



Comparative Analysis of Special Autonomy Efficiency in Indonesia

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Abstract

Special autonomy refers to the authority granted to certain provinces based on their unique characteristics and special status. The subjects of this research are the provinces of Aceh, Yogyakarta, Papua, and West Papua. Previous studies indicate that special autonomy funds have not been utilized efficiently, resulting in suboptimal benefits for society. Therefore, this study aims to analyze the efficiency of special autonomy implementation in each province and compare the efficiency performance across provinces receiving special autonomy status. The research employs Data Envelopment Analysis (DEA) and one-way ANOVA methods. The findings show that Yogyakarta achieved the highest efficiency level, with a score of 0.998, while West Papua recorded the lowest efficiency score at 0.965. In Aceh, two regencies consistently achieved efficiency, whereas in Yogyakarta, Papua, and West Papua, three regencies/cities consistently achieved efficiency. These findings indicate disparities in the effectiveness of special autonomy fund management across provinces and highlight the importance of strengthening fiscal governance and regional policy evaluation to improve the effectiveness of special autonomy implementation.

Keywords: Regional Efficiency, Special Autonomy Fund, Fiscal Decentralization, DEA, Provincial Fiscal Performance

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INTRODUCTION

Special autonomy is one form of asymmetric decentralization implemented in Indonesia. The policy has been applied since

2001, beginning with the granting of special autonomy status to Papua Province (Hasibuan et al., 2019; Iek & Blesia, 2019; Sopaheluwakan et al., 2023). The implementation of special

autonomy reflects the application of non-congruent decentralization principles in Indonesia, considering the country's social, cultural, political, and geographical diversity (Hutajulu, 2016).

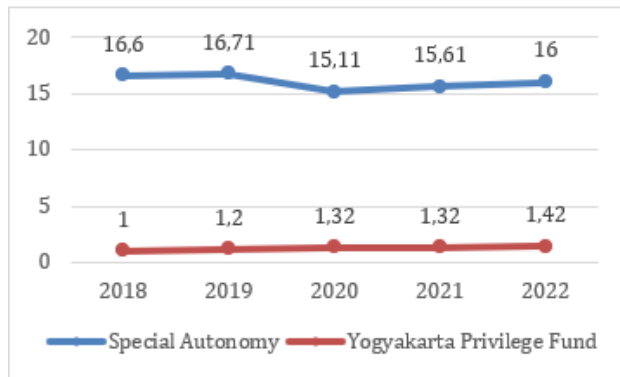


Figure 1. Special Autonomy Funds Data in Indonesia, 2018 – 2022

Source: Ministry of Finance, 2018 – 2022

The granting of special autonomy is based on the uniqueness and distinctive characteristics of certain regions (Katharina, 2018a; Saflessa et al., 2023a). Currently, four provinces in Indonesia have special autonomous status, i.e. Aceh, Yogyakarta, Papua, and West Papua. The legal basis and budget allocation for special autonomy in Indonesia were regulated by the Law (Pangestu, 2022).

The legal framework governing special autonomy differs across provinces. Papua is regulated under Law Number 21 of 2001, Aceh under Law Number 11 of 2006, Yogyakarta under Law Number 13 of 2012, and West Papua under Law Number 35 of 2008.

In addition to granting specific authority, special autonomy also provides additional funds to each province that has such authority (Isfianadewi et al., 2022). According to Ministry of Finance Indonesia, special autonomy fund given with purpose to increasing development;

welfare of society; and improving financial capacity of the regions. Figure 1 show the data of special autonomy funds in Indonesia. Based on the data, it can be shown that since 2018 until 2022, special autonomy funds are getting increasing.

Special autonomy and privilege funds are provided in the aim of helping to address issues in the respective regions (Setiawan et al., 2016). Since 2008 until 2021, Aceh Province has received special autonomy funds totaling 88.7 trillion IDR (Fadhila et al., 2023), while Papua Province and West Papua have received 138.65 trillion IDR (Cahyaningsih & Fitradly, 2019). Based on the data, from 2018 until 2022, that fund have increased at least 0.4 percent annually.

