

## The Impact of Regional Splitting and Local Taxes on Local Government Spending in Indonesia

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### Abstract

*This study aims to analyze the variables of regional splitting status, local taxes, regional GDP, and population as determinants of local government spending in six regions in Indonesia. The analytical method used was panel data regression, with data obtained from the 2006-2019 research period. The results showed that the split local government spending is significantly greater than un-split local government in four regions. Furthermore, regional GDP and population have a significant and positive effect on local government spending in all regions. Meanwhile, local taxes have a positive effect on local government spending only in five regions. Therefore, the government is expected to evaluate the implementation of regional splitting, create regulations, a conducive business climate, and maintain the population growth rate in all regions to properly maintain the increase in local government spending.*

**Keywords:** Local government spending, Regional splitting, Tax revenue, Regional GDP, Population

**JEL Classification:** H20, H71, H72

## Bölgesel Bölünmenin ve Yerel Vergilerin Endonezya'da Yerele Hükümet Harcamaları Üzerinde Etkisi

### Özet

*Bu çalışma, Endonezya'nın altı bölgesinde yerel yönetim harcamalarının belirleyicisi olarak bölgesel bölünme durumu, yerel vergiler, bölgesel GSYH ve nüfus değişkenlerini analiz etmeyi amaçlamaktadır. Kullanılan analitik yöntem, 2006-2019 araştırma döneminden elde edilen verilerle panel veri yöntemlerine dayanmaktadır. Çalışma sonuçları bölünmüş yerel yönetim harcamalarının dört bölgede bölünmemiş yerel yönetim harcamalarından önemli ölçüde fazla olduğunu göstermektedir. Ayrıca, bölgesel GSYH ve nüfus tüm bölgelerdeki yerel yönetim harcamaları üzerinde önemli ve pozitif bir etkiye sahiptir. Bunun yanı sıra, yerel vergiler yerel yönetim harcamalarını yalnızca beş bölgede pozitif yönde etkilemektedir. Bu nedenle, hükümetin yerel yönetim harcamalarındaki artışı uygun bir şekilde sürdürmek için bölgesel bölünmenin uygulanmasını değerlendirmesi, düzenlemeler oluşturmaları, elverişli bir iş ortamı yaratması ve tüm bölgelerdeki nüfus artış hızını koruması gerektiği düşünülmektedir.*

**Anahtar Kelimeler:** Yerel yönetim harcamaları, Bölgesel bölünme, Vergi geliri, Bölgesel GSYH, Nüfus

**JEL Sınıflandırması:** H20, H71, H72

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## **1. Introduction**

Government spending is one of the most commonly discussed topics in the public sector. The effectiveness of spending to provide public services and improve welfare is the goal of every government administration. Many new local governments have emerged since the law on regional splitting was enacted in 2004. This invariably increased government spending due to the construction of infrastructure and facilities such as roads, electricity, buildings, as well as various means of communication, transportation to support operations, local economic activities, and fulfill community needs. The amount of money spent on these newly established regencies/cities has tremendously increased.

Indonesia has currently added 57 new regencies/cities due to regional splitting, thereby culminating in 545 local governments spread over six regions, including Sumatra, Java, Kalimantan, Sulawesi, and Bali & Nusa Tenggara, and Papua & Maluku. Therefore, increases in spending need to be carried out to enable the central government to evaluate the regional splitting policy's effectiveness. However, preliminary studies related to the role of regional splitting in determining local government spending are limited because not many countries are still experiencing this process. Meanwhile, in Indonesia, regional splitting is still an important topic in the discussion of local government spending due to the need for more funds to carry out development in new places, compared to existing local governments. Therefore, this study aims to determine the use of the regional splitting status variable for local governments.

Regarding regional splitting, the Indonesian government has also encouraged local governments to increase revenue from local economic activities, known as local taxes. Therefore, since the enactment of Law No. 28/2009 on local taxes, regencies and cities have been allowed to increase revenues. This law regulates that most of the tax collection, which was previously handed over to the central government, is now transferred to the local governments.

Taxes are a source of local government revenue that illustrates the economic progress of an area. The more advanced the economy of a region, as indicated by growing activity in the industrial, service, and other sectors, the higher the local tax revenue. Furthermore, since the law's enactment, the ratio of tax revenue to total local government revenue has significantly increased, thereby indicating its positive effect. Figure 1 shows an increase from 6.5% tax/total local revenue to 16.7% in 2017 then decrease to 11.6% in 2019. This information shows the unstable ability of local governments in Indonesia to obtain local revenue.

