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The Impact of Fiscal Equalization Funds on Regional Key Economic Sectors in Indonesia

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Abstract

This study aims to analyze the impact of the Special Allocation Fund (DAK), the General Allocation Fund (DAU), and the Revenue Sharing Fund (DBH) on the output of regional flagship sectors in 508 regencies and cities in Indonesia in 2015 and 2024. This explanatory quantitative study uses secondary data and separate ordinary least squares (OLS) regression models for each year, corrected with the Huber White Hinkley (HC1) standard error. The study identifies leading sectors based on a Location Quotient (LQ > 1), using the Human Development Index (IPM), investment, and labor force serving as control variables. The results show that in 2015, only DBH had a positive and significant effect, whereas in 2024, all three components had positive and significant effects, with the highest elasticity observed for DAU (0.794). The novelty of this study lies in the separation of the effects of each fiscal equalization fund component on the output of LQ based leading sectors and the comparison of these effects across years.

Keywords: equalization funds, key sectors, fiscal decentralization, Location Quotient, OLS regression

INTRODUCTION

Key sectors are one of the main drivers of regional economic growth in Indonesia because they generate added value and contribute directly to the Regional Gross Domestic Product (RGDP). Andayani et al. (2021) define key sectors as sectors that have a competitive advantage over other sectors and thus play a major role in regional economic growth, employment, and the utilization of local resources.

High growth sectors need to be prioritized because they have the potential to drive other, slower growing sectors (Marasabessy et al., 2021). However, differences in resource potential mean that each region has its own distinct leading sectors, therefore, identifying these leading sectors is a crucial foundation for appropriate and sustainable

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regional development policies (Isyanto et al., 2018). Regional Gross Domestic Product (PDRB) is a macroeconomic indicator frequently used to assess regional development achievements and determine policy directions for the next period (Soeyatno, 2018).

Data from the Central Statistics Agency (BPS) show that the GRDP at constant prices for all provinces in Indonesia increased during the 2015–2024 period, but the rate of growth varied significantly. Central Sulawesi and North Maluku grew the fastest, while West Nusa Tenggara and Riau grew relatively slowly. High growth does not automatically mean that all sectors are developing evenly, as it can be driven by a single dominant sector such as mining or manufacturing. Nor can this growth be directly attributed to fiscal equalization funds, as it is influenced by economic structure, investment, the quality of human resources, and the labor force. Therefore, the impact of fiscal equalization funds needs to be empirically tested on the output of leading sectors specifically, the total GRDP of the base sectors (LQ > 1) at the regency/city level.

Decentralization is a common component of development strategies in developing countries, namely the delegation of authority and responsibility for the administration of government affairs from the central government to local governments. Khairi (2021) emphasizes that the delegation of authority must be supported by adequate revenue sources so that local governments can carry out their duties. Decentralization encompasses fiscal, administrative, and political dimensions applied across interconnected levels of government (Martinez Vazquez et al., 2017). Mechanisms for transferring funds to local governments are maintained to reduce both horizontal imbalances among regions and vertical imbalances between the central government and local governments (Sudhipongpracha & Wongpredee, 2017). After more than two decades of fiscal decentralization, local governments in Indonesia remain heavily dependent on central government transfers approximately 50 percent of provincial budgets and more than 50 percent of regency and municipal budgets come from transfer funds (Alvaro, 2022).

Equalization funds consist of the Special Allocation Fund (DAK), the General Allocation Fund (DAU), and the Revenue Sharing Fund (DBH), each with distinct characteristics. The DAK is sourced from the State Budget (APBN) and allocated to regions to fund specific regional government activities in accordance with national priorities (Ministry of Finance of the Republic of Indonesia, 2021). DAU supports the funding of regional governance and public services (Rasyid, 2018), while DBH is allocated based on the “by origin” principle, so that resource producing regions receive a larger share (Mulyati & Yusriadi, 2018). These differences in function allow each component to influence the output of key sectors in distinct ways.

The primary literature on equalization funds generally focuses on regional economic growth. Anggono (2020) found that DAK and DAU have a positive and

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significant effect on regional economic growth in Indonesia. Sulaeman and Silvia (2019), who studied regencies and cities from 2013 to 2017, found that DAU and DBH had a positive effect, while DAK had no significant effect. Hanifah and Sulaeman (2022) found that DAU and DBH had a positive effect, but DAK had a negative effect on regional gross domestic product (PDRB). On a narrower scale, Mukiwihando (2020) found that the agricultural DAK had a positive effect on agricultural sector growth in regencies and cities in East Java, and Nugraha et al. (2026) found that DAU had a positive effect while DAK was not significant in regencies and cities in Bali Province.

