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Citation: Pradana, A. C. T., & Mun'im, A. (2022). The Effect of Local Revenue and Balancing Funds on the Economy of Bali Province in 2012-2019. *Jurnal Bina Praja*, 14(3), 439–451. https://doi.org/10.21787/jbp.14.2022.439-451

Received: 18 September 2022

Accepted: 9 November 2022

Published: 26 December 2022

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ARTICLE

The Effect of Local Revenue and Balancing Funds on the Economy of Bali Province in 2012–2019

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Abstract: The implementation of Law Number 32 of 2004 concerning regional autonomy required Indonesia to change its economic development system from centralized to decentralized. One form was fiscal decentralization which aimed to promote social welfare and regional independence. However, the economic growth of several regions fluctuated, even though the fiscal decentralization instrument issued by the central government continued to increase. One of the provinces in Indonesia that have implemented a fiscal decentralization policy is Bali. It is categorized as one of the very-good provinces in terms of economic independence, reaching 53 percent, and tent to receive increasing local revenue every year. However, its economy seems to remain relatively high. This study aims to estimate the effect of fiscal decentralization as seen from PAD and balancing funds to the economic growth in districts/cities of Bali Province in 2012-2019. By using panel data regression analysis, this study examines the effect of PAD and balancing funds in the districts/cities of Bali Province and their effects on Bali's economic growth. This study finds that the best model explaining the influence among those variables is the Fixed Effects Model (FEM) with Seemingly Unrelated Regression (SUR). The results show that the DAU and the combination of the utilization of regional income that includes PAD and other legal regional income have a positive and significant effect on economic growth in the districts/cities of Bali Province. Therefore, optimizing the use of regional revenues, both in the form of PAD and Other Legitimate Regional Revenues, may increase economic growth.

Keywords: economic growth; fiscal decentralization; FEM; panel data regression; SUR.

1. Introduction

Indonesia has entered a period of regional autonomy since law enactment Number 22 of 1999, later refined by Law Number 32 of 2004. Regional autonomy is one of the efforts made by Indonesia in the context of increasing its economic growth. In this way, the development system changed from centralized to decentralized. One form of decentralization is fiscal authority transfer to local governments, known as fiscal decentralization. This scheme has been considered effective since the local government knows the potential details of the region and the development priorities. Under the implementation of fiscal decentralization, local governments have been given the authority by the central government to regulate and manage their regions so that it may boost their economic growth (Ismail et al., 2004; Lin & Liu, 2000; Pasichnyi et al., 2019).

Fiscal decentralization is defined as the granting of authority to regions to explore sources of revenue from the regions, the right to receive transfer funds from higher levels of government and to determine routine spending and investment (Litvack et al., 1998). Fiscal decentralization is expected to be able to bring Indonesia toward inclusive and sustainable prosperity (Christia & Ispriyarso, 2019). It also may increase accountability in the administration of local government processes so, which reduces corruption among local governments (Fisman & Gatti, 2002; Ivanyna & Shah, 2011; Kwon, 2012; Saputra & Setiawan, 2021).

Bali is one of the provinces in Indonesia that has implemented a fiscal decentralization policy. During 2015–2019, the ratio of local revenue and budget in Bali was around 53 percent (Figure 1). It implicated that Bali was categorized as one of the very-good provinces in terms of economic independence (Badan Litbang Depdagri RI & Fisipol–UGM, 1991). In addition, the data from Statistics Indonesia (BPS) mentioned that the local revenue (PAD) received by regencies/cities in Bali tends to increase every year. This shows that the authority explores the potential as a source of revenue owned by the region is getting stronger and being carried out well. Increased PAD should be able to accelerate the economic growth rate. In addition, as a consequence of implementing fiscal decentralization, regencies/cities are supplied with financial assistance by balancing funds. The increasing trend of PAD and balancing funds shows that the central government is increasingly strengthening the implementation of fiscal decentralization.

