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The Role of Revenues in Reducing Local Government Fiscal Distress: An Empirical Study in Indonesia

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Abstract

This study aims to examine the role of revenues in reducing the fiscal distress of local governments in Indonesia. A problem that is being widely tested is the potential for financial imbalances to determine the right pattern between fiscal capacity and service provision to the public. Local governments that experience fiscal distress are at risk of experiencing a collapse of the overall system, so it requires effective prevention. This study uses balance panel data obtained from local government financial reports with 3,024 observations, from 504 local governments in Indonesia during the 2014–2019 period. Hypothesis testing is carried out using logistic regression by employing the Wald Test partially and the Overall Test simultaneously. The data is collected from the local government financial statements which have been audited by supreme audit institutions. The results reveal that local government's own revenue and transfer revenue and other legal revenue are proven to be able to reduce local government fiscal distress. It provides empirical support for the executive and legislature to make the right policies in increasing their own revenues at the central and regional levels. The findings include crucial information for preventing, detecting, and mitigating fiscal distress in all Indonesian local governments.

Keywords: Fiscal Distress, Own Revenues, Transfer Revenue and Other Legal Revenue, Local Government

JEL Classification Code: M48, H71, H72

1. Introduction

The massive phenomenon of regional expansion in Indonesia has occurred during the 20 years since the passing of Law Number 22 (1999) concerning Local Government (including province, district, and municipalities or cities). The result of this decision was that 223 New Autonomous Regions (Indonesian: DOB) were formed consisting of 8 provinces, 181 districts, and 34 cities, where the number of districts and cities in Indonesia as of December 31, 2019, is 508. The addition of a large number of new autonomous regions is not in line with local capacity so it requires serious attention from the central government. Thus, region autonomy, which is a form of decentralization, must be accompanied by a tight monitoring mechanism and clear evaluation so that it is in line with the objectives of decentralization. The decentralization of authority has resulted in local governments obtaining enormous rights in regulating and managing resources (Yaya et al., 2021).

One of the goals of decentralization is to increase the competitiveness of regional economies by optimizing the Local Government Own Revenue (henceforth LGOR) which includes LGs taxes, LGs retributions, proceeds from the management of separated regional assets, and other legal LGOR. In the span of six fiscal years (FY) between 2014 and 2019, out of 504 local governments (including only districts and cities, henceforth, we write local government or LGs) in Indonesia, 117 local governments had experienced a minimum deficit for three consecutive years in the 2014–2019 timeframe. A minimum deficit for three consecutive years indicates fiscal distress (Trussel & Patrick, 2012), where

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there is an imbalance between revenue and expenditure and transfers for three consecutive years. The local government that is experiencing a deficit shows that it does not have financial independence, so it cannot provide quality services to its residents (Trussel & Patrick, 2009).

Fiscal distress is the inability of the state to bridge a deficit between its expenditures and its tax revenues. Fiscal distress is characterized by a financial, economic, and technical dimension on the one hand and a political and social dimension on the other. Fiscal distress issues have been the focus of research for the last decade (Barbera et al., 2017). A problem that is being widely tested is the potential for financial imbalances to determine the right pattern between fiscal capacity and service provision to the public (Casal & Gómez, 2011). Local governments that experience fiscal distress are at risk of experiencing a collapse of the overall system, so it requires effective prevention (Ward, 2001). Most researchers describe fiscal distress related to revenue and spending. Therefore, this study focuses on fiscal distress by following the definitions of Trussel (2002) and Trussel and Greenlee (2004) which state that fiscal distress is a significant decrease in resources (revenue or net assets) when transfer spending is more than total revenue, administrative expenditure is less than total expenditure, there is more debt, there is less revenue growth (Trussel & Patrick, 2009), the imbalance between revenue and expenditure is significant and continuous (Trussel & Patrick, 2009, 2012), and there is a deficit for three consecutive years or three cumulative years of more than 5% (Trussel & Patrick, 2012). The deficit for three consecutive years shows the persistence of imbalance because the deficit that lasts for one year is potentially only temporary (Trussel & Patrick, 2012). Therefore, LGs fiscal distress in this study is defined as when a local government experiences a deficit (deficit = revenue − expenditure − transfer) for three consecutive years.