Referring to the aim of special autonomy as stipulated by the law, enhancing prosperity and justice is an aspect that must be achieved in special autonomy authority (Cahyaningsih & Fitradly, 2019; Nurmasari & Hafis, 2019). Furthermore, beside the increasing trend in special autonomy funds, there are another aspect that needs attention related to the efficiency of financial budgeting.

The efficiency, transparency, and accountability of special autonomy funds need to be evaluated. The purpose of special autonomy will not be achieved if the allocation of fund is not efficient. According to the previous study conducted by Cahyaningsih & Fitradly (2019); Ikhsan et al. (2022); Nurmasari & Hafis (2019); Saflessa et al. (2023), it is revealed that special autonomy funds the benefits have not been felt by society.

The focus on this study is analyze efficiency of special autonomy budget, it is become important to know which variables need to increasing or decreasing to be optimal.

Previous studies mainly focused on the effectiveness of special autonomy funds, poverty reduction, regional inequality, and development outcomes (Finuliyah & Susilo, 2023; Hasibuan, 2022; Katharina, 2018b; Mollet, 2014; Prabowo et al., 2021a; Rumere et al., 2022; Saflessa et al., 2023b).

However, limited studies have examined the comparative efficiency performance among provinces receiving special autonomy status. In particular, empirical studies employing DEA to measure regional efficiency across multiple special autonomous provinces remain limited. Furthermore, previous research rarely integrates DEA with one-way ANOVA to statistically compare efficiency levels among provinces.

RESEARCH METHODS

This study using Data Envelopment Analysis (DEA) method for efficiency analysis, while for comparative analysis use one-way ANOVA. The subject of this study are the provinces of Aceh, Yogyakarta, Papua, and West Papua. The observation period starts from 2016 until 2022.

Data Envelopment Analysis (DEA) is a method that use for analyze the efficiency or performance level of a given entity or unit. Peykani et al. (2020) explain that DEA is a mathematical programming technique. DEA also utilized for evaluating the efficiency of the Decision-Making Unit (DMU) in managing the input and output.

There are two models in DEA, first is Constant Return to Scale Model (CRS) and the second one is Variable Return of Scale Model (VRS). The model that used in this analysis is VRS, the assumption in this model is that the ratio between the increase in input and output is not constant. It is means that each addition of

input will not result in a consistently proportional increase in output, the value of it can be greater or smaller depending on specific condition.

The study applies the Variable Returns to Scale (VRS) model developed by Banker, Charnes, and Cooper (BCC). The VRS approach is considered more appropriate than the Constant Returns to Scale (CRS) model because the regencies/cities analyzed in this study have heterogeneous economic capacities, fiscal characteristics, and development scales.

Table 1. Input and Output Variables for DEA Method

No	Special Autonomy Allocation Fund	Input Variable	Output Variable
1	Education	Spending on Education Function	Average Years of Schooling
2	Health	Spending on Health Function	Life Expectancy
3	Infrastructure	Spending on Service Function	Percentage Household with Safe Drinking Water

Source: Data processed, 2024

The CRS model assumes proportional changes between inputs and outputs, whereas the VRS model allows for variations in scale efficiency across regions. Therefore, the VRS model is more suitable for evaluating regional government performance under differing socioeconomic conditions (Cook & Zhu, 2014).

In the DEA, the efficiency value result is equal to one or less than one. If the value is equal to one, it means that the DMU is efficient. If the value is less than one, it means that the DMU is inefficient (Balubaid et al., 2023; Ikram, 2025; Peykani et al., 2020b).

Moreover, one of the advantages of the DEA method are can formulate scenarios for improving input-output (potential improvement) for a DMU that is not yet efficient to achieve efficiency (Putri & Prasetyia, 2023). Potential improvement value is obtained by subtracting the actual value from the target value. Table 1 showed input and output variables in this study.

The second purpose of this analysis is aim to know the comparative efficiency value of the province that granted special autonomy. In the comparative analysis, this study use one way ANOVA. According to Bustami et al. (2014) dan Kim (2017), ANOVA method is a part of statistical analysis method that use for testing the comparison between two or more means. There are two approaches in ANOVA, but in this study use one way ANOVA, it is chosen because there are only one dependent variable and one independent variable.