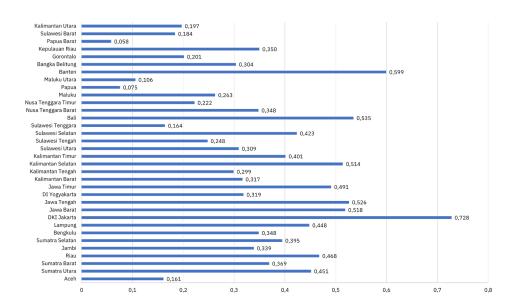


Figure 1. The Average of Ratio Between Local Revenue and Local Budget by Province, 2015–2019

Source: BPS (www.bps.go.id)

Stone (2015) stated that fiscal decentralization positively affects economic growth. At the same time, Sandjaja et al. (2020) argued that fiscal decentralization positively affects Indonesian welfare through human development and poverty indicators. By implementing this scheme, the local governments must allocate efficient resources to meet public needs and appropriate regulations. However, the objective of implementing the fiscal decentralization policy in the Province of Bali, namely, to accelerate the pace of economic growth, has not been carried out accordingly. The implementation of fiscal decentralization is not followed by significant economic growth in this province. This is evidenced by the fluctuating value of economic growth in the districts/cities of Bali. Figure 2 shows the economic growth rate of Bali during 2012–2019.

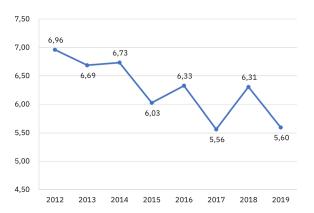


Figure 2. Economic Growth Rate of Bali Province, 2012-2019 (%)

Source: BPS (www.bps.go.id)

Various studies have been conducted to analyze the effect of fiscal decentralization on economic growth. Local revenue (PAD) and the components of balancing funds, namely general allocation funds (DAU); revenue sharing funds (DBH); and special allocation funds (DAK), were examined for their influence on regional economic performance. Several studies focus their impacts on particular economic indicators such as investment (Irvan & Karmini, 2016; Sari et al., 2017), infrastructure development (Suarjana & Dewi, 2018), and government spending (Lestari, 2020). The other paper also discussed the simultaneous effect of fiscal decentralization on economic growth and human development (Hung & Thanh, 2022). However, many also discussed their direct effects on regional economic growth. Nevertheless, based on the results of those studies, conclusions were still quite varied.

In the global scope, some papers found that fiscal decentralization positively affected economic growth. For instance, a study in OECD countries (Bodman, 2011; Filippetti & Sacchi, 2016) and European countries (Slavinskaitė, 2017). While in Asia region, a study in Vietnam conducted by Nguyen and Anwar (2011) concluded a similar result.

Previous studies in Indonesia concluded various results. A study conducted by Fandana (2015) stated that balancing funds positively affected the economic growth of 32 provinces in Indonesia. Specifically, the DAU component had a positive effect on the economic growth of districts/cities in Aceh (Eliza et al., 2014; Rahmah & Zein, 2016), North Sumatera (Sitepu, 2017), and West Sumatra (Risepdo, 2015). Similarly, Mawarni et al. (2013) and Wijayanti and Darsana (2015) stated that PAD and DAU positively affected the district/city economic growth in Indonesia. However, the small allocation of DAK (Panji & Indrajaya, 2016) and the low number of PAD (Fandana, 2015) have resulted in neither of them affecting regional economic growth.

In certain areas, for instance, in Lampung Province, Setyawan (2013) found that DAU and investment had a positive and significant effect on economic growth. Meanwhile, DBH had a negative and significant impact. On the other hand, Kusumawati and Wiksuana (2018) examined the effect of regional income on economic growth in the Sarbagita area of Bali. By employing multiple linear regression estimations, they

concluded that PAD and DAK had a positive and significant effect on economic growth in the Sarbagita area. While the other two variables, DAU and DBH, had a negative and significant effect on economic growth. They argued that the negative impact of DAU occurred since the utilization of DAU was not optimal. Meanwhile, the negative effect of DBH occurred due to the realization that DBH was not allocated to regional development.