The new aspect in this research is that it is among the first to specifically discuss the relationship between revenue and local government fiscal distress in Indonesia, which uses data on all local governments (504 district/municipality governments) so that it is very representative of population characteristics. In addition, the financial report information used is the Local Government Financial Report (LGFR) for six consecutive years, from 2014 to 2019, so the conclusions are not limited to one year of data. Although several previous studies have discussed the fiscal condition of LGs, very few have focused on predicting fiscal distress (Trussel & Patrick, 2009). Jones and Walker (2007) only use data from two financial periods (2001 and 2002) in one state in Australia.

The results of this study are expected to provide academic and practical contributions. From an academic point of view, this research enriches the literature in the field of public sector financial management. This research focuses comprehensively on LGs fiscal distress and developing a model to predict it, because previous research (Ritonga, 2014b, 2014a; Ritonga et al., 2012) focus more on assessing local government financial conditions using the dimensions of solvency, financial independence, and flexibility, especially in Java, and do not focus on fiscal distress. This research is expected to enrich references for other international academics in assessing regional government fiscal distress, because at the international level the literature on regional government fiscal conditions is very limited (Ritonga et al., 2012).

From a practical point of view, this research is very interesting and useful for all local government stakeholders because of its significant implications for political, social, and economic conditions (Carmeli, 2007). This research will provide important information to prevent, detect, and mitigate fiscal distress that can lead to a reduction in public services (Trussel & Patrick, 2012), help restructure service provision with available resources (Clark, 2015), measure problems and facilitate decision making to enable effective action before a crisis occurs (Zafra-Gómez et al., 2009). Through this research, executives are also expected to develop more effective policies and regulations related to local government financial management. In addition, this research is also expected to help the legislature and the public in supervising the executives who manage local government finances. This research is expected to answer the problem to guide stakeholders (executive and legislative) in making effective policies and creating an early warning system that stakeholders can use to predict the possibility of fiscal distress and improve the quality of decision making.

2. Literature Review and Hypotheses Development

2.1. Local Government Fiscal Distress

Fiscal distress is a multidimensional concept that is interrelated (Wang et al., 2007), or a concept that can vary according to the wishes of researchers (Maher et al., 2020). Some researchers measure fiscal distress by using indicators they find in financial information (Trussel & Patrick, 2009, 2012), or socio-demographics and economics (Trussel & Patrick, 2018). Navarro-Galera et al. (2015) assessed that economic and social conditions are related to fiscal distress, and the fiscal vulnerability of local governments is influenced by various factors and the interactions between these factors (Cohen et al., 2017). Some researchers define fiscal distress as being related to services provided by a local government. Maher and Deller (2007) defined fiscal distress as a situation when the government is unable to meet short-term and long-term obligations (solvency), which can be interpreted that local governments experience fiscal difficulties when they have remaining funds that are reduced by continuously

increasing debt. Fiscal distress occurs when LGs cannot maintain pre-existing service levels (Jones & Walker, 2007), the resources available to provide services are too limited (Douglas & Gaddie, 2002; Hendrick, 2004; Hou, 2003), or there is a mismatch between available sources of power and expenditure required to provide the service (Capalbo & Grossi, 2014). Fiscal distress is often referred to by other terms such as fiscal crises, financial difficulties, fiscal risks, or fiscal tensions (Cohen et al., 2017). Kloha et al., (2005) stated that fiscal distress occurs when local governments are unable to meet the cost of operational needs, pay debts, and meet community needs for more than one consecutive year, due to the large gap between needs and available capacity. Fiscal distress is a consequence of failure to adapt to economic downturns or financial impacts resulting from the transfer of responsibility from the central government to local governments (Beckett-Camarata, 2004).

Most researchers describe fiscal distress in relation to local government revenues and expenditures. Fiscal distress is defined as the negative difference or accumulated difference between revenue and expenditure (Badu & Li, 1994; Carmeli, 2003; Chapman et al., 2003; Inman, 1992, 1995; West & Condrey, 2011), when financial decisions are made and the available resources are not aligned (Chapman, 2008), the inability of local governments to minimize/eliminate deficits or generate budget surpluses (Zeedan et al., 2014), or a continuous decline in spending (Greenlee & Trussel, 2000). This definition has been confirmed by other researchers (Trussel, 2002; Trussel & Greenlee, 2004), who stated that fiscal distress is a significant reduction in resources (revenue or net assets) when transfer expenditure is more than total revenue, administrative expenditure is less than total expenditure when there is more debt, and less revenue growth (Trussel & Patrick, 2009), or a significant and continuous imbalance between revenue and expenditure (Trussel & Patrick, 2009, 2012), and where a deficit is experienced for three consecutive years or three cumulative years of more than 5% (Trussel & Patrick, 2012).