These findings have not been consistent, particularly regarding the DAK, and most studies use aggregate economic growth or focus on only one sector or region. To the best of the author's knowledge, no study has yet examined the impact of all three components of the fiscal equalization fund on the output of key sectors as empirically determined through Location Quotient (LQ) analysis across all regencies and cities in Indonesia, especially in a year over year comparison. Although fiscal equalization fund policies have evolved from 2015 to 2024 both in terms of magnitude and function the impact of each component on key sectors may change. Therefore, it is important to conduct research that can provide a deeper understanding of the effectiveness of fiscal decentralization in promoting equitable development and regional economic growth based on key sectors.

Output in key sectors is determined not only by fiscal policy but also by regional structural factors. Investment, which in this study is measured by Gross Fixed Capital Formation (GFCF), reflects the availability of capital, GFCF includes expenditures on capital goods with a useful life of more than one year, such as buildings, roads, airports, as well as machinery and equipment (Central Statistics Agency of the Bangka Belitung Islands Province, 2018). The quality of human resources, as reflected in the Human Development Index (IPM) which encompasses the dimensions of education, health, and standard of living is linked to productivity (Hanifah & Sulaeman, 2022). The labor force enables the production process to take place. Husen et al. (2024) found that the labor force has a significant impact on the economic growth of regencies and cities in Jambi Province. All three were included as control variables.

Based on this gap, this study aims to analyze the effects of DAK, DAU, and DBH both individually and simultaneously on the output of key sectors in 508 regencies and cities in Indonesia in 2015 and 2024, as well as to compare changes in these effects over the years. This study offers three novelties and contributions: (1) it uses LQ based output of key sectors as the dependent variable, rather than aggregate economic growth, (2) it distinguishes the effects of the three components of fiscal equalization funds, and (3) it compares two time points, thereby providing empirical evidence to guide fiscal transfers to key sectors in the fields of public economics and regional development.

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LITERATURE REVIEW

Fiscal Decentralization and Equalization Funds

The theory of fiscal federalism holds that local governments are more efficient in providing public services because they have a better understanding of the conditions and needs of the local community (Oates, 1999). The principle of subsidiarity assigns public tasks to the lowest level of government capable of carrying them out, with fiscal transfers from the central government serving as a mechanism to address vertical and horizontal imbalances. Ningsih et al. (2023) state that transfer mechanisms in fiscal decentralization strengthen local autonomy because they grant fiscal authority along with responsibility for public services and regional development.

Law No. 33 of 2004 defines equalization funds as funds derived from the state budget (APBN) and allocated to local governments to finance local needs in the context of decentralization, consisting of DAK, DAU, and DBH (Republic of Indonesia, 2004). The main objective is to reduce fiscal disparities between the central government and local governments as well as among local governments and to enhance local governments' capacity to develop their economic potential (Chandra et al., 2017).

DAK is a transfer allocated to specific regions to fund specific programs or activities, particularly basic service facilities and infrastructure such as education, health, and infrastructure, while aligning regional development with national priorities. Theoretically, DAK in specific sectors can serve as a stimulus for public investment in sectors with comparative and competitive advantages through backward and forward linkages. DAU functions as an equalization grant that levels the playing field in terms of financial capacity among regions, as a block grant, its use is determined by the region, and its effectiveness depends on the quality of spending specifically, how productive the spending is on the basic infrastructure, health, education, and government administration it funds. DBH is derived from tax revenues and natural resources and is allocated according to a specific percentage based on the "by origin" principle, so that resource producing regions receive a larger share (Mulyati & Yusriadi, 2018).

Key Sectors and Growth Theory

The Solow (1956) neoclassical growth model describes output as a function of physical capital, labor, and labor productivity:

$$Y(t) = F(K(t), A(t)L(t)) \quad (1)$$

Where Y is output, K is physical capital, L is labor, A is labor productivity, and t is time. In this study, output is not measured at the aggregate level but focuses on the output of the region's leading sectors as a representation of regional output. Capital also comes

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not only from private investment but also from public investment funded by the government budget. Equalization funds (DAK, DAU, DBH) are therefore positioned as regional public capital that increases production capacity, including in key sectors, while the Human Development Index (IPM) and the labor force size reflect the quality and quantity of labor inputs, respectively.

From an economic structural perspective, Hirschman's (1958) theory of unbalanced growth states that growth can be accelerated through the development of leading sectors that have strong linkages with other sectors. Backward linkages drive upstream sectors such as fuel suppliers while forward linkages drive downstream sectors like manufacturing and distribution, thereby creating a multiplier effect for the broader economy. Leading sectors are typically identified through LQ analysis, shift-share analysis, and Klassen's typology. Devi and Darsana (2019) identified agriculture, the manufacturing sector, and other services as leading sectors in Bangli Regency, Utomo and Wulandari (2021) identified leading sectors in the southern region of East Java using LQ analysis, shift share analysis, and Klassen's typology, and Hasyadi et al. (2023) demonstrated that leading sectors can be identified based on regional characteristics, growth, and competitiveness. In this study, the output of leading sectors is defined as production output in sectors identified as leading (LQ > 1), while equalization funds are considered one of the fiscal factors that could potentially influence it.