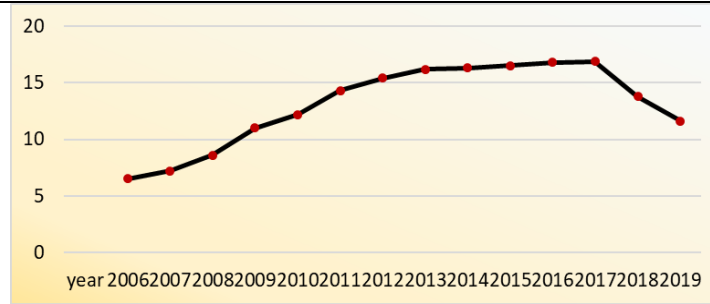


Figure 1: Percentage of Local Taxes on Total Local Government Revenues (in %) Source: Indonesian Ministry of Finance, Processed Data

However, some regions succeeded in increasing their local tax revenue much more rapidly than others, as shown in Figure 2. Local tax revenue need to have a positive effect on local government spending (Apergis et al., 2012; Jibir & Aluthge, 2019; Thamae, 2013). Unfortunately, this influence is not clearly visible in several regions that have experienced an increase in local taxes accompanied by a rise in government spending, namely the Java, Bali, and Nusa Tenggara regions. Meanwhile, in Sumatra, Kalimantan, Sulawesi, and Papua, and Maluku, local tax increases have been very slow, with a significant rise in local government spending. This indicates that taxes have no effect on local government spending in the four regions.

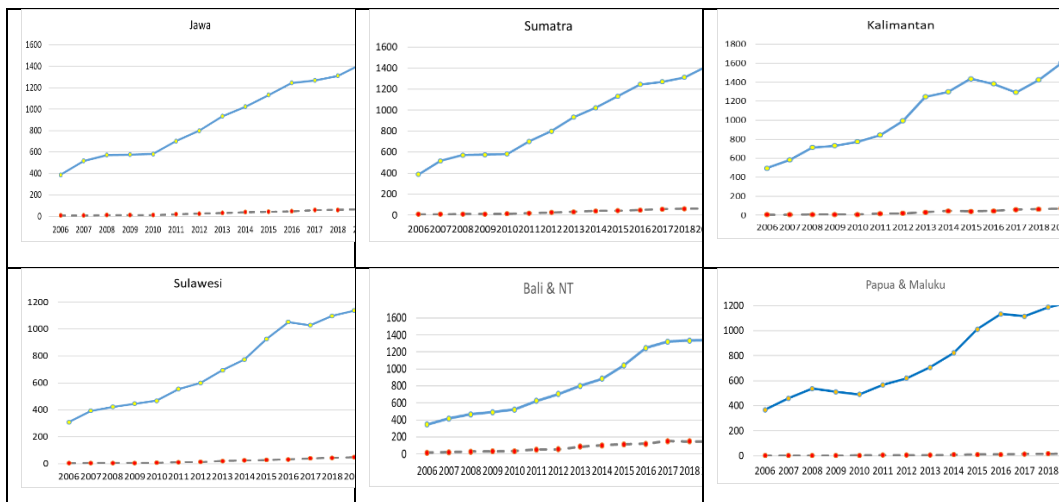


Figure 2: Local Taxes and Local Government Spending in 6 regions in Indonesia Source: Indonesian Ministry of Finance, Various Years, Processed Data Description: — Government spending — Tax

Apart from regional splitting and local taxes, there is a possibility that control variables also affect local government spending. According to previous studies, GDP is a control variable that influences government spending (Antonis et al., 2013; Lamartina & Zaghini, 2010) and population (Akinlo, 2013; Jibir & Aluthge, 2019).

Therefore, based on this explanation, this study aims to analyze the variables of regional splitting status, local taxes, regional gross domestic product (regional GDP), and population as determinants of local government spending.

The analysis method used to answer the research objective is the regression of panel data. Using this method of analysis, it is expected to be known that split local governments have more spending than un-split ones. In addition, the positive influence of Local taxes, regional GDP and population on local government spending can be predicted.

