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STRUCTURE OF LOCAL GOVERNMENT BUDGETS AND LOCAL FISCAL AUTONOMY: EVIDENCE FROM INDONESIA

Abstract

This study aimed to investigate the key aspects of the Indonesia's local government budget structure. The impact of the budget on local fiscal autonomy was also examined by separating the sample of provinces in Java Island and Bali versus Non-Java Island and Bali. The unbalanced panel data was collected on 34 Indonesian provinces from 2013 to 2020. The results showed that locally-generated revenue and general allocation funds positively affect the regional fiscal autonomy index. When the provincial sample is separated, general allocation funds positively and significantly impact the regional fiscal autonomy index in the provinces in Java Island and Bali. Furthermore, locally-generated revenue, as well as general allocation and profit-sharing funds, play a significant role in increasing the regional fiscal autonomy index in provinces outside Java and Bali, such as Sumatra, Kalimantan, Sulawesi, and Papua. This study invites policymakers to address the strengthening of regional authority to explore income sources, the budgeting quality, and evaluate intergovernmental fiscal relationships.

Keywords: local government, budgeting, fiscal autonomy, decentralization

JEL Classification: H51, H71, H72, H30

INTRODUCTION

Fiscal decentralization is transferring responsibility and authority from the central to local governments. Authority delegation includes expenditure, revenue, and intergovernmental assignment, as well as subnational borrowing. Local governments' fiscal autonomy determines the capacity to finance their activities without external assistance, such as from the federal government. Therefore, this indicator could evaluate the vertical fiscal imbalance between the federal and local governments. According to Hunter (1977), regional fiscal autonomy is the freedom of the local government's legal authority to determine revenues and expenditures. Local governments have the leverage to increase the proportion of their revenues, resulting in higher expenditures than at the central level.

Government decentralization and regional autonomy commenced with the passage of Law 22 of 1999 regarding Regional Government and Law 25 of 1999 regarding Financial Balance between Central and Regional Governments. Based on the principle of regional autonomy, the central government delegated some of its affairs to autonomous regions following expanded decentralization, as evidenced by the passage of the two laws. Regional demands for the authority to develop their regions result in decentralization. Since the two laws were believed to have flaws, they were revised with Law No. 32 of 2004 on Regional Government and Law No. 33 on Financial Balance between the Central Government and Regional Governments. Moreover, the provisions regarding local governments were amended by Law Number 23 of 2014 concerning Regional

Government. This was followed by Law Number 9 of 2015, amending Law Number 23 of 2014 regarding Regional Government, Second Amendment.

Several public services are delegated to local governments under regional autonomy. This is because local governments understand the needs of the people in their regions better than the central government. Regional autonomy is anticipated to increase the speed and efficiency of service delivery to the community. In this case, local governments would make decisions without the central government's approval, promoting efficiency in providing community services and development. Additionally, the autonomy confers greater responsibility on local governments for providing services to local communities and implementing development. It means that regional autonomy must be bolstered by expanding regional fiscal capacity. The fiscal decentralization expansion could increase regional fiscal capacity. Regional authority over collecting taxes and retributions as part of PAD is bolstered and expanded with fiscal decentralization. The local governments' authority to collect Regional Taxes and Levies was bolstered by passing the Regional Taxes and Levies Law No. 28 of 2009, which is expected to increase regional fiscal autonomy.

There is a disparity in fiscal autonomy between the provinces in Java and Bali and those outside. The fiscal autonomy of most provincial governments, which account for 69.7%, is projected to change between 2013 and 2020. Statistics show that 47.8% of unstable provincial governments are considered "Towards autonomy." No Indonesian province was included in the "Very autonomy" category until 2020. Therefore, it is fascinating to examine the influence of the local government budget structure on fiscal autonomy.

Section 2 of this study reviews the effects of the local government budget structure on fiscal autonomy, while Section 3 describes the methodology used. Additionally, Sections 4 and 5 present the empirical findings and conclusion, respectively.

1. LITERATURE REVIEW

The government focuses on regulation and imposition, where products and services are considered an exclusive public good, such as flood control or assistance benefits. The constitution and democracy justify the government's monopoly. Hill & Hupe (2002) stated that the government shapes structure, content, and process and is involved in the entire governance. The top priorities for political and administrative functionaries are making and managing directive decisions. According to Edwards (1980), public policies such as communications, resources, dispositions or attitudes, and bureaucratic structures, must be implemented simultaneously.

Several theories suggested public policy, specifically budgeting, is important to governance. Osborne & Gaebler (1992) proposed government reforms using The Reinforcing Government. Since Mission-Driven Budgeting helps reinvent government, the budget's main purpose is its mission. Jensen & Meckling (1976) explained agent-principal agency using agency theory. In government, the executive is the agent, while the legislature is the principal. Before budget preparation, the executive and legislature agree on its direction, general policies, and priorities. The executive submits a draft budget to the legislature for study and discussion before becoming a regional regulation. This incomplete contract allows the legislature to oversee the executive's budget execution. According to Jones's (1997) public policy theory, the policy is a permanent decision characterized by consistent behavior from its makers and followers. The decision has a strong legal basis and must be made consistently and implemented by all parties, including the policymakers. The performance of the policymakers in carrying out their duties and functions in implementing these policies must be controlled and evaluated.

