

EVALUATION OF LOCAL REVENUE AS AN INSTRUMENT OF REGIONAL FISCAL STRENGTHENING IN THE MALUKU ISLANDS: ELASTICITY AND EFFECTIVENESS APPROACH

*(EVALUASI PENDAPATAN ASLI DAERAH SEBAGAI INSTRUMEN PENGUATAN
FISKAL DAERAH DI KEPULAUAN MALUKU: PENDEKATAN ELASTISITAS DAN
EFEKTIVITAS)*

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Abstrak

Penelitian ini bertujuan untuk 1) Menganalisis tingkat elastisitas Pendapatan Asli Daerah (PAD) terhadap Produk Domestik Regional Bruto (PDRB), 2) Mengevaluasi tingkat efektivitas pencapaian target PAD dan 3) Mengkaji peranan PAD dalam memperkuat kapasitas fiskal daerah. Melalui pendekatan elastisitas dan efektivitas, hasil menunjukkan 1) elastisitas PAD terhadap PDRB di Provinsi Maluku menunjukkan nilai rata-rata moderat (1,13), namun terjadi disparitas signifikan antarwilayah. Kota Ambon dan MBD sangat fluktuatif, sementara SBT mencatat elastisitas negatif; 2) Efektivitas PAD di Provinsi Maluku dan Kota Ambon tergolong tinggi dan stabil, sedangkan Maluku Tengah dan Maluku Barat Daya menunjukkan efektivitas rendah dan fluktuatif. Kabupaten Seram Bagian Timur mencatat efektivitas sangat tinggi namun tidak konsisten, didorong oleh penerimaan insidental, yang mencerminkan belum kuatnya struktur kapasitas fiskal daerah. Derajat desentralisasi fiskal di Provinsi Maluku dan empat kabupaten/kota masih tergolong rendah hingga sangat rendah, dengan pola hubungan fiskal yang dominan bersifat “instruktif” dan “konsultatif.” Hal ini mencerminkan keterbatasan kapasitas fiskal daerah dan tingginya ketergantungan pada transfer pusat, khususnya di wilayah kabupaten seperti Seram Bagian Timur dan Maluku Tengah.

Kata Kunci: Pendapatan Asli Daerah, Kapasitas Fiskal, Elastisitas, Efektivitas, Kepulauan Maluku

Abstract

This study aims to 1) Analyze the level of elasticity of local own-source revenue (PAD) to gross regional domestic product (GRDP), 2) Evaluate the level of effectiveness of PAD target achievement and 3) Assess the role of PAD in strengthening regional fiscal capacity. Through the elasticity and effectiveness approaches, the results show 1) the elasticity of PAD to GRDP in Maluku Province shows a moderate average value (1.13), but there are significant disparities between regions. Ambon City and MBD were highly volatile, while SBT recorded negative elasticity; 2) The effectiveness of PAD in Maluku Province and Ambon City was high and stable, while Central Maluku and Southwest Maluku showed low and fluctuating effectiveness. East Seram Regency recorded very high but inconsistent effectiveness, driven by incidental revenues, which reflects the lack of a strong regional fiscal capacity structure. The degree of fiscal decentralization in Maluku Province and the four districts/municipalities is still classified as low to very low, with the dominant pattern of fiscal relations being “instructive” and “consultative”. This reflects limited regional fiscal capacity and high dependence on central transfers, especially in district areas such as East Seram and Central Maluku.

Keywords: Local Own Revenue, Fiscal Capacity, Elasticity, Effectiveness, Maluku Islands

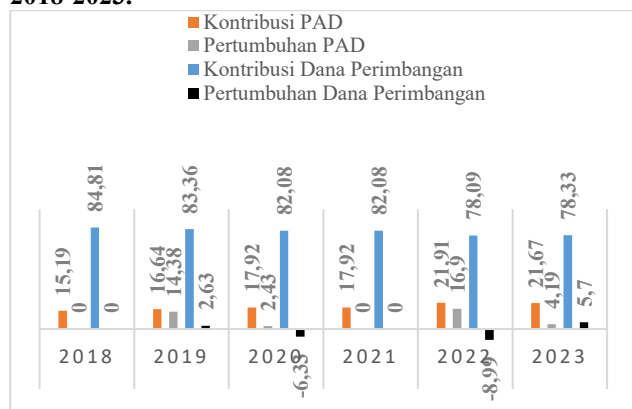
Introduction

The implementation of fiscal decentralization in Indonesia since 2001 aims to increase regional independence through strengthening the fiscal capacity and ability of local governments to explore sources of Local Own Revenue (PAD). PAD is a strategic indicator to measure the extent to which a region is able to finance development independently, without high dependence on transfer funds from the central government. In this context, PAD is not only seen as a source of funding, but also as a measure of the effectiveness of regional fiscal governance.

Nationally, the contribution of own-source revenues to total regional revenues is still relatively low. Data from the Directorate General of Fiscal Balance of the Ministry of Finance (2023) shows that the average contribution of own-source revenues to total regional revenues in Indonesia is only 23.7%, with high inequality between regions. In eastern Indonesia, including Maluku Province, this figure is even lower. Based on data from the Central Bureau of Statistics (BPS) of Maluku Province, the highest development financing in the balance fund is above 80 percent on average, but if you look at the rate of contribution of the balance fund each year divided by the

total revenue of Maluku Province, the contribution of the balance fund has decreased every year (2018-2023) lower than the PAD revenue, although in 2023 the growth rate of PAD is lower than the growth rate of the balance fund, it means that gradually the contribution of the balance fund, although high in quantity, has also experienced a fluctuating decline. Meanwhile, the contribution of regional own-source revenues (PAD) funds has increased stagnantly and fluctuated. In other words, there are efforts that have been made by the Maluku Province government in boosting revenue.

Figure 1: Contribution and Growth Rate of PAD and Balance Fund to Fiscal Revenue in Maluku Province 2018-2023.