RESULTS AND DISCUSSION

In the DEA method, there are three input and output variables that are used for analysis. This study using VRS model of DEA, this model chosen because the assumption in this study is the ratio between input and output is not constant. The result of DEA method will show the efficiency value per regency/city in each province that has been granted special autonomy fund. Table 2 presents the results of DEA efficiency calculations in Aceh Province. Based on these results, from 2016 - 2022, of the

23 districts/cities, two consistently achieved efficiency levels.

The lowest DEA calculation value for Aceh Province was in South Aceh Regency in 2016, the value was 0.897. Furthermore, Lhokseumawe Regency and Sabang Regency are two regencies that from 2016 - 2022 have been able to consistently achieve efficiency.

Meanwhile, there are other districts/cities that have achieved efficiency in certain years. In 2016, there were five districts that achieved efficiency levels, namely Southeast Aceh, Banda Aceh, Langsa, Lhokseumawe and Sabang. In 2017 there were seven districts that achieved efficiency levels, namely Banda Aceh, Lhokseumawe, Nagan Raya, Pidie, Pidie Jaya, Sabang, and Simeulue.

Furthermore, in 2018 there were eight districts that achieved efficiency levels (Aceh Singkil, Banda Aceh, Lhokseumawe, Nagan Raya, Pidie Jaya, Sabang, Simeulue, and Subulussalam). In 2019 there were nine districts that achieved efficiency levels (East Aceh, Banda Aceh, Lhokseumawe, Nagan Raya, Pidie, Pidie Jaya, Sabang, Simeulue, and Subulussalam).

In 2020 there were eight districts that achieved efficiency levels (Banda Aceh, Lhokseumawe, Nagan Raya, Pidie, Pidie Jaya, Sabang, Simeulue, and Subulussalam). Meanwhile, in 2021 and 2022 there will be ten districts that will achieve this level of efficiency. These districts are East Aceh and Banda Aceh (2021), Central Aceh and Langsa (2022), Gayo Lues, Lhokseumawe, Nagan Raya, Pidie, Pidie Jaya, Sabang, Simeulue, and Subulussalam (2021 and 2022).

Table 3 shows the efficiency calculation values using DEA in Yogyakarta Province. Based on these results, it can be seen that three of the five districts/cities in Yogyakarta have achieved

efficiency levels. Kulon Progo Regency, Sleman Regency and Yogyakarta City have consistently been able to achieve special autonomy efficiency levels from 2016 – 2022. Meanwhile, in certain

years, Bantul and Gunung Kidul Regencies have not been able to reach this level of efficiency. The lowest efficiency calculation value is 0.982 (Bantul Regency 2016).

Table 2. Results of DEA Efficiency Analysis for Aceh Province 2016 – 2022

No	Regency/City	2016	2017	2018	2019	2020	2021	2022
1	West Aceh	0,951	0,921	0,920	0,924	0,917	0,966	0,968
2	Southwest Aceh	0,906	0,951	0,951	0,951	0,952	0,984	0,960
3	Aceh Besar	0,978	0,913	0,921	0,926	0,922	0,907	0,937
4	Aceh Jaya	0,942	0,959	0,964	0,967	0,955	0,960	0,974
5	South Aceh	0,897	0,968	0,970	0,966	0,967	0,966	0,965
6	Aceh Singkil	0,957	0,977	1,000	0,983	0,974	0,986	0,987
7	Aceh Tamiang	0,972	0,963	0,967	0,963	0,960	0,958	0,958
8	Central Aceh	0,964	0,981	0,983	0,978	0,977	0,984	1,000
9	Southeast Aceh	1,000	0,948	0,954	0,952	0,964	0,945	0,962
10	East Aceh	0,961	0,996	0,998	1,000	0,995	1,000	0,995
11	North Aceh	0,964	0,964	0,967	0,962	0,962	0,975	0,975
12	Banda Aceh	1,000	1,000	1,000	1,000	1,000	1,000	0,969
13	Bener Meriah	0,983	0,922	0,923	0,922	0,923	0,940	0,939
14	Bireuen	0,995	0,988	0,976	0,973	0,972	0,992	0,993
15	Gayo Lues	0,917	0,975	0,983	0,986	0,976	1,000	1,000
16	Langsa	1,000	0,966	0,964	0,965	0,960	0,999	1,000
17	Lhokseumawe	1,000	1,000	1,000	1,000	1,000	1,000	1,000
18	Nagan Raya	0,996	1,000	1,000	1,000	1,000	1,000	1,000
19	Pidie	0,950	1,000	0,998	1,000	1,000	1,000	1,000
20	Pidie Jaya	0,980	1,000	1,000	1,000	1,000	1,000	1,000
21	Sabang	1,000	1,000	1,000	1,000	1,000	1,000	1,000
22	Simeulue	0,912	1,000	1,000	1,000	1,000	1,000	1,000
23	Subulussalam	0,899	0,916	1,000	1,000	1,000	1,000	1,000

