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A COMPARISON OF FINANCIAL INDEPENDENCE, EFFECTIVENESS OF LOCALLY-GENERATED REVENUE, AND EFFECTIVENESS OF REGIONAL EXPENDITURE: A COMPARATIVE STUDY OF REGENCY AND CITY GOVERNMENTS IN ACEH AND PAPUA

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ABSTRACT

This study was prompted by the substantial allocation of Special Autonomy Funds received annually by the provinces of Aceh and Papua, which, ideally, should promote regional fiscal autonomy; however, in practice, dependence on central government transfers remains high in both regions. The study aims to compare regional financial autonomy, the effectiveness of Local Own-Source Revenue (PAD), and the effectiveness of regional expenditure across regency and city governments in the provinces of Aceh and Papua. The research subjects comprise all regencies and cities in the provinces of Aceh and Papua for the period 2021–2022, with a total of 102 observations obtained through saturation sampling. The data used were secondary data in the form of Budget Implementation Reports (LRA) collected through documentation and literature review. This study employed a comparative quantitative approach, comparing three variables: local financial autonomy, the effectiveness of PAD, and the effectiveness of local expenditure. Data analysis was carried out using descriptive statistics, the Shapiro-Wilk normality test, and the non-parametric Mann-Whitney U test, given that the research data were generally not normally distributed. The results indicate a significant difference in local financial autonomy between Aceh and Papua, with Aceh demonstrating a higher level of autonomy. Regarding the effectiveness of local revenue (PAD), there was no significant difference between the two provinces, indicating that their ability to meet PAD targets was relatively comparable. Meanwhile, the effectiveness of local expenditure showed a significant difference, with Aceh demonstrating a higher level of expenditure effectiveness compared to Papua. This study concludes that although both Aceh and Papua have been granted special autonomy status and receive substantial transfer funds, the capacity for local financial management in the two regions remains different, particularly in terms of fiscal autonomy and the effectiveness of expenditure. These findings have implications for local governments, particularly in Papua, to strengthen the optimisation of local revenue and the quality of budget implementation, and provide input for the central government in formulating more targeted regional transfer policies.

Keywords: Local Financial Autonomy; Local Revenue Effectiveness; Local Expenditure Effectiveness; Special Autonomy; Local Financial Performance

INTRODUCTION

Special autonomy is a form of fiscal decentralization policy granted by the central government to regions possessing distinct historical, social, cultural, and political characteristics. This policy aims to accelerate regional development, improve the quality of public services, reduce inter-regional disparities, and strengthen the capacity of local governments to manage their resources and finances independently. Under the special autonomy scheme, recipient regions gain broader authority over governance and financial management, supported by special transfer funds from the central government to expedite development and enhance the well-being of local communities.

Aceh and Papua are two Indonesian provinces that hold special autonomy status and receive relatively large annual fund allocations. The provision of special autonomy funds is intended to boost regional fiscal capacity, strengthen financial independence, and foster effective management of regional revenue and expenditure; this enables local governments to optimize Locally-Generated Revenue (PAD), reduce reliance on central government transfers, and direct spending more effectively toward supporting development and public services.

Through the 2022 State Budget (APBN), the central government allocated Special Autonomy Funds amounting to IDR 12.8 trillion for Papua and IDR 7.5 trillion for Aceh to accelerate development, improve public services, and strengthen regional fiscal capacity. However, these substantial fund allocations have not automatically resulted in increased regional financial independence. This situation is evident from the local governments' continued high reliance on transfer funds, as well as the suboptimal contribution of Locally-Generated Revenue (PAD) and the limited effectiveness of regional spending in supporting development; consequently, the magnitude of the Special Autonomy Funds does not necessarily reflect successful regional financial management.

Regional finance serves as a crucial instrument for supporting development and public services; consequently, local governments are expected to optimally tap into revenue sources to avoid excessive reliance on the central government. Regional financial independence is a key indicator of this capability—specifically, a region's ability to independently coordinate and resolve financial issues, as well as plan and manage its budget without depending on the central government. The regional independence ratio reflects the extent to which a region can exercise its autonomy without heavy reliance on aid or transfer funds; the greater the contribution of Locally-Generated Revenue (PAD) to total regional revenue, the higher the region's level of fiscal independence. Conversely, a low independence ratio indicates that the regional revenue structure remains dominated by central government transfers, thereby limiting the local government's scope for determining development policies.