In the international context, Carmeli (2008a) stated that local government fiscal distress is a phenomenon that occurs throughout the world. In the United States and Europe, local governments also experience significant fiscal distress (Carmeli, 2008b), including New York in 1975 (Gramlich, 1976), Philadelphia (Inman, 1992, 1995), Orange County in 1994 (Plotkin & Baldassare, 1999), Bridgeport (Lewis, 1994a, 1994b), and Miami in the 1990s (Dluhy & Frank, 2002; Honadle, 2003). A similar situation also occurred in European countries, including the Glasow in Scotland in the second half of the 1990s (Carmichael & Midwinter, 1999), and local governments in England (Newton & Karran, 1985). This has resulted in greater public pressure demanding public accountability and transparency, especially regarding with regard to public financial management (Yusuf & Jordan, 2017).

Research on revenues and its relationship with fiscal stability has been conducted quite extensively by international researchers. Robert and Schramm, (1986), Carmeli (2008a, 2008b), and Honadle (2003) stated that the revenue base affects the ability of local government to increase revenues. The larger the revenue base, the stronger the financial capacity of the local government. Wang et al. (2007) also supported the opinion of Robert and Schramm (1986) by arguing that expanding the revenue base, which is then followed by increasing the amount of revenue collected by local government, will strengthen fiscal conditions and financial capacity. Thus, the financial performance of the local government is influenced by the ability to generate LGOR (Oulasvirta & Turala, 2009).

2.2. The Role of Local Government Own Revenue (LGOR) in Fiscal Distress

The LGOR management aims to provide flexibility to regions in seeking funding as a manifestation of decentralization and the implementation of regional autonomy. The granting of discretion in the form of handing over regional financial sources in the form of local taxes, local levies, and other sources is a consequence of the handover of government affairs to the local governments which is carried out based on the principle of autonomy. To carry out government affairs that fall under its authority, a local government must have financial resources to be able to provide services to the people in their regions. The provision of financial resources to the LGs must be in balance with the burden or government affairs assigned to the regions as regulated in Law Number 23 (2014).

Chapman (1999) argued that the objective of fiscal autonomy is related to the ability of local governments to increase revenue derived from local economic potential and then determine how to spend that revenue. The ability to control resources and the ability to spend them in a way that reflects people's tastes and preferences are measures of local government fiscal autonomy. The greater the ability to generate the LGOR and the ability to spend, the greater the level of regional autonomy (Chapman, 1999). Meanwhile, Zeedan et al. (2014) stated that local governments must increase independent funding sources to stabilize fiscal conditions.

Many previous researchers have found that there is a negative relationship between local revenue and fiscal distress. The research of Trussel and Patrick (2012) showed that an increase in revenue is negatively related to fiscal distress. Tax revenue can help prevent fiscal distress and encourage local governments to seek more sources of revenue (Trussel & Patrick, 2012). Halabi (2014) argued that the financial vulnerability of local governments with an Arab ethnic majority in Israel, among others, is low tax revenues.

A reduced tax base contributes to local government fiscal distress (Cohen et al., 2017). Research by Stanisevski and Fowler (2015) also showed that the worsening fiscal conditions in California are closely related to revenue problems. Local governments with high revenue are stronger in facing fiscal distress than local governments that are highly dependent on transfer revenue (Trussel & Patrick, 2009). Jones and Walker (2007) used the revenue variable as a proxy for the decline in service standards, which is an indicator of local government fiscal distress. The research results of Jones and Walker (2007) showed that the ability of local governments to generate revenue has the strongest impact on avoiding local government fiscal distress. Local government financial performance is influenced by the ability to generate local revenue (Oulasvirta & Turala, 2009). Zeedan et al. (2017) stated that to stabilize the financial position, local governments must increase independent funding sources. A higher local tax base will help LGs avoid bankruptcy (Capalbo & Grossi, 2014). Robert and Schramm (1986) argued that the revenue base is the resource base that most influences the fiscal condition of LGs because most of the revenue comes from these sources. Carmeli (2008), Honadle (2003), and Robert and Schramm (1986) stated that the revenue base affects the ability of LGs to increase revenue. The larger the revenue base, the stronger the capacity of LGs. Wang et al. (2007) also support the opinion of Robert and Schramm (1986) by stating that an increase in the amount of revenue collected by local governments will strengthen fiscal conditions and financial capacity. Based on the explanation above, this study formulates a hypothesis for the relationship between LGOR and local government fiscal distress in Indonesia.