## **2. Literature Review**

The first variable in this study is the status of regional splitting, with a few previous studies on its effect on government spending. However, there are indications that the split local governments have greater spending than un-split ones. Furthermore, the status variable for regional splitting is in the form of dummy variables, which differ from local governments' split and the un-split ones. Therefore, the hypothesis for the status of regional splitting is as follows:

H1. Split local governments have more spending than un-split ones.

Regarding tax variables, Friedman (1978), the inventor of the tax-spend hypothesis, stated that an increase in tax revenue leads to a rise in government spending, thereby causing a budget deficit in government finances. Several previous studies have found a positive effect of tax revenue on government spending in various countries using time series and panel data.

For instance, it was studied in Serbia with monthly data from the first month of 2003 to the 11th month of 2014 (Lojanica, 2015). In ASEAN it occurred in Malaysia, Philippines, Singapore, Cambodia, and Laos from 1980-2012 with granger causality and Dynamic OLS panels (Magazzino, 2014). Furthermore, it occurred in Bangladesh 1973-2013 (Rahman & Wadud, 2014), Greece 1957-2009 using the TAR and MTAR methods (Apergis et al., 2012), the UK from 1955-2009 with the TAR momentum method (Saunoris & Payne, 2010), the USA 1959-2005 (Zapf & Payne, 2009), Pakistan during the 1972-2007 observation period (Aisha & Khaton, 2009), and in Japan, South Korea, Taiwan, UK and USA from 1951-1996 (Chang et al., 2002).

Furthermore, the positive effect of tax revenues on local government spending using panel data has been studied in G7 countries from 1980-2016, using a granger causality panel (Gurdal et al., 2021), in Southeast European countries from 1990-2015 (Tashevskaja et al., 2020), in 48 USA states from 1951-2008 with OLS dynamics (Saunoris, 2015), in the USA with panel data from 1963-1997 with ECM method (Westerlund et al., 2011), and European Union countries from 1960-2006 (especially in Germany, Belgium, Austria, Finland, and the UK) using a granger causality panel (Afonso & Rault, 2008).

Several studies have also revealed the negative effect of tax revenue on government spending. The results used time-series data carried out in Nigeria from 1990-2017 using the Autoregressive distributed lag method (Jibir & Aluthge, 2019), in Lesotho

from 1980-2010 with the Error correction model method (Thamae, 2013), and in Indonesia from 1970-2007 using the VECM method (Sriyana, 2009). From this explanation, more research has shown that taxes have a positive effect on government spending. Therefore, the following hypothesis was proposed.

Hypothesis 2: Local taxes have a positive effect on local government spending

The control variable influencing government spending in this study is state/local income. Several previous studies have shown a positive effect on state income using various proxies. For instance, the research carried out in Turkey with data from 1951-2005 showed that real GNP has a positive effect on total government spending (Mohammadi et al., 2008). The same research was conducted in Nigeria from 1970-2014, which showed that GDP positively affects government spending (Nwude & Boloupremo, 2018). The positive effect of state income on spending was also found in research carried out in Greece from 1833. -1938, which revealed that real per capita positively affects government spending (Antonis et al., 2013).

Research conducted in Spain, with a proxy for GDP per capita from 1984, also significantly affected government spending (Garcia, 2012). In addition, the research carried out in the USA from 1929 to 1996 found that GNP had a positive effect on government spending (Islam, 2001).

From the explanation above, it is known that there is a positive effect of state revenue on government spending. Therefore, to determine the relationship between state revenue and government spending in the 6 regions of Indonesia, the proxies for state revenue used are regional GDP of regency/city. Therefore, the proposed hypothesis is as follows:

Hypothesis 3: regional GDP has a positive effect on local government spending.

Another control variable applied in this study is population. Several previous studies have shown the effect of population on government spending in numerous special fields such as health, education, and social welfare. Akca et al. (2017) stated a positive effect of population on health spending. The research carried out in 36 OECD countries from 2000 to 2013 showed that the percentage of the population that obtained health insurance positively affected government health spending. Furthermore, in China, the population aging and the number of young people increases government health and education spending, respectively (Cai et al., 2018).

Several preliminary studies revealed the positive and negative effects of the total population on government spending. However, many of them stated that the positive effect of the population on government spending in some countries, such as Nigeria, had a positive effect from 1970-2017 (Jibir & Aluthge, 2019). Furthermore, many other studies have also revealed the positive effect of population on government spending (Akinlo, 2013; Breunig & Rocaboy, 2008). Meanwhile, Islam (2001) and Kimakova (2009) found a negative effect of population size on government spending. Based on this description, the following research hypothesis was proposed.