Beyond financial independence, the effectiveness of Locally-Generated Revenue is also a vital aspect of regional financial management, as it illustrates the local government's ability to meet established revenue targets and optimally harness the region's economic potential. Local governments that meet or exceed PAD targets demonstrate sound revenue management alongside effective administrative and oversight capabilities. Meanwhile, regional expenditure plays a pivotal role in development implementation; prudent expenditure management can drive economic growth, improve infrastructure, expand public services, and enhance community welfare. Therefore, balancing regional revenue and expenditure is essential for establishing sound and sustainable regional financial governance.

The central government has once again extended the Special Autonomy Fund for Aceh and Papua, underscoring its commitment to equitable development and the strengthening of regional independence. Although the Special Autonomy Fund has been in place for over two decades—involving trillions of rupiah annually—challenges persist regarding governance, the effectiveness of fund utilization, and the optimization of regional development. Consequently, the substantial funds received by these regions do not necessarily translate into a high degree of fiscal independence or effective financial management. This situation underscores the need for a comparative analysis of regional autonomy, the effectiveness of locally-generated revenue (PAD), and the effectiveness of regional spending across regencies and cities in Aceh and Papua.

Differences in natural resource potential, geographical conditions, population size, development levels, and regional management policies result in varying fiscal capacities between Papua and Aceh. Papua is known for its vast natural resource potential—particularly in the mining and forestry sectors—whereas Aceh possesses potential in the oil and gas, agriculture, and trade sectors. However, significant regional potential does not always correlate directly with high levels of regional financial autonomy and effectiveness, necessitating a more in-depth analysis to compare the two regions. A comparison between Aceh and Papua is a compelling subject for study because, despite both provinces receiving special autonomy funds, they exhibit differing development outcomes and fiscal capacities; from a fiscal decentralization perspective, substantial transfer funds should serve as a stimulus for regions to enhance autonomy by strengthening locally-generated revenue and managing expenditures more effectively, although in reality, reliance on the central government remains prevalent, especially in regions with underdeveloped economic bases.

Numerous studies have previously examined regional financial performance using indicators such as financial independence, the effectiveness of Locally-Generated Revenue (PAD), efficiency, growth, and regional expenditure across various regions. Some studies have compared the financial performance of local governments in the Nusa Tenggara and Papua islands, the financial capacity of regions in Java and Sumatra, and the financial performance of provinces in Sumatra before and during the COVID-19 pandemic. Other research has focused exclusively on analyzing financial independence and the effectiveness of locally-generated revenue in Aceh Province. However, these studies have not specifically compared regional financial independence, the effectiveness of locally-generated revenue, and the effectiveness of regional expenditure between the two provinces that hold special autonomy status: Aceh and Papua.

This research gap serves as a crucial basis for the present study, given that Aceh and Papua receive Special Autonomy Funds despite having distinct economic characteristics and fiscal capacities; thus, a direct comparison between the two can provide a more relevant empirical picture regarding the success of special autonomy implementation in Indonesia. This comparison is vital for evaluating regional transfer policies—specifically in assessing whether the magnitude of special autonomy funds aligns with the increase in real fiscal capacity in each region—and offers insights for local governments to improve the quality of financial governance in regions with special autonomy status.

Based on this background, this study aims to compare the levels of regional financial independence, the effectiveness of Locally-Generated Revenue (PAD), and the effectiveness of regional expenditure among regency and city governments in Aceh and Papua provinces during the 2021–2022 period. The findings are expected to contribute academically to the development of research on public sector accounting and regional finance, while also serving as a practical basis for local and central governments to formulate more effective regional financial management policies for special autonomy regions.

RESEARCH METHODS

This study employs a quantitative research design with a comparative approach, aiming to compare the regional financial performance of regency/city governments in Aceh Province and Papua Province. A quantitative approach was selected because the data consists of numerical figures analyzed using statistical methods to test established hypotheses, while a comparative approach was chosen because the study aims to identify differences in the levels of regional financial independence, the effectiveness of Locally-Generated Revenue (PAD), and the effectiveness of regional expenditure between the two regions.

Research Object, Population, and Sample. The object of the study comprises all regency/city governments in Aceh Province and Papua Province, utilizing secondary data in the form of Regional Budget (APBD) realization reports. The research population encompasses all regencies and cities in both provinces: 23 in Aceh Province and 28 in Papua Province. A saturated sampling technique (census) was used, meaning the entire population served as the research sample; thus, the sample consists of all regencies and cities in Aceh and Papua without exception.