H1: *Increased LGOR reduces local government fiscal distress in Indonesia.*

2.3. The Effect of Transfer Revenue and Other Legal Revenue (TOLR) on Fiscal Distress

According to Chapman (1999), fiscal distress occurs when local governments‘ revenues are low while the demand for services from the public continues to increase, or when government at higher levels forces local governments to improve services without providing financial assistance. One of the financial vulnerabilities of local governments comes from dependence on grants or transfers that affect fiscal shocks (Barbera et al., 2017). If the government or legislature reduces funding or adds services without providing financial assistance, the local government will experience fiscal difficulties (Watson et al., 2005). Halabi (2014) argued that one of the factors causing the financial vulnerability of the Arab-majority local governments in Israel is the unfair distribution of resource allocations by the Israeli central government. The decrease in how much central government transfers to local governments contributes to fiscal distress (Cohen et al., 2017). Local governments with high revenue are stronger in facing fiscal distress than local governments that are highly dependent on transfers of revenue (Trussel & Patrick, 2009). This opinion is also consistent with the research of Trussel and Patrick (2012) who showed that a large dependence on the transfer of revenue increases the likelihood of fiscal distress. One of the local government deficits is influenced by the revenue factor (Jimenez, 2012). Transfer of revenue which has significantly decreased has an effect on the fiscal health of the local government (Jimenez, 2012). Based on the explanation above, this study formulates a hypothesis for the relationship between transfer revenue and other legal revenue with local government fiscal distress in Indonesia.

H2: *Increases in TOLR reduce local government fiscal distress in Indonesia.*

3. Research Methods

3.1. Sample and Data

The sample comprises all local governments (districts and municipalities) in Indonesia. The data of financial statement information (LGFR) was taken from 3,024 observations, 504 local governments throughout the country in the period 2014-2019. This study does not use other data, for example, performance information, because as in Grossi et al. (2016) research which showed that the use of performance information is mainly used at the budget planning stage, very little is at the monitoring stage. District governments (regencies) and municipalities are at the same level, using the same Government Accounting Standards (SAP) and practices, along with the same legal tools, thus supporting the same situational analysis. This study does not analyze the provincial government because it is inappropriate to compare the performance of different levels of local or regional governments in terms of authority, nature, scope, and service quality (Ammons et al., 2001; Folz, 2004).

3.2. Definition and Operation of Variables

The dependent variable is fiscal distress: Fiscal distress is defined as a significant and continuous imbalance between revenue, expenditure, and transfers, which is operationalized as a local government experiences a minimum deficit for three consecutive years, in line with the concept proposed by Trussel and Patrick (2012). The deficit is calculated based

on the LGFR in accordance with Government Accounting Standards (SAP) in effect in Indonesia as presented in the Budget Realization Report, namely the difference between revenue minus expenditures and transfers (Government Regulation Number 71, 2010). The fiscal distress is measured using dummy variables, 1 and 0. Value 1 for local governments experiencing fiscal distress and the value of 0 is otherwise.

Independent variable, LGOR: In Indonesia, LGOR is revenue that is collected by the local based on local regulations, which comes from local taxes, local levies, proceeds from the management of separated regional assets, and other legal revenues (Government Regulation Number 71, 2010). Local taxes are mandatory contributions based on the law to the local government by private persons or entities, without receiving direct compensation and used for local needs for increasing the prosperity of the people as regulated in Law Number 28 (2009). Meanwhile, Law Number 28 (2009) also states that regional levies are a payment for services or the granting of certain permits specifically provided and/or given by the local governments for the benefit of private persons or entities. Meanwhile, Law Number 23 (2014) states that the proceeds from the management of separated regional assets are part of the LGOR, which, among others, come from the share of profits from Regionally-Owned Enterprises or the result of cooperation with third parties, while other legal revenues are in the form of regional revenues other than local taxes and levies such as current accounts and proceeds from the sale of local assets. This variable is operationalized by the amount of LGOR obtained during one fiscal year.