H4: Total population has a positive effect on government spending.

### 3. Research Methods

This study examines the determinants of local government spending using panel data with an observation period of 2006-2019. The research object's scope consists of 6 Indonesian regions, namely Sumatra, Java, Kalimantan, Sulawesi, Bali & Nusa Tenggara, and Papua & Maluku with 154, 114, 56, 81, 41, and 3 regencies. Panel data regression was used to answer the research problem due to its numerous advantages (Baltagi, 2005), such as the ability to control individual heterogeneity, identify and measure effects that cannot be detected in cross-section or time-series data, as well as the possibility to build and test more complex models. The panel data regression model for each region in Indonesia is stated as follows:

$$\ln GS_{it} = \gamma + \beta_1 DRS_{it} + \beta_2 \ln TAX_{it} + \beta_3 \ln RegGDP_{it} + \beta_4 \ln POP_{it} + \vartheta \quad (1)$$

Where GS represents local government spending, and DRS denotes the dummy status for the splitting of the regency/city region (D = 1 is split; D=0 is otherwise), TAX represents the local taxes, RegGDP represents regional GDP, POP represents the number of residents,  $\beta_i$  represents the coefficient of the independent variable in each region,  $t$  represents time,  $i$  represents the regency/city, and  $\vartheta$  denotes an error term at a confidence level of 95%.

Before testing the research hypothesis, the best regression model was examined to determine the common, fixed, and random effects using the Chow and Hausman tests (Wooldridge, 2013). After obtaining the best model, statistical tests were carried out, namely simultaneous (F test), partial regression (t-test), and determination of goodness of fit coefficients (Gujarati, 2003).

### 4. Results and Discussions

There are large and low variations in local government spending in accordance with the associated regions. This also applies to taxes and regional GDP with the yearly mean values for all variables shown in Figures 3 – 6, excluding regional splitting status.

Figure 3 shows that the Java region owned the highest average local government spending from 2006-2019. Each year, Java and Kalimantan have higher spending volumes than average, thereby indicating a better condition compared to other regions. In Java, which is mostly a center for industry and services with the local tax rate assigned to businesses higher than in other regions. High local tax revenues from the industrial and service sectors provide increased regional government revenue, leading to a rise in local governments' spending capacity. Meanwhile, the Kalimantan region, with abundant natural resources such as petroleum, obtains transfer funds from the central government due to the production of its natural resources. This has also led to large local government revenues and an increased spending capacity.

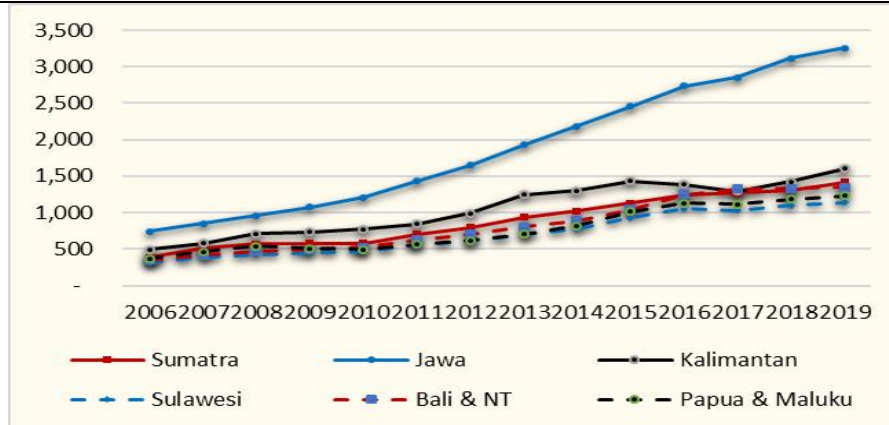


Figure 3: Local Government Spending Average for Each Region (in IDR billion)  
 Source: Indonesian Ministry of Finance. Processed Data

This also occurs in other regions that are not industrial and service center areas or without natural resources. On the average, local government spending in this region is not too large, compared to the Sulawesi, Papua, and Maluku regions. The average regional government spending in the Sulawesi is the lowest of the six regions in Indonesia.