Previous Research

Research on fiscal transfers and regional economic performance has yielded mixed results. Anggono (2020) found that DAK and DAU had a positive and significant effect on regional economic growth in Indonesia. Sulaeman and Silvia (2019), in their study of regencies and cities from 2013 to 2017, found that DAU and DBH had a positive effect, while DAK had no significant effect. Hanifah and Sulaeman (2022) found that DAU, DBH, and the Human Development Index (IPM) had a positive and significant effect on regional gross domestic product (PDRB), while DAK had a negative effect. In Bali Province, Nugraha et al. (2026) found that local revenue and DAU had a positive and significant effect on economic growth, while DAK was not significant.

Previous research findings indicate that DAU and DBH tend to have a positive effect, while the effect of DAK varies, ranging from positive to insignificant to negative. Furthermore, previous studies generally used aggregate economic growth or growth from a single sector and have not examined the impact of equalization funds on the output of key sectors as determined by the LQ index across all regencies and cities in Indonesia. This study fills that gap by using the Human Development Index (IPM), investment, and labor as control variables.

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RESEARCH METHODOLOGY

Research Approach

This study employs a quantitative approach with an explanatory design. The quantitative approach was chosen because the study aims to measure the extent of the impact of equalization funds (DAK, DAU, DBH) on the output of regional key sectors using numerical data and statistical analysis, while the explanatory design is used to explain the causal relationship between the independent and dependent variables.

Types of Research Data

The data used consists of secondary quantitative data in the form of cross-sectional data for regencies and cities at two points in time 2015 and 2024. Each year is analyzed as a separate dataset with 508 observations, without combining them into a panel dataset.

GRDP data at current prices by economic sector (at the regency/city and provincial levels), the Human Development Index (IPM), Gross Domestic Product per Capita (GDP per capita), and the labor force were obtained from the Central Statistics Agency (BPS). Data on the disbursement of the Special Allocation Fund (DAK), General Allocation Fund (DAU), and Revenue Sharing Fund (DBH) were obtained from the Directorate General of Fiscal Balance (DJPK). Official publications from relevant ministries and agencies were used to support information on regional fiscal conditions and key economic sectors.

This study uses secondary data, with regencies and cities in Indonesia as the units of analysis. Of the 514 regencies and cities, the DKI Jakarta region was excluded because it is a special autonomous region at the provincial level that does not receive equalization funds like other regencies and cities, thus, 508 regencies and cities remained, all of which were analyzed (census).

The research instrument consisted of documentation sheets (tables of secondary data) used to record the values of each variable by district/city and by year. Data analysis was conducted using EViews 13 software.

Data were collected using the documentation method, which involves compiling secondary data from official documents issued by BPS and DJPK. This technique is appropriate because the study relies on existing and verified statistical data.

Theoretical Framework and Operationalization of Variables

The theoretical framework of this study draws on three theories, the Solow neoclassical growth model, which treats equalization funds as public capital and the Human Development Index (IPM) and labor as production inputs, Oates's theory of fiscal federalism, which explains the role of fiscal transfers in decentralization, and Hirschman's

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theory of unbalanced growth, which explains the role of leading sectors through intersectoral linkages. The operationalization of the variables is presented in Table 1.

Table 1: Operational Definitions of Variables

Variable	Operational Definition	Measurement
Leading Sector Output (Y)	Total Gross Regional Domestic Product (GRDP) at constant prices of all sectors classified as leading sectors (LQ > 1) in each regency/municipality.	GRDP (billion rupiah), transformed using the natural logarithm (LOG_Y).
Special Allocation Fund (DAK)	Central government transfers to finance national priority activities in regions.	Realized DAK (rupiah), ln(DAK + 1) (LOG_DAK).
General Allocation Fund (DAU)	Central government transfers to equalize regional fiscal capacity.	Realized DAU (rupiah), ln(DAU + 1) (LOG_DAU).
Revenue Sharing Fund (DBH)	Transfers based on revenue sharing from taxes and natural resources.	Realized DBH (rupiah), ln(DBH + 1) (LOG_DBH).
Investment (INV)	Expenditure on capital goods with a useful life of more than one year in the region.	Gross Fixed Capital Formation (billion rupiah).
Human Development Index (IPM)	An indicator of the quality of human resources in the region.	Human Development Index (points).
Labor (TK)	Number of people employed in the region as a labor input.	Number of employed persons (people).

