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RETHINKING LOCAL TAX AUTHORITIES: SECTORAL CONSTRAINTS AND FISCAL INEQUALITY IN BALI'S DECENTRALIZATION FRAMEWORK

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ABSTRACT

Research Originality – This study contributes to the existing literature by analyzing how local tax authorities, sectoral economic structures, and levels of fiscal autonomy at the subregional level are interrelated, an issue that remains underexplored as prior research has predominantly focused on revenue realization, tax effort, and macro-fiscal stabilization. It also illustrates structural contradictions in areas with an economy based on the tertiary sector of economic production, such as Bali, where dependence on the service sector does not directly translate into fiscal autonomy.

Research Objectives – The purpose of this study is to find out the effect of local tax authorities' policy implementation on the tax revenue structure and its correlation with local tax revenue autonomy in eight regencies and one city in Bali Province. It also takes into account sectoral economic characteristics and their influence on local tax revenue capacity.

Research Methods – The study uses a descriptive and correlational quantitative approach to examine the relationship between the economic structure of different sectors and local tax revenue. The analysis uses data from eight regencies and one city in Bali Province.

Empirical Results – There is a robust correlation between the tertiary economic sector and local tax revenue, whereas the primary sector's contribution is negligible. The secondary sector's tax revenue is limited, which aligns with the Law on Financial Relations between the Central Government and Local Governments (UUHKPD). Fiscal disparities are extreme, with an index ranging from 15.48 to 85.60, and 55% of the regions are classified as fiscally dependent.

Implications – The study highlights the need for regional fiscal policy reforms through the intensification and extension of the tax base, including the optimization of the primary sector and the improvement of the synchronization of central and regional fiscal regulations.

Keywords: Decentralization; Fiscal Policy; Local Tax Power; Subregional Economic Characteristics.

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INTRODUCTION

The province of Bali is one of the regions in Indonesia that has been significantly affected by the COVID-19 pandemic. Bali's economy has experienced its worst conditions in the last two decades, with its economic growth, which is usually above the national average, contracting significantly during the COVID-19 pandemic. Bali's economy relies on tourism as its primary driver. Therefore, when tourism activities came to a halt due to the COVID-19 pandemic, the domino effect was felt throughout the province's economic activities. With the success of the COVID-19 vaccination program and the recovery of tourism activities, Bali's economy has also begun to recover. The central and regional governments are still working to

maximize economic activity and other development initiatives. These programs need financial support to be implemented. The government mainly receives its funding from taxes.

Strengthening local finances aligns with the enactment of Law No. 1 of 2022 on Financial Relations Between the Central and Local Governments, also known as the HKPD Law (UU HKPD). There are four pillars in the HKPD Law: (1) addressing inequities across vertical and horizontal dimensions, (2) enhancing the quality of local government expenditure, (3) strengthening local taxing power, and (4) harmonizing central and local government spending. Regarding the pillar of local taxing power, the aim is to optimize local tax revenue, thereby achieving local financial autonomy. By 2023, only Badung Regency had achieved the category of "highly autonomous" in the Fiscal Autonomy Index (IKF) in Bali Province and even in Indonesia. A key point to note is that fiscal decentralization has yet to enable regions to become self-reliant and reduce their dependence on transfer funds. As part of efforts to optimize regional revenue, it is also essential to analyze fiscal decentralization's connection with regional economic activities, thereby minimizing the potential for shadow economics.

The government must continue to work on increasing the accountability and transparency of financial management to achieve good governance. Financial management oversees all technical aspects, including regulations, institutions, financial information systems, and the enhancement of human resource quality (Adnyana, 2020). As a basis for significant long-term growth, economic growth is anticipated to be greater and of higher quality, with a dedication to preserving economic stability, supported by policy innovations.

One type of regional economic development is fiscal decentralization, which demonstrates a region's ability to finance itself and reduce its reliance on the central government for regional funding through a high level of fiscal autonomy. Local governments are granted the authority to administer their budgets in accordance with legal frameworks as a result of fiscal decentralization. This decentralization has been shown to enhance the quality of public service delivery (Seriano & Liop, 2019). Such improvements arise because decentralization enables collective oversight of public revenue sources and facilitates participatory decision-making processes.

The National Budget (APBN) and the Regional Budget (APBD) outline the development orientations and priority scales that serve as the basis for programs and activities within a given fiscal year. These priorities are determined within the framework of the government administration's interests and the improvement of community welfare. Therefore, the budget must be used for programs and activities that benefit the community. To guarantee that financial resources are used effectively and efficiently, it is necessary to promote accountability, openness, community involvement, and optimal fiscal policy. There are two ways to optimize fiscal policy: from the revenue side and from the expenditure side (government spending). Many empirical studies show that government spending can boost economic growth, even though operational spending remains larger than capital spending. Government spending is crucial because of its effectiveness in driving economic development (Auerbach & Gorodnichenko, 2017; Gemmel et al., 2018).

Optimizing revenue sources is crucial to enhance the financial capacity of both central and local governments. Local government revenue from the central government, which is used for local government spending, will drive economic growth and enable convergence among regions (Rahman et al., 2020). For this purpose, intensification and expansion of revenue subjects and objects are required. In the era of fiscal decentralization, local financial management plays a crucial role in reducing disparities between provinces and regencies/cities (Dana, 2018).

Regional characteristics lead to differences in budget management optimization across regions (Dana, 2018). When designing regional development policies and strategies, it is essential to consider the unique characteristics of each region. The approach taken must be contextual and cannot be applied uniformly to all regions. Fiscal decentralization over the past two decades has produced mixed outcomes. Some studies evaluate fiscal decentralization as an ideal system for aligning development goals with local community

APPLICATIONS FOR PRACTICE

- The study reveals limited tax types in primary and secondary sectors in the GRDP. The results show a negative correlation between primary sector development and tax ratio, indicating limited tax collection options available in these sectors.
- Industrial down streaming through the promotion of the manufacturing sector cannot uniformly raise the tax ratio across all regions, such as Bali Province and its regencies and cities, because relevant industries linked to locally collectible taxes are absent.
- The tertiary sector's development is linked significantly to tax ratio and regional fiscal independence, indicating that regions will prioritize it to boost their tax ratios. Meanwhile updated and valid data for local taxpayers still have big challenges.

preferences, enabling governments to more accurately distinguish residents' demands for services compared to the central government. Some studies argue that the implementation of fiscal decentralization since 2001 was inadequately prepared by regional governments. The implementation of decentralization is considered to have widened regional disparities and increased the potential for corruption by local governments (Yasin et al., 2021).

Poniatowicz et al. (2024) identify three fundamental dimensions of decentralization: fiscal, administrative, and political. Fiscal decentralization denotes the degree to which the central government transfers fiscal authority to subordinate entities. Administrative decentralization refers to the degree of autonomy that non-central government entities have compared to central control. Finally, political decentralization refers to the extent to which the central government allows non-central government entities to exercise political functions of government, such as representation.

Fiscal decentralization will enable local governments to adjust their budgets according to local preferences, resulting in a more efficient distribution of public services and local revenues at the local level. Fiscal decentralization enables local governments to more effectively levy taxes on certain sectors of the local economy, facilitate inter-regional transfers and stabilization measures, and foster economic efficiency through regional competition (Lago et al., 2024; Seriano & Liop, 2019).

There are three pillars of fiscal decentralization (Lago et al., 2024; Kim & Dougherty, 2017), namely expenditure assignment, revenue assignment, and intergovernmental transfers. Expenditure assignment defines the responsibility of local governments for service delivery and the autonomy they have in making decisions about the level and mix of budget expenditures. Revenue sharing ensures a greater level of accountability from local governments by giving them some taxing power. Intergovernmental transfers, as the third pillar, channel central government funds to local governments to help reduce regional disparities. Revenues received from the central government, when allocated to local spending for development purposes, can stimulate local economic growth and foster the potential for regional convergence.