Decentralization grants the authority to budget for community services based on income and expenditure. It makes the government more accountable and responsive to the governed (Faguet, 2014). Barankay & Lockwood (2007) stated that expenditure decentralization is beneficial when central governments are less competent. When the local governments' retention rate of enterprise tax revenue was cut in China, they moved the focus from fostering industrial expansion to developing the real estate and construction industries (Han & Kung, 2015). Therefore, financial autonomy is the most important aspect of budgeting. Regional financial independence demonstrates that local governments finance activities such as development and provide community services. The reliance on external financial assistance from the center or the province could be determined through the financial independence ratio (Halim, 2004). Regional development funding is provided by the federal and local governments and non-governmental organizations. Additionally, regional income is derived from funds allocated from the center through subsidies. These include a share of central revenue, loans, central government investments, taxes, user fees, and regional company profits (Basri & Subri, 2003).

Fiscal decentralization generates economic efficiency and dynamically fosters regional economic expansion (Martinez & McNab, 2001; Oates, 1993). Spending on infrastructure and the social sector effectively promotes regional economic growth because the region is familiar with its characteristics. Furthermore, revenue and expenditure decentralization improves public sector efficiency, reduces budget deficits, and stimulates economic growth (Zang & Zou, 1998; Gramlich, 1993; Bird & Wallich, 1993; Bird, 1993; Bahl & Linh, 1992). This viewpoint is predicated on the premise that local governments meet regional needs better than the federal government. Lindaman et al. (2002) found that fiscal decentralization positively affects people's welfare by fulfilling the community's basic needs. This is consistent with the finding that fiscal decentralization increases the local governments' sensitivity to the people's wants and needs. Using a fixed effect panel estimation method, Wibowo (2008) emphasized that fiscal decentralization in Indonesia positively impacted regional development from 1999 to 2004. According to Simanjuntak (2010), the annually rising national economy and public welfare are consistent with increased regional funding sources. Additionally, Lindaman & Thurmaier (2002) found that fiscal decentralization positively impacts the fulfillment of basic community needs.

Structure of local government budgets is a determining factor for local fiscal autonomy. It includes the ratio of effectiveness of locally-generated revenue, general allocation fund, profit-sharing fund, and local tax ratio. The locally-generated revenue (LGR) ratio describes the local governments' ability to realize the planned compared to the budgeted revenue target. The region's ability to perform its duties is effective when the ratio is at least 1 or 100%. However, a higher LGR effectiveness ratio implies better regional capacity because all the plans are implemented, and performance is improved. Previous studies showed that LGR positively and significantly affects regional fiscal independence in Indonesia (Sianturi, 2014; Andriani & Wahid, 2018; Haryanto, 2019; Riyadi, 2022; Angelina et al., 2020; Nur, 2019; Jeddawi, 2021; Machfud et al., 2020;

Heryanti et al., 2019; Tahar & Zakhiya, 2011; Anggreni & Artini, 2019). Therefore, LGR is all revenues from the area's original economic source and contributions from the local community. These contributions include local taxes, regional levies, profits of regionally owned enterprises, and other legitimate revenues not from taxes or levies.

The General Allocation Fund (GAF) is an important source of income to support the government's daily operations and development financing. It supports local revenue sources and equalizes the local government's financial capacity (Saragih, 2003). Additionally, GAF is a block grant given to all districts and cities to fill the gap between their fiscal capacity and needs. It is distributed based on certain principles, where poor and underdeveloped regions should receive a larger share. The important goal of GAF is equitable distribution of the ability to provide public services among local governments in Indonesia (Kuncoro, 2004). Therefore, it positively impacts regional fiscal independence. Machfud et al. (2020), Riyadi (2022), Angelina et al. (2020), Tahar & Zakhiya (2011), and Andriani & Wahid (2018) found that increased GAF increases regional fiscal independence.

Government Regulation Number 55 of 2005 concerning balancing funds states that Revenue Sharing Funds (PSF) are sourced from APBN revenues. The revenues are allocated to regions based on percentage figures to fund regional needs in implementing decentralization. PSF is a component of the balancing fund essential in implementing regional autonomy. Tax PSF is allocated on a by-origin principle, meaning the revenue is based on the potential of the regional income-generating area. This indicates the greater the percentage of funds distributed to the regions, the greater the contribution PSF gives to regional revenues and vice versa (Yani, 2002). This shows that when the local government wants high tax revenue sharing transfers, it must optimize the potential of regional tax revenues. Consequently, the contribution of tax revenue sharing funds to regional income is reduced. In this case, regional independence is achieved, implying reduced dependence on the central government. Andriani & Wahid (2018), Machfud et al. (2020), Nugraha & Amelia (2017), and Novalistia (2016) found that PSF positively and significantly impacted regional fiscal independence in Indonesia.