Source: BPS and DJPK, compiled by the author.

Data Analysis Techniques

The analysis was conducted separately for the 2015 and 2024 data through five stages. First, a descriptive analysis (mean, median, minimum, maximum, and standard deviation) was performed to describe the characteristics of the data. Second, an LQ analysis was conducted to identify the leading sectors in each regency/city:

$$LQ = (X_i / X_t) / (Y_i / Y_t) \quad (2)$$

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where Xi is the GRDP of economic sector i in the regency/city, Xt is the total GRDP of the regency/city, Yi is the GRDP of economic sector i at the provincial level, and Yt is the total GRDP of the province. Sectors with LQ > 1 are base sectors capable of meeting regional needs and generating a surplus for export, LQ = 1 indicates non base sectors that only meet their own needs, and LQ < 1 indicates non base sectors that require external supplies. Sectors with LQ > 1 are categorized as leading sectors, if there is more than one, the GRDP at current prices for these sectors is summed (in billions of rupiah) and then transformed into a natural logarithm as the dependent variable LOG_Y.

Third, multiple linear regression using Ordinary Least Squares (OLS), estimated twice for 2015 and 2024. The OLS method was chosen because the annual data consist of cross-sectional data with 508 observations. The model is:

$$LOG_Y_i = \beta_0 + \beta_1 LOG_DAK_i + \beta_2 LOG_DAU_i + \beta_3 LOG_DBH_i + \beta_4 IPM_i + \beta_5 INV_i + \beta_6 TK_i + \varepsilon_i \quad (3)$$

where i is the i-th regency/city, β0 is a constant, β1–β6 are regression coefficients, and εi is the error term. The variables Y, DAK, DAU, and DBH were transformed using the natural logarithm because they are large scale variables with a very wide range across regions. Some regencies/cities did not receive one of the equalization fund components, resulting in a value of zero, these values are substantively valid and do not represent missing data, so the transformation used ln(X + 1) to ensure that all observations could still be used.

Fourth, we tested the classical assumptions: normality of the residuals using the Jarque-Bera test (Jarque & Bera, 1987), multicollinearity using the Variance Inflation Factor (VIF < 10 indicates no serious multicollinearity), and heteroscedasticity using the White test. In a large sample (n = 508), the OLS estimator approximates a normal distribution based on the Central Limit Theorem, therefore, the t-test and F-test are still used even though the residuals are not perfectly normal. If heteroscedasticity is present, the model is re-estimated using the White heteroscedasticity consistent standard error (HC1, Huber White Hinkley) (White, 1980), which adjusts the standard error, t-statistic, and probabilities without changing the coefficients.

Fifth, hypothesis testing at a 5% significance level (α = 0.05) using the t-test (partial, H0 is rejected if the probability is < 0.05), an F-test for the model, as well as a Wald test for H4 with the restriction β1 = β2 = β3 = 0 (simultaneous), and the coefficient of determination (R^2) along with the adjusted R^2, which indicate the proportion of variation in the output of the leading sectors explained by the model.

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RESULTS

Descriptive Statistics

Table 2 presents descriptive statistics for all variables in 2015 and 2024 (n = 508 for each year).

Table 2: Descriptive statistics for the research variables

Variable	Mean	Median	Maximum	Minimum	Std. Dev.
Year 2015					
LOG_Y	9,2273	9,2136	13,5056	5,0078	1,3119
LOG_DAK	24,8372	25,2813	26,4007	0,0000	2,8327
LOG_DAU	26,9158	27,0505	28,4027	0,0000	2,1197
LOG_DBH	24,5694	24,3700	29,4038	22,6008	1,1233
IPM	67,0124	66,8984	84,7300	25,4700	6,8466
INV	5.760,7	2.550,3	112.059,5	22,9	10.897,3
TK	213.581	113.935	2.083.234	0	255.644
Year 2024					
LOG_Y	9,7739	9,7888	13,4225	5,7231	1,2504
LOG_DAK	26,1742	26,1606	28,0814	24,4821	0,5741
LOG_DAU	27,2291	27,1731	28,5523	26,3138	0,3909
LOG_DBH	24,8578	24,7770	29,5220	21,8829	1,4534
IPM	72,7523	72,7500	89,1000	38,8800	6,1179
INV	10.922,2	4.840,0	207.295,9	63,0	20.088,0
TK	269.544	149.440	2.651.716	81	316.309

Source: Data analyzed using EViews 13. INV (in billions of rupiah) and TK (in persons) are rounded.