The independent variables in Figures 4-7 are described next. Figure 4 shows that regional splitting started since time memorial and stopped in 2014. The largest number of regencies/cities created occurred in the Sumatra region, with over 19 regencies/cities. Furthermore, its large area and population associated it a possible split into regencies and cities. Meanwhile, the regions with the least split were Jawa and Kalimantan. Although Jawa is the most densely populated area, it is rather difficult to split, while Kalimantan's forestry and sparse population also make it tasking to carry out a splitting.

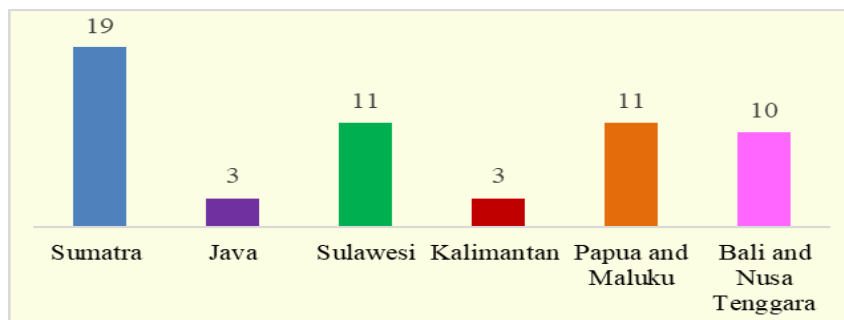


Figure 4: The Number of Split Regencies/Cities in Each Region Until 2014.  
 Source: Indonesian Ministry of Finance.

The next variable analyzed is local taxes, which are a source of government revenue. Figure 5 shows the average development of local tax revenue in each region, with the highest in Jawa, followed by Bali and Nusa Tenggara. This is related to the previous explanation on spending with Jawa described as industrial and service centers that provide local taxes, therefore, it has the largest local tax revenue. This is followed by the Bali and Nusa Tenggara regions, which are the

most visited tourism centers. Meanwhile, the economy in the Papua and Maluku regions has not developed rapidly. Therefore, there are no industrial and service centers capable of providing high regional taxes.

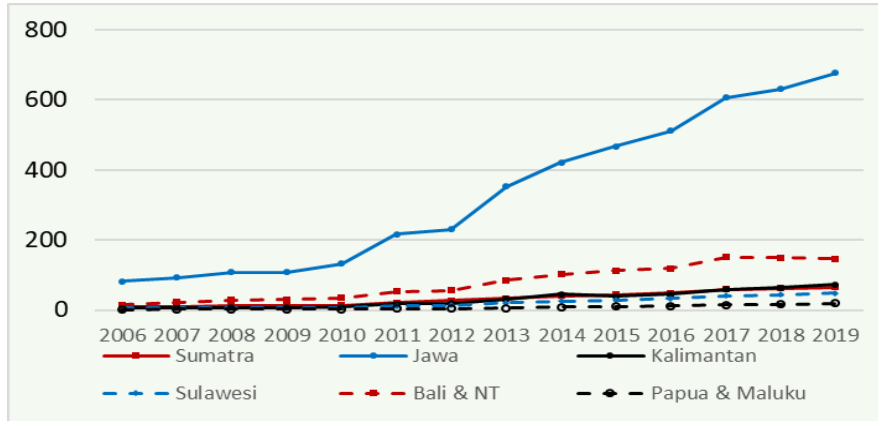


Figure 5: Average Local Tax Revenues in Each Region (in IDR billion)

Source: Indonesian Ministry of Finance, Indonesia. Processed Data.

Figure 6 shows the average regional GDP of regencies/cities in each region, with Java at the highest because it is an industrial and service center, followed by Sumatra, which naturally produces resources, with less in Kalimantan. In contrast, the Papua and Maluku regions have the lowest average regional GDP because they have not developed rapidly.