Data Collection Techniques. The study utilizes secondary data in the form of Budget Realization Reports (LRA) from regencies and cities in Aceh and Papua for the 2021–2022 period, obtained via documentation techniques from the official website of the Audit Board of the Republic of Indonesia (BPK RI). With a two-year observation period covering 51 regencies/cities, the study yields a total of 102 observations. In addition to documentation, a literature review technique was employed to establish the theoretical basis, empirical references, and relevant concepts using journals, books, and other literature supporting the analysis.

Operational Definitions of Variables. This study compares three primary variables. First is regional financial independence, which reflects the local government's ability to finance administrative and development activities using Locally-Generated Revenue (PAD); this is measured by the ratio of PAD to transfer funds, multiplied by 100 percent. Second is PAD effectiveness, which indicates the local government's ability to meet established PAD targets; this is measured by the ratio of realized PAD to the PAD target, multiplied by 100 percent. Third, regional expenditure effectiveness—which reflects a local government's ability to execute expenditure in accordance with its plan—is measured by the ratio of realized regional expenditure to the budgeted regional expenditure, multiplied by 100 percent. These three ratios are calculated using Budget Realization Report (LRA) data from each regency/city for every fiscal year within the study period, applying the assessment criteria presented in Tables 1 through 3 below.

The assessment criteria for regional financial independence are divided into six categories based on the ratio percentage: 0–10% (Very Low), 10.01–20% (Low), 20.01–30% (Moderate), 30.01–40% (Fairly Good), 40.01–50% (Good), and above 50% (Very Good). Meanwhile, the assessment criteria for Locally-Generated Revenue (PAD) effectiveness are divided into five categories: below 60% (Ineffective), 60–80% (Less Effective), 80–90% (Fairly Effective), 90–100% (Effective), and above 100% (Highly Effective). Conversely, the criteria for regional expenditure effectiveness are inverted; the lower the ratio of realized expenditure to the budget, the better the category: above 100% (Ineffective), 90–100% (Less Effective), 80–90% (Fairly Effective), 60–80% (Effective), and below 60% (Highly Effective). These three sets of criteria serve as the reference for interpreting the ratio values obtained by each regency/city.

Table 1. Criteria for Assessing Regional Financial Independence

Percentage (%)	Criteria
0 – 10	Very Poor
10,01 – 20	Poor
20,01 – 30	Fair
30,01 – 40	Satisfactory
40,01 – 50	Good
> 50	Very Good

Table 2. Criteria for Assessing the Effectiveness of Locally-Generated Revenue (PAD)

Percentage (%)	Criteria
< 60	Ineffective
60 – 80	Less Effective
80 – 90	Moderately Effective
90 – 100	Effective

Percentage (%)	Criteria
> 100	Highly Effective

Table 3. Criteria for Assessing Regional Expenditure Effectiveness

Percentage (%)	Criteria
> 100	Ineffective
90 – 100	Less Effective
80 – 90	Moderately Effective
60 – 80	Effective
< 60	Highly Effective

Data Analysis Techniques. The data analysis in this study utilized IBM SPSS Statistics software and proceeded through three main stages. The first stage involved descriptive statistics—a branch of statistics focused on describing and detailing data characteristics—including the minimum and maximum values, the mean, and the standard deviation for each variable across both provinces. Minimum and maximum values were used to identify the range of the variables, the mean indicated general trends, and the standard deviation measured the dispersion of the data relative to the mean.

The second stage was the normality test, aimed at determining whether the research data followed a normal distribution; this served as the basis for selecting the appropriate statistical method for hypothesis testing. The Shapiro-Wilk method was employed for this purpose, as it is considered more sensitive and accurate in detecting data normality when sample sizes per group are relatively small. Data were considered normally distributed if the significance value (Sig.) exceeded 0.05, and non-normally distributed if the value was less than 0.05. The results of this normality test determined whether hypothesis testing would utilize a parametric approach (Independent Sample t-Test) or a non-parametric approach (Mann-Whitney U Test).