Independent variable, TOLR: Transfer revenue consists of central government transfers in the form of balancing funds (tax revenue sharing, natural resources revenue sharing, General Allocation Funds/DAU, and Special Allocation Funds/DAK), as well as other central government transfers in the form of special autonomy funds and adjustment funds (Government Regulation Number 71, 2010). Meanwhile, transfer revenue according to Law Number 23 (2014) includes central government transfers (balance funds, special autonomy funds, privileged funds, village funds) and transfers between regions (revenue sharing and financial assistance). Balancing funds are funds sourced from the State Budget (SB) (Indonesian: APBN) allocated to regions to finance local needs in the implementation of decentralization. Meanwhile, profit sharing revenue is funds sourced from SB revenues allocated to regions based on certain percentages, which originate from taxes, namely land and building taxes or (Indonesian: PBB), Fees for acquiring rights to land and buildings, as well as tax revenue (Article PPh Point 25 and Point 29 Domestic Individual Taxpayers and PPh Point 21), as well as taxes on natural resources, namely forestry products, general mining, fisheries, petroleum mining, natural gas mining, and geothermal mining as stated in Law Number 33 (2004).

Special autonomy funds are allocated to regions that have special autonomy in accordance with the provisions of the law on special autonomy, namely Aceh, Papua, and West Papua. Meanwhile, privilege funds are allocated to special regions in accordance with the provisions of the law on privileged funding, namely to DKI Jakarta Province and the Special Region of Yogyakarta. The DAU is a fund sourced from SB revenue allocated for the purpose of equitable distribution of financial capacity between regions, while General Allocation Funds (DAK) is a fund sourced from SB revenue allocated to certain regions with the aim of helping to finance special activities which are regional affairs and in accordance with national priorities as stated. in Law Number 33 (2004). When regions have the inadequate financial capacity to finance government affairs (especially mandatory government affairs related to basic services), the central government uses the DAK to assist the regions in accordance with the national priorities to be achieved. Other legal regional revenue is all regional revenue other than LGOR and transfer revenue (TOLR), which includes grants, emergency funds, and other revenue in accordance with the provisions of laws and regulations. This study measures transfer revenue and other legal revenue using the amount of such revenue earned during one fiscal year.

Control variable, Capital Expenditure: This study directly examines the role of revenue in reducing fiscal distress. Empirical results show that fiscal distress or fiscal conditions are sensitive to capital expenditures carried out by local governments (Jones & Walker, 2007; Wang et al., 2007). Government policies related to expenditure have the ability to stimulate economic growth (Prasetyo, 2020). Therefore, this study uses capital expenditure as a control variable so that the role of revenue in reducing fiscal distress can be described comprehensively. Capital expenditure is budget expenditures for obtaining fixed assets and other assets that provide benefits for more than one accounting period. Capital expenditures include spending on the acquisition of land, buildings, equipment, and intangible assets (Government Regulation Number 71, 2010). This study uses the amount of capital expenditure obtained during one fiscal year.

3.3. Data Analysis Methods

The goodness of fit test was assessed using the Hosmer and Lemeshow's Goodness of Fit Test (Hosmer et al., 1989). The hypothesis testing is carried out using logistic regression. Hypothesis testing is partially carried out by the Wald Test and simultaneously with the Overall Test.

4. Results

4.1. Descriptive Statistics

As previously stated, fiscal distress occurs when there is an imbalance between revenue and expenditure and minimum transfers for three consecutive years. Figure 1 shows local governments that experienced fiscal distress from 2014 to 2019. Of the 504 local governments, 18 (3.57%) were local governments who experienced fiscal distress in 2014. Then 54 (10.71%) in year 2015, 91 (18.06%) in 2016, 101 (20.04%) in 2017, 75 (14.88%) in 2018, and 45 (8.93%) in 2019.

Total LGOR and TOLR and Fiscal Distress Local Government (FDLG) and Non-Fiscal Distress Local Government (Non-FDLG) are shown in Table 1.