The average output of key sectors (LOG_Y) increased from 9.2273 in 2015 to 9.7739 in 2024, and the average IPM rose from 67.01 to 72.75. Average investment increased from 5,760.7 to 10,922.2, and the average labor force rose from 213,581 to 269,544 people. Interregional variation across all variables was significant, as indicated by high standard deviations, particularly for INV and TK.

The distribution of equalization funds has changed significantly. In 2015, the minimum values for LOG_DAK and LOG_DAU were zero, indicating that some regencies

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and cities did not disburse these components, and the standard deviations were large (2.8327 and 2.1197). By 2024, all regions had realized DAK and DAU allocations, with a much narrower distribution (standard deviations of 0.5741 and 0.3909). The fact that the minimum TK value was zero in 2015 does not mean there were no employed residents, rather, data was not yet available for new autonomous regions resulting from administrative divisions that, in that year, had not yet become administrative units observed by the Central Statistics Agency (BPS).

Results of the Classical Assumptions Test

The Jarque-Bera test rejected the null hypothesis of normality of the residuals in both years (probability 0.0000 < 0.05). However, with 508 observations per model, the OLS estimator approximates a normal distribution according to the Central Limit Theorem, and the violation of normality does not introduce bias into the estimator, therefore, the t-test and F-test can still be used. All VIF values are below 10 (maximum 2.0625 in 2015 and 5.1283 for LOG_DAU in 2024), so there is no serious multicollinearity, although the VIFs for LOG_DAU and LOG_DAK in 2024 are relatively higher than those for other variables. The White test indicates heteroscedasticity in both years (probability 0.0000 < 0.05), so the regression estimates use HC1 standard errors.

Regression Estimate Results

Table 3 and Table 4 present the results of the OLS estimates with LOG_Y as the dependent variable and the standard error of HC1. The significance level used is 5%.

Table 3: Results of the 2015 OLS regression estimates

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1,275173	1,309393	0,973865	0,3306
LOG_DAK	−0,019192	0,026092	−0,735563	0,4623
LOG_DAU	0,029554	0,036209	0,816210	0,4148
LOG_DBH	0,172019	0,039456	4,359783	0,0000
IPM	0,040990	0,006519	6,287366	0,0000
INV	4,13E-05	9,12E-06	4,523908	0,0000
TK	1,98E-06	2,80E-07	7,066488	0,0000

Source: data analysis results using EViews 13.

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Table 4: Results of the OLS regression estimates for 2024

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	−30,22634	4,245296	−7,119960	0,0000
LOG_DAK	0,325253	0,133978	2,427649	0,0155
LOG_DAU	0,794362	0,220963	3,594998	0,0004
LOG_DBH	0,241953	0,025998	9,306735	0,0000
IPM	0,049171	0,006392	7,692522	0,0000
INV	1,87E-05	3,89E-06	4,813963	0,0000
TK	2,26E-07	2,17E-07	1,042459	0,2977

Source: data analysis results using EViews 13.

In 2015, only LOG_DBH (0.172019, p = 0.0000) among the fiscal equalization fund components had a positive and significant effect, while LOG_DAK (−0.019192, p = 0.4623) and LOG_DAU (0.029554, p = 0.4148) were not significant. The control variables IPM, INV, and TK had positive and significant effects (p = 0.0000). Since both the equalization funds and output are logarithmic, the coefficient for LOG_DBH implies that a 1% increase in DBH is followed by an increase in the output of the leading sector of approximately 0.172%. A one point increase in the IPM is followed by an increase in output of approximately 4.10%.

In 2024, all three components had a positive and significant effect: LOG_DAK (0.325253, p = 0.0155), LOG_DAU (0.794362, p = 0.0004), and LOG_DBH (0.241953, p = 0.0000). A 1% increase in DAK, DAU, and DBH, respectively, was followed by an increase in the output of the leading sectors of approximately 0.325%, 0.794%, and 0.242%, indicating that DAU had the greatest influence. IPM (0.049171) and INV (1.87E-05) remained positive and significant, a one point increase in IPM was followed by an increase in output of approximately 4.92%, and a 1,000 unit increase in INV resulted in an increase of approximately 1.87%. Conversely, TK (2.26E-07, p = 0.2977) was not significant.

Table 6: Model fit measures and simultaneous tests

Statistic	2015	2024
Number of observations	508	508
R-squared	0,6154	0,6970
Adjusted R-squared	0,6108	0,6933
Wald F-statistic model (prob.)	51,0238 (0,0000)	172,8523 (0,0000)

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Statistic	2015	2024
Uji Wald H4: F-statistic (3, 501)	6,5443	48,6324
Uji Wald H4: probabilitas	0,0002	0,0000

Source: data analysis results using EViews 13.

