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The Relationship between the Government Size and Economic Growth in South Sumatra

Abstract. *In general, many factors, including government spending, influence economic growth. In many theoretical and empirical studies, government spending is seen from the ratio between government spending and Gross Domestic Product (GDP) or government size. This research aims to examine the influence of government size on economic growth in districts/cities of South Sumatra Province. The government size to be analyzed is the amount of government spending on public services, housing and public facilities, education, and health. The data used in this study is secondary data for the 2010-2020 and covers 15 regencies/cities. The data was obtained from the Central Statistics Agency and the Regional Financial and Asset Management Agency. The analytical technique used in this research is descriptive analysis technique and quantitative analysis. Klassen Typology Approach was used to identify the regencies/cities with fast growth and the relatively lagging regencies/cities of South Sumatra Province. The study results show that government spending on public services and health has a positive and significant effect on economic growth. Meanwhile, the government spending on housing and public facilities has a positive and insignificant effect. In contrast, the government spending on education has a negative and significant impact on economic growth. This study recommends local governments increase the allocation of regional expenditure to sectors that lead to economic growth, especially in newly created regions.*

Keywords: *government size, government spending, economic growth, Klassen typology, inverted Armey u curve.*

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Зв'язок між розміром державних витрат та економічним зростанням в провінції Південна Суматра

Анотація. *Загалом на економічне зростання впливає багато факторів, у тому числі державні витрати. У багатьох теоретичних та емпіричних дослідженнях «розмір уряду» розглядаються через співвідношення між державними витратами та валовим внутрішнім продуктом (ВВП). Мета цього дослідження – вивчення впливу державних витрат на економічне зростання в районах/містах провінції Південна Суматра. Державні витрати, що аналізуються у цьому дослідженні,– це обсяг державних витрат на державні послуги, житлово-комунальні послуги, освіту та охорону здоров'я. Дані, використані в цьому дослідженні, є вторинними даними за 2010-2020 рр. і охоплюють 15 регіонів/міст. Дані отримані від Державної служби статистики Індонезії та Регіонального агентства з управління фінансами та активами. Для аналізу даних використано техніку описового аналізу та кількісний аналіз. Типологічний підхід Классена використовувався для визначення регіонів/міст із швидким економічним зростанням і відносно відстаючих регіонів/міст в провінції Південна Суматра. Результати дослідження показують, що державні витрати на державні послуги та охорону здоров'я мають позитивний і значний вплив на економічне зростання. Водночас державні витрати на житлово-комунальне господарство мають позитивний і незначний ефект. Навпаки, державні витрати на освіту мають негативний і значний вплив на економічне зростання. Це дослідження рекомендує місцевим органам влади збільшити розподіл регіональних видатків на сектори, які сприяють економічному зростанню, особливо в новостворених регіонах.*

Ключові слова: *розмір уряду, державні витрати, економічне зростання, типологія Классена, обернена крива.*

INTRODUCTION

No society has ever attained high economic prosperity without a government, where there is no government and anarchy reigns. Government is a necessary, though not at all sufficient, condition for prosperity (Mangkoesoebroto, 2001). Many factors, including government spending, influence economic growth. In many theoretical and empirical studies, government spending is seen from the ratio between government spending and Gross Domestic Product (GDP) or government size. The Regional Income and Expenditure Budget (APBD) is the annual financial plan of local governments in Indonesia, which the Regional People's Representative Council approves. APBD is stipulated by Regional Regulation. The APBD budget year covers a period of one year, starting from January 1 to December 31.

So based on this, it can be reviewed first. One of the reasons is based on government spending or APBD, which generally focuses on certain things or sectors that may impact economic growth directly and indirectly, such as public services, housing, public facilities, and health and education. APBD expenditures for public services show that Musi Banyuasin Regency has the highest average expenditure of 738.278 million Rupiah, followed by Palembang City of 572.585 million Rupiah. In contrast, the area with the lowest public service expenditure, Pagar Alam city is 193,238 million Rupiah. Thus, the distribution of public services in South Sumatra is still moderate because the differences between regions are not too far apart.