The Central and Regional Financial Relations Law (UU HKPD) was established to advance fiscal decentralization with the goal of ensuring an efficient and effective allocation of national resources. This objective is pursued through four key policy pillars: reducing vertical and horizontal disparities, enhancing local taxing capacity, improving the quality of regional expenditure, and aligning central and regional fiscal policies.

This study extends the fiscal decentralization literature by linking sectoral economic structure with local tax capacity and fiscal autonomy. Existing studies on fiscal performance largely focus on revenue realization, tax effort, or macro-fiscal stabilization effects (Ramei & Zubiari, 2018; Alavuotunki et al., 2019). However, fewer studies explicitly examine how the composition of regional economic sectors shapes the taxable capacity of subnational governments. By integrating sectoral economic structure, local tax ratio, and the Fiscal Independence Index (IKF), this study proposes a unified analytical framework that explains why strong economic activity does not always translate into stronger fiscal autonomy. This perspective complements the broader literature on state capacity and taxation that emphasizes the structural determinants of tax collection (Prichard, 2016).

Empirically, this study provides new evidence from Bali, one of the most tourism-dependent regional economies in Southeast Asia. Previous research shows that tourism expansion can stimulate regional economic growth and public revenue, but the fiscal benefits often depend on the ability of governments to capture tourism-generated economic value through taxation (Sanchez-Rivero & Pulido-Fernández, 2020; Dorgu & Bulut, 2018). Using regencies/cities-level data, this study demonstrates that despite the dominance of the tertiary sector driven by tourism, fiscal independence across Bali's regencies and cities remains highly uneven. This finding reveals a structural paradox in which a tourism-led economic structure generates substantial economic activity, but does not necessarily strengthen subnational fiscal capacity. Important policy implications arise for regional fiscal governance under Indonesia's fiscal decentralization framework. This study finds that strengthening fiscal autonomy in tourism-dependent regions requires a diversified tax base, improving the alignment between sectoral economic activity and taxable capacity, and enhancing fiscal instruments that allow local governments to capture value generated by tourism-related services.

LITERATURE REVIEW

The economic sector theory, often referred to as the "Clark-Fisher Structural Transition Law," is a fundamental pillar of development economics. This theory was independently developed and complemented by Allan G.B. Fisher in his book *The Clash of Progress and Security* (1935) and subsequent works, and by Colin Clark in his work *The Conditions of Economic Progress* (1940). The theory divides the economy into three major sectors based on the nature of their activities: 1) Primary Sector: economic activities that directly extract resources from nature, for example, agriculture, plantations, forestry, fisheries, and mining; 2) Secondary Sector: activities that process outputs from the primary sector into finished or semi-finished goods, for example, manufacturing industry, construction, and utilities (electricity,

water, gas); and 3) Tertiary Sector: activities that produce services, not tangible goods, for example, trade, transportation, communication, finance, education, health, entertainment, and government. In *The Conditions of Economic Progress*, Clark contends that consumer demand will transition to services as the demand for manufactured goods reaches saturation, leading labor to subsequently migrate to the service industry. Clark highlights that, in addition to the critical role of demand changes in services, variations in productivity growth are also a key factor influencing employment changes. He contends that labor will shift from manufacturing sectors, where productivity grows rapidly but demand remains flat, to services, which have slower productivity growth yet increasing demand. Clark's belief is grounded in comprehensive empirical data for numerous nations, encompassing both employment and total expenditure statistics (Ryandiansyah & Azis, 2018).

According to the Fisher-Clark theory, as economies grow, their employment and economic structure transition from primary (agriculture) to secondary (manufacturing) to tertiary (services). Demand for manufactured and service commodities, which have higher income elasticities of demand than agricultural goods, rises more swiftly when incomes rise in tandem with economic growth. As a result, when nations grow, the labor force shifts from agriculture to manufacturing and then to services as the main industry. As nations develop thriving industrial, service, and agricultural sectors to support growing income levels, the model describes how structural transformation occurs.

Despite criticism, the three-sector framework remains highly relevant as a tool for analyzing macroeconomic structures, particularly in the context of interregional comparisons and historical analysis. The assertion that regions with primary economic structures have a different and generally weaker tax base than regions with secondary/tertiary economies is highly valid. This relevance can be explained through several dimensions. The first is the degree of formality. The primary sector tends to be dominated by informal, small-scale, and scattered businesses—examples include small-scale farmers, traditional fishermen, and small-scale miners. Transaction recording and bookkeeping are almost non-existent. This has implications for tax collection. It is tough for local governments to collect income tax (*Pajak Penghasilan/PPH*) from these businesses. The taxes that can be imposed are usually indirect or small levies. This differs from the secondary and tertiary sectors, as businesses in these sectors are generally legal entities, have a fixed physical location (such as a factory, office, or store), and are required to maintain financial accounts. These formalities enable the tax authorities to identify, monitor, and collect taxes effectively. Taxes can be collected from business entities and from employee income. The second is transaction volume and value. In the primary sector, the transaction value per individual/business is relatively small and seasonal (depending on harvests or commodity prices). The economy is often subsistence-based. Meanwhile, in the secondary and tertiary sectors, transaction volumes are large and continuous throughout the year. Industrial companies purchase raw materials and sell products worth billions of rupiah. Service companies (e.g., telecommunications, banking) have massive daily transactions. Large transactions generate Value-Added Tax (VAT) and Luxury Goods Sales Tax (*Pajak Penjualan Barang Mewah/PPnBM*), which are significant contributors to central government tax revenue, a portion of which is shared with local governments (*Dana Bagi Hasil/DBH*). Additionally, property and building transactions (secondary construction sector) generate Land and Building Tax (*Pajak Bumi dan Bangunan/PBB*) and Land and Building Acquisition Tax (*Bea Perolehan Hak atas Tanah dan Bangunan/BPHTB*), which are local taxes. The third is profitability and tax elasticity. Profit margins in the primary sector are often thin and highly volatile, as they are affected by weather, pests, and global price fluctuations. Tax capacity is low. Meanwhile, secondary and tertiary sectors have the potential for higher and more stable profit margins, particularly for high-value-added industries and professional services. High profitability directly translates into higher income tax (*PPH*). Taxes from these sectors exhibit higher elasticity with respect to economic growth; as the economy expands, corporate profits and employee wages rise, leading to a substantial increase in income tax revenue.

The tax ratio is basically a way to measure how much tax money a country gets compared to the size of its economy, which is usually measured by something called gross domestic product, or GDP, and also gross regional domestic product, or GRDP, as stated by the Organization for Economic Co-operation and Development, or OECD, in 2023. The OECD always uses this measure in its Revenue Statistics publication. The OECD looks at tax revenue in a way that includes taxes from the central and local governments as well as other money that people have to pay to the government. It is really important to know the difference between the tax ratio, which is how well a country is actually doing; tax capacity, which is the most money a country can possibly collect; and tax effort, which is how well a country uses its tax potential. Tax effort shows how good a country is at using the taxes it can collect. Research shows that a country's tax ratio is affected by a lot of factors, as seen in the work of Ha and others in 2021, the International Monetary Fund in 2019, and the OECD in 2023. The first factor is the way a country's economy is set up. The types of industries a country has, like farming, manufacturing, or services, make a difference. Countries with a lot of

industries and services are usually easier to tax than countries with a lot of farming or informal jobs. The second factor is the way taxes are collected and managed. How well the tax office works, how many people pay their taxes voluntarily, and how much corruption there is all affect how much tax money a country gets. Tax policies, like tax rates and rules, also play a role. The third factor is how rich a country is. Countries with a lot of money tend to have strong tax ratios because they have better tax systems and more formal economies and people want more public services. The fourth factor is the quality of a country's government and institutions. If a government is fair and not corrupt, the people will be more likely to pay their taxes. The fifth factor is the age of the people in a country and how it is connected to the rest of the world. If a country trades a lot with other countries, it can be hard to collect taxes from companies that operate in many countries.