The F-test (Wald) for both years yielded a probability of 0.0000 < 0.05, indicating that all variables collectively have a significant effect and the model is valid. The Wald test for H4 rejected H0 in both years (probability of 0.0002 in 2015 and 0.0000 in 2024), meaning that DAK, DAU, and DBH collectively have a significant effect on the output of the leading sector. In 2015, this simultaneous effect was primarily driven by DBH, as DAK and DAU were not statistically significant when analyzed individually. The adjusted R^2 of 0.6108 in 2015 and 0.6933 in 2024 indicates that the model explains approximately 61.08% and 69.33% of the variation in the output of the priority sector, while the remainder is explained by other factors outside the model.

DISCUSSION

The Impact of DAK on the Output of Key Sectors

DAK had no significant effect in 2015 ($\beta = -0.0192$, $p = 0.4623$), but had a positive and significant effect in 2024 ($\beta = 0.3253$, $p = 0.0155$). The lack of significance in 2015 can be attributed to the nature of DAK, which is allocated for specific activities particularly basic service facilities and infrastructure and thus is not automatically directed toward priority sectors, furthermore, the benefits of infrastructure are only felt after a time lag. In 2015, some regions also recorded no DAK disbursement (the minimum LOG_DAK value was zero), so the data is uneven and estimates for that year should be interpreted with caution. The 2015 findings are consistent with those of Sulaeman and Silvia (2019) and Nugraha et al. (2026), who found no significant effect of DAK on economic growth, but differ from those of Hanifah and Sulaeman (2022), who found a negative effect.

In 2024, the results support the argument that DAK can serve as a driver of public investment in sectors with comparative advantages. Within the Solow framework, DAK represents an increase in public capital, whereas within the Hirschman framework, DAK directed toward priority sectors creates backward and forward linkages. These results are consistent with Anggono (2020) and Mukiwihando (2020). This change also coincides with an increase in the average LOG_DAK from 24.84 to 26.17 and with the implementation of DAK across all regions in 2024.

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The Impact of DAU on the Output of Key Sectors

DAU was not significant in 2015 (β = 0.0296, p = 0.4148), but it was positive and significant in 2024 (β = 0.7944, p = 0.0004), with the highest elasticity among the three components. DAU is a block grant whose use is determined by the region, so its impact depends on the quality of spending, theoretically, DAU contributes optimally when used for productive expenditures such as infrastructure, health, and education. The 2015 results are likely related to the portion of DAU allocated to routine expenditures (this hypothesis needs to be confirmed with data on the structure of the Regional Budget [APBD]) and to uneven DAU data due to zero values. The magnitude of DAU's influence in 2024 aligns with Alvaro's (2022) finding that the dependence of regency/city APBDs on transfer funds exceeds 50 percent, meaning that DAU significantly determines local fiscal space. These results are also consistent with Anggono (2020), Sulaeman and Silvia (2019), and Hanifah and Sulaeman (2022), as well as with Oates's (1999) principle regarding the role of transfers in addressing horizontal imbalances.

The magnitude of the coefficient must be interpreted with caution. DAU is related to regional fiscal needs such as population size so LOG_DAU likely also captures the size of the region, and its VIF in 2024 (5.1283) is relatively high compared to other variables.

The Impact of DBH on Output in Key Sectors

DBH had a positive and significant effect in both years, with a coefficient of 0.1720 in 2015 and 0.2420 in 2024 (p = 0.0000), indicating that DBH is the most consistent component associated with the output of the leading sector. These results are consistent with those of Sulaeman and Silvia (2019) and Hanifah and Sulaeman (2022), who found that DBH has a positive effect on economic growth. This consistency relates to the "by origin" principle: regions with large flagship sectors such as mining, forestry, or plantations possess a substantial tax base and natural resources, thereby receiving a larger share of DBH. Therefore, the relationship between the two is likely reciprocal. DBH supports key sectors, but the growth of these key sectors also increases the revenue subject to revenue sharing. These findings should be interpreted as a strong correlation, not merely a one way cause and effect relationship. Within the Hirschman framework, this revenue can be reinvested, thereby amplifying its multiplier effect.

The Effect of Control Variables

The IPM had a positive and significant effect in both years (0.0410 in 2015 and 0.0492 in 2024), consistent with the Solow model of labor quality and with the findings of Hanifah and Sulaeman (2022). The increasing coefficient indicates the growing role of human capital. Investment (PMTB) also had a positive and significant effect in both years,

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consistent with the role of capital accumulation in the Solow model. The coefficient decreased in 2024 (from 4.13E-05 to 1.87E-05), even though the average investment nearly doubled, which can be attributed to diminishing returns on capital accumulation.