Those various studies provide input for this research on how the effect of fiscal decentralization on economic growth in the districts/cities of Bali, mainly related to the variables that have a major influence on decentralization. However, this study tries to improve the study on the decentralization issue by putting the other indicator as one of the interest variables in the model. This study includes a combination of the utilization of regional income that covers PAD and Other Legitimate Regional Income as another dependent variable that is assumed may affect economic growth.

This paper aims to provide an overview of economic growth and sources of financing for fiscal decentralization as seen from PAD and district/city balancing funds for the Province of Bali in 2012–2019. In addition, this study also tries to find the effect of fiscal decentralization as seen from PAD and balancing funds on economic growth in the districts/cities of Bali Province in 2012–2019. By examining the effect of these variables, we may draw more relevant conclusions about their impact on districts/cities' economic growth in the Province of Bali.

2. Methods

In order to answer research questions, this study utilizes secondary data from the BPS of Bali Province. There are nine districts/cities observed from the 2012–2019 period. This study conducts descriptive by showing the data in graphs and tables. It is utilized to explain the overview of economic growth and sources of financing for fiscal decentralization as seen from PAD and district/city balancing funds for the Province of Bali. In addition, this research also conducts panel data analyses to find the effect of balancing funds on economic growth in Bali. This study utilizes secondary data in the form of panel data. All data used is annual data, from 2012 to 2019, in nine districts/cities in Bali. The data are taken from the BPS of Bali Province (www.bali.bps.go.id). The independent variables used are local revenue (PAD), general allocation funds (DAU), special allocation funds (DAK), revenue sharing funds (DBH), other legitimate regional income, and population. The data are taken from the BPS of Bali Province.

This study conducted panel data analysis since it has several advantages, namely (1) panel data can provide more complete, diverse, less correlated information between variables, greater degrees of freedom, and is more efficient; (2) by studying repeated cross-sectional data several times. Panel data is better used for studying dynamic data; (3) panel data can identify and measure effects that cannot be measured by cross-sectional or time series data; (4) panel data model allows to analyze of more complex models compared to only cross-section data or time series data, and (5) Panel data can minimize bias that may occur if individuals are combined in a wider aggregate (Gujarati & Porter, 2008). The results of this inferential analysis are employed to analyze the effect of PAD, DAU, DAK, and DBH on economic growth in districts/cities of Bali.

This paper aims to find the effect of fiscal decentralization on economic growth in districts/cities of Bali. Therefore, the unit of the model is the district/city in Bali. We transform the interest variable into logarithmic (Ln) form to get the growth of the GRDP of districts/cities in Bali, which is valued at current prices. The stages of panel data regression inferential analysis are as follows:

- a. Model specifications, namely determining the dependent and independent variables that will be used in research
- b. Create a panel data regression model to model the relationship between the dependent variable and the independent variable. The general model of panel data regression is:

$$Y_{it} = \alpha + \beta_1 X_{1it} + ... + \beta_k X_{kit} + e1_{it}$$
; $i = 1, 2, ..., N$; $t = 1, 2, ..., T$ (1)

c. Model identification

- Of the three models, namely the Common Effects Model (CEM), Fixed Effects Model (FEM), and Random Effects Model (REM), the best model will be selected with several tests.
- The CEM model is modeled as follows:

$$ln(GRDP_{it}) = \alpha + \beta_1 ln(DAU_{it}) + \beta_2 ln(DAK_{it}) + \beta_3 ln(DBH_{it}) + \beta_4 ln(loc_{revit}) + \beta_5 ln(Population_{it}) + u_{it}$$
(2)

On the other hand, the FEM model is formulated as follows:

$$ln(GRDP_{it}) = \alpha_i + \beta_1 ln(DAU_{it}) + \beta_2 ln(DAK_{it}) + \beta_3 ln(DBH_{it}) + \beta_4 ln(loc_{revit}) + \beta_5 ln(Population_{it}) + u_{it}$$
(3)