Based on Law Number 28 of 2009 concerning Regional Taxes and Regional Levies, Regional Tax is a mandatory contribution to the region owed by an individual or entity coercive under the Act. This is effected without direct compensation and used for regional needs for people's greatest prosperity. High local tax revenues create regional financial independence and eliminate dependence on aid funds from the central government. Previous studies found that the local tax ratio (LTR) affects regional financial independence (Nggilu et al., 2016; Erawati & Suzan, 2015; Novalistia, 2016). Regional income greatly affects the local governments' financial performance, meaning that higher regional tax increases independence.

H1: *Locally-generated revenue positively affects the regional fiscal autonomy index.*

H2: *General allocation fund positively affects the regional fiscal autonomy index.*

H3: *Profit-sharing fund positively affects the regional fiscal autonomy index.*

H4: *Local tax ratio positively affects the regional fiscal autonomy index.*

2. METHODOLOGY

This study collected unbalanced panel data on 34 Indonesian provinces from 2013 to 2020 from The Audit Board of Indonesia (BPK) and the Indonesian Central Statistics Agency. The Fiscal Autonomy Index (FAI), developed by Hunter (1977), was used to measure the regional fiscal autonomy index (RFAI). The Hunter formula (1977) is frequently used to calculate regional fiscal autonomy. The APBD structure was adjusted, as shown in Table 1, because the Regional Revenue and Expenditure Budget (APBD) structure differs slightly from the budget classification used in Formula Hunter (1977). This indicates the lower the RFA index, the lower the level of independence, and vice versa. Table 2 shows that the Audit Board of Indonesia (BPK) categorizes regional fiscal autonomy as "Not Yet Autonomous or Independent," "Towards Autonomy/Independence," "Autonomous/Independent," and "Very Autonomous/Independent."

Table 1. Operational Definition of Variables and Measurements

Variables	Symbol	Definition and measure	Sign
Regional Fiscal Autonomy Index	RFAI	$RFAI = 1 - \frac{TRGP+TRSP+B+REVsh}{REVor+TRGP+TRSP+B+REVsh}$ Where: REV_{or} = Regional Original Income comprises Regional Taxes, Regional Retribution, Results of Regional Wealth Management Separated, and Other Legitimate Regional Original Income. TRGP = General Purpose Transfer, Special Autonomy Fund, Privilege Fund, Village Fund, and Inter-Regional Transfer Revenue. TRSP = Special Allocation Fund (Physical and Non-Physical) B = Subnational Borrowing REV_{sh} = Profit-Sharing Fund, which consists of: a. Profit-Sharing Fund from Land and Building Tax. b. Revenue Sharing Fund from Income tax Article 25 and Article 29 for individual domestic taxpayers and Income tax Article 21. c. Revenue Sharing Fund from excise originating from excise on tobacco products according to statutory provisions. d. Revenue Sharing Fund from natural resources	
Locally-Generated Revenue	LGR	Locally-Generated Revenue to Total Income (%)	+
General Allocation Fund	GAF	Realizing regional general allocation funds compared to realizing total regional income (%)	+
Profit-Sharing Fund	PSF	Realizing regional revenue-sharing funds compared to realizing total regional income (%)	+
Local Tax Ratio	LTR	Realizing local tax revenue compared to gross regional domestic product (%)	+
Per capita income	PCI	Per capita income is measured by the money earned per person at the provincial level.	+
Domestic Investment	DMI	The natural logarithm of Foreign Investment Realization by Province (Million US$).	+
Foreign Direct Investment	FDI	The natural logarithm of Domestic Investment Realization by Province (Billion Rupiah).	+
Population	POP	The natural logarithm of the population	+

Table 2. Classification of Regional Fiscal Autonomy

Level	Regional Fiscal Autonomy Index (RFAI)	Category
1	0,00 ≤ RFAI ≤ 0,25	Not Yet Autonomous/Independent
2	0,25 ≤ RFAI ≤ 0,50	Towards Autonomy/Independence
3	0,50 ≤ RFAI ≤ 0,75	Autonomous/Independent
4	0,75 ≤ RFAI ≤ 1,00	Very Autonomous/Independent

This study also used control variables, including Per capita income (PCI), Domestic Investment (DMI), Foreign Direct Investment (FDI), and Population (POP). People's ability to pay taxes is influenced by per capita income. In this case, higher income increases the ability to pay various government levies. Payments or contributions by the community in a district or city in paying the increasing taxes increase the funds used to finance development and community needs, affecting regional financial independence. This means that districts or cities no longer depend on the central government (Halim, 2001; Ariasih, 2013). Moreover, investment has an important role in encouraging fiscal independence. For instance, foreign direct investment is needed in developing countries (Lestari, 2022; Kusumawardani et al., 2021). One investment that local governments could take is direct equity participation in regional companies. This investment could increase the regional original income and independence (Wahyono, 2021; Ulfi, 2022).