Labor force size was significant in 2015 (p = 0.0000) but not significant in 2024 (p = 0.2977). The 2015 findings are consistent with those of Husen et al. (2024), who found a significant effect of labor force size on regencies and cities in Jambi Province, whereas the 2024 findings differ from those of that study. In 2024, labor force effectiveness appears to be more reflected in quality (IPM) than in the number of workers, and capital intensive leading sectors do not always absorb a large labor force, the VIF for the labor force, which rose to 3.9191, also shows a stronger correlation with other variables. The significance of the labor force in 2015 must be interpreted with caution because some newly established districts had a value of zero due to unavailable data.

Summary of Hypothesis Testing and Contributions of the Findings

Overall, the impact of equalization funds on the output of leading sectors strengthened from 2015 to 2024: in 2015, only DBH had a partial effect, whereas in 2024 all three components had a positive and significant effect, with DAU and DBH showing a strong correlation with the level of output in leading sectors. A new contribution of this study is that it demonstrates that the effects of DAK and DAU which in previous studies were often found to be insignificant for aggregate economic growth can in fact be detected in the output of key sectors based on the LQ index, and that these effects shifted from year to year. This shift may indicate that the management of transfer funds became increasingly targeted by 2024, although this study has not directly examined the underlying mechanisms.

CONCLUSION

This study analyzes the effects of DAK, DAU, and DBH on the output of regional key sectors in 508 regencies and cities in Indonesia in 2015 and 2024 using separate OLS estimates for each year and HC1 standard error correction. The answers to the research questions are as follows. First, DAK had no significant effect in 2015 (coefficient −0.0192, p = 0.4623), but had a positive and significant effect in 2024 (0.3253, p = 0.0155). Second, DAU was not significant in 2015 (0.0296, p = 0.4148), but it was positive and significant in 2024 (0.7944, p = 0.0004) and was the component with the greatest influence. Third, DBH had a positive and significant effect in both years (0.1720 in 2015 and 0.2420 in 2024, p = 0.0000), making it the only consistent component. Fourth, DAK, DAU, and DBH collectively had a significant effect in both years (Wald test: F = 6.5443 with p = 0.0002 in 2015 and F = 48.6324 with p = 0.0000 in 2024). The adjusted R^2 was 0.6108 in 2015 and 0.6933 in 2024. The Human Development Index (IPM) and

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investment had positive and significant effects in both years, while the labor force was significant only in 2015.

These findings imply that fiscal transfers need to be aligned with the characteristics and potential of regional key sectors. For the central government, the disbursement of DAK and DAU funds should be directed not only to increase regional spending capacity but also to enhance production capacity, with effectiveness evaluated based on the additional output generated. For local governments, equalization funds should be directed toward productive spending that supports key sectors, such as supporting infrastructure, education, and health. Regions receiving DBH funds also need to manage them sustainably to avoid dependence on natural resource revenues, while continuing to promote improvements in the Human Development Index (IPM) and investment.

This study has several limitations. First, only two cross-sectional time points were used, so the intertemporal dynamics and unobserved regional heterogeneity cannot yet be explained. Second, the relationship between DBH and leading sectors is likely reciprocal, so the coefficients cannot be fully interpreted as causal effects. Third, the zero values for fiscal equalization funds and labor force data for newly established regions in 2015 may affect the estimates for that year. Fourth, the residuals are not normally distributed, so inferences rely on a large sample, and the model does not yet include local revenue and capital expenditures. Future research is recommended to use a longer time period with panel data, include local revenue and capital expenditure as variables, address potential endogeneity, and examine key sectors more specifically by sector type.

REFERENCES

Alvaro, R. (2022). An overview of provincial financial capacity in western Indonesia and policies on regional transfers, 2010–2020. Jurnal Budget: Issues and Problems in Public Finance, 7(1).

Andayani, K. D., Muljaningsih, S., & Asmara, K. (2021). Analysis of the economic structure and identification of key sectors in Tuban Regency. Al-Buhuts, 17(1), 52–64.

Anggono, P. (2020). The effect of fiscal balance funds on local economic growth in Indonesia. Journal of Public Administration, 6(2), 297–304.

Central Statistics Agency of the Bangka Belitung Islands Province. (2018). Training on the disaggregation of gross domestic product (GDP). https://babel.bps.go.id/id/news/2018/03/12/69/pelatihan-pencacahan-disagregasi-pmtb.html

Chandra, D., Hidayat, S., & Rosmeli, R. (2017). The impact of fiscal equalization funds on economic growth and interregional inequality in Jambi Province. Paradigma Ekonomika Journal, 12(2), 67–76.

Copyright at authors some right reserved this work is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License.

Devi, N., & Darsana, I. B. (2019). Analysis of leading sectors as the basis for regional development planning in Bangli Regency. Udayana University E-Journal of Development Economics, 8(10), 2405–2436.