Government spending in the infrastructure sector, including housing and public facilities, is expected to help people from all walks of life continue to be productive and increase purchasing power (Fajar & Indrawati, 2020). The APBD expenditure for housing and public facilities shows that Musi Banyuasin Regency has the highest average expenditure of 659,051 million Rupiah, Palembang City – 523,632 million Rupiah. The area with the lowest expenditure on housing and public facilities is Pagar Alam City, with 112.883 million Rupiah. Thus, the distribution of housing and public facilities in South Sumatra is significant because the differences between regions are too far. Expenditures for the health sector are expected to increase life expectancy and reduce maternal and infant mortality, which is one of the components in determining human development (Nasution & Hasibuan, 2018).

The average APBD expenditure for the health sector is that Palembang City is the area with the highest average expenditure of 379.672 million Rupiah, followed by Musi Banyuasin Regency of 314.872 million Rupiah while for the area with the lowest health expenditure, South OKU Regency of 82.745 million Rupiah. Thus, the distribution of health in South Sumatra is quite large because the differences between regions are too far. APBD expenditure for the education sector can increase

public access to good and cheap education and increase literacy rates and the length of education that the community can access. The highest average expenditure is 1,070,826 billion Rupiah in Palembang City, followed by Musi Banyuasin Regency at 640,934 million Rupiah. In contrast, for the area with the lowest education expenditure, Pagar Alam City is 111,236 million Rupiah. So, evaluating public spending is necessary because it plays an important role in supporting economic growth. Higher levels of public spending are often associated with higher growth rates. Thus, public spending and income are also key variables affecting the sustainability of public finances.

LITERATURE REVIEW

According to Nyasha & Odhiambo (2019), the causal relationship between government size and economic growth is not clear in all countries, both developing and developed.

Research by Zhou et al. (2020) is focused on China. The results show that tax rates and growth rates will be increased, while the proportion of public spending will decrease if the government increases the TIP. In addition, although the steady-state level of output may be lower in the short term, it can achieve high-quality growth in the long run.

Afonso & Furceri (2010) analyze the effect in terms of size and volatility of government revenues and expenditures for growth in OECD and EU countries. The results showed that both variables were detrimental to growth. In particular, taking a closer look at the effects of each component of government revenue and expenditure, the results show that i) indirect taxes (size and volatility); ii) social contribution (size and volatility); iii) government consumption (size and volatility); iv) subsidies (size); and v) government investment (volatility) has a fairly large, negative and statistically significant effect on growth.

Canton (2001) examines the relationship between fiscal policy and economic growth rate. In his writings, Canton discusses several issues, including the effect of taxes on economic growth, the effect of taxes on cyclical fluctuations, the effect of fiscal policy on employment opportunities, and the relationship between long-term economic growth and the business cycle.

Fölster & Henrekson (2006) analyzed the effect of government spending and taxes on economic growth, especially in rich countries. Their study shows that the relationship between government size and economic growth has a significant negative relationship with the economic growth rate in rich countries.

Sjöberg (2003) shows that too much government spending will hamper economic growth. By using the endogenous growth model and the Ordinary Least Square (OLS) technique, this study examines a significant relationship between government spending in the form of investment, consumption, and government transfers with economic growth. Ram's research (1986), using time series data and cross-country data from 115 countries, found that high government consumption contributes to economic growth. Other studies have shown a negative impact of government spending on economic growth.

Bania et al. (2007) try to measure the nonlinearity of the impact of using taxes to finance productive government expenditures such as health on economic growth. This study shows that the impact of increasing taxes used to finance government spending is non-monotonic, which is initially positive, but at one time, it decreased.

According to Chen et al. (2011), the impact of government size on economic growth becomes controversial from a theoretical point of view. Increasing government size can positively impact and encourage growth when the economic growth ratio is low. However, as the growth ratio continues to increase, the positive impact on growth may begin to weaken and turn negative. In the study, the coefficient of total government size was positive at low quantities but decreased rapidly and became negative at high quantities.

Loizides & Vamvoukas (2005) identified a relationship between the size of the government as measured as the share of total spending in Gross National Product (GNP) with the level of economic growth. The analysis results show that the size of the government positively affects economic growth in all sample countries in the short term. For Ireland and the UK, this relationship is also long-term.