A high tax ratio means a country is good at collecting taxes from its economy. However, this does not always mean that the country has a tax system. Sometimes high tax ratios are caused by tax rates or bad management. The same idea can be applied to regions within a country. The Regional Tax Ratio measures how well a region can collect its tax revenue compared to the size of its economy, which is measured by GRDP. If a region can collect a lot of tax money, it will be more independent and able to provide services to its people without relying too much on the central government. This independence is usually measured by comparing the region's tax money to its total income. If a region collects more than half of its income from its own taxes, it will be considered to be financially independent. On the other hand, if it collects less than thirty percent, it will rely heavily on the central government. Power is delegated to local governments because they know what their people need and they can provide services that are tailored to those needs. To do this, a region needs to have enough tax money, which should come from taxes that benefit the people directly so that they can see how their tax money is being used and hold their government accountable.

METHODS

This study uses a quantitative approach of an associative nature to examine the relationship between sectoral economic characteristics and local tax revenue. Similar empirical approaches are widely used in the fiscal economics literature to explain how economic structure and institutional capacity affect tax revenue and fiscal performance (Mapunda et al., 2023; Handoko, 2019). Studies on fiscal decentralization also employ quantitative methods to analyze the relationship between regional economic characteristics and local government fiscal capacity. In this study, the analysis focuses on local tax revenue at the regency and city government level in Bali Province, where tax variables follow the classification stipulated in the Local Tax and Retribution Law (*Undang-Undang Pajak dan Retribusi Daerah/UU PDRD*). The variables used in the study are listed in Appendix 1, where local tax-related variables use the local tax classification as stipulated in the Local Tax and Retribution Law, considering that the UU HKPD has not yet been effectively applied in local tax classification.

This study employs secondary data, which concern regional income (tax revenues) and the GRDP of regencies and cities in Bali Province. Eight regencies and one city in the province constitute the study population. The data were obtained from official sources such as the Central Statistics Agency, local governments, and other relevant institutions. The analysis uses data from the 2020–2022 period across the regencies and city, resulting in a sample size (n) of 27 observation points.

The impact of regional characteristics on the structure of local tax ratios was analyzed by mapping the tax ratio against regional financial independence (Table 1), which is divided into four categories: not yet independent, moving towards independence, independent, and highly independent (Sampurna, 2018). This independence is assessed based on the Fiscal Independence Index (IKF) value, which ranges from 0 to 1. The higher the IKF value, the more financially independent a region is, whether it is a regency/city or a province.

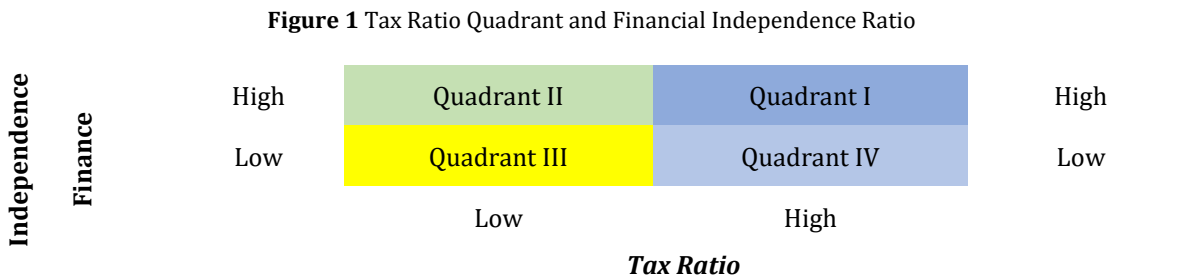
Table 1 Classification of Regional Fiscal Independence

Fiscal Independence Index Value/IKF (<i>Indeks Kemandirian Fiskal</i>) Value	Fiscal Independence Conditions
$0.00 \leq \text{IKF} < 0.25$	Not yet independent
$0.25 \leq \text{IKF} < 0.50$	Towards Independence
$0.50 \leq \text{IKF} < 0.75$	Independent
$0.75 \leq \text{IKF} < 1.00$	Very Independent

Source: Sampurna (2018)

Mapping is created by limiting the median value of the Tax Ratio (vertical axis) and the maximum value of the "Towards Independence" category (horizontal axis). Thus, regions in the "Not Yet Independent" and "Towards Independence" categories exhibit a low financial independence ratio, whereas the "Independent" and "Very Independent" categories show a high financial independence ratio. Regions will be classified into four quadrants based on their tax ratios and financial independence ratios. Quadrant I consists of areas with

high tax ratios and high financial independence ratios. Quadrant II includes areas with low tax ratios but high financial independence ratios. Quadrant III comprises areas with both low tax ratios and low financial independence ratios. Meanwhile, Quadrant IV consists of areas with high tax ratios but low financial independence ratios. The four-quadrant classification of regions based on their tax ratios and financial independence ratios is illustrated in Figure 1.



Source: Processed by the authors

Regional elections will be conducted with consideration given to financial independence categories, namely regions classified as highly independent, independent, moving towards independence, and not yet independent.

Pearson’s correlation is a statistical measure used to assess the strength and direction of a linear relationship between two continuous variables. The coefficient ranges from -1 to +1, where +1 denotes a perfect positive relationship (both variables increase proportionally), -1 represents a perfect negative relationship (one variable increases as the other decreases proportionally), and 0 indicates the absence of a linear relationship.

Several criteria are available to assess the strength of the relationship between two variables using the Pearson correlation coefficient. As a rule of thumb, the absolute value of *r* serves as the basis for determining the degree of association. The classification of the strength of the relationship based on the Pearson correlation coefficient is presented in Table 2. The proposed hypothesis states that the local tax ratio is strongly associated with the degree of regional independence.

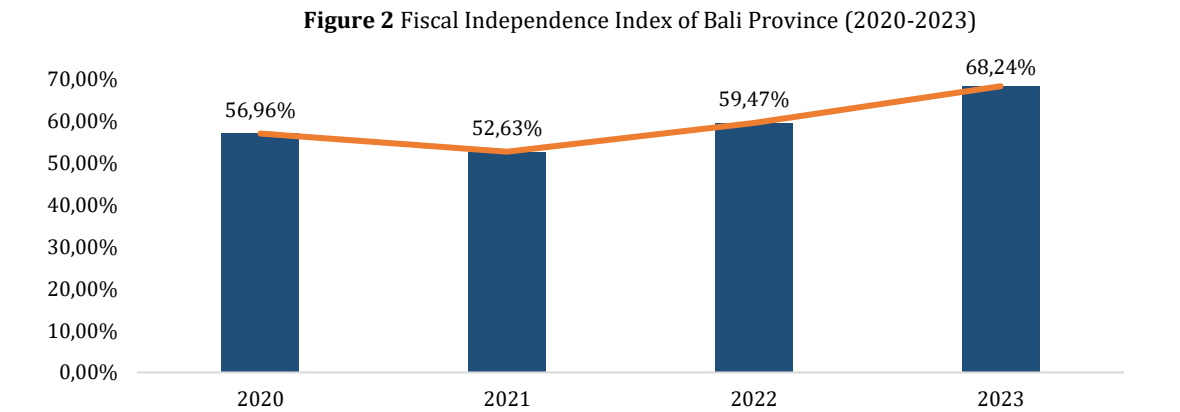
Table 2 Classification of Values and Strength in Pearson Correlation