Regressions were conducted in two stages according to the econometric methodology. In the first stage, the local government budget structure and control variables were considered concurrently, as in Eq (1). The second stage broke down repeated samples between Java Island and Bali versus Non-Java Island and Bali. Therefore, the following model was adopted to predict the regional fiscal autonomy index:

$$\boldsymbol{RFAI}_{,\boldsymbol{i},\boldsymbol{t}} = \alpha_{,i,t} + \boldsymbol{\beta_1}\,LGR_{i,t} + \boldsymbol{\beta_2}\,GAF_{i,t} + \boldsymbol{\beta_3}PSF_{i,t} + \boldsymbol{\beta_4}\,LTR_{i,t} + \boldsymbol{\beta_5}\,PCI_{i,t} + \boldsymbol{\beta_6}\,DMI_{i,t} + \boldsymbol{\beta_7}\,FDI_{i,t} + \boldsymbol{\beta_8}\,POP_{i,t} + \varepsilon_{i,t}$$

Where:
$RFAI_{i,t}$ = Regional Fiscal Autonomy Index in the province $_i$ at time $_t$
$LGR_{i,t}$ = Locally-Generated Revenue in the province $_i$ at time $_t$
$GAF_{i,t}$ = General Allocation Fund in the province $_i$ at time $_t$
$PSF_{i,t}$ = Profit Sharing Fund in the province $_i$ at time $_t$
$LTR_{i,t}$ = Local Tax Ratio in the province $_i$ at time $_t$
$PCI_{i,t}$ = Per capita income in the province $_i$ at time $_t$
$DMI_{i,t}$ = Domestic Investment in the province $_i$ at time $_t$
$FDI_{i,t}$ = Foreign direct investment in the province $_i$ at time $_t$
$POP_{i,t}$ = Population in the province $_i$ at time $_t$
$\alpha_{i,t}$ = Constanta in the province $_i$ at time $_t$
$\varepsilon_{i,t}$ = Error term in the province $_i$ at time $_t$

The data were analyzed using panel data regression, which recovers cross-sectional and time-series variation from the underlying panel data and minimizes multicollinearity, heteroscedasticity, and estimate bias (Baltagi, 2008; Woolridge, 2010). The method is employed when there are three approach models, including the Common Effect Model (CEM), the Fixed Effect Model (FEM), and the Random Effect Model (REM). Chow and Hausman's tests selected one of the three possible models (Baltagi, 2008). The Chow test results indicated that the null hypothesis (H0) that Common Effect Model (CEM) residuals have no mistakes is rejected. Additionally, the Hausman test was performed to evaluate the suitable panel estimator between the fixed and random-effects models. The test findings indicated that the random effects estimator was suitable (Hill et al., 2018), necessitating investigating the random-effects technique.

3. EMPIRICAL RESULTS AND DISCUSSION

Table 1 shows the descriptive statistics for the study sample with an average RFAI of 0.379 and a standard deviation of 0.163. This shows that the RFAI in the provinces in Indonesia is in the "Towards Autonomy/Independence" category. Since the start of regional decentralization, the provinces have not achieved fiscal independence since the RFAI has not changed in the last ten years. Fiscal independence is also dominated by the provinces in Java and Bali, such as DKI Jakarta, West Java, Central Java, and East Java, which are included in the Very Autonomous/Independent category. However, 73.5% of the 34 regions have not reached the Very Autonomous/Independent category. Locally-generated revenue has increased in recent years, as shown by an average RGF of.28% and a standard deviation of 15.45. Provinces such as Papua and Aceh have not experienced an increase in RGF. The General Allocation Fund, Profit Sharing Fund, and Local Tax Ratio variables are 37.74%, -3.44%, and 4.02%, respectively. The average value of all the variables is higher than the standard deviation, with a small data deviation.

Table 3. Descriptive Statistics

Variables	Symbol	Obs.	Mean	Std. Dev	Min.	Max.
Regional Fiscal Autonomy Index	RFAI	264	0.379	0.163	0.008	0.761
Locally-Generated Revenue	LGR	260	28.281	15.468	0.196	61.967
General Allocation Fund	GAF	267	37.742	17.181	0.782	76.197
Profit-Sharing Fund	PSF	267	-3.488	0.707	-5.075	-1.362
Local Tax Ratio	LTR	267	4.028	3.838	0.625	25.617
Per capita income	PCI	272	39.886	30.482	10.397	174.81
Domestic Investment	DMI	269	7.804	1.850	1.281	11.036
Foreign Direct Investment	FDI	272	5.701	1.669	0.693	8.871
Population	POP	267	8.385	0.994	6.526	10.811

Table 4 evaluates the existence of the multicollinearity problem, while Table 2 displays the correlation matrix for independent variables. The correlations between independent variables are not alarming. A previous study found multicollinearity develops when the correlation between variables exceeds 0.80. (Field, 2009). A lack of connection between the correlation matrix and the explanatory variables implies no multicollinearity.