Source: Directorate General of Fiscal Balance, Ministry of Finance

Maluku Province consists of 11 districts/cities characterized by an archipelago that is challenging in terms of economy, infrastructure, and fiscal logistics. Ambon City as the provincial capital recorded higher PAD performance than other districts, contributing more than 30% to the total GRDP of Maluku Province in 2023 (BPS, 2024). However, the contribution of Ambon City's PAD to total regional revenue is still fluctuating, at around 15.1% in 2022, indicating that the utilization of the urban tax base has not been optimal. Meanwhile, Central Maluku Regency has economic potential from the fisheries, tourism and agriculture sectors, but its PAD realization is only around 6.3% of total local revenue, showing a gap between potential and realization of fiscal revenue.

Kabupaten Seram Bagian Timur and Kabupaten Maluku Barat Daya are clear examples of regions with complex fiscal and geographical challenges. The fiscal self-sufficiency ratio in East Seram only reached 2.9% in 2022 (BPKAD SBT, 2023), while in Southwest Maluku, it has been even lower, below 3% for the past three years. These fiscal constraints impact on the ability of regions to sustainably fund public services. Therefore, a study on the effectiveness and elasticity of PAD in regions with low fiscal capacity is highly relevant to identify opportunities to increase fiscal independence.

Preliminary analysis shows that the elasticity of PAD to GRDP in Maluku Province and these four regions still shows an unstable trend. When GRDP increases, PAD does not necessarily grow proportionally. This indicates that economic activity has not been fully reflected in local

tax and levy revenues. Possible causes include the weakness of the tax collection system, the high informality of the economy, and the lack of integration of local fiscal and economic policies. Using an elasticity approach, this study will assess the sensitivity of PAD to regional economic growth, as a reflection of medium-term fiscal resilience.

The effectiveness of PAD is also an important issue in regional fiscal discourse. Data shows that the level of effectiveness of PAD in Central Maluku Regency in 2022 only reached 72.4%, while in Southwest Maluku Regency it was only 66.1% (Budget Realization Report, 2023). This suggests that despite the fiscal potential available, the achievement of revenue targets has not been optimal. Therefore, it is important to evaluate how PAD planning and realization reflect the fiscal capacity and managerial capability of the regions.

Most previous studies are still limited to partial analysis between PAD and economic indicators or fiscal dependency. For example, Syarifudin and Adi (2021) examined the determinants of PAD in districts/cities in Java using a panel data approach, while Mariano and Jorge (2020) in Public Finance Review discussed the relationship between central transfers and fiscal moral hazard in developing countries. Studies that simultaneously integrate PAD elasticity, realization effectiveness, and the role of PAD in shaping fiscal capacity in island regions are still scarce, both in the Indonesian and global contexts.

This research offers novelty through a combined approach: (1) measuring the elasticity of PAD to Gross Regional Domestic Product (GRDP) as an indicator of fiscal resilience; (2) evaluating the effectiveness of PAD target achievement as an indicator of fiscal efficiency; and (3) analyzing the role of PAD on regional fiscal capacity longitudinally in four selected districts in Maluku Province. This combination of approaches has not been widely applied in regional fiscal studies, especially in island regions that have unique geographical and economic characteristics.

This research is important to answer key questions regarding the extent to which PAD truly functions as a fiscal instrument in strengthening the financing capacity of regional development, particularly in Maluku Province and four districts/cities with very diverse fiscal conditions. The results of this study are expected to provide strategic recommendations for local and central governments in designing local potential-based fiscal policies to support the sustainable development of the archipelago. Based on this background, this study aims to:

1. To analyze the level of elasticity of Regional Original Revenue (PAD) to Gross Regional Domestic Product (GRDP) in Maluku Province, Ambon City, Central Maluku Regency, East Seram Regency and Southwest Maluku Regency.
2. Evaluate the effectiveness of PAD target achievement in Maluku Province, Ambon City, Central Maluku Regency, East Seram Regency and Southwest Maluku Regency.

3. Assess the role of own-source revenue in strengthening regional fiscal capacity in Maluku Province, Ambon City, Central Maluku Regency, East Seram Regency and Southwest Maluku Regency.

Theoretical Framework

Theory of Fiscal Decentralization and Regional Independence

Fiscal decentralization, as proposed by Oates (1972), is an effort to bring public services closer to the community by providing greater fiscal authority to local governments. In the Indonesian context, decentralization, which began in 2001, is expected to encourage regional fiscal independence through the optimization of local own-source revenues (PAD). However, data from the Ministry of Finance of the Republic of Indonesia (2023) shows that the contribution of PAD to total local revenue nationally is still relatively low, only 23.7% and in Maluku Province even ranges from 4-12%. This fact reinforces Oates' argument that the success of decentralization is highly dependent on regional fiscal capacity.

PAD as an Indicator of Fiscal Capacity

According to Musgrave and Musgrave (1989), PAD reflects the capacity of local governments to mobilize local economic resources independently. Strong PAD allows local governments to finance public expenditures without depending on transfers from the center, as well as improving accountability and allocation efficiency. A study by Fjeldstad and Heggstad (2012) on developing African countries shows that high dependence on central transfers can weaken local incentives to generate own-source revenues. Similar findings are also reflected in the World Bank report (2021), which emphasizes that regions with high PAD ratios tend to have more consistent and sustainable development performance.

Elasticity of PAD to GRDP

The elasticity of PAD to Gross Regional Domestic Product (GRDP) is a measure of the sensitivity of PAD revenue to regional economic growth. Stotsky and Wolde Mariam (2002) state that a high tax elasticity indicates that the local fiscal system is adaptive to economic dynamics, and is an important indicator of long-term fiscal resilience. Elasticities >1 indicate that economic growth is followed by a more than proportional increase in PAD (elastic), while elasticities <1 mean that PAD grows more slowly than GRDP (inelastic).

Research in India by Rao and Singh (2016) shows that high PAD elasticity is associated with regions that have a broad tax base, good management of the informal sector, and availability of fiscal infrastructure.