No	r-value	Interpretation
1	0.00-0.199	Extremely weak
2	0.20-0.399	Weak
3	0.40-0.599	Moderate
4	0.60-0.799	Strong
5	0.80-1.000	Extremely strong

Source: Sugiyono (2022)

RESULTS AND DISCUSSION

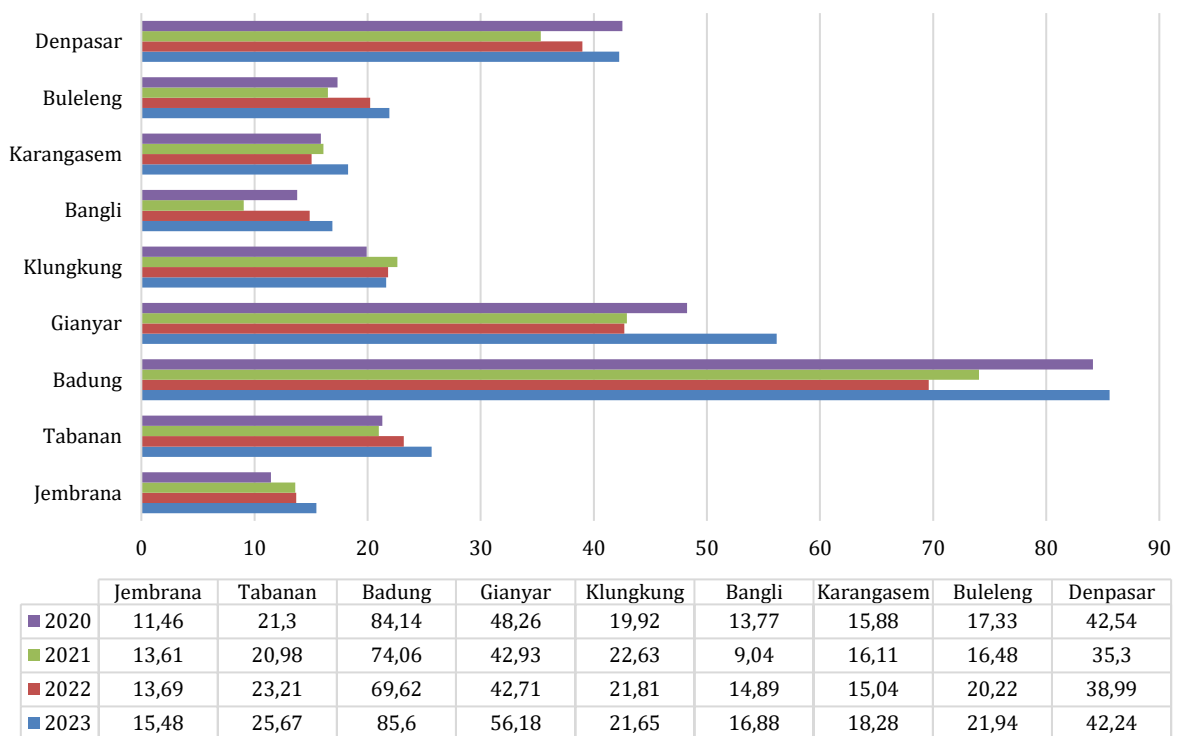
The local tax ratio is measured by comparing tax revenue with Gross Regional Domestic Product (GRDP)—generally, a higher tax ratio reflects a more favorable economic condition of a region. Regencies/cities with a leading tourism sector tend to experience an upward trend as tourism conditions improve, such as Badung Regency, Gianyar Regency, Denpasar City, Karangasem Regency, and Bangli Regency. Local taxes are a significant component of Local Own-Source Revenue (*Pendapatan Asli Daerah/PAD*) and determine a region’s fiscal independence.



Source: Processed by the authors

As shown in Figure 2, Bali Province's fiscal independence has increased and remained at the "independent" level for several years. Meanwhile, the fiscal independence ratings of the studied regencies and city in Bali Province are presented in Figure 3, which shows that the fiscal independence of the regencies and city tends to fluctuate, but generally remains at the same level of independence. Badung Regency consistently has the highest fiscal independence compared to the other regions. In fact, in 2023, only Badung Regency received the "highly independent" rating in Indonesia. Next is Gianyar Regency, which has shown improvement, moving from the category of "towards independence" to "becoming an independent region". This is followed by Denpasar City, which has also shown a positive trend following the COVID-19 pandemic.

Figure 3 Fiscal Independence of the Studied Regencies and City in Bali Province (2020-2023)



Source: Processed by the authors

Over the past two decades, fiscal decentralization in Indonesia has experienced notable development, with empirical studies producing both positive and negative findings. Sofilda et al. (2023) look at how fiscal decentralization and human development affect regional economic growth. Their study used panel data from 484 regencies and cities in Indonesia. The results show that central government grants, locally generated revenue, and human capital development all help regional economic growth, but a higher degree of decentralization can have a negative effect. In regions where independence is above 50 percent, decentralization, local revenue, central government transfers, provincial loans, and human capital development all have a positive impact on growth. The study also finds a dynamic effect, meaning that past economic growth influences current performance. The main policy takeaway is that policymakers should not apply the same strategies everywhere, since each regency/city has its own unique characteristics. Setiawan & Aritenang (2019), applying spatial regression to regency/city data for 2008–2011, concluded that fiscal decentralization significantly enhanced regional economic performance, while also revealing spatial dependency among economically strong regions. Similarly, a study by Ginting et al. (2019), through panel regression and quadrant analysis for 2013–2018, demonstrated a positive and significant relationship between fiscal decentralization and economic growth across all quadrants. Nevertheless, the relatively small regression coefficient suggests that regional growth cannot rely solely on fiscal decentralization.

Fiscal decentralization rests on three main approaches: (i) the revenue approach, (ii) the expenditure approach, and (iii) the comprehensive approach. These approaches reflect the multidimensional structure of fiscal federalism, where decentralization involves the allocation of revenue authority, expenditure responsibilities, and the design of intergovernmental fiscal relations between different levels of government (Lago et al., 2024). Under the revenue approach, the central

government authorizes local governments to mobilize regional revenue sources within the boundaries established by national legislation, thereby granting subnational governments a degree of fiscal autonomy in raising own-source revenues. In addition to locally generated revenues, subnational governments may also receive a share of centrally collected revenues generated within their jurisdictions through revenue-sharing arrangements. However, since revenue capacity varies significantly across regions, fiscal decentralization systems typically incorporate intergovernmental transfers, including general and specific grants, to address vertical and horizontal fiscal imbalances and to ensure adequate financing of local public services (Hanif et al., 2020; Lago et al., 2024). Regulatory frameworks for fiscal decentralization, particularly those concerning revenue, have continued to evolve, most recently codified in Law No. 1 of 2022 on Financial Relations between the Central and Regional Governments (HKPD Law). This law is anchored in four pillars: (1) reducing vertical and horizontal disparities, (2) strengthening local taxing capacity, (3) enhancing the quality of regional spending, and (4) harmonizing central and regional fiscal policies.

The HKPD Law introduces reforms to local tax and fee policies by amending the types of local taxes previously regulated under Law No. 28 of 2009 on Local Taxes and Fees (PDRD Law). In line with the second pillar—strengthening local taxing power—tax restructuring was implemented through the reclassification of five consumption-based taxes into a single category, the Tax on Certain Goods and Services (PBJT). As local governments at both provincial and regency/city levels are still in the process of adapting to the HKPD Law, including the revised tax classifications, this study employs the categorization of local taxes as defined in the PDRD Law.