Source: Data processed, 2024

On average, there are three districts/cities that have a calculated value of 1.00. This value

means that Kulon Progo Regency, Sleman Regency and Yogyakarta City are efficient in

allocating special autonomy funds. Furthermore, Bantul Regency has an average value of 0.992

and Gunung Kidul Regency has an average value of 0.998.

Table 3. Results of DEA Efficiency Analysis for Yogyakarta Province 2016 – 2022

No	Regency/City	2016	2017	2018	2019	2020	2021	2022
1	Bantul	0,982	0,986	1,000	1,000	1,000	0,987	0,987
2	Gunung Kidul	1,000	1,000	1,000	0,992	0,991	1,000	1,000
3	Kulon Progo	1,000	1,000	1,000	1,000	1,000	1,000	1,000
4	Sleman	1,000	1,000	1,000	1,000	1,000	1,000	1,000
5	Yogyakarta City	1,000	1,000	1,000	1,000	1,000	1,000	1,000

Source: Data processed, 2024

Table 4 shows the results of the DEA analysis for Papua Province. Based on these results, it can be seen that there are three districts/cities that have consistently been able to achieve this level of efficiency from 2016 - 2022. The lowest DEA efficiency calculation result was 0.79 in Paniai Regency in 2016. The district that consistently achieved this level of efficiency was Regency Asmat, Deiyai, and Nabire. Meanwhile, 20 other districts/cities achieved efficiency levels in certain years.

In 2016, there were nine districts that achieved efficiency levels, namely Asmat, Biak Numfor, Deiyai, Keerom, Lanny Jaya, Nabire, Supiori, Tolikara, and Yahukimo. In 2017, there were twelve districts that achieved efficiency levels (Asmat, Biak Numfor, Deiyai, Dogiyai, Yapen Islands, Lanny Jaya, Nabire, Nduga, Puncak, Puncak Jaya, Tolikara, and Yahukimo).

In 2018 there were eight districts that achieved efficiency levels (Asmat, Biak Numfor, Deiyai, Yapen Islands, Central Mamberamo, Nabire, Nduga, Puncak, Sarimi, Supiori, Waropen, and Yalimo).

In 2019 there were nine districts and in 2020 there were fourteen districts that achieved efficiency levels. The districts that achieved efficiency in 2019 and 2020 were Asmat, Deiyai,

Yapen Islands, Lanny Jaya, Nabire, Puncak Jaya, Tolikara, and Yahukimo. Mappi Regency achieved efficiency in 2019, Biak Numfor, Intan Jaya, Central Mamberamo, Mimika, Paniai, and Gunung Bintang achieved efficiency in 2020.

Furthermore, in 2021 and 2022 there are fifteen districts that achieved efficiency levels respectively, namely Asmat, Deiyai, Keerom, Yapen Islands, Lanny Jaya, Central Mamberamo, Mappi, Nabire, Paniai, Puncak Jaya, Supiori, Tolikara, and Yahukimo districts. Meanwhile, Biak Numfor and Sarimi Regencies achieved efficiency in 2021, Dogiyai and Intan Jaya Regencies achieved efficiency in 2022.