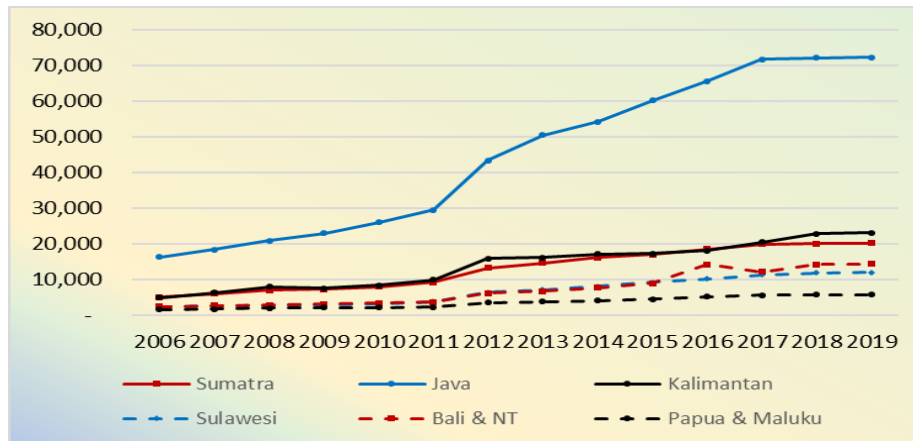


Figure 6: Average Regional GDP of Regencies/Cities in Regions (in IDR billion)

Source: Statistics Indonesia, Processed Data.

Population is the last variable, and according to Figure 7, no region has experienced a rapid increase in population. Currently, Java has the highest population density in Indonesia, with the least in Papua and Maluku.



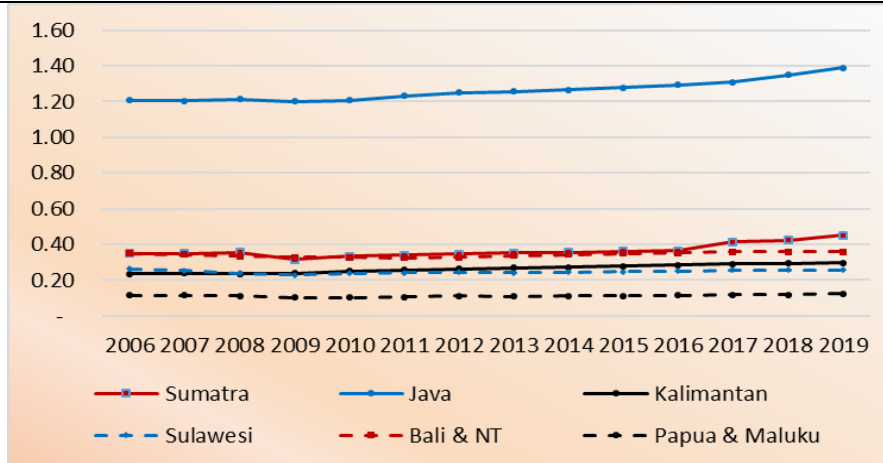


Figure 7: Average Population of Regencies/Cities in Six Regions (in million)  
 Source: Statistics Indonesia, Processed Data.

#### 4.1. Determinants of Government Spending

Initially, the regression model test was carried out to determine the effect of regional splitting, taxes, regional GDP, and population on local government spending. Table 1 shows that the Fixed Effect Model is the best for Indonesia's six regions using the Chow and Hausman tests at  $\alpha = 5\%$ .

Table 1: Testing the Panel Data Regression Model

Type of test	Regions					
	Java	Sumatra	Kalimantan	Sulawesi	Papua & Maluku	Bali & Nusa Tenggara
Chow test	***	***	***	***	***	***
Hausman test	***	***	**	***	***	**

Source: Author's work

Note: Chow test: chi-square prob < 5%, H0 is rejected. It shows that the best model is FEM.

Hausman test: cross random < 5%, H0 is rejected. It shows that the best model is FEM.

From the above explanation, the hypothesis testing was carried out on the fixed-effect model in six regions, as shown in the panel data regression models in Table 2. F-test was performed on all regression models, with H0 rejected at  $\alpha 5\%$ . Therefore, regional splitting, taxes, regional GDP, and population jointly affect local government spending in Indonesia's six regions. The F-test results are supported by a very high determinant coefficient, which means that the ability of the 4 independent variables in this study is very high in determining fluctuations in local government spending.

From the results of the t-test, Table 2 shows that for the regional splitting status variable, H0 is rejected at 5% significance for five regions in Indonesia. In these regions, the split local governments have greater spending than un-split ones. Conversely, in the Java region, H0 was not rejected at negative 5% significance. This means that in Java, the spending of split local government is not significantly smaller than the un-split ones. Meanwhile, based on the regression model in each

region, the regional splitting status variable's regression coefficient is higher than others except in Java and Kalimantan. This explains that regional splitting status has a significant influence in determining spending in four regions in Indonesia.