PAD Elasticity Value	Interpretation	Note	Source
< 1	Inelastic/weak	PAD grew slower than GRDP, leaving fiscal potential unexploited.	Stotsky & WoldeMariam (2002), Bahl & Bird (2008)
$1 - 2$	Ideal/Moderate/Stable	Balanced growth reflects a healthy and adaptive fiscal system.	World Bank (2007), Rao & Singh (2016)
$2 - 5$	Moderately elastic/responsive	Still positive could be due to fiscal expansion, tax reform, or improved compliance.	OECD (2009), Musgrave & Musgrave (1989)
> 5	Highly elastic/fluctuating	It needs to be investigated whether it is a one-off project or a non-recurring transfer.	Litvack, Ahmad & Bird (1998); UNESCAP (2017)
Negative value	anomalous/Unstable	Indicating a mismatch of PAD and GRDP could be due to a decline in PAD when the economy is growing.	Stotsky & WoldeMariam (2002); Alisjahbana (2005); Bappenas (2020)

PAD Effectiveness and Regional Administrative Capacity

PAD effectiveness is measured by comparing realized PAD with set targets. Overly high targets with low realization may indicate weak fiscal databases, inaccurate planning, or weak monitoring. Conversely, consistent target achievement reflects good fiscal governance (Bird, Martinez-Vazquez and Torgler, 2008). A study by Wahyuni and Sari (2021) on districts/cities in Indonesia found that regions with PAD effectiveness above 90% tend to have better tax information systems and institutional incentives.

Regional Fiscal Capacity and Fiscal Inequality

Regional fiscal capacity is measured through the ratio of PAD to regional expenditure or total revenue. In the fiscal literature, fiscal capacity is also a key indicator of regional independence (Bird and Vaillancourt, 2000). Inequality in fiscal capacity between regions, as reported in the Ministry of Finance's Regional Financial Performance Report (2023), shows that most districts/municipalities in Eastern Indonesia still have very low fiscal capacity. In this context, own-source revenue (PAD) is the only resource that can be directly controlled by local governments to strengthen the structure of development financing.

. Table 1. Interpretation of PAD Elasticity Value

Method

Research Locations

The research focuses on the following five administrative entities:

1. Maluku Province (Provincial Level)

As an aggregate of all districts/municipalities in the region, the provincial level reflects macro fiscal conditions

2. Kota Ambon

This is the provincial capital and the administrative, economic and service center of Maluku. Ambon City has the highest level of PAD and fiscal capacity among all regions in the province. In addition, the economic structure of Kota Ambon is dominated by the trade, services and government sectors, which are relatively more stable than other regions.

3. Central Maluku Regency

This Regency has the largest land area and population in Maluku, and has a central geographical position. Its economic structure is more diversified, including agriculture, fisheries and inter-island trade. Central Maluku was chosen because it represents a semi-urban area with a strong local economic base, and is the oldest district other than Ambon City

4. Kabupaten Seram Bagian Timur (SBT)

This is an area with a relatively underdeveloped level of economic development and undeveloped fiscal infrastructure. Its remote location and limited transportation access make it representative of remote areas that face challenges in managing local fiscal resources.

5. Kabupaten Maluku Barat Daya (MBD)

MBD is one of the outermost regencies of Indonesia.

Research Type and Approach

This research uses a descriptive and comparative quantitative approach, with the aim of measuring and analyzing the elasticity, effectiveness, and role of PAD on fiscal capacity longitudinally. This approach was chosen to provide a data-driven empirical understanding of regional fiscal dynamics in the Maluku Islands region.

Types of Data and Data Sources

This research uses secondary data obtained from: Central Bureau of Statistics (BPS) of Maluku Province and related districts/cities; Directorate General of Treasury of the Ministry of Finance of Maluku Province, Bappenda of Maluku Province. Bappenda Maluku.

Data Analysis Techniques

This study used several analysis techniques as follows:

1. PAD Elasticity Analysis

Using the elasticity formula:

$$E = \% \Delta \text{PAD} / \% \Delta \text{GRDP}$$

Elasticity Criteria:

$E > 1$ = PAD is elastic to GRDP

$E = 1$ = PAD grows proportionally to GRDP

$E < 1$ = PAD is inelastic to GRDP

2. Effectiveness Analysis of PAD Revenue

Using the ratio between PAD realization and PAD target:

$$\text{Effectiveness} = \text{Realized PAD} / \text{Target PAD} \times 100\%$$

Effective Criteria:

a) $\geq 100\%$ = Highly Effective

b) $90\% - < 100\%$ = Effective

c) $80\% - 90\%$ = Quite Effective

d) $60\% - 80\%$ = Less Effective

e) $< 60\%$ = Not Effective

3 Fiscal Independence and Capacity Analysis

Ratios are used:

$$\text{Self-Reliance Ratio} = \text{Local Revenue} / \text{Total Revenue} \times 100\%$$

$$\text{or Capacity Ratio / Index of Routine Capability (IKR)} = \text{Local Revenue} / \text{Total Expenditure} \times 100\%$$

Results and Discussion

Elasticity of Regional Original Revenue (PAD) to Gross Regional Domestic Product (GDP Applicable)

In general, the Province and four districts showed positive annual economic growth on average during 2019-2023 despite being affected by the pandemic in 2020. Aggregate data (districts/cities) through the average GRDP growth rate in Maluku Province shows a fairly solid performance with a significant post-pandemic recovery with an average growth value over the five years studied of 6.38%. Of the four districts studied, Southwest Maluku has a fairly high average GRDP growth of 12.22%, but this is strongly influenced by a momentary surge in 2020-2022 while in 2023 it does not grow at all. This means that this growth does not yet reflect the structural strength of the economy but the effect of government spending and large projects is temporary. This condition can be seen from the value of GRDP based on expenditure growth influenced by government consumption which rose sharply, gross fixed capital formation increased dramatically (airport, road and port physical projects) absorbing large funds in that year. This reinforces the result that there was a surge in GRDP due to temporary and centric projects. Ambon City and Central Maluku have stable GRDP growth rates averaging 6.10%, and 5.91% respectively, although Ambon City experienced a contraction in 2020 but recovered quite strongly compared to Central Maluku Regency in 2021. Meanwhile, East Seram Regency has the lowest average growth of 4.44% and is very volatile, even experiencing a contraction in 2023, (-3.54%).