Table 4. Correlation Matrix

Variables	LGR	GAF	PSF	LTR	PAC	DMI	FDI	POP
LGR	1.0000							
GAF	-0.5828	1.0000						
PSF	-0.4032	0.6471	1.0000					
LTR	-0.4485	0.4305	0.3824	1.0000				
PAC	-0.4178	0.1613	0.1195	0.4933	1.0000			
DMI	-0.5533	0.5872	0.4260	0.2661	0.2664	1.0000		
FDI	-0.5364	0.5021	0.3864	0.4126	0.3496	0.5012	1.0000	
POP	-0.5165	0.5908	0.3877	0.1655	-0.0441	0.5473	0.5168	1.0000

Table 5 shows the relationship between the local government budget structure and fiscal autonomy. The panel data regression techniques used three alternative approaches to processing methods. The Chow test results showed that the F-test value and Chi-square probability were significant at 0.0000, smaller than 0.05. This indicates that the null hypothesis is rejected, meaning that FEM is better than CEM. Furthermore, the Hausman test results showed a p-value of 0.7073, greater than 0.05. This means that the null hypothesis is accepted, implying that REM is better than FEM.

Table 5. The Impact of the Structure of Local Government Budgets on Local Fiscal Autonomy

Explanatory Variables	**Dependent Variable: Regional Fiscal Autonomy Index (RFAI)**			
	Coef.	**Robust Std. Error**	**z**	**p>|z|**
LGR	0.00034**	0.00017	2.03	0.042
GAF	0.00921***	0.00016	57.02	0.000
PSF	0.00649	0.00573	1.13	0.257
LTR	-0.00074	0.00119	-0.62	0.532
PAC	0.00028***	0.00010	2.85	0.004
DMI	-0.00125	0.00133	-0.94	0.348
FDI	-0.00040	0.00128	-0.31	0.756
POP	0.01259***	0.00332	3.79	0.000
Constant	-0.07702*	0.03931	-1.96	0.050
Prob > chi2	0.0000			
R Squared	0.6958			
Observation	245			

Notes: *Levels of significance at 10%, **Levels of significance at 5%, and ***Levels of significance at 1%.

Table 5 shows the results of the local government budget structure's impact on fiscal autonomy. LGR positively influences regional financial independence (RFAI) in Indonesia, with a coefficient of 0.00034. This means that a 1% increase in the local revenue increases the regional financial independence in Sidoarjo Regency by 0.00034%, and vice versa. Therefore, the first hypothesis predicting a positive association between LGR and RFAI was accepted. The findings in Table 5 support hypothesis H1 that LGR improves RFAI. This result is consistent with Sianturi (2014), Andriani & Wahid (2018), Haryanto (2019), Riyadi (2022), Angelina et al. (2020), Nur (2019), Jeddawi (2021), Machfud et al. (2020), Heryanti et al. (2019), Tahar & Zakhiya (2011), and Anggreni & Artini (2019) regarding LGR's role for local governments. Therefore, higher independence reduces regional dependence on the central and provincial governments.

Table 5 also shows the positive and significant effect of GAF on RFAI. The coefficient of GAF is 0.00921, implying that a 1% increase in GAF increases RFAI by 0.00921%. The results support the second hypothesis that GAF positively impacts RFAI. Therefore, there is a linear relationship between GAF and RFAI in the provinces in Indonesia. This supports Machfud et al. (2020), Riyadi (2022), Angelina et al. (2020), Tahar & Zakhiya (2011), and Andriani & Wahid (2018), which found that higher GAF increases regional fiscal independence. According to Law Number 23 of 2014, the General Allocation Fund is a transfer from the central government's budget allocation of revenues and expenditures (APBN) to the regions. It is a support fund for building facilities and infrastructure to distribute each region's financial capacity and eliminate gaps. According to Law No. 33 of 2004 Article 27, General allocation funds are used to close the gaps because regional needs exceed the existing revenue potential.

The results in Table 5 show a positive but insignificant coefficient of profit-sharing fund (PSF). This means that RSF does not influence RFAI in Indonesia, implying that the third hypothesis (H3) is rejected. Similarly, the local tax ratio (LTR) shows insignificant results, indicating that LTR does not impact RFAI in Indonesia, and the fourth hypothesis (H4) is rejected. For control variables, the only population has a significant positive impact. This is in line with the expectation that a higher population increases productivity and government income, resulting in fiscal independence.

Table 6. The Impact of The Structure of Local Government Budgets on Local Fiscal Autonomy; Java Island and Bali versus Non-Java Island and Bali

Explanatory Variables	Dependent Variable: Regional Fiscal Autonomy Index (RFAI)							
	Java Island and Bali				Non-Java Island and Bali			
	Coef.	Robust Std. Error	z	p>|z|	Coef.	Robust Std. Error	z	p>|z|
LGR	0.00003	0.00154	0.02	0.985	0.00066***	0.00019	3.55	0.000
GAF	0.00785***	0.00110	7.16	0.000	0.00867***	0.00021	40.97	0.000
PSF	0.04154	0.02616	1.59	0.112	0.01597**	0.00812	1.97	0.049
LTR	-0.00706	0.00657	-1.07	0.282	-0.00288	0.00195	-1.47	0.141
PAC	0.00066	0.00070	0.93	0.350	0.00042***	0.00011	3.93	0.000
DMI	-0.00063	0.00488	-0.13	0.898	0.00015	0.00142	0.11	0.916
FDI	0.00168	0.00525	0.32	0.749	-0.00019	0.00139	-0.14	0.890
POP	0.00170	0.00778	0.22	0.827	0.02128***	0.00439	4.84	0.000
Constant	0.19867	0.18076	1.10	0.272	-0.11187	0.05260	-2.13	0.033
Prob > chi2	0.0000				0.0000			
R Squared	0.9000				0.6435			
Observation	50				195			

Notes: *Levels of significance at 10%, **Levels of significance at 5%, and ***Levels of significance at 1%.