Bose et al. (2007) examined the effect of government spending on economic growth in 30 developing countries from 1970 to 1980. The results of this study indicate that government spending in the form of capital significantly affects economic growth. Landau (1983) shows that an increase in the percentage of government spending on Gross Domestic Product (GDP) reduces GDP per capita growth; government spending on consumption harms economic growth, while another government spending has a negligible impact on economic growth.

RESEARCH METHODS

This research aims to examine the influence of Government Size on economic growth in districts/cities of South Sumatra Province. The data used in this study is secondary data for the 2010-2020 period with a regional coverage covering regencies/cities (as many as 15 districts/cities). The districts/cities are (1) OKU, (2) OKI, (3) Muara Enim, (4) Lahat, (5) Rawas Musi, (6) Banyuasin Musi, (7) Banyuasin, (8) South OKU, (9) East OKU, (10) Ogar Ilir, (11) Empat Lawang, (12) Palembang, (13) Prabumulih, (14) Pagar Alam, and (15) Lubuk Linggau. The data was obtained from the Central Statistics Agency and the Regional Financial and Asset Management Agency.

The analytical technique used in this research is descriptive analysis technique and quantitative analysis. Descriptive analysis is an analysis used to explain research variables data in tables or graphs to facilitate interpreting research results. It is associated with theories relevant to the variables studied. Quantitative analysis uses a mathematical, statistical and econometric approach to determine the relationship between the independent variable (government size) and the dependent variable

(economic growth in the Regency/City of South Sumatra Province). See the equation (1).

$$EG = F(GSPS, GSHP, GSH, GSE) \quad (1)$$

Then a regression equation is formed which can be seen in equation (2).

$$EG\_x0000\_\beta 0 + \beta 1GSPS\_x0000 + \beta 2GSHP\_x0000 + + \beta 3GSH\_x0000 + \beta 4GSE\_x0000 + eit \quad (2)$$

Description:

β_0 = Parameter Intersep

EG = Gross Regional Domestic Product Rates

GSPS = Government Spending on Public Services

GSHP = Government Spending on Housing and Public Facilities

GSH = Government Spending on Health

GSE = Government Spending on Education

β_1-β_4 = Regression Coefficient of Each Independent Variable

t = Time Period

i = Observation District/City

e = Error term

This study hypothesises that government spending on public services, housing and public facilities, health, and education affect the Gross Regional Domestic Product rate in districts/cities of South Sumatra Province.

RESULTS AND DISCUSSION

Government size to be analyzed is the development of government size of government spending including education expenditure, health expenditure, and infrastructure expenditure in the South Sumatra Province during the 2010-2020 period. This condition will comprehensively be explained based on the distribution of the ratio of health spending to economic growth in each district/city in South Sumatra using the Klassen typology approach. The typology that maps out health spending and economic growth is shown in Figure 1, where the districts/cities are grouped into 4 quadrants.