Table 2. Annual Growth of GDRP at Current Prices in Maluku, Ambon, Central Maluku, SBT and MBD

Year		Province Maluku		Ambon		Central Maluku (Malteng)		East Seram (SBT)		Southwest Maluku (MBD)	
		Rp (Million)	Growth %	Rp (Million)	Growth %	Rp (Juta)	Growth %	Rp (Million)	Growth %	Rp (Million)	Growth %
2018	2019	43,09	-	13,43	-	8,70	-	2,26	-	1,53	-
2019	2020	46,152	7,21	14,808	7,13	8,659	6,99	2,904	1,90	1,670	1,52
2020	2021	46,263	0,24	14,706	-0,69	8,719	0,69	2,914	0,33	1,989	19,06
2021	2022	48,893	5,68	15,574	5,91	9,108	4,46	3,177	9,05	2,263	13,80
2022	2023	54,057	10,56	17,175	10,27	9,985	9,63	3,638	14,47	2,868	26,70

20258.489 3,79 18.530 8,21 7,89 10.762 7,76 3.509,35 -3,54 2.868,30 0,00

Source: BPS Maluku Province, Year 2022 and Year 2024, Data processed.

Economic growth seen from the GRDP figure will also show a positive or negative elasticity value according to the percentage of GRDP growth? The calculation results in table 3.

Table 3. Elasticity of PAD to GRDP in Maluku, Ambon, Central Maluku, SBT and MBD Provinces

Year	GRDP Maluku		PAD Maluku		PAD Elasticity
	Value	Δ %	Value	Δ %	
2018	43.047,09	-	465.779.724.332	-	-
2019	46.152,82	7,21	532.803.030.626	14,39	1,996 (Elastic)
2020	46.263,47	0,24	545.752.866.622	2,43	10,13 (Very Elastic)
2021	48.893,68	5,68	545.752.866.622	0,00	0,00 (Stagnan)
2022	54.057,97	10,56	637.948.959.231	16,90	1,60 (Elastic)
2023	58.489,79	8,21	664.661.915.577	4,19	0,51 (No Elastic)
Avara					1,13
Year	GRDP Ambon		PAD Ambon		PAD Elasticity
	Value	Δ %	Value	Δ %	
2018	13.822,43	-	154.973.387.894,00	-	-
2019	14.808,72	7,13	182.952.217.679,00	18,04	2,53 (Elastic)
2020	14.706,63	-0,69	131.753.250.767,07	-27,51	39,87 (Very Elastic/Ekstrem)
2021	15.574,08	5,91	153.520.817.935,00	16,51	2,79 (Elastic)
2022	17.175,04	10,27	155.849.511.597,73	1,52	0,15 (No Elastic/W
2023	18.530,70	7,89	256.112.861.068,00	64,30	8,15 (Very Elastic/Fl
Year	GRDP Malteng		PAD Malteng		PAD Elasticity
	Value	Δ %	Value	Δ %	
2018	8.093,70	-	59.820.016.826	-	-
2019	8.659,72	6,99	73.926.962.286	23,61	3,38 (Elastic)
2020	8.719,17	0,69	85.549.797.026,42	15,70	22,75 (Very Elastic/Ekstrem)
2021	9.108,38	4,46	90.062.230.711	5,28	1,18 (Elastic)

2022 9.985,79 9,63 80.918.459.234 -10,15 -1,05 (No Elastic/Negative)

2023 10.762,53 7,76 82.384.912.313 1,81 0,23 (No Elastic/Weak)

Year	GRDP SBT		PAD SBT		PAD Elasticity
	Value	Δ %	Value	Δ %	
2018	2.850,26	-	24.483.710.263	-	-
2019	2.904,40	1,90	35.679.632.850	45,78	24,09 (Very Elastic/Ekstrem)
2020	2.914,08	0,33	24.461.076.184,00	-31,44	-95,27 (Negative Elastic/Not Stabil)
2021	3.177,71	9,05	34.530.112.972	41,09	4,54 (High Elastic Fluctuating)
2022	3.638,14	14,47	15.540.924.456	-55,00	-3,80 (No Elastic/Negative)
2023	3.509,35	-3,54	17.277.189.313	11,19	-3,16 (No Elastic/Negative)
Year	GRDP MBD		PAD MBD		PAD Elasticity
	Value	Δ %	Value	Δ %	
2018	1.645,53	-	49.399.756.084	-	-
2019	1.670,54	1,52	81.978.771.788	65,91	43,35 (Very Elastic/Ekstrem)
2020	1.989,20	19,06	38.435.054.580	-53,10	-2,79 (No Elastic/Negative)
2021	2.263,97	13,80	40.359.731.637	5,00	0,36 (No Elastic/Weak)
2022	2.868,30	26,70	33.528.989.871	-16,93	-0,63 (No Elastic/Negative)
2023	2.868,30	0,00	47.855.252.617	42,71	No definition/GRDP not growth.

Source: BPS and ALCo DJPb Report Maluku Province, data processed

The contribution of local tax revenue to total own-source revenue (PAD) in Maluku Province averaged 76.10 percent during the 2018-2023 period, indicating that more than three-quarters of PAD came from tax revenue. This percentage reflects the accumulation of PAD realization from all 11 districts/cities, including the four areas that are the focus of this study, namely Ambon City, Central Maluku Regency, East Seram Regency (SBT), and Southwest Maluku Regency (MBD). The high proportion indicates that the structure of PAD revenue in Maluku is

still highly dependent on the tax component, both managed by the province and by district/municipal governments.