This study divided the sample into Java Island and Bali versus Non-Java Island and Bali. This is because the provinces in Java Island and Bali dominate fiscal independence in Indonesia. Four provinces on the island of Java, including DKI Jakarta, West Java, East Java, and Central Java, had high fiscal capacity indexes until 2020. This index shows that provinces on Java island dominate regions with high fiscal independence. Furthermore, Table 6 shows that GAF positively and significantly impacts RFAI in Java Island and Bali provinces. LGR, GAF, and PSF increase RFAI in provinces outside Java and Bali, such as Sumatra, Kalimantan, Sulawesi, and Papua. These findings support hypothesis H1 for Java Island and Bali, while H1, H2, and H3 are supported for Non-Java Island and Bali.

4. CONCLUSION AND RECOMMENDATIONS

This study aimed to investigate the key aspects of local government budget structure in Indonesia. It also aimed to explore the structure's impact on local fiscal autonomy by separating the sample of provinces in Java Island and Bali versus Non-Java Island and Bali. This study collected unbalanced panel data for 34 provinces from 2013 to 2020. The data were obtained from The Audit Board of Indonesia (BPK) and the Central Statistics Agency. The effect of local government budget structure on local fiscal autonomy was estimated using panel data regression.

The findings showed that locally-generated revenue positively affects the regional fiscal autonomy index. This means that the revenue improves regional fiscal autonomy in Indonesia. Similarly, general allocation funds positively and significantly affect the regional fiscal autonomy index. It means that more general allocation funds increase the regional fiscal autonomy index. The profit-sharing fund and local tax ratio did not significantly impact the regional fiscal autonomy index. Furthermore, this study separated the provincial sample between Java Island and Bali versus Non-Java Island and Bali. The findings showed that general allocation funds positively and significantly impact the regional fiscal autonomy index in the provinces of Java Island and Bali. Locally-generated revenue, general allocation funds, and profit-sharing funds increase the regional fiscal autonomy index in provinces outside Java and Bali, such as Sumatra, Kalimantan, Sulawesi, and Papua.

The overall results indicate that locally-generated revenue increases the regional fiscal autonomy index. Therefore, the central government should strengthen regional authority to explore sources of income. They need to explore strategic tax sources and the region's variation in potential income sources to realize higher locally-generated revenue. The local government should also improve the budgeting quality because the increased general allocation of funds and profit-sharing from the central government should be followed by improved governance. Additionally, the government needs to re-evaluate the intergovernmental fiscal relationship regarding decentralization. This is because the federal finance model, official boundaries, delegation of functions, authority, and financing have been regulated through a law. The model is suitable because Indonesia is diverse in demographic and ethnic aspects. The law regulating regional autonomy and fiscal decentralization is expected to accommodate the Central and Local Government needs. It should also achieve fiscal independence by implementing fiscal decentralization.

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REFERENCES

1. Andriani, R. N. A., & Wahid, N. N. (2018). Pengaruh Pendapatan Asli Daerah Dan Dana Perimbangan Terhadap Kemandirian Keuangan Daerah (Studi Kasus Pada Pemerintah Kota Tasikmalaya Tahun 2006 – 2015). *Jurnal Akuntansi*, 13(1), 30-39.
2. Angelina, N., Efni, Y., & Rasuli, M. (2020). Pengaruh Belanja Modal, Pendapatan Asli Daerah Dan Dana Alokasi Umum Terhadap Kinerja Keuangan Dengan Pengawasan Sebagai Variabel Moderating Di Kabupaten/Kota Provinsi Riau Tahun 2014 – 2018. *Jurnal Bahtera Inovasi*, 4(1), 36-53.
3. Anggreni, N. K. A., & Artini, L. G. S. (2019). Pengaruh PAD, Dana Perimbangan dan Belanja Modal Terhadap Kinerja Keuangan Daerah Kabupaten Badung Provinsi Bali. *E-Jurnal Manajemen Unud,* 8(3), 1315 – 1345. https://doi.org/10.24843/EJMUNUD.2019.v8.i3.p6