The third stage was hypothesis testing. Since the normality test results indicated that the research data were generally not normally distributed, the Mann-Whitney U Test—a non-parametric alternative to the Independent Sample t-Test—was used to test the hypotheses. The Mann-Whitney test is used to determine whether two independent samples originate from the same population and to compare the medians of two independent groups measured on ordinal, interval, or ratio scales that do not follow a normal distribution. This test, also known as the Mann–Whitney–Wilcoxon (MWW) test, serves as a non-parametric alternative to the t-test for comparing the medians of two groups derived from the same population. Mathematically, the Mann-Whitney test statistics are formulated as $U_1 = n_1n_2 + n_1(n_1+1)/2 - R_1$ and $U_2 = n_1n_2 + n_2(n_2+1)/2 - R_2$, where U represents the test statistic, n denotes the sample size of each group, and R represents the sum of ranks for each group. The test was conducted on three research variables—regional financial independence, Locally-Generated Revenue (PAD) effectiveness, and regional expenditure effectiveness—with the null hypothesis (H_0)

stating that there is no difference between regencies/cities in Aceh and Papua, and the alternative hypothesis (Ha) stating that there is a difference between the two. The decision-making criterion applied was that if the Asymp. Sig. (2-tailed) value is less than 0.05, H0 is rejected and a significant difference between the two groups is indicated; conversely, if the significance value is greater than 0.05, H0 is accepted and no significant difference is indicated.

RESEARCH RESULT

Overview of the Research Subject. This study was conducted on regency and city governments in Aceh and Papua Provinces, covering the observation period of 2021–2022. The selection of these two provinces was based on differences in fiscal characteristics, geographical conditions, economic capacity, and patterns of dependency on central government transfers. Aceh Province possesses an economic structure supported by agriculture, plantations, trade, services, and—in certain areas—oil and gas; urban areas such as Banda Aceh and Lhokseumawe tend to have a stronger Locally-Generated Revenue (PAD) structure compared to regions with an agrarian economic base. Meanwhile, Papua Province features a vast geographical area, complex topography, and uneven inter-regional accessibility. Despite possessing significant natural resource potential—particularly in the mining, forestry, fisheries, and agricultural sectors—this potential has not been fully converted into optimal PAD across all regencies and cities due to development disparities, infrastructure limitations, and low fiscal administrative capacity in certain areas.

The research subjects comprise all regencies and cities in both provinces for which Budget Realization Report (LRA) data for 2021–2022 was available: 23 regencies/cities in Aceh Province and 28 regencies/cities in Papua Province. With a two-year observation period, this resulted in a total of 102 observations. Data from 2021–2022 was selected because this period reflects the phase of regional fiscal recovery following the economic pressures of the COVID-19 pandemic, a time when local governments faced the challenges of maintaining revenue stability, optimizing PAD realization, and ensuring effective regional spending to support economic recovery and public services. The data processing results are presented through three stages of analysis: descriptive statistics, a normality test, and the Mann-Whitney U Test for difference analysis.

Descriptive Statistical Analysis. The descriptive statistics results are presented in Table 4. Regarding the regional financial independence variable, Aceh Province recorded a mean value of 11.2807%—higher than Papua's 4.8777%—indicating that, in general, regencies and cities in Aceh possess a superior ability to finance governmental needs through Locally-Generated Revenue (PAD), thereby resulting in a relatively lower level of dependence on transfer funds compared to Papua. Aceh's maximum value of 30.63% also exceeded Papua's 27.75%, demonstrating that certain regions within Aceh managed to achieve a more optimal level of fiscal independence.

Regarding the PAD effectiveness variable, Papua Province exhibited a higher mean value (99.5450%) compared to Aceh (92.8463%), indicating that local governments in Papua were generally more capable of meeting established PAD targets than those in Aceh. However, Papua's standard deviation (49.51027) was significantly higher than Aceh's (20.60199); this reveals much greater variation in PAD effectiveness across regions in Papua, meaning that despite the higher average, performance was unevenly distributed among its regencies and cities.

Meanwhile, regarding the regional expenditure effectiveness variable, Aceh Province again showed a higher mean value (99.4152%) compared to Papua (91.9454%), indicating that regency and city governments in Aceh were generally more successful in executing expenditure budgets in accordance with their plans. Aceh's maximum expenditure effectiveness value of 131.98% also surpassed Papua's 103.05%, suggesting that some regions in Aceh realized expenditures exceeding their planned budget targets. Overall, the descriptive statistics indicate that Aceh tends to outperform in terms of financial independence and regional expenditure effectiveness, whereas Papua performs relatively better regarding PAD effectiveness; furthermore, the high standard deviation values across several variables highlight performance disparities among regencies and cities within each province.