This dependency becomes important when linked to the elasticity of PAD to GRDP, which reflects the extent to which local revenues respond to economic growth. This research shows that in the pre-pandemic period (2019), regions such as SBT and MBD experienced very high PAD elasticities. In SBT, for example, hotel tax increased by 116%, Bea Perolehan Hak atas Tanah dan Bangunan (BPHTB) jumped by 957%, and entertainment tax grew by 34%. Meanwhile, in MBD, total PAD increased by 65.91% compared to the previous year, mainly driven by the billboard tax which increased more than 100 times or 11,048%. This finding suggests that in certain situations, tax intensification efforts can significantly contribute to an increase in PAD that exceeds the growth rate of GRDP. However, in 2020, when the COVID-19 pandemic began to seriously impact the economy, the elasticity of PAD in both regions plummeted to inelastic, even negative. This decline was caused by a sharp contraction in the services sector. In MBD, for example, entertainment tax fell by 97.72% and hotel tax by 90.61%, while at the same time GRDP actually experienced growth. This indicates that PAD base sectors are highly vulnerable to economic shocks, and the undiversified structure of PAD magnifies its impact on regional fiscal stability.

In general, the trend of PAD elasticity in Maluku Province shows a fluctuating pattern and tends to decline in recent years. In 2023, the value of PAD elasticity was again low at the provincial level and in most districts/cities. One of the main causes is the decline in cigarette tax realization, which has contributed more than 30% of total provincial tax revenue. Although some other tax components experienced growth, such as motor vehicle tax and fuel tax, their contribution has not been able to offset the contraction in the dominant tax type. This condition confirms that dependence on one or two main tax types makes PAD highly vulnerable to sectoral volatility.

The above findings are in line with the study of Musgrave and Musgrave (1989), which emphasizes that a local revenue structure that relies on narrow sources reduces fiscal responsiveness to economic growth. In the context of Indonesia, Boediono (2001) also noted that PAD optimization requires a combination of expanding the tax base (extensification) and improving the tax management system (intensification). The empirical analysis of Bahl and Linn (1992) shows that regions with weak tax institutional capacity tend to have lower fiscal elasticity despite their considerable economic potential.

Thus, the low PAD elasticity of Maluku Province in 2023, amid positive economic growth, reflects unhealthy fiscal dependency and the need for tax institutional reform at the local level. Although on average (2019-2023) Maluku's PAD elasticity is stable and moderate. However, taking into account the highly unstable sample districts of East Seram and Southwest Maluku, which appear to have a high average elasticity level, it turns out to be caused by momentary spikes.

Table 4. Average PAD Elasticity (2019-2023)

Wilayah	Average Elasticity of PAD	Economic Interpretation
Province Maluku	1,13	Stable, Moderate: PAD grows in line with GRDP. Indicates that the fiscal management system is responsive and predictable.
Ambon	10,83	High volatility: PAD is very sensitive to changes in GRDP. May come from large projects or unstable PAD sources.
Central Maluku	5,30	Moderately Responsive: High positive elasticity, indicating that PAD can grow faster than GRDP, but stability needs to be tested.
East Seram	-14,72	Highly Unstable: Negative and extreme values indicate structural imbalances. PAD may fall as the economy grows.
Southwest Maluku	10,07	Unstable, Extreme: High values are due to momentary spikes in PAD, rather than a strong and sustainable economic base.

The dynamics at the district/municipality level show striking disparities as seen in the average elasticity results (table 5). For example, Ambon City has a very high average elasticity value of 10.83, indicating high volatility and excessive sensitivity of PAD to GRDP. This phenomenon may be caused by dependence on certain PAD components, such as hotel and restaurant taxes, as well as fluctuations from large projects that are not recurrent or sustainable.

Kabupaten Maluku Tengah, with an elasticity of 5.30, shows relatively more stable characteristics than Ambon, but still implies the need to strengthen fiscal institutions so that the surge in PAD is not only temporary. In contrast, East Seram Regency (SBT) recorded an extreme negative elasticity value of -14.72, reflecting structural imbalances. This means that despite economic growth (GRDP), PAD revenue has contracted, mainly due to the services sector, which has been severely affected by the COVID-19 pandemic.

The average PAD elasticity of Southwest Maluku Regency (MBD) is 10.07, appearing to show fiscal performance that is highly responsive to economic growth. However, longitudinal analysis reveals that the elasticity is artificial, as it is driven by non-recurring spikes, such as in 2019 where revenue from billboard tax increased by 11,048%. This increase reflects more of an anomaly or one-off shock rather than the result of a consistently strong tax base. This phenomenon demonstrates the importance of distinguishing between true fiscal elasticity, which is derived from a broad, fair and sustainable tax structure, and artificial elasticity, which is derived from temporary events.

The overall value of the PAD elasticity of the four sample districts and the result of the contribution of taxes to the

total PAD of Maluku Province of 76.10% is an illustration of the very high fiscal dependence on taxes, especially on cigarette tax, motor vehicle tax, and billboard tax. Such dependence creates fiscal vulnerability, as these sources are highly sensitive to external factors such as national regulations, household consumption dynamics, and changes in the economic cycle. To build a more resilient fiscal capacity, it is necessary to transform the tax base from narrow and sectoral to broad, stable, and progressive, of course, it must be based on the potential of economic activity or based on GRDP such as the potential of agriculture, forestry and fisheries which is the largest contribution during 2019-2023 to the formation of GRDP at 23.53% (BPS Maluku, 2024), as well as strengthening digital-based administration as a means to streamline revenue.

Effectiveness of Local Owned Revenue

The effectiveness of Local Owned Revenue (PAD) is an indicator in assessing the fiscal performance and capacity of local governments in optimally exploring the potential of the local economy. In the context of fiscal decentralization in Indonesia, PAD effectiveness reflects the ability of local governments to set realistic targets and implement revenue collection efficiently and accountably.