Prior to examining the relationship between regional economic characteristics and the structure of regional tax ratios, it is essential to establish the correspondence between economic sectors, business fields, and types of regional taxes (Table 3). The classification of regional tax types is based on the classification outlined in the PDRD Law.

Table 3 Concordance of Economic Sectors, Business Fields, and Types of Local Taxes

Economic Sector	Business Sector	Local Tax Type
Primary	A. Agriculture, forestry, and fishing	410113. Swallow Nest Tax
	B. Mining	410114. Non-Metallic Mineral and Rock Tax (Opsen MBLB)*
Secondary	C. Goods manufacturing	410105. Cigarette tax 410103. Motor Vehicle Fuel Tax (PBBKB)
Tertier	D. Electricity and Gas	410110. Street Lighting Tax
	E. Administrative and waste management services	410104. Surface Water Tax
	F. Construction	410112. Groundwater Tax (Heavy Equipment Tax)*
	G. Wholesale and retail trade	410102. Motor Vehicle Transfer Tax (BBNKB) (Opsen BBNKB)*
	H. Transportation and warehousing	410101. Motor Vehicle Tax (PKB) (Opsen PKB)*
	I. Accommodation and food services	410111. Parking Tax (PBJT)* 410106. Hotel Tax (PBJT)* 410107. Restaurant Tax (PBJT)* 410108. Entertainment Tax (PBJT)*
	J. Information	
	K. Finance and insurance	
	L. Real estate	410115. Property Tax for Rural and Urban Areas (PBBP2) 410116. Acquisition Tax on Land and Buildings (BPHTB) 410109. Advertising Tax
	M, N. Management of companies and enterprises	
	O. State and local government	
	P. Educational services	
	Q. Health care and social assistance	
	R, S, T, U. Other services, except government	

Source: Processed by the authors

Note

	Province Tax
	Regency/city Tax

* Taxes Based on HKPD Law

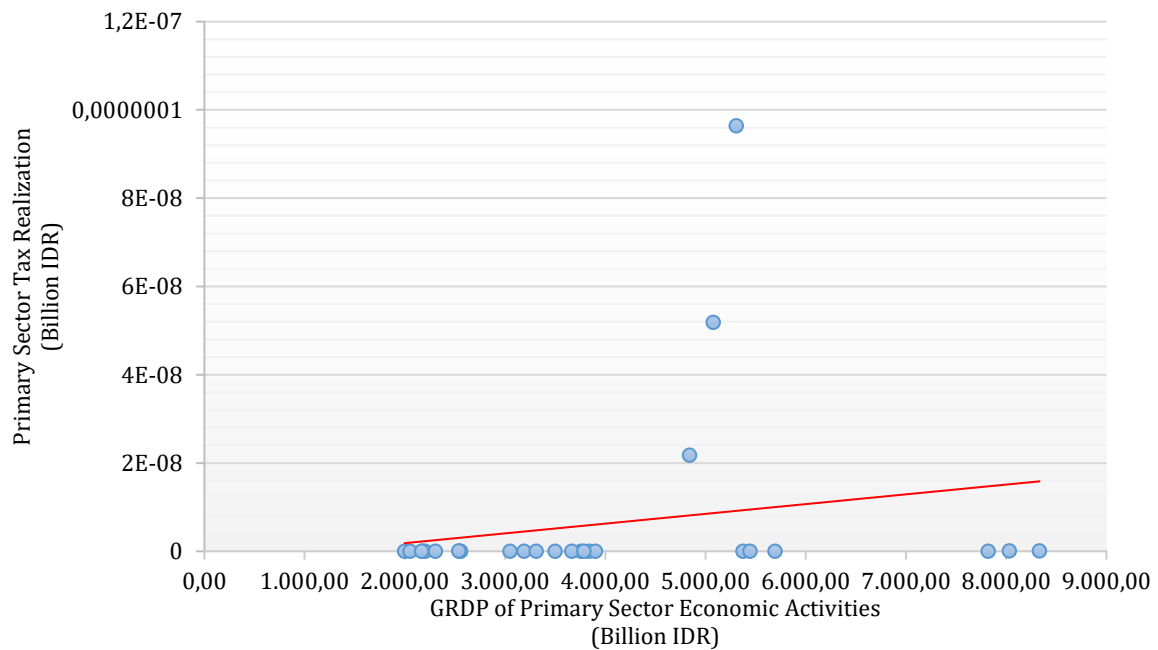
The relationship between regional characteristics and tax types is evident from the correlation between each sector's GDP and its taxes, as shown in Table 4. Given that regional tax analysis is conducted using regency/city taxes, and considering the limitations of provincial tax time series data, the correlation presents the realization of taxes from the primary and tertiary sectors (according to regency/city tax classifications), keeping in mind that Bali province does not have tax sources from the secondary sector (Table 3).

Table 4 Correlation between Tax Realization and Regional Economic Characteristics

No.	Description	Correlation Value (r)	P Value	Criterion
1	Primary sector taxes and their sectors in GRDP	0.196	0.327	extremely weak
2	Tertiary sector taxes and their sectors in GRDP	0.424	0.027	moderate

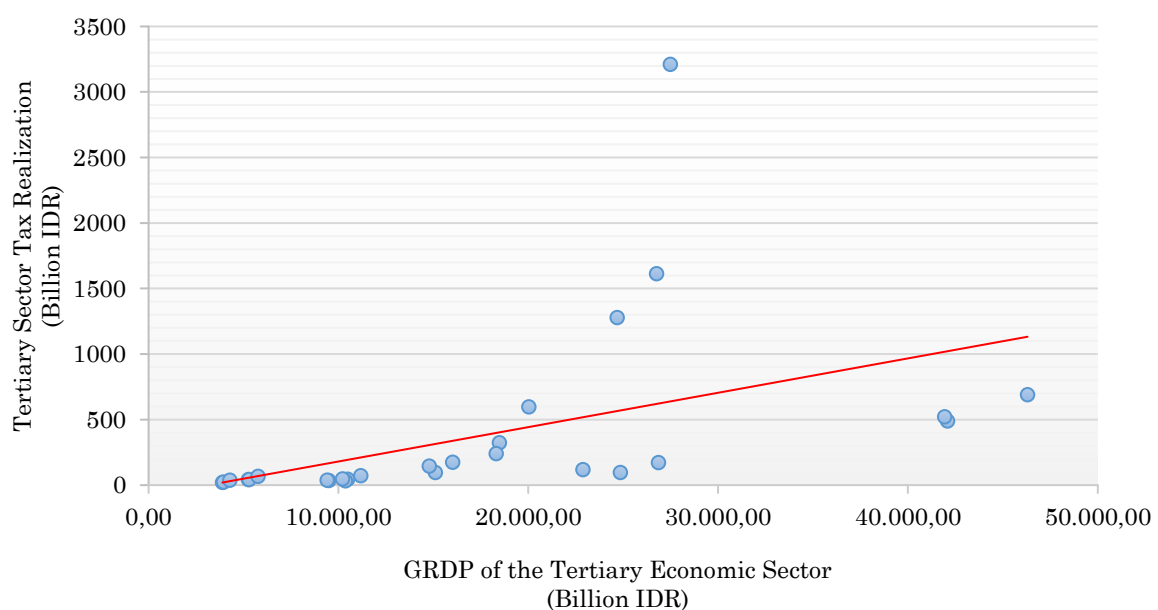
Source: Processed by the authors

Figure 4 Correlation between Regency/City Primary Sector Tax and Its Value in GRDP



Source: Processed by the authors

Figure 5 Correlation between Regency/City Tertiary Sector Tax and Its Value in GRDP



Source: Processed by the authors

The tertiary sector is the dominant sector and contributes significantly to the formation of Bali's GRDP and should have a more direct relationship with local taxes (Nicola & Saleh, 2023). The results of the analysis show a correlation between the dominant sector of the economy and the realization of taxes in the relevant sector. It is important to note that the correlation between the GRDP of the primary sector and the realization of taxes in the sector is extremely weak. In this case, when examining the specific relationship between the GRDP of the primary sector and local taxes in the sector, there is a limitation in that local taxes in the primary sector only exist at the regency/city level and are limited to certain types of taxes, such as bird's nest taxes, which do not yet represent the agricultural sector. Additionally, agriculture is a sector that receives significant subsidies and has minimal tax burdens. This situation stems from certain factors, such as low-wage labor, seasonal work, and the small size of agricultural enterprises (Pramanda et al., 2023; Günay & Topal, 2021). Figures 4 and 5 present scatter diagrams between tax realization in each sector and GRDP in each sector, serving as a proxy for regional economic characteristics.