While the REM model is modeled as follows:

$$ln(GRDP_{it}) = \alpha + \beta_1 ln(DAU_{it}) + \beta_2 ln(DAK_{it}) + \beta_3 ln(DBH_{it}) + \beta_4 ln(loc_{revit}) + \beta_5 ln(Population_{it}) + w_{it}....(4)$$

- Testing to choose the best model among those three options. The Chow test to select between CEM and FEM, the Hausman test to pick between FEM and REM, and the Breusch-Pagan Lagrange Multiplier (BP-LM) test to choose between CEM and REM.
- If the selected model is FEM, then test the residual variance-covariance structure
 through the Lagrange Multiplier (LM) test. If the test results fail to reject the null
 hypothesis, then the variance-covariance structure is homoscedastic. Hence
 the FEM with the ordinary least square (OLS) estimation method is used and
 continued with classical assumption testing. Otherwise, the variance-covariance
 structure is heteroscedasticity and followed by the λLM test.
- If the λLM test results in a decision to reject the null hypothesis, then the FEM
 has a heteroscedasticity-covariance structure. Thus, there is a cross-sectional
 correlation. The estimation method used is Seemingly Unrelated Regression
 (SUR). Otherwise, there is no cross-sectional correlation. Then the estimation
 method used is Weighted Least Square (WLS).

d. Classical assumption test

The four classical assumptions must be met normality, homoscedasticity, non-multicollinearity, and non-autocorrelation. If the estimation model chosen is cross-sectional, Seemingly Unrelated Regression (SUR), then there is no need to test the assumption of homoscedasticity and non-autocorrelation. Under this condition, the estimation model can accommodate heteroscedasticity and autocorrelation.

e. Test the significance of the model

The test of the significance of the model includes looking at the R-square, adjusted R-square, simultaneous regression coefficient tests (overall F-test), and partial regression coefficient tests (partial t-test).

f. Model interpretation

Interpreting the selected model with the theory that has been proposed.

3. Results and Discussion

3.1. Economic Overview in Bali

Bali is one of the provinces in Indonesia. Its location is between Java Island and Lombok Island. Based on the data from BPS of Bali Province, in 2019, the population in Bali reached 43.3 million. Of the total population, 24.7 million people (about 57 percent) are in the workforce. Administratively, Bali is divided into nine districts/cities, including Jembrana, Tabanan, Badung, Gianyar, Klungkung, Bangli, Buleleng, Karangasem, and Denpasar. In general, Balinese people work in three main sectors, namely agriculture (19 percent), manufacturing (23 percent), and services (58 percent). The dominance of the services sector in absorbing labor in Bali is in line with the contribution of the accommodation, food, and beverages sector to the Balinese economy. During 2012–2019, this sector was the largest contributor to the Balinese economy, contributing around 23 percent of the Balinese economy.

On a national scale, Bali's economy is ranked 13th compared to other provinces. Before 2014, the structure of its economy was dominated by agriculture, construction, and food and beverages provision sectors. While during 2014–2019, the domination of the construction sector was replaced by the transportation and storage sector. It explains how the tourism sector, which covers transportation, storage, and food and beverage provision, dominates Bali's economy. In 2019, the food and beverages provision sector contributed 23.26 percent of the Balinese economy. Meanwhile, the transportation and storage sector contributed 9.73 percent of its economy. The economic activities that come from those sectors increase as a response to the increasing visits of tourists to Bali.

From the point of view of its districts/cities, the economy in Bali was dominated by Badung, Denpasar, Buleleng, and Gianyar during 2012–2019. They had high economic growth and contribution to Bali. Table 1 shows the development of Bali's GRDP by district/city during 2012–2019.