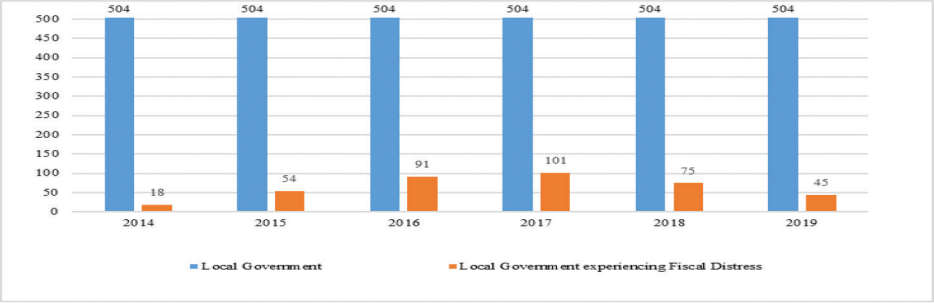

Figure 1: Local Governments Experiencing Fiscal Distress in Fiscal Years 2014–2019

Source: Processed from the Audited Regional Government Financial Statements

Table 1: Comparison of LGOR and TOLR in Terms of Whether there is Fiscal Distress

Variables/ Years	FDLG					Non FDLG				
	LGs	Mean	Max	Min	Std. Dev.	LGs	Mean	Max	Min	Std. Dev.
LGOR (in Billion Rupiahs)										
2014	18	123.84	752.58	7.87	173.36	486	156.69	3,307.32	0.44	290.18
2015	54	95.06	578.96	8.29	99.41	450	183.84	4,035.65	3.45	347.12
2016	91	142.54	1,607.39	9.72	213.48	413	202.49	4,090.21	6.13	383.72
2017	101	204.14	1,988.36	11.91	312.87	403	257.99	5,161.84	1.97	475.57
2018	75	216.10	2,001.15	15.10	350.61	429	229.51	4,973.03	1.27	454.95
2019	45	203.87	2,066.33	20.73	342.16	459	251.34	5,381.92	2.59	487.41
2014–2019		**165.73**	**2,442.15**	**2.56**	**269.45**		**219.77**	**5,381.92**	**0.44**	**428.14**
TOLR (in Billion Rupiahs)										
2014	18	1,083.71	2,336.09	511.26	524.27	486	1,034.86	6,120.20	123.53	625.45
2015	54	1,018.50	2,112.25	454.42	431.09	450	1,149.34	4,762.60	432.19	592.07
2016	91	1,177.90	2,617.93	500.53	482.94	413	1,264.54	3,863.28	479.58	587.56
2017	101	1,190.88	2,768.35	502.23	500.17	403	1,258.12	4,144.35	483.35	602.17
2018	75	1,270.24	3,018.80	474.04	561.68	429	1,313.82	4,505.82	515.30	669.40
2019	45	1,270.62	2,582.10	501.01	519.45	459	1,432.16	5,192.84	541.13	753.47
2014–2019		**1,170.19**	**3,521.78**	**123.53**	**528.74**		**1,250.37**	**6,120.20**	**164.13**	**666.37**

Note: FDLG is a local government with fiscal distress. Non-FDLG is a local government with non-fiscal distress. LGOR is the local government's own revenue, original local government revenue. TOLR is revenue from the transfer, fiscal balance transfers from the central government to regions. The value is in IDR billions.

Average LGOR is smaller than TOLR. The mean of the FDLG and Non-FDLG fluctuated and tended to increase. Meanwhile, the average FDLG and Non-FDLG transfers continued to increase from year to year. Table 1 shows that the maximum and minimum values for LGOR and TOLR are very far from the average, both in FDLG and Non-FDLG (for example in 2019, LGOR in FDLG: Max = IDR 2,066.33 billion; Min = IDR 20.73 billion; Mean = IDR 203.87 billion). This shows that the economic growth is not evenly distributed across regions and there are wide gaps. The highest LGOR and TOLR are still concentrated on the island of Java, while the lowest is outside of Java, in such places as Papua, Maluku, Sulawesi, or Sumatra.