As illustrated in Figures 4 and 5, the observed pattern aligns with the results of the analysis of the correlation between sectoral taxes and sectoral economic performance. Figure 4 shows that the scatter plot of the sample area for taxes and GRDP in the agricultural sector forms a line that tends to be very flat despite increasing, in line with the positive and very weak correlation value. Meanwhile, in the tertiary sector, the correlation between taxes and GRDP tends to form an increasing pattern.

Under the revenue approach to fiscal decentralization, the government authorizes regions to develop local revenue sources in line with their potential as regulated by law. In this framework, regions are expected to strengthen their financial capacity, particularly through the optimization of local revenue, including local taxation (Lago et al., 2024; Baskaran et al., 2016).

Regional independence is measured by the Fiscal Independence Index (IKF). The IKF value ranges from 0 (transfer funds finance all expenditures and there is no role for local revenue) to 1 (all expenditures can be financed by local revenue and there are no transfer funds). Thus, the lower the FII value, the less independent the region is. Conversely, the higher the FII value, the higher the fiscal independence of the region is. According to Sampurna (2018), regional fiscal independence can be categorized into four categories: "Not Independent," "Moving Toward Independence," "Independent," and "Highly Independent." The fiscal independence of the studied regencies and city in Bali Province can be assessed by presenting a summary of their respective fiscal independence levels.

Table 5 Summary of Fiscal Independence of All the Studied Regencies and City in Bali Province in 2023

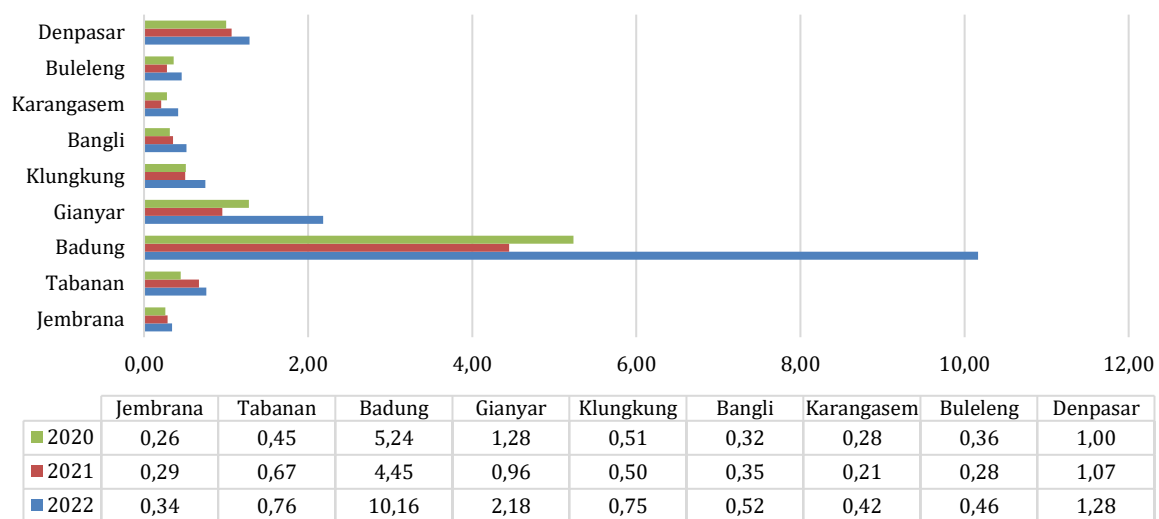
Description		Regency/City
Highly Independent ($IKF \geq 0.75$)	Total	1
	Percentage	11%
Independent ($0.50 \leq IKF < 0.75$)	Total	1
	Percentage	11%
Moving Toward Independence ($0.25 \leq IKF < 0.50$)	Total	2
	Percentage	22%
Not Independent ($IKF < 0.25$)	Total	5
	Percentage	55%
	Average IKF value	33.76
	Lowest IKF value	15.48
	Highest IKF value	85.60

Source: Processed by the authors

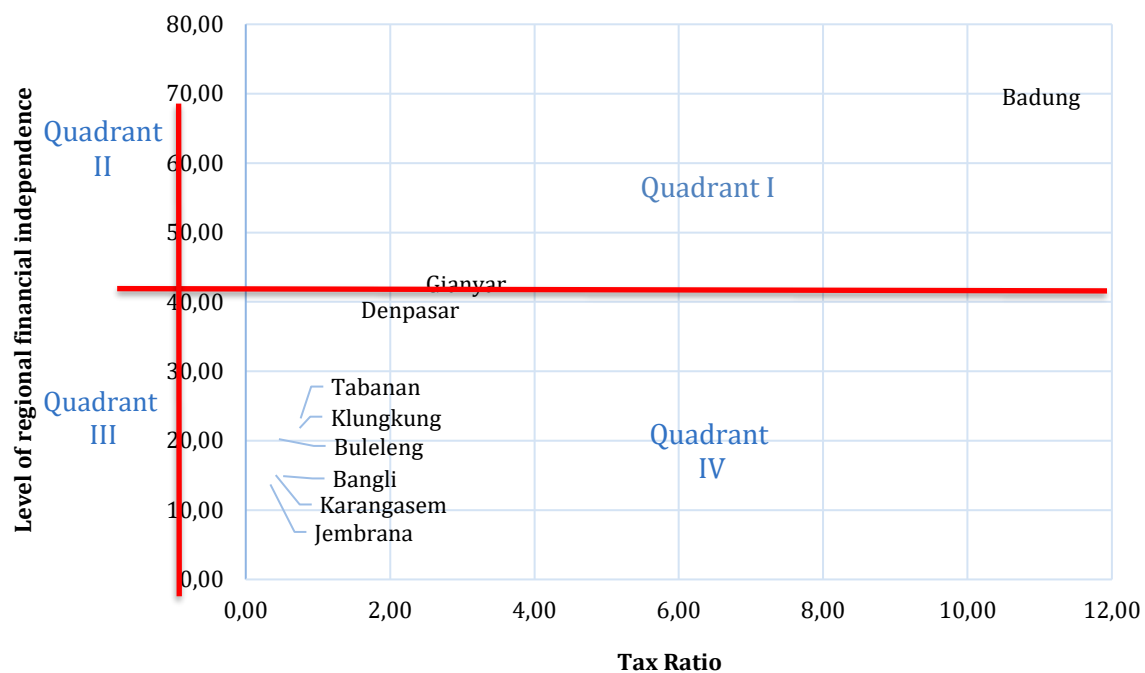
As shown in Table 5, the IKF values for the studied regencies and city in Bali Province range from 15.48 to 85.60, indicating a significant gap in regional fiscal independence. Although the average IKF falls into the "Moving Toward Independence" category (with an IKF value of 33.76), the majority of the regencies and city (55%) remain in the "Not Independent" category.