Normality Test Results. Normality testing was conducted on all research variables by stratifying the data by province. The Shapiro-Wilk method was employed, as it is considered more sensitive and accurate for the relatively limited sample sizes per group. The normality test results are presented in Table 5.

Table 4. Results of Descriptive Statistical Analysis

Province	Statistics	Regional Financial Autonomy	Effectiveness of Locally-Generated Revenue	Effectiveness of Regional Government Spending
Aceh	Mean	11,2807	92,8463	99,4152
	N	46	46	46
	Std. Deviation	4,68535	20,60199	12,54971
	Minimum	3,08	53,32	71,10
	Maximum	30,63	178,01	131,98
Papua	Mean	4,8777	99,5450	91,9454
	N	56	56	56
	Std. Deviation	6,61337	49,51027	4,91080
	Minimum	0,50	4,30	77,16
	Maximum	27,75	251,36	103,05
Total	Mean	7,7653	96,5240	95,3141
	N	102	102	102
	Std. Deviation	6,62188	39,18133	9,86184

Province	Statistics	Regional Financial Autonomy	Effectiveness of Locally-Generated Revenue	Effectiveness of Regional Government Spending
	Minimum	0,50	4,30	71,10
	Maximum	30,63	251,36	131,98

Table 5. Shapiro-Wilk Normality Test Results

Variabel	Provinsi	Statistic	df	Sig.
Kemandirian Keuangan Daerah	Aceh	0,812	46	0,000
	Papua	0,635	56	0,000
Efektivitas PAD	Aceh	0,896	46	0,001
	Papua	0,920	56	0,001
Efektivitas Belanja Daerah	Aceh	0,867	46	0,000
	Papua	0,976	56	0,336

Based on the results of the normality test using the Shapiro-Wilk method, it can be concluded that the majority of research variables across both provincial groups do not follow a normal distribution. Regarding the regional financial independence variable, both Aceh and Papua yielded significance values of 0.000—below the 0.05 threshold—indicating a non-normal distribution. For the Locally-Generated Revenue (PAD) effectiveness variable, both Aceh and Papua showed significance values of 0.001, which is also less than 0.05. Meanwhile, regarding the regional expenditure effectiveness variable, Aceh showed a significance value of 0.000 (non-normal), whereas Papua showed a value of 0.336 (normal); however, since one of the groups for this variable failed to meet the normality assumption, the regional expenditure effectiveness variable is overall considered not to follow a normal distribution. Consequently, as the research variables generally do not satisfy the normality assumption, hypothesis testing proceeded using the non-parametric Mann-Whitney U Test approach.

Table 6. Mann-Whitney Test Ranks Results

Variabel	Province	N	Mean Rank	Sum of Ranks
Regional Financial Independence	Aceh	46	72,87	3352,00
	Papua	56	33,95	1901,00
Effectiveness of Locally-Generated Revenue	Aceh	46	51,72	2379,00
	Papua	56	51,32	2874,00
Effectiveness of Regional Expenditure	Aceh	46	62,62	2880,50
	Papua	56	42,37	2372,50

Based on the "Ranks" table, regency and city governments in Aceh Province exhibit higher mean rank values compared to those in Papua regarding the variables of regional financial independence (72.87 versus 33.95) and regional expenditure effectiveness (62.62 versus 42.37), indicating that both aspects are relatively better in Aceh. Meanwhile, regarding the variable of Locally-Generated Revenue (PAD) effectiveness, the mean rank values for Aceh and Papua are nearly identical—51.72 and 51.32, respectively—suggesting that the local governments of both provinces possess comparable capabilities in meeting their PAD targets. To determine whether these differences are statistically significant, the results must be further examined using the "Test Statistics" data presented in Table 7 below.

Table 7. Mann-Whitney U Test Results

Variable	Mann-Whitney U	Z	Asymp. Sig. (2-tailed)	Decision	Interpretation
Regional Financial Independence	305,000	-6,611	0,000	H0 rejected	There is a significant difference; Aceh is higher (mean rank 72.87 vs. 33.95)
Effectiveness of Locally-Generated Revenue (PAD)	1278,000	-0,067	0,946	H0 accepted	There is no significant difference; mean ranks are nearly equal (51.72 vs. 51.32)
Effectiveness of Regional Expenditure	776,500	-3,440	0,001	H0 rejected	There is a significant difference; Aceh is higher (mean rank 62.62 vs. 42.37)

Test results for the regional financial independence variable show a significance value of 0.000—less than 0.05—meaning H0 is rejected and H1 is accepted. Based on mean rank, regencies/cities in Aceh scored 72.87, significantly higher than Papua's 33.95, confirming that regional financial independence in Aceh is significantly better than in Papua. The highest independence value in Aceh was recorded in Banda Aceh City in 2022 (30.63%), while the lowest was in Southeast Aceh Regency in 2022 (3.08%). In Papua, the highest value was recorded in Jayapura City in 2022 (27.75%), while the lowest was in Mamberamo Raya Regency (0.50%).