Table 5. PAD Effectiveness of Maluku Province, Ambon City, Central Maluku, SBT, MBD

District	Year	Goal PAD (Rp)	Realization PAD (Rp)	Efektivity PAD (%)
Province Maluku	2018	807.617.106.568	465.779.724.332	57,67 (TE)
	2019	482.805.590.256	532.803.030.626	110,36 (SE)
	2020	526.647.678.361	545.752.866.622	103,63 (SE)
	2021	533.392.345.864	545.752.866.622	102,32 (SE)
	2022	588.888.454.731	637.948.959.231	108,33 (SE)
	2023	619.035.641.371	664.661.915.577	107,37 (SE)
	Average	—	—	98,28 (Efektive)
Ambon	2018	143.323.440.498	154.973.387.894	108,13 (SE)
	2019	162.761.891.568	182.952.217.679	112,40 (SE)
	2020	195.230.435.423	131.753.250.767	67,49 (KE)
	2021	190.056.780.701	153.520.817.935	80,78 (CE)
	2022	168.777.204.294	155.849.511.598	92,34 (E)
	2023	202.842.243.433	256.112.861.068	126,26 (SE)
	Average	—	—	97,90 (Efektive)
Kab. Central Maluku (Malteng)	2018	92.014.787.000	59.820.016.826	65,01 (KE)

	2019	79.566.758.000	73.926.962.286	92,91 (E)
	2020	83.302.557.000	85.549.797.026	102,70 (SE)
	2021	86.638.537.000	90.062.230.711	103,95 (SE)
	2022	111.305.706.000	80.918.459.234	72,70 (KE)
	2023	124.206.080.000	82.384.912.313	66,33 (KE)
	Average	—	—	83,60 (CE)
Kab. East Seram (SBT)	2018	27.659.669.288	24.483.710.263	88,52 (CE)
	2019	26.425.725.665	35.679.632.850	135,02 (SE)
	2020	23.161.146.275	24.461.076.184	105,61 (SE)
	2021	16.888.233.572	34.530.112.972	204,46 (SE)
	2022	26.388.233.572	15.540.924.456	58,89 (TE)
	2023	15.143.167.879	17.277.189.313	114,09 (SE)
	Average	—	—	117,43 (SE)
Kab. Southwest Maluku (MBD)	2018	66.566.488.695	49.399.756.084	74,21 (KE)
	2019	54.506.738.665	81.978.771.788	150,40 (SE)
	2020	147.655.112.606	38.435.054.580	26,03 (TE)
	2021	99.777.682.132	40.359.731.637	40,45 (TE)
	2022	178.546.319.577	33.528.989.871	18,78 (TE)
	2023	156.730.869.384	47.855.252.617	30,53 (TE)
	Average	—	—	56,73 (TE)

SE = Highly Effective E = Effective CE = Moderately Effective
KE = Less Effective. TE = Ineffective

The effectiveness of local own-source revenue (PAD) reflects how much the local government's ability to optimally realize the original revenue target. In this study, effectiveness is measured using the ratio of realized to targeted PAD over the period 2018-2023. The results show quite diverse dynamics between regions in Maluku Province, with effectiveness trends reflecting differences in economic structure, quality of fiscal institutions, and types of dominant revenue sources.

In general, the effectiveness of PAD in the study areas shows three main patterns. First, regions with a stable tax base and based on local consumption tend to record high and relatively consistent effectiveness. This can be seen in

Maluku Province and Ambon City, which on average recorded effectiveness above 95%. Major sources of own-source revenue such as motor vehicle tax, street lighting tax, and motor vehicle fuel tax contribute significantly and are relatively stable to realization. According to Bird, Martinez-Vazquez, and Torgler (2008), the stability of PAD effectiveness is strongly influenced by the reliability of the tax base and the sustainability of the collection system, including the use of information technology and data-based planning.

Second, high but anomalous PAD effectiveness was also found in certain regions, particularly East Seram Regency, which in 2021 recorded PAD realization more than double the target. However, this surge was caused by incidental revenues such as BPHTB and hotel/restaurant taxes due to land acquisition for public facility development projects. This phenomenon shows that the achievement of fiscal targets does not always reflect a structured strengthening of fiscal capacity. Fjeldstad and Heggstad (2012) note that incidental revenues without institutional strengthening tend to create unsustainable fiscal illusions.

Third, low PAD effectiveness is consistently found in regions with limited fiscal and institutional capacity, such as Central Maluku and Southwest Maluku. The average effectiveness of PAD in these two regions was below 85%, even below 60% in some years. High fluctuations occur because PAD realization is highly dependent on non-recurring types of revenue, such as Non-Metallic Minerals and Rocks Tax, BPHTB, or billboard tax, which surges momentarily and then plummets. Research by Wahyuni and Sari (2021) shows that regions that do not yet have a revenue planning system based on data and evaluation tend to set unrealistic targets, which leads to low fiscal effectiveness.

This finding reinforces the theory of Musgrave and Musgrave (1989), which asserts that fiscal effectiveness is a reflection of administrative capacity, planning accuracy, and the stability of the local economic base. In this context, the effectiveness of own-source revenues is not only about achieving numbers, but also about fiscal sustainability and revenue governance that can be relied upon in the medium and long term. Thus, the effectiveness of PAD in Maluku Province and the four districts/cities studied does not yet fully reflect a structured and sustainable fiscal capacity.

The Role of PAD: Performance and Degree of Fiscal Decentralization

Local fiscal capacity refers to the ability of local governments to finance development needs and public services independently through revenue sourced from within the region (specifically PAD). In this context, PAD serves as an instrument of fiscal independence and an important indicator in assessing local fiscal health.

Table 6. PAD Performance Index Table for Maluku Province, Ambon City, Central Maluku, SBT and MBD

Year	IKR Province Maluku (%)	IKR Ambon (%)	IKR Malteng (%)	IKR SBT (%)	IKR MBD (%)
2018	15,18	13,03	3,80	2,55	5,19
2019	16,57	14,08	4,04	3,37	7,37
2020	18,14	11,47	5,04	2,80	4,12
2021	18,14	13,47	5,22	3,79	4,10
2022	20,89	14,04	5,09	1,60	3,34
2023	22,27	21,51	5,05	1,71	4,98
Avarage	18,53	14,60	4,71	2,64	4,85

The Routine Capability Index (IKR) is an indicator that measures the ability of Regional Original Revenue (PAD) to finance routine regional operating expenditures, such as personnel expenditures, goods and services, interest, and social assistance. A high IKR reflects fiscal independence, while a low value indicates dependence on central transfers (Permendagri No. 77 of 2020; Kusumadewi, 2021).