4. Ariasih, P. (2013). Pengaruh Jumlah Penduduk dan PDRB per kapita Terhadap Penerimaan PKB dan BBNKB serta Kemandirian Keuangan Daerah Provinsi Bali Tahun 1991-2010. *Economic and Business E-Journal*, 2(8), 543-562.
5. Baltagi, B.H., (2008). *Econometric Analysis of Panel Data*. John Wiley and Sons. West Sussex.
6. Barankay, I. & Lockwood, B. (2007). Decentralization and the productive efficiency of government: Evidence from Swiss cantons. *Journal of Public Economics*, 91(5–6), 1197-1218. https://doi.org/10.1016/j.jpubeco.2006.11.006
7. Basri, Y, Z. & Subri, M. (2003). *Keuangan Negara dan Analisis Kebijakan Utang Luar Negeri*. Raja Grafindo Persada, Jakarta.
8. Bhalla, S. S. (1994). Freedom and Economic Growth: A Virtuous, Cycle?. In Democracy's Victory and Crisis (195–241), ed. Axel Hadenius Cambridge, UK: Cambridge, University Press.
9. Bird, R. M., Ebel, R., & Wallich, C. (1995). Decentralization of the socialist state: Intergovernmental finance in transition economics. Washington DC: World Bank. https://doi.org/10.1596/0-8213-3186-8
10. Edwards, G. C. (1980). *Implementing public policy (Politics and public policy series)*. Congressional Quarterly Press, London.
11. Erawati, T. N. & Suzan, L. (2015). Pengaruh Pendapatan Asli Daerah Terhadap Tingkat Kemandirian Keuangan Daerah Kota Bandung (Studi Kasus Pada DPKAD Kota Bandung Periode 2009-2011). Journal e-Proceeding of Management, 2(3), 3259-3266.
12. Faguet, J. (2014). Decentralization and Governance. *World Development*, 53, 2-13. https://doi.org/10.1016/j.worlddev.2013.01.002
13. Field, A. (2009). *Discovering statistics using SPSS (3rd ed.)*. Sage Publishers, London.
14. Gramlich, E. M. (1993). A policy maker's guide to fiscal decentralization. National Tax Journal, 46(2), 229-235. https://doi.org/10.1086/NTJ41789012
15. Halim A. (2001). *Bunga Rampai Manajemen Keuangan Daerah*. UPP AMP YKPN, Yogyakarta.
16. Halim, A. (2007). *Akutansi Keuangan Pemerintah seri Akutansi Sektor Publik*. Salemba Empat, Jakarta.
17. Han, Li & Kung, J. K. (2015). Fiscal incentives and policy choices of local governments: Evidence from China. *Journal of Development Economics*, 116, 89-104. https://doi.org/10.1016/j.jdeveco.2015.04.003
18. Haryanto, H. (2019). Analisis Pengaruh Pendapatan Asli Daerah, Dana Alokasi Umum, Dan Belanja Modal Terhadap Tingkat Kemandirian Keuangan Daerah Pada Pemerintah Daerah Kabupaten/Kota Di Provinsi Jawa Tengah Tahun 2012-2017. *Diponegoro Journal of Accounting*, 8(2), 1-13.
19. Heryanti, C. D., Wahidahwati, W., & Suryono, B. (2019). Pengaruh Pendapatan Asli Daerah, Dana Perimbangan dan Pertumbuhan Ekonomi Terhadap Kinerja Keuangan Pemerintah Kabupaten/Kota di Provinsi Jawa Timur. *Jurnal Analisa Akuntansi dan Perpajakan*, 3(1). 98-116.
20. Hill, M. & Hupe, P. (2002). Implementing Public Policy: Governance in Theory and in Practice. SAGE Publications, London.
21. Hill, R.C., Griffiths, W.E., & Lim, G.C. (2018). *Principle of Econometrics, 5th ed*. Wiley. Danvers, MA