For the Locally-Generated Revenue (PAD) effectiveness variable, the significance value was 0.946—greater than 0.05—meaning H0 is accepted and H2 is rejected. The mean ranks for Aceh (51.72) and Papua (51.32) were nearly equal, indicating that the ability of both provinces to realize PAD targets is relatively balanced, even if not descriptively identical. The highest PAD effectiveness value in Papua was recorded in Mappi Regency (251.36%), while the lowest was in Mamberamo Raya Regency in 2021 (4.30%). In Aceh, the highest value was recorded in Simeulue Regency in 2021 (178.01%), while the lowest was in Sabang City in 2022 (53.32%).

For the regional expenditure effectiveness variable, the significance value was 0.001—less than 0.05—meaning H0 is rejected and H3 is accepted. Aceh's mean rank of 62.62 was higher than Papua's 42.37, indicating that regional expenditure realization in Aceh is significantly more effective than in Papua. In Aceh, the highest expenditure effectiveness score was recorded in North Aceh Regency in 2021 at 131.98%, while the lowest was recorded in Bener Meriah Regency in 2021 at 71.10%. In Papua, the highest score was recorded in Yapen Islands Regency in 2022 at 103.05%, whereas the lowest score—also from Yapen Islands Regency but in 2021—was 77.16%.

Overall, hypothesis testing results indicate that two of the three research variables—regional financial independence and regional expenditure effectiveness—showed significant differences between Aceh and Papua, whereas the effectiveness of Locally-Generated Revenue (PAD) did not show a significant difference. These findings suggest that the disparity in fiscal capacity between the two provinces is more pronounced in terms of self-financing capability and expenditure realization, while both provinces demonstrated relatively comparable performance regarding revenue target achievement.

DISCUSSION

A comparison of regional financial independence between Aceh and Papua reveals that, based on descriptive statistics, Aceh's average regional financial independence ratio stands at 11.2807% (categorized as "low"), while Papua's is 4.8777% (categorized as "very low") according to established assessment criteria. Although Aceh possesses a higher level of independence than Papua, both provinces remain fundamentally unable to optimally finance their governance and development needs through Locally-Generated Revenue (PAD), resulting in a continued high reliance on central government transfer funds. The independence ratios in Aceh range from a minimum of 3.08% to a maximum of 30.63%, reflecting fiscal capacity variations across regencies and cities ranging from "very low" to "moderate"; conversely, Papua exhibits a lower range of 0.50% to 27.75%, indicating that the majority of its regencies and cities fall within the "very low" to "moderate" independence categories.

The Mann-Whitney U Test yielded a significance value of 0.000—below the 0.05 threshold—leading to the acceptance of H1; this confirms a significant difference in regional financial independence levels between regencies and cities in Aceh and Papua. The mean rank for Aceh (72.87) is substantially higher than that of Papua (33.95), suggesting that Aceh's regional fiscal capacity is relatively superior in supporting the implementation of regional autonomy. This disparity may be attributed to Aceh's more stable economic structure, a more developed trade and services sector, and more optimal management of regional resources, whereas the low independence observed in Papua highlights a persistent, heavy reliance on central government transfers.

Theoretically, the regional financial independence ratio reflects a local government's capacity to fund governance, development, and public service activities using its own revenue sources; a higher level of independence correlates with reduced reliance on central transfers, while a low ratio indicates an "instructive" relationship pattern, signifying central government dominance in regional financing. Significant differences in the level of regional financial independence between Aceh and Papua may be attributed to the distinct fiscal and economic characteristics of each region. Regencies and cities in Aceh generally possess a more diversified economic base—particularly in the agricultural sector (contributing 30.06%) and the trade sector (14.3%) in 2021—thereby offering greater scope for optimizing Locally-Generated Revenue (PAD). Conversely, Papua's economy in 2021 was dominated by the mining and quarrying sector, which contributed 40.80% to growth; this concentration in the extractive sector, combined with complex geographical conditions, resulted in an uneven distribution of economic activity across the region, ultimately limiting the optimization of PAD sources and affecting the level of regional financial independence.