Table 1. GRDP of Districts/Cities in Bali, 2012-2019 (Billion Rupiahs)

Districts/	Years								
Cities	2012	2013	2014	2015	2016	2017	2018	2019	
Jembrana	6,973	7,770	9,020	10,198	11,168	12,116	13,143	14,162	
Tabanan	11,470	12,967	15,066	16,996	18,630	20,377	22,139	23,886	
Badung	27,201	31,790	37,273	42,429	47,208	52,344	57,799	62,795	
Gianyar	13,605	15,368	17,909	20,140	22,113	24,224	26,488	28,581	
Klungkung	4,398	4,900	5,676	6,426	7,112	7,785	8,463	9,120	
Bangli	3,363	3,779	4,382	4,946	5,457	5,977	6,493	6,999	
Karangasem	8,232	9,293	10,785	12,233	13,411	14,598	15,873	17,107	
Buleleng	16,927	19,144	22,355	25,170	27,690	30,319	32,941	35,509	
Denpasar	25,819	29,389	34,210	38,424	42,384	46,836	51,411	55,676	
Total	117,987	134,401	156,676	176,963	195,174	214,575	234,750	253,836	

Source: BPS of Bali Province (www.bali.bps.go.id)

Figure 3 shows the data from BPS of Bali Province regarding the distribution of districts/cities in Bali according to their economic growth and shares in 2019. It can be seen that the Badung economy grew above 5.80 percent. It contributed more than 20 percent to the overall Bali economy. In addition, the economy of Denpasar, the capital city of Bali, increased significantly by 5.82 percent in 2019. On the other hand, Klungkung and Bangli were the two regions with the lowest growth and contribution. To reduce the economic gap between these regions, the local government may begin with potential economic identifications in determining economic development strategies in each area. Generally, the GRDP development of districts/cities in Bali was inseparable from the characteristics of each region and the potential possessed by each district/city. Local governments urge to pay attention to these issues in formulating policies and planning for regional development.

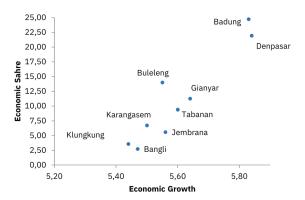


Figure 3. Economic Growth and Economic Share by District/City in Bali, 2019 (%)

Source: BPS of Bali Province (www.bali.bps.go.id)

3.2. Overview of Local Revenue and Balancing Funds in Bali

Figure 4 shows the progress of PAD funds received by districts/cities in Bali Province. PAD is income earned by the region, collected based on regional regulations by statutory regulations. PAD includes local taxes, regional retribution proceeds, separated regional wealth management results, and other legitimate regional original income, which aims to provide graduation for regions in exploring funding in the implementation of regional autonomy as a manifestation of the principle of decentralization. Thus, the development of PAD acquisition is affected by local economic performance. Figure 4 shows the data from the BPS of Bali Province. It shows that the total PAD revenue increased from 2012 to 2019. Specifically, Badung was the regency that earned the highest PAD, covering 58.38 percent of the amount of PAD of Bali Province in 2019, followed by other developed regions such as Denpasar and Gianyar.

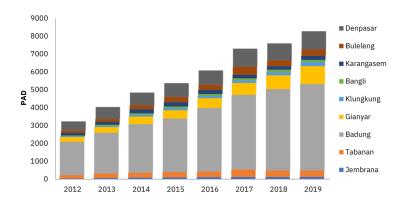


Figure 4. PAD by District/City in Bali, 2012–2019 (Million Rupiahs)

Source: BPS of Bali Province (www.bali.bps.go.id,

Table 2 shows the progress of DAU fund receipts for districts/cities in Bali during 2012–2019. Based on the table, DAU revenue tends to increase even though it fell in 2017. The DAU is allocated based on a formula consisting of the fiscal gap and the basic allocation. The fiscal gap itself is the difference between budgetary capacity and needs. On the other hand, capacity is affected by PAD. The larger the PAD, the greater the fiscal capacity. Therefore, the DAU allocation obtained tends to be smaller. During 2012–2019, Buleleng was the district with the highest DAU receipts in Bali. The share of received DAU of Buleleng was around 16 percent of the total DAU in Bali. On the other hand, Badung was the district with the lowest DAU receipts.