22. Hunter, J. S. (1977), Federalism and Fiscal Balance, Australian National University Press Canberra.
23. Jeddawi, M. F. H. (2021). Alternatif Strategi Menekan Kesenjangan Kemandirian Fiskal Antar Daerah di Indonesia. *Jurnal Pallangga Praja*, 3(2), 51-57.
24. Jensen, M.C. & Meckling, W.H. (1976). Theory of the firm: managerial behavior, agency costs, and ownership structure. *Journal of Financial Economics*, 3(4), 305-360. https://doi.org/10.1016/0304-405X(76)90026-X
25. Jones, C. O. (1977). *An Introductions to The Study of Public Policy*. Duxbury Press, Massachuset.
26. Kuncoro, M. (2004). *Otonomi dan Pembangunan Daerah*. Erlangga, Jakarta.
27. Kusumawardani, A., Wardhani, W., Maria, S., Yudaruddin, R. (2021). Board structure and disclosure of intellectual capital: An empirical study in an emerging market. *Journal of Governance & Regulation*, 10(3), 140–149. https://doi.org/10.22495/jgrv10i3art12
28. Lestari, D., Lesmana, D., Yudaruddin, Y. A., & Yudaruddin, R. (2022). The impact of financial development and corruption on foreign direct investment in developing countries. *Investment Management and Financial Innovations*. 19(2), 211-220. https://doi.org/10.21511/imfi.19(2).2022.18
29. Lindaman, K. & Thurmaier, K. (2002). Beyond Efficiency and Economy: An Examination of Basic Needs and Fiscal Decentralization. Economic Development and Cultural Change. 50 (4), 915-934. https://doi.org/10.1086/342760
30. Machfud, Asnawi, & Naz'aina. (2020). Pengaruh Pendapatan Asli Daerah, Dana Perimbangan, Dana Otonomi Khusus Dan Tingkat Kemiskinan Terhadap Tingkat Kemandirian Keuangan Daerah Di Kabupaten/Kota Provinsi Aceh. *Jurnal Manajemen Indonesia*, 5(1), 14-32.
31. Martinez-Vazquez, J. & McNab, R. M. (2001). Fiscal Decentralization and Economic Growth. Georgia State Andrew Young School of Policy (ISP) Working Paper No. 01-01. http://dx.doi.org/10.2139/ssrn.259281
32. Musfirati, A. & Sugiyanto, H. (2021). Pengaruh Dana Alokasi Umum, Dana Alokasi Khusus, Dana Bagi Hasil, Dan Dana Keistimewaan Terhadap Tingkat Kemandirian Keuangan Daerah. *Sumber Artikel Akuntansi Auditing dan Keuangan Vokasi*, 5(1), 20-34. https://doi.org/10.35837/subs.v5i1.1382
33. Nggilu, F., Sabijono, H. & Tirayoh, V. (2016). Pengaruh Pajak Daerah dan Retribusi Daerah terhadap Kemandirian Keuangan Daerah pada Pemerintah Kabupaten/Kota Di Provinsi Gorontalo. Jurnal Berkala Ilmiah Efisiensi, 16(4), 623-635.
34. Novalistia, R. L. (2016). Pengaruh Pajak Daerah, Retribusi Daerah, Lain-Lain Pendapatan Asli Daerah yang Sah dan Dana Bagi Hasil Pajak terhadap Tingkat Kemandirian Keuangan Daerah pada Pemerintahan Kabupaten Atau Kota di Provinsi Jawa Tengah (Studi Empiris Pada Kabupaten / Kota Provinsi Jawa Tengah Periode 2012-2014). *Journal of Accounting*, 2(2), 1- 25.
35. Nugraha & Amelia, T. (2017). Pengaruh Dana Perimbangan Dan Kemandirian Keuangan Daerah Terhadap Kesejahteraan Masyarakat Pada Kabupaten Dan Kota Di Jawa Barat Tahun 2011-2014. *Jurnal Wacana Kinerja*, 20(1), 51-71.
36. Nur, F. (2019). Analisis Pengelolaan Keuangan Daerah Terhadap Kemandirian Fiskal Daerah Kabupaten Kutai Kartanegara. *Jurnal "Gerbang Etam" Balitbangda Kab. Kukar*, 13(2), 22-35.

37. Oates, W. (1993). Fiscal Decentralization and Economic Development. National Tax Journal, 46(2), 237-43. https://doi.org/10.1086/NTJ41789013
38. Osborne, D. & Gaebler, T. (1992). *Reinventing Government: How the Entrepreneurial Spirit is Transforming the Public Sector*. Plume, New York.
39. Riyadi, W. (2022). Pengaruh Dana Alokasi Umum, Dana Alokasi Khusus Dan Belanja Modal Terhadap Tingkat Kemandirian Keuangan Daerah Pada Kabupaten/Kota Di Provins Jawa Barat. *Jurnal Akuntansi Keuangan dan Sistem Informasi*, 3(1), 298- 314.
40. Saragih, J. P. (2003). *Desentralisasi Fiskal dan Keuangan Daerah dalam Otonomi*. Ghalia Indonesia, Jakarta.
41. Sianturi, A. (2014). Peran Pendapatan Asli Daerah dalam Menunjang Desentralisasi Fiskal dan Pembangunan Daerah (Studi pada Dinas Pendapatan Kota Batu). *Jurnal Administrasi Publik*, 2(3), 557-563.
42. Simanjuntak, R. A. (2010). Desentralisasi Fiskal dan Manajemen Makroekonomi: Urgensi Suatu Grand Design di Indonesia. *Majalah Prisma*, 29(3), 35-57.
43. Tahar, A. & Zakhiya, M. (2011). Pengaruh Pendapatan Asli Daerah Dan Dana Alokasi Umum terhadap Kemandirian Daerah dan Pertumbuhan Ekonomi Daerah. Jurnal Akuntansi dan Investasi, 12(1), 88-99.
44. Ulfi, I. H. (2022). Investasi Daerah Dan E-Government Serta Implikasinya Terhadap Kemandirian Daerah. *Bina Ekonomi*, 25(2), 115-134. https://doi.org/10.26593/be.v25i2.5259.21-40
45. Wahyono, D. (2021). Investasi Daerah dalam Teori Modernisasi. *Kabilah: Journal of Social Community*, 6(1), 1-7. https://doi.org/10.35127/kbl.v6i1.4648
46. Wibowo, Puji. (2008) Mencermati Dampak Desentralisasi Fiskal terhadap Pertumbuhan Ekonomi Daerah. *Jurnal Keuangan Publik*, 5(1), 55-83.
47. Wooldridge, J.M. (2010). *Econometric Analysis of Cross Section and Panel Data*. The MIT Press, Cambridge.
48. Yani, A. (2002). *Hubungan Keuangan antara Pemerintah Pusat dan Daerah di Indonesia*. Jakarta, PT RajaGrafindo Persada.
49. Zhang, T. & Zou, H. (1998). Fiscal decentralization, public spending, and economic growth in China. Journal of Public Economics, 67(2), 221-240. https://doi.org/10.1016/S0047-2727(97)00057-1