Table 5 shows the results of special autonomy efficiency analysis using DEA. Based on these results, it can be seen that in West Papua Province there are three districts that have consistently achieved efficiency levels from 2016 - 2022. These districts are Fak-Fak, Manokwari, and Maybrat. Meanwhile, the lowest efficiency calculation value was 0.857 in South Manokwari Regency in 2021.

In several districts/cities there are already those who are able to achieve efficiency in certain years. Kaimana Regency achieved efficiency levels in 2016 and 2020 – 2021. Arfak Mountains Regency achieved efficiency in 2016 –

2017, 2019 – 2020, and 2022. Raja Ampat Regency consistently achieved efficiency in 2017 – 2022, while in 2016 the calculated value efficiency is only 0.880. Teluk Bintuni Regency achieved efficiency in 2017 – 2018 and 2020.

Table 4. Results of DEA Efficiency Analysis for Papua Province 2016 – 2022

No	Regency/City	2016	2017	2018	2019	2020	2021	2022
1	Asmat	1,000	1,000	1,000	1,000	1,000	1,000	1,000
2	Biak Numfor	1,000	1,000	1,000	0,989	1,000	1,000	0,985
3	Boven Digoel	0,831	0,945	0,896	0,875	0,901	0,893	0,929
4	Deiyai	1,000	1,000	1,000	1,000	1,000	1,000	1,000
5	Dogiyai	0,942	1,000	0,977	0,970	0,979	0,989	1,000
6	Intan Jaya	0,937	0,988	0,986	0,978	1,000	0,984	1,000
7	Jayapura	0,934	0,969	0,951	0,954	0,959	0,965	0,982
8	Jayawijaya	0,835	0,880	0,882	0,879	0,893	0,874	0,867
9	Keerom	1,000	0,995	0,972	0,978	0,991	1,000	1,000
10	Kepulauan Yapen	0,955	1,000	1,000	1,000	1,000	1,000	1,000
11	Lanny Jaya	1,000	1,000	0,997	1,000	1,000	1,000	1,000
12	Mamberamo Raya	0,933	0,975	0,973	0,978	0,981	0,986	0,969
13	Mamberamo Tengah	0,904	0,859	1,000	0,995	1,000	1,000	1,000
14	Mappi	0,944	0,958	0,900	1,000	0,958	1,000	1,000
15	Merauke	0,901	0,946	0,896	0,931	0,932	0,941	0,944
16	Mimika	0,993	0,935	0,926	0,941	1,000	0,946	0,953
17	Nabire	1,000	1,000	1,000	1,000	1,000	1,000	1,000
18	Nduga	0,959	1,000	1,000	0,991	0,994	0,986	0,986
19	Paniai	0,799	0,822	0,807	0,814	1,000	1,000	1,000
20	Pegunungan Bintang	0,930	0,987	0,973	0,982	1,000	0,976	0,990
21	Puncak	0,916	1,000	1,000	0,966	0,999	0,947	0,960
22	Puncak Jaya	0,966	1,000	0,975	1,000	1,000	1,000	1,000
23	Sarmi	0,999	0,973	1,000	0,976	0,987	1,000	0,984
24	Supiori	1,000	0,995	1,000	0,986	0,985	1,000	1,000
25	Tolikara	1,000	1,000	0,969	1,000	1,000	1,000	1,000
26	Waropen	0,924	0,972	1,000	0,972	0,977	0,952	0,957
27	Yahukimo	1,000	1,000	0,959	1,000	1,000	1,000	1,000
28	Yalimo	0,917	0,962	1,000	0,948	0,965	0,955	0,949
29	Jayapura City	0,917	0,976	0,958	0,985	0,982	0,988	0,990

Source: Data processed, 2024

Furthermore, Sorong City consistently achieved efficiency in 2016 – 2019, and 2021 – 2022, while in 2020 the DEA calculation results almost reached the efficiency level of 0.998. One

Way Analysis of Variance (One Way ANOVA) is the results of efficiency calculations.
an analysis method used to compare or contrast