Table 2 also shows that for local taxes, H0 is rejected at 5% significance and valid in 4 regions. This means that local taxes significantly affect spending in five regions, namely Java, Sumatra, Sulawesi, and Bali & Nusa Tenggara. H0 is not rejected in the Kalimantan region, and Papua & Maluku region, hence it can be said that local taxes have a significant positive effect on local government spending in four regions, namely Sumatra, Java, Sulawesi, Bali & Nusa Tenggara.

Table 2: Estimated Model of Government Spending

Variables	6 Region in Indonesia					
	Sumatra	Java	Kalimantan	Sulawesi	Bali & Nusa Tenggara	Papua & Maluku
C	0.765***	1.132	0.311**	0.211	0.660**	-0.445*
DRS	1.023***	-0.349*	0.199***	0.877***	1.341***	0.890***
Ln TAX	0.719***	0.655***	0.305**	0.040***	0.692***	-0.023*
Ln RegGDP	0.581***	0.683***	0.599***	0.666***	0.894***	0.785***
LnPOP	0.484***	0.328***	0.345***	0.546***	0.516***	0.539***
R <sup>2</sup>	0.959	0.919	0.925	0.978	0.908	0.939
Adjusted R <sup>2</sup>	0.947	0.928	0.911	0.959	0.897	0.926
F-statistic	3,826.573	2,055.002	2,131.005	2,922.800	1,956.555	2,388.222
Prob.F-Stat	0.000	0.000	0.000	0.000	0.000	0.000

Source: Author's work

Note: \*\*\*, \*\*, \* denotes significant on  $\alpha = 1\%$ ,  $5\%$ ,  $10\%$ .

The regression coefficient in the 6 regions shows that the largest tax at 0.7189 is found in Java region. Although it is not elastic, it shows that local government spending's biggest tax effect is positive and significant. This explains that taxes in this region are better utilized for local government spending than in others.

Furthermore, for regional GDP, the t-test shows that H0 is rejected at 5% significance in all regions. Therefore, regional GDP has a significant positive effect on local government spending with a greater regression coefficient than the tax in all regions except Sumatra. This means the effect of regional GDP is stronger than taxes on local government spending.

The highest regional GDP regression coefficient of 0.8945 occurred in the Bali & Nusa Tenggara region with a strong positive influence, thereby decreasing the amount of negative impact of taxes on spending. With regional GDP sourced from the region's abundant natural resources, the government receives a substantial transfer of funds to regulate regional spending. Therefore, there is little effect on local taxes, which are a component of revenue.

Another control variable is population, where H0 is rejected at 5% significance in all regions. This means that the population has a significant positive effect on local government spending in all regions. Therefore, based on the regression coefficient, there are regions with high and low regression coefficients, thereby indicating that

the influencing power of population size varies. The lowest and highest population regression coefficients are in Java and the Papua & Maluku regions, respectively. This means that the population's influence in increasing regional government spending in Java is not stronger than in Papua and Maluku regions.

Table 2 shows the variable with the strongest influence on local government spending in these six regions. In the Sumatra region, the strongest determinant of local government spending is the status of regional splitting with a variable dummy coefficient of 1.0235. The local taxes also have a strong positive influence in determining local government spending at a regression coefficient of 0.7189, therefore it can be said that an increase in tax by 1% leads to a rise in spending by only 0.71%.

In the Java region, the variable with the strongest influence in determining local government spending is regional GDP, followed by local taxes with regression coefficients of 0.6828 and 0.6555, respectively. In this region, regional splitting's variable status does not affect local government spending at 5% significance. The conditions in Kalimantan are similar to the Java region, where the influence of regional GDP is the most vital determinant of local government spending. Meanwhile similar condition occurs in two other regions, namely Sulawesi and Bali & Nusa Tenggara, with dummy variable of regional splitting as the strongest influence variable, followed by regional GDP.

Lastly, in the Papua and Maluku regions, taxes have no effect on local government spending at 5% significance. The variable with the strongest influence used to determine local government spending in this region is a dummy variable of regional splitting status.

#### **4.2. Discussions**

The dummy variable for the status of regional splitting is the strongest determinant in determining local government spending. Due to the limited studies related to local government spending with the status of regional splitting, this study contributes to the use of variable splitting status in determining spending by the local government. The results indicated that the split regencies/cities have higher spending than the un-split ones. This condition explains that the split regency/city governments are still in the local development stage, in building infrastructure and facilities such as road, offices, and quality human resources as reflected in various government programs and activities. The development in the split regency/city takes years, therefore development spending is in a high position.