The highest average LGOR in FDLG occurred in 2018 amounting to IDR 216.10 billion, while in Non-FGLG occurred in FD 2017 amounting to IDR 257.99 billion. According to the initial hypothesis, the average LGOR FDLG was lower than that of non-FDLG. This indicates that the smaller the LGOR will affect the potential for local government to experience fiscal distress. When LGOR, which is part of the total regional revenue, is low or uncertain, local governments experience fiscal distress. Meanwhile, transfer revenue and other legal revenue also relatively increased every year, with the highest value in FDLG occurring in 2019 amounting to IDR 1,270.62 billion, and in Non-FDLG also occurring in 2019 amounting to IDR 1,432.16 billion. According to the initial hypothesis, transfer revenue and other legal revenue in FDLG is lower than in Non-FDLG. The lower value of transfer revenue and other legal revenue in FDLG than in non-FDLG indicates that provincial and central government assistance still plays an important role in the success of local governments not to experience fiscal distress.

4.2. Goodness of Fit

Table 2 represents the results of the goodness of fit. The results show that the 2-Log Likelihood Value (2304.497) is lower than the Chi-Square Value (3152.024) which indicates that the equation without independent variables ($Y = \alpha$) is fit, so the model is feasible to use. Next, the chi-square omnibus test value of 22.633 is significant at the 1% level. These results show that the model used is correct and can be used for further analysis. Based on the results, it can be seen that among the variables LGOR, TOLR, and CE, there is at least one that affects FD.

4.3. Main Results

Table 3 shows the influence of LGOR, TOLR, and Capital Expenditure (CE) on fiscal distress (FD). Based on the partial test results using the Wald statistic, it is known that all the independent variables included in the model have a significant effect on the dependent variables at the 1% level. It can be concluded that LGOR, TOLR, and CE have a significant effect on FD. From the sign of the regression coefficient, it can be seen a negative relationship between LGOR and FD. This means that if LGOR increases, the possibility of FD will be smaller. This is in accordance with hypothesis 1. Likewise, the TOLR variable, there is a negative relationship between TF and FD, which means that if TF increases, the possibility of FD occurring will be smaller. This is also in accordance with hypothesis 2. On the contrary, there is a positive relationship between CE and FD. This means that if CE increases, the possibility of FD will be even greater.

Table 3: Wald Test Statistics

Variables	Coefficient	Wald
LGOR	−0.001	7.994***
TOLR	−0.000	9.178***
CE	0.002	15.970***
Constant	−1.761	201.529***

***p-value < 0.01; Significant at the 0.05 level.

Table 2: Iteration History

Iteration History *a*, *b*, *c*, *d*						
Iteration		−2 Log likelihood	Coefficients			
			Constant	LGOR	TOLR	CE
Initial −2 Log Likelihood		2327.130				
	1	2379.905	−1.438	0.000	0.000	0.001
	2	2306.343	−1.741	−0.001	0.000	0.001
	3	2304.503	−1.762	−0.001	0.000	0.001
	4	2304.497	−1.761	−0.001	0.000	0.002
	5	2304.497	−1.761	−0.001	0.000	0.002
Chi-square of Omnibus Tests of Model Coefficients		22.633***				

The LGOR has an effect on the fiscal health of LGs. The higher the LGOR, the less the LGs are fiscally dependant on the central or provincial government. If LGOR increases, the funds owned by the local government will be more, the level of LGs independence will increase, and the fiscal distress will be smaller. The greater the LGOR, the more accumulated funds will be able to finance local expenditure. LGOR as a source of revenue is expected to be able to increase community economic activities. The increase in economic activity will increase the output of goods and/or services followed by an increase in the amount of spending made by local governments. With the emergence of investment activities, it will create jobs and other multiplier effects that will affect local economic growth. It can be concluded that an increase in LGOR shows the ability of local governments to minimize or eliminate deficits or generate budget surpluses, which means that fiscal distress decreases. This is in line with research by Zeedan et al., (2014) which states that local governments must increase independent funding sources to stabilize fiscal conditions.