Table 5. Results of DEA Efficiency Analysis for West Papua Province 2016 – 2022

No	Regency/City	2016	2017	2018	2019	2020	2021	2022
1	Fak Fak	1,000	1,000	1,000	1,000	1,000	1,000	1,000
2	Kaimana	1,000	0,953	0,935	0,954	1,000	1,000	0,976
3	Manokwari	1,000	1,000	1,000	1,000	1,000	1,000	1,000
4	Manokwari Selatan	0,990	0,866	0,866	0,866	0,866	0,857	0,876
5	Maybrat	1,000	1,000	1,000	1,000	1,000	1,000	1,000
6	Pegunungan Arfak	1,000	1,000	0,965	1,000	1,000	0,995	1,000
7	Raja Ampat	0,880	1,000	1,000	1,000	1,000	1,000	1,000
8	Sorong	0,990	0,963	0,940	0,955	0,957	0,969	0,962
9	Sorong Selatan	0,933	0,934	0,856	0,938	0,936	0,932	0,935
10	Tambrau	0,895	0,880	0,931	0,892	0,880	0,885	0,891
11	Teluk Bintuni	0,913	1,000	1,000	0,947	1,000	0,998	0,968
12	Teluk Wondama	0,888	0,976	0,956	0,973	0,968	0,953	0,984
13	Sorong City	1,000	1,000	1,000	1,000	0,998	1,000	1,000

Source: Data processed, 2024

The steps taken before analyzing the ANOVA test results are analyzing descriptive statistics. At this stage, differences in the average or mean efficiency of each province can be seen.

Table 6 shows the number of samples in each province, the average, standard deviation, minimum and maximum values.

Table 6. Result of Descriptive Statistic

No	Provinces	N	Mean	Std. Deviation	Minimum	Maximum
1	Aceh	23	0,973	.0216	.930	1.000
2	Yogyakarta	5	0,998	.0031	.993	1.000
3	Papua	29	0,970	.0341	.871	1.000
	West Papua	13	0,965	.0965	.887	1.000
	Total	70	0,972	.0309	.871	1.000

Source: Data processed, 2024

The province that has the highest average efficiency value is Yogyakarta Province with an average of 0.998. Meanwhile, the lowest average efficiency was in West Papua Province at 0.965.

The total average efficiency is 0.972. The standard deviation value is a value used to measure the distribution of the data being studied. The standard deviation value in each

province is smaller than the average, this means that the data distribution is homogeneous.

If we look at the minimum value, Papua Province has the lowest minimum value, namely 0.871. Meanwhile, the minimum value in Yogyakarta Province is the highest, i.e 0.993. The average efficiency graph based on descriptive statistical tests can also be seen in Figure 2.

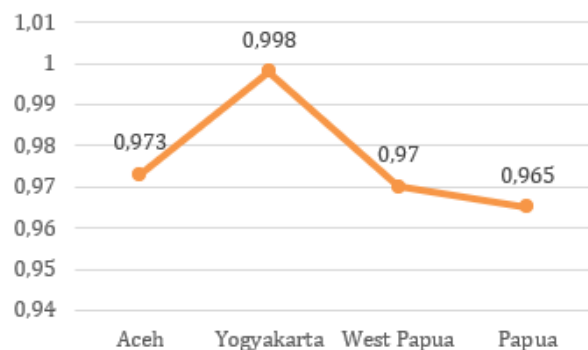


Figure 2. Average Difference Test Results between Provinces

Source: Data processed, 2024

The next stage is to test whether the samples used have the same or different averages. At this stage the test is carried out by looking at the significance of the f test. The assumption in this test is, if the significance value is greater than the level of significance then the sample average is the same.

Table 7 shows the results of the one-way ANOVA test. Based on these results, it can be seen that the significance value of the f test is 0.241. This value is greater than the level of significance ($\alpha=1\%$, 5% , 10%), so it can be concluded that the average efficiency of the Provinces of Aceh, Yogyakarta, Papua and West Papua is significantly the same.

The research results are in line with the proposition in this research, where the combination of input and output has not been

able to achieve efficiency. Efficiency calculations using the data envelopment analysis (DEA) method show that there are still many districts/cities in the provinces of Aceh, Yogyakarta, Papua and West Papua that are not yet efficient.