Before conducting further analysis, it is necessary to present the profile of the sample regions based on the Tax Ratio. The Tax Ratio is one way to assess local taxing power, as it measures the performance of tax revenue. The Tax Ratio is determined by the proportion of total tax revenue to Gross Regional Domestic Product (GRDP) within the same period.

Figure 6 shows the tax ratio for each of the studied regencies and city in Bali Province, and indeed, there is a disparity in tax ratio values. The region with the highest tax ratio is Badung Regency, followed by Gianyar Regency and Denpasar City. Meanwhile, the other regions tend to have very low values. The tax ratio is increasing in line with the recovery of the economy (especially the tourism sector) in Bali after the pandemic. Figure 7 illustrates the relationship between the tax ratio and regional financial independence.

Figure 6 Tax Ratio of the Studied Regencies and City in Bali Province Based on Tax Realization and GRDP, 2020-2022

Source: Processed by the authors

Figure 7 Mapping of the Studied Regencies and City in Bali Province in the Tax Ratio and Regional Financial Independence Quadrant

Source: Processed by the authors

It can be seen in Figure 7 that there is only one region that has a high tax ratio and regional financial independence (located in Quadrant I). Meanwhile, the other regions are located in Quadrant IV (tax ratio above the median, but low IKF) and Quadrant III (tax ratio and IKF below the median). The tax ratio is strongly linked to regional economic conditions, particularly the sectoral composition of the economy.

Table 6 Correlation between Tax Realization per Sector and Regional Independence

No.	Description	Correlation Value (r)	Pvalue	Criterion
1	Correlation between primary sector taxes and regional independence	-0.210	0.292	Extremely Weak
2	Correlation between tertiary sector taxation and regional independence	0.822	0.000	Extremely strong

Source: Processed by the authors

In the primary sector, the correlation tends to be extremely weak, but in the tertiary sector, it is extremely strong. Although fluctuations in sectoral shares influence not only local taxes but also central taxes, this indicates that sectoral GRDP growth has not been matched by a proportional rise in local tax revenue.

The correlation coefficient of -0.210 between primary sector taxes and the Fiscal Autonomy Index (IKF) indicates a negative and very weak relationship. This means that an increase in economic activity or tax revenue from the primary sector does not correlate with an increase in regional fiscal autonomy. In fact, statistically, there is a tendency for regions with a larger primary sector base to actually have lower levels of fiscal autonomy, which is due to several factors. The first is that the structure of the primary sector tax base is very limited within the local tax system. In the context of Indonesia's local tax regulations, most primary sector activities are not included as significant local tax objects. Taxes directly related to the primary sector at the regency/city level are limited to specific taxes such as swiftlet nest tax or non-metallic mineral and rock tax. Primary sector activities such as agriculture, plantations, and fisheries are hardly a basis for local taxes. The second is that the economic characteristics of the primary sector tend to result in low tax capacity. Agricultural and fisheries activities are typically carried out by small-scale enterprises, are informal in nature, and have limited financial record-keeping systems. These conditions make it difficult for tax authorities to identify the tax base and collect taxes effectively. Additionally, transactions in the primary sector tend to be small-scale, seasonal, and highly dependent on natural factors. The third is that many primary sector activities operate under a protective policy regime. The government often provides subsidies or incentives to the agricultural sector to maintain food production stability and farmers' welfare. These policies implicitly reduce the tax burden on the sector. Consequently, although the primary sector contributes to regional GDP, its contribution to local tax revenue remains small. This reinforces the negative relationship between the dominance of the primary sector and the level of fiscal self-reliance. The fourth is that regions whose economic structures are still dominated by the primary sector generally have lower levels of economic transformation. This condition results in a narrow tax base and higher dependence on fiscal transfers from the central government. This situation explains why regions with a dominant primary sector tend to have low IKF values. The fifth is that these negative correlation results also indicate the presence of structural fiscal constraints within the framework of fiscal decentralization. Indonesia's local tax system is better suited to urban economic activities and the service sector, such as hotels, restaurants, entertainment, parking, and property transactions. Conversely, regions with agriculture-based economies have significantly narrower fiscal space. Thus, differences in regional economic structure directly influence local fiscal capacity.

Several studies confirm that sectoral contributions to GDP are an important determinant of tax revenue (Minh Ha et al., 2022; Kartika, 2021). Most related studies emphasize the industrial sector's importance in driving tax revenue growth, which will ultimately enhance regional economic growth. Tang (2025) even shows that the elimination of agricultural taxes in China led to the growth of local industrialization. The share of the secondary sector in GDP and the output of manufacturing companies increased significantly after the elimination of taxes. However, in the case of Bali Province (in the studied regencies and city), there are no tax sources that can be collected from the secondary sector, resulting in a relatively low local tax ratio. Karagöz (2013) demonstrates that in many countries, tax potential remains underutilized, largely due to the limited effectiveness of fiscal efforts in resource mobilization. The study further argues that improving taxation in the agricultural sector could substantially enhance tax revenue mobilization. These findings are broadly consistent with the results of a study conducted by Kartika (2021), emphasizing the relatively weak contribution of the agricultural sector to regional tax revenue in Indonesia.

CONCLUSION

The analysis indicates that the studied regencies and city in Bali exhibit relatively low tax ratios, undermining regional independence. Sectoral patterns show a weak correlation between the growth of the primary sector and its tax revenue, in contrast to the stronger relationship observed in the tertiary sector. This underscores the need to improve local tax management in the primary sector, as it remains the dominant sector across much of Bali.

If the primary sector, as the potential sector, can be optimized, the tax ratio will certainly improve. Optimizing efforts through intensification, the policies that can be prioritized are synchronization and strengthening of regulations, targeted strengthening of supervision, and strengthening of the tax base. Similarly, in the scenario of optimizing local tax revenue through extensification, the policies that can be prioritized are synchronization and strengthening of regulations, improving fiscal services, and monitoring and strengthening the tax base.

On a conceptual basis, these results confirm the case that the composition of economic sectors is more relevant for fiscal capacity than the size of the regional economy per se. While fiscal autonomy is expected to be greater in regions with high GRDP from the secondary and tertiary sectors, this does not occur

automatically: it is also necessary for these economic activities to have a direct link to local tax instruments. In contrast, the service sector and urban economic activities can yield substantial local tax revenue. The policy implications of these findings are straightforward. The enhancement of regional fiscal autonomy will remain insufficient if it is based solely on the provision of general support for economic growth. It requires local governments to take into account the sectoral structure of the economy and expand the share of enterprises in the per capita income and gross value added produced by local governments. Without reforms in fiscal instruments or economic diversification towards more tax-revenue-yielding sectors, regions dependent on the primary sector will continue to experience fiscal capacity constraints under this decentralization paradigm. In the case of Bali, these findings highlight important aspects of the adjustment made to Law No. 1 of 2022 on Regional Fiscal Autonomy (UU HKPD), particularly related to demands for optimal local taxing authority through the expansion of a more appropriate tax base with regional economic structures that focus specifically on optimizing service, consumption, and tourism activity taxes, which have higher taxation potential.

There are some limitations in this study, including the relatively short observational period (2020–2022), Pearson's correlation analysis that cannot establish causality, and the fact, which only eight regencies and one city in Bali are covered. Moreover, an analysis of local taxes is limited by the types of taxes that are available. For future studies, it is suggested to continue the observation period with the use of panel data and by applying more robust econometric techniques or even comparing regions that are structurally different economically. Further studies should also explore analyses at the intersection of institutional and fiscal policies to produce more actionable recommendations for bolstering local fiscal autonomy.