In contrast to existing ones, un-split regencies/cities, which already have most of the infrastructure and facilities, the expenditure needed is spending on infrastructure maintenance and the provision of several new infrastructures for development in their regions. This has led to an increase in spending in the split regencies/cities.

Furthermore, this study also shows that population variables have a significant positive effect on local government spending. These results are in line with the research carried out by Jibir & Aluthge (2019) in Nigeria using the population

growth, with an observation period of 1970-2017. Jibir and Aluthge stated that in Nigeria, the number of young people between 0-14 years is still increasing, thereby leading to a continuous rise in spending for health and education. Apart from that, the increasing population requires the provision of public facilities such as roads, hospitals, schools, etc.

Similar conditions also occurred in Indonesia, which is the fourth most populous country in the world with a fairly large percentage of the young population. The provision of public facilities (such as hospitals, schools), school operational costs (teacher salaries and provision of school books), and health (such as immunization and health insurance) tend to increase with a rise in population.

This study also found a significant positive effect of regional GDP on local government spending. The result of study is in accordance with the explanation of Wagner's law which states that economic development will increase government spending (Rambe & Ekaputri, 2021). In the high income area will emerge industries and services, furthermore the role of government is needed to meet the needs of the business and community such as infrastructure both roads, markets and technology supporting the industry and services. In addition, the role of the government is necessary to provide health, education and recreation facilities to meet the wider needs of the community. Efforts to meet the needs of this community require greater government spending.

This result of study is in line with the research carried out by (Mohammadi et al., 2008). The research conducted in Turkey, used real GNP proxies during the observation period from 1951-2005. Mohammadi et al., stated that the rapid growth of urbanization associated with industry requires improvement and addition of economic infrastructure, including the provision of public transportation, utilities, mass communication, health care, and pension systems. Therefore, the increasing role of government is a natural condition when there is industrial growth. This has happened in Turkey since 1983, which led to the development of the existing industry, with the government implementing a development strategy to improve infrastructure requirements through increased government investment, particularly in the fields of transportation, communication, and energy.

This result is in line with the research carried out by Antonis et al. (2013) in Greece from 1833-1938. This study found a positive effect of real GDP per capita on government spending. It also revealed that industrialization, modernization, and economic growth in Greece increased government activities in the provision of public goods, culture, and welfare services, in addition to a rise in infrastructure provision.

Meanwhile, in Indonesia, regencies/cities in each region that have a high regional GDP and produce abundant natural resource products receive funds from the central government, which is spent by the local governments. The greater the regional GDP and natural resource products produced by the regency/city, the higher the government's ability to play a role in providing development funds. With a growing economy, the higher the regional GDP, the more the economic activity and needs

for the complex needs of the business world. For this reason, the provision of infrastructure and provision of public goods is increasingly needed due to the rise in government spending in developed economies.

## **5. Conclusions**

In conclusion, local government spending in split regencies/cities is greater than the un-split ones. Therefore, the Indonesian government needs to ensure local government spending comes from local taxes, central government transfers, and debt. Furthermore, the local governments need to use regional spending effectively and efficiently to achieve the objectives of implementing splitting, such as providing public services and improving the community's welfare in each regency/city. However, the achievement of the objectives of implementing this local government is not the focus of this research, rather it is the limitation. For this reason, further research is recommended to determine the impact of regional splitting and increased local government spending on the welfare of the people in the six regions in Indonesia.

Apart from regional splitting, the population has a positive effect on increasing regional government spending. A large number of residents are a burden on the local government to provide public services, such as in the fields of education, health, and social affairs. Therefore, it is only natural for them to reduce the rate of population growth in order to reduce local government spending to a reasonable level.

Meanwhile, regional GDP and local taxes, which also positively affect increasing local government spending (Sumatra, Java, Sulawesi, and Bali & Nusa Tenggara), find it difficult to create regulations and a conducive business climate to develop the economy properly. Therefore, regional GDP and local taxes need to provide opportunities for local governments as a source of revenue used to allocate spending to meet increasing community needs, whether due to a rise in population, demands in the provision of infrastructure and facilities, as well as rapidly growing technological advances.

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