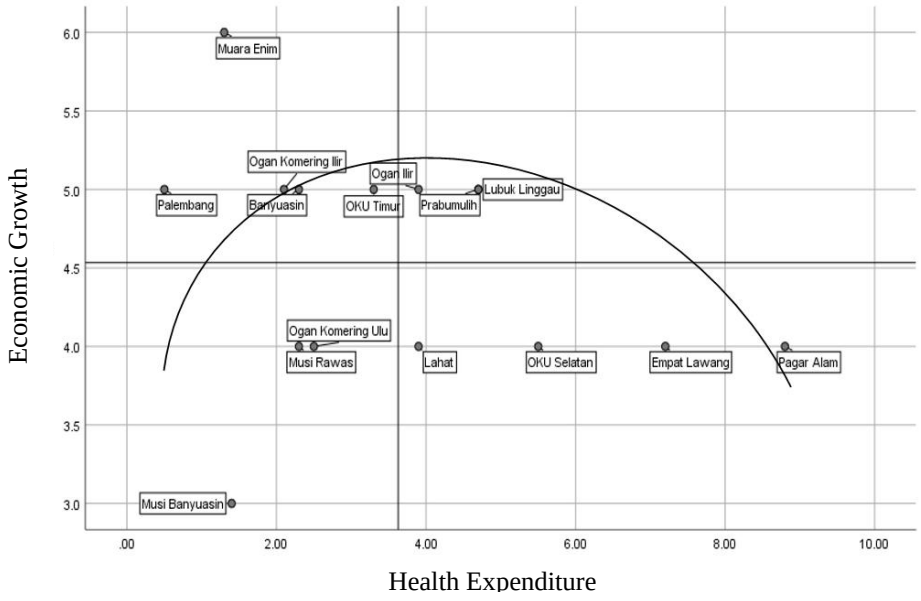

Figure 1. **Distribution of Health Expenditure Ratio to Economic Growth during period 2010-2020**

Source: Processed data, 2022.

Lubuk Linggau City is located in quadrant III with average economic growth and government spending below the provincial average. Pagar Alam City is in quadrant IV with a high average growth above the provincial average, but health spending below the average. This condition is analyzed as a whole. Meanwhile, health spending, is below average, for health spending, the lowest average occurs in Kota Pagar Alam. This condition is analyzed based on the expansion area which is categorized as a new area so it has not received priority from the local government in terms of higher health budgets. Pagar Alam is located in category IV which reflects that health spending has not become a priority where the city focuses on improving infrastructure such as repairing roads, repairing railroads, and improving the quality of education. In line with this, low health spending has also occurred in the expansion areas, which in the previous analysis illustrates that the new expansion areas have just entered the early stages of economic development, so priority sectors are needed, such as overall infrastructure development.

The difference in health spending between regions reflects the gap in health development as seen from the difference in the priority of the health budget, which prioritizes urban and capital areas. While in the expansion area, there are still many who do not have complete health infrastructure. Thus, this condition will have an impact on the uneven quality of health between regions.

Furthermore, it is analyzed based on the development of education spending which is analyzed in detail based on the overall area of the Regency/City in South Sumatra Province which can be seen this condition is comprehensively explained that the distribution of GRDP in the three regions has the highest contribution to GRDP in South Sumatra, thus the ratio value will be lower than in other regencies and cities which have lower GRDP compared to that region. The ratio of education spending and the average provincial economic growth is described in detail in Figure 2.

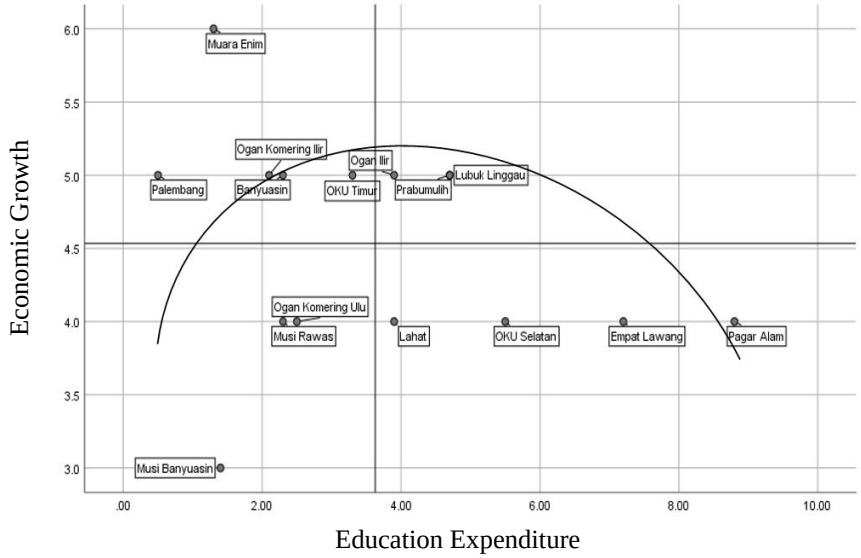

Figure 2. **Distribution of the Ratio of Education Expenditure to Economic Growth during period 2010-2020**
Source: Processed data, 2022.

