the Affirmation DAK funds. Other causes are DAK recipient areas This affirmation is lagging areas, border areas, outermost islands and transmigration areas that have certain conditions that hinder the process of equitable distribution of infrastructure and basic services in receiving areas, including low quality human resources, availability of basic services minimal, limited natural resources, and so on.

## CONCLUSION

Our findings show there is not yet effect of Affirmation DAK on local government economic development, representing by GRDP per capita indicator. Our estimation models have not been able to capture existence of association between Affirmation DAK and region per capita, plausibly due to allocation size that is relatively small, and a relatively infrequent allocation of Affirmation DAK to the targeted local governments.

The effect of Affirmation DAK on the receiving area shows that the receiving area is an area with an average GRDP per capita lower than non-receiving regions. All regions in Indonesia, both receiving and non-receiving regions, compared to the period before and after Affirmation DAK policy, experienced an increase in GRDP per capita of IDR 8.34 million/person, this was also due to an increase in the regional economy each year.

Affirmation DAK is still not sufficient to accelerate the equitable distribution of infrastructure and basic services in the region, as average GDIDR per capita of local governments receiving Affirmation DAK is still lower than the non-receiving area after the policy of Affirmation DAK is adopted. In other words, a significant lower GRDP per capita of recipient local governments compared to GRDP per capita of non-recipient local governments show that despite Affirmation DAK allocation in the 2015-2018 period, these recipient local governments are still lagging behind. GRDP per capita of Affirmation DAK recipient local governments per capita is on annual average IDR 760,593

person lower than their counteIDRart local governments.

These findings can also be refuted, given that Affirmation DAK is a new policy. Yet, even it is a new policy, it is still worthwhile to assess the likely impact or local government response that may occur due to implementation of this policy. Apart from Affirmation DAK policy, our study view that economic agglomeration and related urbanization that occur may play role on exercising economies scale and driving development of local economy. There is positive significant effect of density and local government GRDP per capita, as shown in Table 3 estimation model 1 and model 3, while it seems that within the sample of Affirmation DAK local governments urbanization seem not really occurring.

The results of this study have implications for 2 (two) government policy choices on Affirmation DAK policy, namely (1) increasing Affirmation DAK pool fund for disadvantaged areas, border areas, outer islands, and transmigration areas, starting with performed local governments. The data shows the average Affirmation DAK allocation to local government revenues revenues is relatively small, around 1.21%, indicating that Affirmation DAK may have very little impact especially on local economy; or (2) recombining Affirmation DAK to physical DAK in order to scale-up programs, emphasizing a place based policy, especially for infrastructure and basic services in certain regions.

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