An increasing trend also occurred for DAK fund receipts for districts/cities in Bali during 2012–2019, although there was a decline in 2018. Based on Table 2, the total DAK funds for all districts/cities in Bali in 2012 amounted to 306.23 billion rupiahs,

which increased in 2019 to 1,527.57 billion rupiahs. In addition, in 2016, there was a significant increase in DAK receipts, where the government doubled DAK allocations compared to 2015. DAK is a fund sourced from national budget (APBN) revenues allocated to certain regions to help fund special activities relating to regional affairs and under national priorities. In Bali, the districts/cities prioritized for DAK allocation are Badung, Gianyar, and Denpasar.

The last component of balancing funds is DBH. DBH aims to improve the vertical balance between the center and the regions by considering the potential of producing regions. The distribution of DBH is allocated under the by-origin principle. It means that the distribution of DBH considers the realization of revenue from the producing region. It may affect the receipts of DBH for the districts/cities. Unlike DAU and DBH, which increased during 2012–2019, the DBH fund receipts for districts/cities in Bali fluctuated during 2012–2019. In 2012, the total amount of DBH in Bali reached 508.80 billion rupiahs and continued to decline until 2015 to 219.86 billion rupiahs. In 2018 the total amount of DBH in Bali increased, and the total DBH receipts for all districts/cities in Bali reached 239.02 billion rupiahs in 2019.

Table 2. Balancing Fund Receipts in District/City in Bali, 2012–2019 (Billion Runiahs)

Balancing Funds	Districts/ Cities	2012	2013	2014	2015	2016	2017	2018	2019
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
DAU	Jembrana	396.8	450.9	484.8	486.9	562.5	552.6	552.3	573.0
	Tabanan	574.3	663.2	719.6	722.0	826.3	811.8	811.8	847.3
	Badung	353.1	372.6	324.8	286.8	336.2	330.3	330.3	361.2
	Gianyar	532.9	609.3	626.7	641.9	706.0	693.6	693.6	716.5
	Klungkung	387.3	444.2	474.4	484.5	539.9	530.4	530.4	564.5
	Bangli	396.9	450.8	486.4	499.7	568.3	558.3	559.4	584.5
	Karangasem	503.0	564.0	614.8	633.2	733.0	722.2	729.4	795.8
	Buleleng	687.7	796.4	854.5	868.5	982.7	965.4	965.4	1,028.5
	Denpasar	512.7	580.8	616.0	626.0	661.8	650.2	650.2	677.0
DAK	Jembrana	40.2	45.4	43.5	74.9	124.4	154.9	121.7	119.7
	Tabanan	47.4	48.9	58.5	76.4	252.2	260.6	228.6	211.8
	Badung	1.8	0.6	0.6	0.5	128.3	151.7	147.5	145.8
	Gianyar	35.9	45.2	44.9	12.7	172.6	196.9	207.9	202.8
	Klungkung	24.8	32.8	42.3	43.2	140.2	102.9	120.9	114.8
	Bangli	38.3	38.7	43.2	55.1	165.1	158.3	111.0	119.4
	Karangasem	46.8	51.2	60.5	55.9	182.2	203.7	187.5	200.4
	Buleleng	62.6	67.3	64.9	88.6	293.9	320.6	251.1	281.6
	Denpasar	8.5	8.1	7.4	5.2	134.7	131.2	143.3	131.3
DBH	Jembrana	27.4	21.5	18.4	15.7	20.2	20.2	19.1	15.0
	Tabanan	34.8	22.5	21.6	17.4	23.8	23.9	23.1	16.6
	Badung	160.7	56.6	56.3	44.9	78.8	73.8	80.2	61.2
	Gianyar	35.6	36.4	22.9	19.0	27.3	26.1	27.5	20.8
	Klungkung	20.0	20.0	16.3	14.2	19.4	20.3	18.4	13.3
	Bangli	24.2	23.5	16.8	14.5	19.1	20.0	17.6	13.7
	Karangasem	28.7	29.0	20.1	17.3	22.4	23.2	21.0	15.7
	Buleleng	43.3	44.1	28.1	26.3	29.0	27.9	28.6	21.0
	Denpasar	134.2	72.2	69.9	50.5	81.7	70.3	86.0	61.6

Source: BPS of Bali Province (www.bali.bps.go.id)

3.3. The Effect of Local Revenue and Balancing Funds on the Regency's Economic Growth in Bali

Based on the results of various tests for selecting the best model, the best model was the Fixed Effects Model (FEM) with SUR weighing to estimate the economic growth of districts/cities in Bali in 2012–2019.