Table 7. The Result of ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
(1)	(2)	(3)	(4)	(5)	(6)
Between Groups	.004	3	.001	1.435	.241
Within Groups	.062	66	.001		
Total	.066	69			

Source: Data processed, 2024

In Aceh Province, there are only two districts/cities that have consistently been able to achieve special autonomy efficiency levels from 2016 - 2022. In Yogyakarta, Papua and West Papua Provinces, there are three districts/cities that have consistently achieved efficiency levels. Although several districts/cities consistently achieved efficiency during the 2016–2022 period, many regions were still categorized as inefficient.

These findings suggest that the increasing allocation of special autonomy funds has not automatically resulted in optimal regional fiscal performance. In DEA analysis, inefficiency may occur when the combination of inputs and outputs fails to achieve the expected proportional relationship, indicating that fiscal resources have not been utilized optimally to generate development outcomes.

The findings in this study are in line with research that has been conducted by several researchers. Studies from (Prabowo et al., 2021b)

revealed that the efficiency of special autonomy in Papua Province is still low. Jalil et al. (2019) and Ikhsan et al. (2022) expressed the same thing, the efficiency of special autonomy in Aceh Province had not yet achieved optimal efficiency.

In their study, Jalil et al. (2019) explained that the benefits of special autonomy policies were unevenly distributed across districts/cities, particularly in regions with limited administrative and fiscal capacity. Widodo (2019) analyzed the efficiency of special autonomy for public services, the findings revealed that many districts/cities are not yet efficient in achieving good public services. On average, many districts/cities in provinces with special autonomy authority are still unable to achieve efficiency.

However, this study provides additional insights compared to previous research. While earlier studies generally focused on a single province, this study offers a comparative inter-provincial analysis across all special autonomous provinces in Indonesia. The findings reveal that Yogyakarta Province achieved the highest average efficiency level, whereas West Papua recorded the lowest efficiency performance.

These differences indicate that regional institutional capacity, governance quality, fiscal management, and socioeconomic conditions may significantly influence the effectiveness of special autonomy implementation.

This value illustrates that the relevant government needs to increase or reduce the allocation of funds in accordance with efficiency targets. In line with a study from (Triyanto et al., 2017), this study reveals that budgets that have not reached the level of efficiency need to improve their budget management. (Banker & Morey, 1986) states efficiency can only be

achieved when resource allocation minimizes waste and maximizes output performance. Therefore, strengthening budget monitoring mechanisms, improving regional governance quality, and enhancing institutional capacity are essential to optimize the effectiveness of special autonomy funds in Indonesia.

A financial budget that is not managed efficiently will result in the failure of the purpose of allocating these funds. The public welfare that is to be achieved with additional special autonomy funds cannot be achieved if the allocation is inefficient. Accountability and transparency in public financial management are also very necessary; this is a form of government responsibility towards the community.

CONCLUSION

Efficiency analysis using Data Envelopment Analysis (DEA) in Aceh Province shows that there are only two districts that have consistently been able to achieve efficiency levels from 2016 - 2022. These districts are Lhokseumawe and Sabang. Meanwhile, the lowest efficiency level calculation was South Aceh Regency in 2016 with an efficiency score of 0.897.

In Yogyakarta Province, the results showed that three of the five districts/cities were able to consistently achieve efficiency levels from 2016 - 2022. These districts/cities are Kulon Progo Regency, Sleman Regency, and Yogyakarta City. The lowest efficiency calculation value was in Bantul Regency in 2016 with a score of 0.982.

In Papua Province, the results show that there are three districts/cities that have been able to consistently achieve efficiency levels from 2016 - 2022. These districts are Asmat, Deiyai, and Nabire. The lowest efficiency calculation value was in Paniai Regency in 2016

with a score of 0.79. In West Papua Province, the results show that there are three districts/cities that are consistently able to achieve efficiency levels. These districts are Fakfak, Manokwari and Maybrat.

The lowest efficiency calculation value of 0.857 was found in South Manokwari Regency in 2021. Comparative analysis using ANOVA gave results that the highest average efficiency was Yogyakarta Province at 0.998 with a minimum value of 0.993. Meanwhile, the lowest average is West Papua Province at 0.965 with a minimum efficiency value of 0.887.

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