The study of Musgrave & Musgrave (1989) emphasizes that one of the main functions of regional fiscal is the allocation function, namely the ability of regions to finance public service needs independently. In this context, IKR is an important indicator because it assesses the extent to which local revenues are able to fulfill this allocative function. Analysis of IKR data for Maluku Province and four districts/cities during 2018-2023 shows a significant disparity in fiscal capacity between regions.

In aggregate, Maluku Province shows a strong and steadily increasing IKR performance, from 15.18% (2018) to 22.27% (2023), with an average of 18.53%. This increase indicates an increase in fiscal capacity and the effectiveness of PAD collection, especially from major components such as Motor Vehicle Tax, PBBKB, and Cigarette Tax. This is in line with the findings of Bahl and Linn (1992), which state that fiscal capacity is influenced by economic structure, fiscal institutions, and the effectiveness of local tax collection systems.

Ambon City recorded an average IKR of 14.60%, with a trend that tends to increase and jumps sharply in 2023 to reach 21.51%. The fluctuations are likely to be influenced by the dynamics in PAD management and the efficiency of regional spending. The significant increase in the last year can be attributed to the digitalization of local tax services and more progressive intensification of retribution (Iskandar & Ramadhani, 2020).

In contrast to the positive trends in the province and Ambon City, the other three districts experienced low and stagnant IKR levels. Central Maluku district recorded an average IKR of 4.71%, reflecting its high dependence on transfer funds. This illustrates the weakness of the local tax base and the limited economic activities that can be exploited as a source of PAD.

The situation is more concerning in East Seram District, which has the lowest IKR value, with an average of only 2.64%. A sharp decline in 2022-2023 to below 2% indicates a potential fiscal crisis if central transfers are unstable. This condition is consistent with a study by

Martinez-Vazquez and Smoke (2011), which shows that peripheral regions with remote geographical characteristics tend to have very limited fiscal capacity.

Maluku Barat Daya district recorded an average IKR value of 4.85%, with an unsustainable spike in 2019 (7.37%). These fluctuations indicate the unstable PAD revenue system and dependence on temporary revenues such as billboard and restaurant taxes.

Overall, this analysis reinforces the conclusion that regions with a strong economic and fiscal administrative base already in place in Ambon Province and Kota Ambon are better able to demonstrate fiscal independence than vulnerable districts. This reinforces Bird and Smart's (2002) argument that fiscal decentralization does not necessarily increase fiscal independence without adequate administrative and institutional capacity.

Table 7. Value of PAD, Total Revenue and Ratio of Maluku Province, Ambon City, Malteng, SBT and MBD in 2018-2023

Province Maluku Year	PAD (Rp)	Total Revenue (Rp)	DDF (%)
2018	465.779.724.332	3.074.608.120.191	15,15
2019	532.803.030.626	3.203.799.759.626	16,63
2020	545.752.866.622	3.045.825.245.458	17,92
2021	545.752.866.622	3.045.825.245.458	17,92
2022	637.948.959.231	2.915.515.472.448	21,88
2023	664.661.915.577	3.068.566.443.640	21,66
Rata-rata			18,53
Ambon Year	PAD (Rp)	Total Revenue (Rp)	DDF (%)
2018	154.973.387.894	1.136.376.523.204	13,64
2019	182.952.217.679	1.258.222.283.189	14,54
2020	131.753.250.767,07	1.146.467.282.588	11,49
2021	153.520.817.935	1.142.996.021.639	13,43
2022	155.849.511.597,73	1.114.446.345.045	13,98
2023	256.112.861.068	1.204.536.104.743	21,26
Rata-rata			14,72
Malteng Year	PAD (Rp)	Total Revenue (Rp)	DDF (%)
2018	59.820.016.826	1.622.330.833.344	3,69
2019	73.926.962.286	1.827.683.912.000	4,04
2020	85.549.797.026,42	1.620.590.269.531,425,28	5,28
2021	90.062.230.711	1.681.071.008.247	5,36
2022	80.918.459.234	1.537.672.338.670	5,26
2023	82.384.912.313	1.640.836.237.786	5,02
Average			4,78
SBT Year	PAD (Rp)	Total Revenue (Rp)	DDF (%)
2018	24.483.710.263	927.190.103.232	2,64
2019	35.679.632.850	1.014.791.806.028	3,52
2020	24.461.076.184	907.570.847.900	2,70
2021	34.530.112.972	983.280.410.513	3,51
2022	15.540.924.456	950.159.289.436	1,64
2023	17.277.189.313	1.005.658.326.265	1,72
Rata-rata			2,62
MBD Year	PAD (Rp)	Total Revenue (Rp)	DDF (%)
2018	49.399.756.084	826.551.006.773	5,98

2019	81.978.771.788	1.050.873.580.986	7,80
2020	38.435.054.580	869.800.027.151	4,42
2021	40.359.731.637	974.035.409.661	4,14
2022	33.528.989.871	899.119.207.893	3,73
2023	47.855.252.617	911.929.404.695	5,25
Rata-rata			5,22

Source: BPS, DGTb Document of Maluku Province, Data processed.

Analysis of the degree of fiscal decentralization (DDF) in Maluku Province and the four administrative regions of Ambon City, Central Maluku Regency, East Seram, and Southwest Maluku during the 2018-2023 period shows that the level of regional fiscal independence is still very limited. DDF is calculated as the ratio of regional own-source revenue (PAD) to total regional revenue. A higher DDF value reflects a more independent regional fiscal capacity, while a low value indicates a high dependence on transfers from the central government.