Table 3. Summary of Output of Panel Data Regression

Independent Variables	Coefficients	t-statistics	
(1)	(2)	(3)	
Constant	-66.8685	-5.4700	
Ln (DAU)	1.0588	7.3715	
Ln (DAK)	-0.0073	-0.4479	
Ln (DBH)	-0.0274	-0.3841	
Ln (loc_rev)	0.1812	3.7587	
Ln (Population)	4.9883	5.8698	
Adjusted R-squared	0.9945		
F-statistic	986.7516		
Prob(F-statistic)	0.0000		

Source: data processed

Thus, the model can be written as follows:

Note:

grdp_{it}: Economic growth of i-th district/city in Bali at year t-th

μ : i-th district/city individual effect

loc_rev : sum of PAD and other legitimate regional income

*) : significant at 5 percent alpha

The model has an adjusted R-squared of 0.9945. It means that the model explained 99.45 percent of the variety of the data. Based on this model, we conclude that balancing funds may affect the regional economic growth in Bali. There is a clear result that DAU and loc_rev (sum of PAD and other legitimate regional income) significantly affected the regional economic growth rate in districts/cities in Bali. On the other hand, the other two components, DAK and DBH, did not affect during 2012–2019. These findings were in lined with research by Risepdo (2015), which mentioned that DAU positively affected West Sumatra's economic growth. In addition, Mawarni et al. (2013) and Wijayanti and Darsana (2015) concluded that PAD and DAU positively affected the district/city's economic growth. Under the model of this study, every one percent increase in DAU may increase the GRDP of districts/cities in Bali by 1.0588 percent. Meanwhile, a one percent increase in PAD and other legitimate regional income may encourage the economic growth of districts/cities in Bali by 0.1812 percent.

Based on the model of this study, PAD significantly affected districts/cities' economic growth in Bali. Ardiyani (2017), who studied similar research on the Surakarta region, also found that PAD positively affected its economic growth. PAD fund is a vital source of income for a local economy. If the PAD of a region increases, the funds owned by that region will also increase. Regions that can boost their PAD significantly, indicating that those regions have been able to optimally utilize the existing potential. With the increase in PAD, it will be able to optimize and increase activity in economic sectors such as the services, industry, and trade sectors, as well as other sectors. The increase in PAD makes local governments more flexible in planning activities and allocating budgets, particularly those that significantly affect increasing development in an area. With high PAD, it will affect development in the area, which can be realized for the public interest to improve the welfare of the community, which in turn can increase economic growth in the area.

Similarly, DAU also affected districts/cities' economic growth in Bali during 2012–2019. The DAU allocation's purpose is to utilize these funds as capital in exploring regional potential. With the support of DAU, local governments should be able to create new resources in their area so that later they will be able to encourage economic

growth. Setyawan (2013) said that DAU had a positive relationship and a significant effect on economic growth in Lampung. Likewise, Anwar et al. (2016) found the same result that the DAU affected the economic growth in the city of Manado.

During 2015–2019 the total amount of DAU received by all districts/cities in Bali was lower than the sum of PAD received. It indicates that districts/cities in Bali have begun to reduce their dependence on the central government in financing the implementation of their government activities. As a result, it could be said that these regions have started to optimize their economic independence.

On the contrary, DAK and DBH did not significantly affect the economic growth of districts/cities of Bali during 2012–2019. DAK is a fund sourced from APBN revenues allocated to particular regions to help specifically fund regional affairs and affairs with national priorities. DAK is used for regional programs such as education, health, infrastructure (roads, irrigation, drinking water, and sanitation), and village government infrastructure. DAK also could be used for infrastructure activities, especially in border areas where these programs follow the assigned functions so that they cannot be misused for other programs outside the provisions.