The transfer revenue and other legal revenue have an effect on the fiscal health of LGs. Transfer revenue in Indonesia includes balancing funds, namely the General Allocation Fund (DAU), the Special Allocation Fund (DAK), and the profit-sharing fund. Meanwhile, Other legal income includes grants, adjustment funds, and special autonomy funds. Balancing funds are provided by the central government as a result of unequal regional financial and economic capacities. DAU is generally used to finance employee salaries, while DAK is spent following the provisions set by the central government, among others, directed at the construction of physical facilities and infrastructure to provide services to the community. The profit-sharing funds, namely funds originating from taxes and natural resources consist of Land and Building Tax (PBB); Fees for Acquisition of Land and Building Rights (BPHTB); and Tax Revenue (PPh) Article 25 and Article 29 for Individual Domestic Taxpayers and PPh Article 21. Meanwhile, profit-sharing funds originating from natural resources come from forestry, general mining, fisheries, and petroleum, natural gas and geothermal, mining. Table 1 shows that the percentage of transfer revenue and other legal revenue in district/municipality governments is much higher than that of LGOR. Meanwhile, Table 3 confirms the positive relationship between TF and local government fiscal distress. This is in line with the research of Capalbo and Grossi (2014), Cohen et al. (2017), Halabi (2014), Jones and Walker (2007), Oulasvirta and Turala (2009), Robert and Schramm (1986), Stanisevski and Fowler (2015), and Trussel and Patrick (2012) who showed that an increase in revenue is negatively related to fiscal distress.

Further analysis is related to the relationship between CE and FD. The CE which in fact produces public infrastructure is the key to economic growth, which goes hand in hand with increasing productivity and decreasing fiscal distress. Efficient and effective government expenditure is often used to restore economic growth due to the crisis (Prasetyo, 2020). The increase in the CE is expected to be a driving factor for various investments in the regions. Nevertheless, the CE that can increase economic growth and reduce fiscal distress is infrastructure development spending that can directly touch the people's economy. Ineffective and inefficient CE budgets for productive activities that lead to sustainable economic development, do not have an impact on reducing fiscal distress. The CE generally constitutes a relatively small percentage of total expenditure. The low portion of the allocation of CE is one of the reasons for the inability of CE to be a factor that can reduce fiscal distress.

In addition, CE is generally obtained from DAK funds, the utilization of which is restricted based on central government regulations. Most of the DAK is allocated for education and health infrastructure which may not be the priority of district/municipality governments. The DAK allocation is not directly related to factors that directly drive economic growth such as roads, bridges, markets, and so on. Part of the capital expenditure is used for the construction of official houses, procurement of official cars, and other inaccurate expenditures. In addition, part of the proceeds from capital expenditures is not directly enjoyed by local governments. Central government regulations stipulate that the tax is deposited in the state treasury, not to the local governments' treasury. Therefore, based on these results, the CE in Indonesia is not a variable that reduces fiscal distress, in contrast to the research of Jones and Walker (2007).

Good governance is the demand of the community, so the government must realize the importance of public accountability, both at the central and local governments (Sumaryati et al., 2020). Local governments need to implement good governance to respond to changes in an environment full of uncertainty (Ahmad et al., 2020). Increased revenue will increase the opportunities for LGs to increase the volume and quality of services provided, and broadening the revenue base followed by an increase in the amount of revenue collected by LGs will strengthen fiscal capacity. Based on Law Number 28 of 2009 concerning Regional Taxes and Regional Levies, revenue is still very centralized. The potential for large tax revenues is still under the authority of the central government, for example, tax revenue, value-added tax, and cigarette tax. Although local taxes vary considerably, there are only a few that can be relied on as a source of revenue, for example, hotel tax and restaurant tax. Therefore, it is necessary to improve the formulation of local government revenue policies through the development of local taxes and levies that are

harmonious with the central tax, so that local taxes and levies can significantly increase LGOR. In addition, the role of Regionally-Owned Enterprises (BUMD) as a source of regional revenue must be increased, considering that the purpose of establishing BUMD is to seek profits for regional development funds. Local governments need to carry out policies to develop BUMDs into professional companies and local governments must carry out measurable monitoring and evaluation of company performance in order to increase competitiveness.

5. Conclusion

The results show that local government revenue (LGOR) and transfer revenue and other legal revenue (TOLR) are able to reduce local government fiscal distress. However, lower LGOR and the high amount of TOLR are indications of an unhealthy fiscal condition. The central government, provincial governments, and district/municipality governments must coordinate and collaborate to immediately make effective policies through the formulation of a complete and integrated set of regulations accompanied by implementing regulations related to increasing LGOR to increase the fiscal independence of local governments. These findings can be used as a consideration for the executive and legislature to make the right policies in increasing revenues at the central and regional levels.

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