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Appendix 1 Research Variables and Definitions

No	Variables	Definitions	Data Sources
1	Regional Revenue and Expenditure Budget/APBD	The local government's financial plan for one fiscal year (from 1 January to 31 December) is stipulated by local regulations based on the approval of the Regional Representative Council (DPRD).	Adnyana (2020); Dana (2018) https://djpk.kemenkeu.go.id/portal/data/apbd
2	Local Taxes/ <i>Pajak Daerah</i>	Mandatory contributions to the region, imposed on individuals or entities by law without direct compensation, are utilized to meet regional needs in pursuit of the greatest public welfare.	<i>Undang-Undang Nomor 28 Tahun 2009 tentang Pajak Daerah dan Retribusi Daerah</i> Directorate General of Taxes, Ministry of Finance
3	Provincial Tax/ <i>Pajak Provinsi</i>	Taxes collected by provincial governments consist of PKB, BBNKB, PAB, PBBKB, PAP, cigarette tax, and MBLB tax.	<i>Undang-Undang Nomor 28 Tahun 2009 tentang Pajak Daerah dan Retribusi Daerah</i> Directorate General of Taxes, Ministry of Finance
4	Motor Vehicle Tax/ <i>PKB (Pajak Kendaraan Bermotor)</i>	Tax on ownership and/or control of motor vehicles.	<i>Undang-Undang Nomor 28 Tahun 2009 tentang Pajak Daerah dan Retribusi Daerah</i> Directorate General of Taxes, Ministry of Finance
5	Motor Vehicle Transfer Tax/ <i>BBNKB (Bea Balik Nama Kendaraan Bermotor)</i>	A tax imposed on the transfer of motor vehicle ownership arising from bilateral agreements, unilateral actions, or circumstances such as sale and purchase, exchange, donation, inheritance, or incorporation into a business entity.	<i>Undang-Undang Nomor 28 Tahun 2009 tentang Pajak Daerah dan Retribusi Daerah</i> Directorate General of Taxes, Ministry of Finance
6	Motor Vehicle Fuel Tax/ <i>PBBKB (Pajak Bahan Bakar Kendaraan Bermotor)</i>	Tax on the use of fuel for motor vehicles and heavy equipment.	<i>Undang-Undang Nomor 28 Tahun 2009 tentang Pajak Daerah dan Retribusi Daerah</i> Directorate General of Taxes, Ministry of Finance
7	Surface Water Tax/ <i>PAP (Pajak Air Permukaan)</i>	Tax on the extraction and/or use of surface water.	<i>Undang-Undang Nomor 28 Tahun 2009 tentang Pajak Daerah dan Retribusi Daerah</i> Directorate General of Taxes, Ministry of Finance
8	Cigarette tax	Levies on cigarette excise taxes collected by the government.	<i>Undang-Undang Nomor 28 Tahun 2009 tentang Pajak Daerah dan Retribusi Daerah</i> Directorate General of Taxes, Ministry of Finance
9	Local Taxes of Regencies/Cities	Taxes collected by regency/city governments consist of PBB-P2, BPHTB, PBJT, advertising tax, PAT, MBLB tax, swallow's nest tax, Opsen PKB, and Opsen BBNKB.	<i>Undang-Undang Nomor 28 Tahun 2009 tentang Pajak Daerah dan Retribusi Daerah</i> Directorate General of Taxes, Ministry of Finance
10	Rural and Urban Land and Building Tax/ <i>PBB-P2 (Pajak Bumi dan Bangunan Perdesaan dan Perkotaan)</i>	Tax on land and/or buildings owned, controlled, and/or utilized by individuals or entities.	<i>Undang-Undang Nomor 28 Tahun 2009 tentang Pajak Daerah dan Retribusi Daerah</i> Directorate General of Taxes, Ministry of Finance
11	Tax on Acquisition of Land and Building Rights/ <i>BPHTB (Bea Perolehan Hak atas Tanah dan Bangunan)</i>	Tax on the acquisition of rights to land and/or buildings.	<i>Undang-Undang Nomor 28 Tahun 2009 tentang Pajak Daerah dan Retribusi Daerah</i> Directorate General of Taxes, Ministry of Finance

Appendix 1 Research Variables and Definitions (Continued)

No	Variables	Definitions	Data Sources
12	Tax on Certain Goods and Services/ <i>PBJT (Pajak Barang dan Jasa Tertentu)</i>	Taxes paid by end consumers on the consumption of goods and/or services.	<i>Undang-Undang Nomor 28 Tahun 2009 tentang Pajak Daerah dan Retribusi Daerah</i> Directorate General of Taxes, Ministry of Finance
13	Advertising tax	Tax on advertising.	<i>Undang-Undang Nomor 28 Tahun 2009 tentang Pajak Daerah dan Retribusi Daerah</i> Directorate General of Taxes, Ministry of Finance
14	Parking Tax	Parking tax is levied on the provision of parking facilities.	<i>Undang-Undang Nomor 28 Tahun 2009 tentang Pajak Daerah dan Retribusi Daerah</i> Directorate General of Taxes, Ministry of Finance
15	Entertainment Tax	Entertainment tax is levied on the organization of entertainment events.	<i>Undang-Undang Nomor 28 Tahun 2009 tentang Pajak Daerah dan Retribusi Daerah</i> Directorate General of Taxes, Ministry of Finance
16	Street Lighting Tax	The street lighting tax is imposed on electricity provision.	<i>Undang-Undang Nomor 28 Tahun 2009 tentang Pajak Daerah dan Retribusi Daerah</i> Direktorat Jenderal Pajak (DJP), Kemenkeu
17	Restaurant Tax	The restaurant tax is levied on services provided by restaurants.	<i>Undang-Undang Nomor 28 Tahun 2009 tentang Pajak Daerah dan Retribusi Daerah</i> Directorate General of Taxes, Ministry of Finance
18	Hotel Tax	The hotel tax is charged on services delivered by hotels.	<i>Undang-Undang Nomor 28 Tahun 2009 tentang Pajak Daerah dan Retribusi Daerah</i> Directorate General of Taxes, Ministry of Finance
19	Groundwater Tax/ <i>PAT (Pajak Air Tanah)</i>	A tax is imposed on the extraction and/or utilization of groundwater.	<i>Undang-Undang Nomor 28 Tahun 2009 tentang Pajak Daerah dan Retribusi Daerah</i> Directorate General of Taxes, Ministry of Finance
20	Non-Metallic Mineral and Rock Tax/ <i>MBLB (Pajak Mineral Bukan Logam dan Batuan)</i>	A tax applied to the extraction of non-metallic minerals and rocks from natural sources located within or on the surface of the earth for utilization.	<i>Undang-Undang Nomor 28 Tahun 2009 tentang Pajak Daerah dan Retribusi Daerah</i> Directorate General of Taxes, Ministry of Finance
21	Swallow's nest tax	Swallow's nest tax is levied on the collection and/or exploitation of swallow nests.	<i>Undang-Undang Nomor 28 Tahun 2009 tentang Pajak Daerah dan Retribusi Daerah</i> Directorate General of Taxes, Ministry of Finance
22	<i>Tax Ratio</i>	The ratio of tax revenue to national or regional gross domestic product is used as an indicator to evaluate tax revenue performance.	Pramanda et al. (2023); Günay & Topal (2021); Minh Ha et al. (2022) Author's calculation
23	Economic growth	The percentage change in national or regional gross domestic product is another indicator of performance.	Baskaran et al. (2016); Ginting et al. (2019); Hanif et al. (2020) Statistics Indonesia
24	Sectoral contribution	The percentage share of each sector in total national or regional gross domestic product serves as an additional measure.	Karagöz (2013); Ryandiansyah & Azis (2018); Mapunda et al. (2023) Statistics Indonesia

Source: Processed by the authors