The study's results, revealing significant differences in regional financial independence ratios between Aceh and Papua, align with the observed implementation of special autonomy in both regions. This demonstrates that while both Aceh and Papua receive Special Autonomy Funds, their respective abilities to translate this fiscal support into regional independence differ; thus, the funds do not automatically yield identical levels of independence. These findings are consistent with prior research indicating that regions on the island of Papua face greater challenges regarding fiscal independence compared to other areas, as well as studies identifying disparities in independence levels driven by variations in economic capacity and fiscal management. Furthermore, the findings reinforce research characterizing the financial independence of regencies and cities in Aceh as extremely low, marked by an "instructive" relationship (characterized by top-down directives). Complex geography, infrastructure limitations, and uneven economic development contribute to the low contribution of PAD to total regional revenue; consequently, despite sharing special autonomy status, the two regions differ in their fiscal independence capabilities and have yet to fully reduce their reliance on the central government.

A Comparison of Locally-Generated Revenue (PAD) Effectiveness between Aceh and Papua. Descriptive statistics indicate that the average PAD effectiveness ratio was 92.8463% for Aceh and 99.5450% for Papua, suggesting that, descriptively, the level of PAD effectiveness in Papua was slightly higher than in Aceh. Based on PAD effectiveness criteria, ratios between 90% and 100% are generally categorized as "effective"; thus, both Aceh and Papua fall into this category, despite the slight difference in their average values. Regarding minimum and maximum values, Aceh's PAD effectiveness ranged from 53.32% to 178.01%, whereas Papua's range was significantly wider—spanning 4.30% to 251.36%—indicating substantial variation among regencies and cities, particularly in Papua.

The Mann-Whitney U Test yielded a significance value of 0.946 (exceeding the 0.05 threshold), leading to the rejection of H2; this implies there is no significant difference in PAD effectiveness between regency/city governments in Aceh and Papua. The mean ranks for both provinces were also remarkably similar—51.72 for Aceh and 51.32 for Papua—confirming that their respective abilities to meet PAD targets are balanced and show no striking disparity. These findings indicate that, despite differences in economic, geographic, and fiscal conditions between Aceh and Papua, their capacity to achieve PAD targets is generally comparable, resulting in nearly equivalent levels of effectiveness regarding regional revenue planning and realization.

Conceptually, the PAD effectiveness ratio emphasizes the alignment between targets and actual realization rather than the nominal value of the PAD itself; consequently, a region with low PAD can still be deemed effective if it successfully meets its established targets. The absence of significant differences may be attributed to the practice of setting realistic Locally-Generated Revenue (PAD) targets tailored to each region's specific potential; local governments typically base these targets on prior-year performance and estimates of current-year revenue potential, resulting in similar likelihoods of meeting the targets. This situation may also be linked to the post-COVID-19 economic recovery phase during 2021–2022, a period when local governments in both provinces tended to formulate more realistic PAD targets. In Aceh, for instance, several regions saw actual PAD fall short of targets in 2021—largely due to targets having been set too high—but experienced improved realization rates that came closer to meeting the targets in 2022.

The results of this study align with previous research indicating no significant difference in effectiveness ratios between the pre-pandemic and COVID-19 pandemic periods; this suggests that the effectiveness of Locally-Generated Revenue (PAD) remained relatively stable despite varying economic and geographic conditions. The study also corroborates findings of increased PAD target achievement in several regions of Aceh—demonstrating local capacity for effective revenue target management—and the insight that inter-regional PAD effectiveness depends not merely on the absolute volume of PAD, but on the ability to align targets with actual potential. Thus, despite disparities in fiscal and economic capacity between the regions, Aceh and Papua demonstrate relatively similar levels of success in meeting their PAD targets.

Comparison of Regional Expenditure Effectiveness between Aceh and Papua. Descriptive statistics reveal an average regional expenditure effectiveness ratio of 99.4152% for Aceh and 91.9454% for Papua, indicating higher effectiveness in Aceh. Aceh’s average, approaching 100%, implies that actual regional expenditure in most regencies and cities closely matched planned budgets; Papua also demonstrated a commendable level of effectiveness, albeit a lower one. Regarding minimum and maximum values, Aceh’s range was 71.10% to 131.98%, whereas Papua’s was 77.16% to 103.05%. Aceh’s higher maximum value indicates instances where actual expenditure exceeded planned budgets, while its higher standard deviation (12.54971 compared to Papua’s 4.91080) reflects greater variation in expenditure effectiveness across its regencies and cities.