Table 8. Evaluation of DDF, Regional Financial Capability, and Pattern of Relationship with the Central Government

Tahu Province n	Maluku	Ambon	Malteng	SBT	MBD
	DDF / KKD / Pola	DDF / KKD / Pola	DDF / KKD / Pola	DDF / KKD / Pola	DDF / KKD / Pola
2018	15,15% / Low / Consultative	13,64% / Low / Consultative	3,69% / Very Low / Consultative	2,64% / Low / Instructive	5,98% / Very Low / Instructive
2019	16,63% / Low / Consultative	14,54% / Low / Consultative	4,04% / Very Low / Instructive	3,52% / Very Low / Instructive	7,80% / Very Low / Instructive
2020	17,92% / Low / Consultative	11,49% / Low / Consultative	5,28% / Very Low / Instructive	2,70% / Very Low / Instructive	4,42% / Very Low / Instructive
2021	17,92% / Low / Consultative	13,43% / Low / Consultative	5,36% / Very Low / Instructive	3,51% / Very Low / Instructive	4,14% / Very Low / Instructive
2022	21,88% / Low / Consultative	13,98% / Low / Consultative	5,26% / Very Low / Instructive	1,64% / Very Low / Instructive	3,73% / Very Low / Instructive
2023	21,66% / Low / Consultative	21,26% / Low / Consultative	5,02% / Very Low / Instructive	1,72% / Very Low / Instructive	5,25% / Very Low / Instructive

Source: Data processed, 2025

The calculation results show that the average DDF of Maluku Province in the last six years is 18.53%, which is in the low category. Ambon City recorded an average DDF

of 14.72%, while Central Maluku, East Seram, and Southwest Maluku districts had average DDFs of 4.78%, 2.62%, and 5.22%, respectively. These values indicate that most regions are still in the very low regional financial capability category, with a pattern of instructive fiscal relations, as classified by the Ministry of Home Affairs and the Ministry of Finance.

This classification refers to a framework of fiscal relations between the center and regions that distinguishes four categories:

1. DDF < 25%: Very low, with instructive relationship pattern
2. DDF 26-50%: Low, with a consultative relationship pattern
3. DDF 51-75%: Medium, with a participative relationship pattern
4. DDF > 75%: High, with a delegative relationship pattern

During the observation period, none of the regions managed to reach the medium or high category. This shows that the regional financial structure in Maluku is still highly dependent on transfer funds from the central government, either in the form of General Allocation Fund (DAU), Special Allocation Fund (DAK), or Revenue Sharing Fund (DBH). This dependency has been a major concern in fiscal decentralization studies, as confirmed by Oates (1972) and Litvack et al. (1998), who point out that fiscal decentralization without local fiscal capacity will create "pseudo-decentralization".

This phenomenon is also reinforced by the empirical study of Bahl and Linn (1992), which emphasizes that in the context of developing countries, decentralization is often not accompanied by adequate resource devolution. In Indonesia, especially on islands such as Maluku, limited fiscal infrastructure, geographical remoteness, and local institutional capacity are challenges in increasing PAD in a sustainable manner.

By considering these dynamics, it can be concluded that the pattern of fiscal relations that has been built so far is more top-down (instructive and consultative) and has not led to a more participatory or delegative relationship as expected in the framework of regional autonomy. For this reason, fiscal reform needs to be directed at strengthening the regional revenue base based on local economic potential, improving the quality of regional spending, and providing fiscal incentives based on PAD performance.

Conclusions and Suggestions

Conclusion

During the 2019-2023 period, the level of elasticity of Regional Original Revenue (PAD) to GRDP in Maluku Province and four districts/cities showed a fluctuating and unstable pattern. The correlation between regional economic growth (GRDP) and PAD performance has not been stable and has not fully reflected the real economic base in the research districts/municipalities.

1. Maluku Province experiences elasticities that are mostly in the elastic range (value >1) but are not consistent between years.
2. Ambon city shows sharp fluctuations, with very high (up to 39.87) and very low (0.15) elasticities, reflecting the inconsistency between economic growth and PAD revenue.
3. Kabupaten Maluku Tengah and Maluku Barat Daya show dependence of PAD on non-economic factors, with extreme elasticities and some negative values.
4. Kabupaten Seram Bagian Timur (SBT) showed extreme instability, with negative and very high elasticities in proximity, indicating a PAD structure that is vulnerable to volatility and has not been consolidated.

The level of effectiveness of PAD target achievement in Maluku Province and districts/cities during the 2018-2023 period shows variations in performance between regions:

1. Maluku Province and Ambon City show consistent effectiveness and are in the effective to highly effective category (average 98.28% and 97.90%).
2. East Seram Regency (SBT) has very high and fluctuating achievements (117.43%, very effective) but is accompanied by irregularities that indicate the target is too low or the PAD potential has not been properly mapped.
3. Central Maluku Regency was moderately effective (83.60%) but declined in later years.
4. Maluku Barat Daya (MBD) district was classified as ineffective (56.73%), with very low achievements in some years, reflecting weak planning of PAD targets and realization.

The analysis shows that regional fiscal performance measured by IKR and DDF in Maluku Province and four districts/cities is still in the low to very low category. Maluku Province and Ambon City show relatively better performance, with an average DDF of 18.53% and 14.72% respectively, and IKR above 14%, but are still in the low fiscal capacity category with a consultative relationship pattern with the central government. In contrast, Kabupaten Maluku Tengah, Seram Bagian Timur, and Maluku Barat Daya are at a very low level of fiscal capacity, with an average DDF below 6% and IKR below 5%, so the relationship pattern is instructive. This condition reflects the low role of PAD in structurally and sustainably strengthening fiscal capacity in most study areas.

Suggestions

1. It is necessary to consolidate the PAD structure, with a focus on expanding the revenue base based on regional productive economic activities.
2. Increased capacity in fiscal planning and supervision is needed so that local economic growth can be optimized as a sustainable source of PAD.
3. Local governments need to develop an evaluation system based on sectoral economic indicators, so that potential PAD is more responsive to the dynamics of GRDP and no longer dependent on unstable revenues. And periodic evaluations of the factors causing deviations between targets and

realizations need to be carried out to improve the accuracy of future fiscal planning.

4. It is necessary to formulate PAD targets that are more realistic and based on the real potential of the regions, especially for MBD and Central Maluku.
5. Asymmetric decentralization approach, with greater and more flexible central fiscal support, to encourage regions with instructive relationship patterns to consultative or participatory patterns in the medium term.

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