Hanifah, H. I., & Sulaeman, A. S. (2022). Economic growth and local revenue: An empirical study of reciprocal correlation. Journal of Developmental Economic Dynamics, 5(2), 146–172.

Hasyadi, K., Nurhayati, I., & Royadi, A. A. (2023). Analysis of key sectors in Trenggalek Regency, East Java Province. Jurnal Cendekia Keuangan, 2(1), 1–9.

Hirschman, A. O. (1958). The Strategy of Economic Development. Yale University Press.

Husen, M., Mubarak, D., Rusmanto, H., Wahyudi, M. I., Oktavia, D., & Saputra, O. (2024). Analysis of the impact of the number of MSMEs and the labor force on economic growth in regencies and cities in Jambi Province for the 2021–2023 period. Jurnal Development, 12(1), 80–88.

Isyanto, A. Y., Sudrajat, S., & Sujaya, D. H. (2018). Economic development in Ciamis Regency based on livestock commodities. Mimbar Agribisnis: Journal of Agribusiness-Oriented Scientific Thought, 4(2), 109–120.

Jarque, C. M., & Bera, A. K. (1987). A test for normality of observations and regression residuals. International Statistical Review, 55(2), 163–172.

Ministry of Finance of the Republic of Indonesia. (2021). Definition of the Special Allocation Fund (DAK). https://jdih.kemenkeu.go.id/kamus-hukum/dana-alokasi-khusus?id=0c57ee59b29539c8511a7b0138164d2f

Khairi, H. (2021). The balance between the devolution of authority and the devolution of local revenue sources in Indonesia. Jurnal Bina Praja, 13(3), 431–443.

Marasabessy, R. N., Rumkel, L., Susiati, S., Masniati, A., Tuasalamony, K., Amir, N. F., Iye, R., & Hatuwe, R. S. M. (2021). Analysis of the potential and strategies for coastal tourism in Buru Regency. Sang Pencerah: Scientific Journal of Muhammadiyah Buton University, 7(1), 149–164.

Martinez-Vazquez, J., Lago-Peñas, S., & Sacchi, A. (2017). The impact of fiscal decentralization: A survey. Journal of Economic Surveys, 31(4), 1095–1129. https://doi.org/10.1111/joes.12182

Mukiwihando, R. (2020). The impact of the Special Allocation Fund for agriculture policy on economic growth in the agricultural sector in Indonesia. Journal of Public Financial Management, 4(1), 72–80. https://doi.org/10.31092/jmkp.v4i1.805

Mulyati, S., & Yusriadi, Y. (2018). Revenue-sharing funds and general allocation funds in relation to local government spending in Aceh Province. Agregat, 2(1), 55–66.

Ningsih, K. S., Frinaldi, A., & Magriasti, L. (2023). Fiscal decentralization in the implementation of regional autonomy in Indonesia. Journal of Social Sciences and Education (JISIP), 7(3), 2606–2614.

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Nugraha, D. A., Agung, I. G., & Apsari, A. (2026). The effect of local revenue on the economic growth of regencies and cities in Bali Province. Journal of Information Systems and Business Management, 5(1), 503–517.

Oates, W. E. (1999). An essay on fiscal federalism. Journal of Economic Literature, 37(3), 1120–1149.

Rasyid, M. (2018). The effect of general allocation funds, special allocation funds, revenue-sharing funds, and local original revenue on regional expenditures in regencies and cities in Central Sulawesi Province. Katalogis, 6(5), 68–80.

Republic of Indonesia. (2004). Law No. 33 of 2004 on Fiscal Balancing Between the Central Government and Local Governments.

Soeyatno, R. F. (2018). Analysis of the Impact of Key Sectors on the Regional Economy of Bogor City, West Java Province, 2012–2016. Jurnal Semarak, 1(3), 1–19.

Solow, R. M. (1956). A contribution to the theory of economic growth. The Quarterly Journal of Economics, 70(1), 65–94.

Sudhipongpracha, T., & Wongpredee, A. (2017). Fiscal decentralization in a comparative perspective: Analysis of the intergovernmental grant systems in Indonesia and Thailand. Journal of Comparative Policy Analysis: Research and Practice, 19(3), 245–261. https://doi.org/10.1080/13876988.2016.1138659

Sulaeman, A. S., & Silvia, V. (2019). Local revenue, regional transfers, and capital expenditures: Their impact on regional economic growth in Indonesia. Journal of Accounting Applications, 4(1), 97–112.

Utomo, F. S., & Wulandari, D. (2021). Analysis of key sectors and products in the southern region of East Java, 2015–2020. Journal of Economics, Business, and Education, 1(11), 1058–1070. https://doi.org/10.17977/um066v1i112021p1058-1070

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