The Mann-Whitney U Test yielded a significance value of 0.001—below the 0.05 threshold—leading to the acceptance of H3; this confirms a significant difference in regional expenditure effectiveness between regency/city governments in Aceh and Papua. Based on mean rank, Aceh (62.62) scored higher than Papua (42.37), indicating that the realization of regional expenditure in Aceh was statistically more effective than in Papua, and that the processes of budget absorption and development program implementation in Aceh tended to be more optimal.

This significant difference in regional expenditure effectiveness is closely linked to the dynamics of regional budget (APBD) management during the 2021–2022 period. Local governments in Aceh demonstrated relatively more stable expenditure realization rates, largely due to more structured budget governance and more accessible regional geography; official data shows that APBD realization across Aceh’s regencies and cities during 2021–2022 generally aligned with established budget plans. Conversely, regional expenditure effectiveness in Papua faced greater challenges stemming from complex geographical conditions, limited infrastructure, and a vast, difficult-to-access territory—factors that frequently hindered the speed of budget absorption and the execution of development programs. By way of illustration, Papua’s APBD realization in 2021 reached only 84.54% of the total budget, leaving approximately IDR 2.717 trillion unspent—a situation the Papua Regional House of Representatives (DPR Papua) deemed detrimental to the public, as development programs failed to operate optimally.

These findings align with previous research identifying significant differences in regional expenditure ratios, indicating that regional spending is heavily influenced by both external and internal conditions facing local governments. This study is further supported by analyses showing that the utilization of the regional budget (APBD) in Aceh remains dominated by operational expenditures, resulting in an unbalanced distribution of spending. These conditions underscore that expenditure effectiveness depends not merely on the size of the available budget, but also on institutional capacity to absorb and allocate funds in a timely and targeted manner; consequently, the disparity in expenditure effectiveness between Aceh and Papua reflects a gap in regional budget implementation capacity—a gap driven by factors such as planning quality, bureaucratic coordination, territorial size, geographical conditions, limited supporting infrastructure, and uneven development distribution.

CONCLUSION

Based on the results of the Mann-Whitney U Test analysis conducted on 102 observations of regencies and cities in Aceh and Papua during the 2021–2022 period, this study draws three main conclusions. First, there is a significant difference in regional financial independence between Aceh and Papua (Sig. 0.000); Aceh demonstrates a higher level of fiscal independence, although both regions remain classified as having low independence and are heavily reliant on central government transfer funds.

Second, there is no significant difference in the effectiveness of Locally-Generated Revenue (PAD) between the two provinces (Sig. 0.946), indicating that the capacity of local governments in Aceh and Papua to meet PAD targets is relatively comparable, despite slight differences in their mean values.

Third, there is a significant difference in the effectiveness of regional expenditure between the two provinces (Sig. 0.001); Aceh exhibits a higher level of expenditure effectiveness than Papua, a result consistent with superior budget governance quality and more favorable geographical conditions.

Overall, these findings confirm that Aceh generally outperforms Papua in regional financial performance regarding financial independence and expenditure effectiveness, whereas both special autonomy provinces demonstrate relatively comparable capacity regarding the effectiveness of Locally-Generated Revenue (PAD).

IMPLICATIONS AND RECOMMENDATIONS

Local governments in Papua Province are advised to strengthen regional financial independence by intensifying and extending potential sources of Locally-Generated Revenue (PAD), thereby reducing reliance on central government transfer funds.

Local governments in Aceh Province are advised to maintain the levels of independence and expenditure effectiveness already achieved, while simultaneously improving the quality of PAD planning to further optimize effectiveness.

For local governments in both provinces, there is a need to improve the quality of budget planning and execution to ensure budgets are more realistic and effectively targeted—particularly for Papua, to address the geographical and infrastructural constraints affecting budget absorption.

Future researchers are advised to broaden the scope of study by extending the observation period or including other special autonomy provinces, and to consider additional variables—such as expenditure efficiency, PAD growth, and the level of fiscal dependency—to provide a more comprehensive picture of regional financial performance.

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