The results showed that DAK had no significant effect on economic growth in the districts/cities of Bali Province. Setyawan (2013) also found the same thing. He stated that DAK had no significant effect on increasing economic growth in Lampung. In addition, Permanasari (2013) said that DAK had no significant impact on economic growth in districts/cities of Central Java. Temenggung et al. (2020) argued that there is still a high dependence between the new autonomous regions on injections of central government funds. Their fiscal capacity has not been able to encourage the provision of regional infrastructure, so the central government's allocation of funds is mostly used for capital expenditures.

There are two causes of this condition. First, DAK is a fund whose budget size is directly determined by the central government with a predetermined use in specific programs. Due to this reason, the implementation of DAK may be inconsistent with regional needs and priorities. As Oates (1999) mentioned in his study, the utilization of inappropriate budgets will have a contractionary impact on the regional economy. Second, the utilization of these funds is more intended for short-term financing like payment of employee salaries, not for long-term development such as the development of strategic and fast-growing areas, development of underdeveloped and border areas, infrastructure development, and improving the quality of human resources. As a result, the realization of the utilization of DAK only has a minor impact on the economy.

Similarly, the results showed that the increase in DBH had no significant effect on economic growth in the districts/cities of Bali. It follows research by Saleh (2017), which mentioned that DBH did not affect the economic growth rate in districts/cities in Central Java. Likewise, Azis (2016) research stated that DBH had no significant impact on economic growth in Malinau Regency. It might happen since the allocation of DBH was mostly for consumptive spending, for instance, the payment of employee salaries. Therefore, it did not have a sustainable impact in the long term. The regional government can reallocate these funds for public service spending, so that achieve quality economic growth (Delen et al., 2019).

4. Conclusion

Based on the analytical results and the discussion of this study, from 2012 to 2019, accommodation, food, and average activities was the leading sector and contributed the bulkiest percentage to the GRDP of the Province of Bali. It explains the economic characteristics of Bali, where most of the community's activities depend on tourism. The huge labor utilization also elucidated its dominance compared to other sectors.

This study also finds that the best model to explain balancing funds' effects on Bali's regional economy is FEM with SUR weighing. The model precisely describes the relationship between dependent and independent variables as shown from the adjusted R-square. It can be concluded that not all balancing funds variables positively influence the economic growth of districts/cities in Bali. For example, DAU has a positive and significant impact on economic growth. Similarly, the sum of the PAD and other legitimate regional income also may encourage the economic growth rate of districts/cities in Bali. On the other hand, DAK and DBH do not affect the economic growth rate of districts/cities in Bali.

Based on this study, local governments are expected to further optimize regional revenues, both in the form of PAD and Other Legitimate Local Revenues. These sources of income must be allocated to strategic economic sectors so that they have an optimal impact on economic growth. In addition, local governments also need to increase their fiscal capacity by optimizing their local potential. The improvement of regional financial management can increase PAD revenue. In addition, developing a tourist village could be an alternative to finding new economic sources in Bali. At the same time, the use of DAU funds also needs to be optimized because of its positive impact on economic growth. However, the central government must also review the strategy and mechanism for providing DAK and DBH. Optimizing PAD and balancing funds through increasing indirect government spending can be an alternative to encourage economic growth in Bali. Therefore, it may further encourage regional economic growth in districts/cities of Bali Province. However, this study is limited to districts/ cities in Bali, so the conclusions drawn do not reflect conditions in all districts/cities in Indonesia. The sensitivity of the effect of balancing funds on regional economic growth can be tested in further research by analyzing it in other provinces. In addition, by extending the observation period and updating it to the latest period, it can provide research results that are more relevant according to conditions in the area.

Acknowledgment

We would like to express our gratitude to Dedi Walujadi and Ernawati Pasaribu for their comments and input in preparing this article. We would also like to thank BPS Bali for helping us to provide the data for this study.

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