The mapping between Education Expenditure and economic growth is described in Figure 2, where the Regency/City Areas are classified into 4 quadrants with the following results: (1) Muara Enim, Ogan Komering Ilir, Palembang, Banyuasin, and Prabumulih are located in Quadrant I with average spending education and economic growth above the provincial average. (2) The districts of Musi Banyuasin, Musi Rawas, Ogan Komering Ulu and Lahat are located in quadrant II, including the category of regions with below-average economic growth, but above provincial average spending on education. (3) Lubuk Linggau City, East Oku Regency, and Ogan Ilir Regency are located in quadrant III with average economic growth and government spending below the provincial average. (4) Pagar Alam City and Empat Lawang Regency are in quadrant IV with high average growth above the provincial average, but below average spending on education. If this condition is analyzed in detail based on the regional distribution, it can be analyzed the difference in the level of the ratio of health spending to economic growth in each region.

The high and low distribution of education spending in the region is due to the policy of each region that there are two urban areas that are categorized as low, so it can be said that the priority in these areas is not to focus on increasing education spending but focusing on increasing budgets in other sectors. Meanwhile, districts classified as expansion areas look the same as other expenditures categorized as the lowest. This condition reflects differences in the priority of education spending budgets, so that the educational conditions are different from incomplete educational facilities compared to areas with high education spending. This condition is also seen from the overall development of education spending in each region in the province of South Sumatra, which has fluctuating movements with relatively high differences. Furthermore, it is analyzed comprehensively in relation to the component of infrastructure spending, namely the ratio of public service spending which is described in detail in Figure 3.

In analyzing the condition of differences in the ratio of public service expenditures, a regional typology approach is used to compare these variables with the growth of the province. Thus the mapping between public service expenditures and economic growth is described in Figure 3 where the Regency/City Areas are categorized into 4 quadrants with the following results: (1) Muara Enim, Ogan Komering Ilir, Palembang, Banyuasin, Ogan Ilir, and East Oku are located in Quadrant I with average public service spending and economic growth above the provincial average. (2) The districts of Musi Banyuasin, Musi Rawas and Ogan Komering are located in quadrant II, including the category of regions with below-average economic growth, but spending on public services above the provincial average. (3) The cities of Prabumulih and Lubuk Linggau are located in quadrant III with average economic growth and government spending below the provincial average. (4) Pagar Alam City, Lahat Regency and Empat Lawang Regency in quadrant IV with a high average growth above the provincial average, but spending on public services below the average.

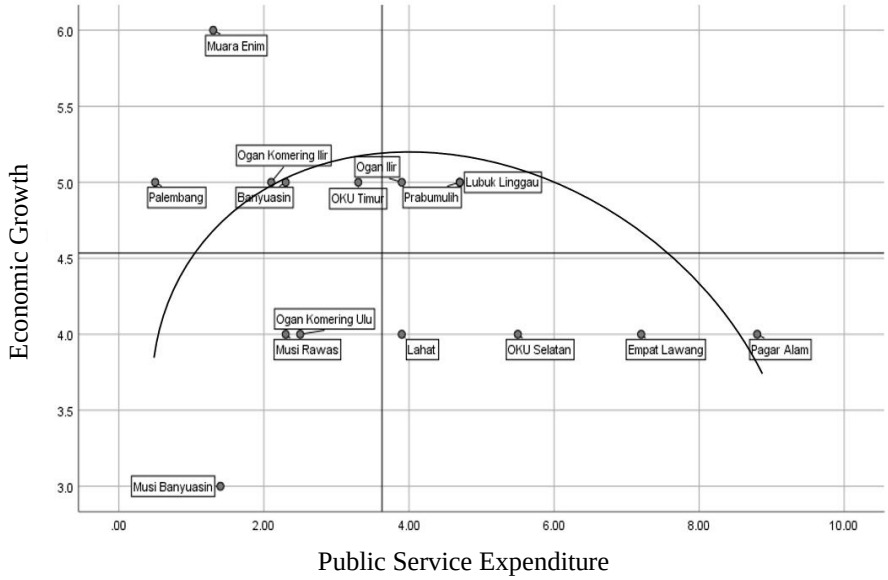

Figure 3. **Distribution of the Public Service Expenditure Ratio to Economic Growth during period 2010-2020**
Source: Processed data, 2022.

If this condition is analyzed in detail based on the regional distribution, it can be analyzed the difference in the level of the ratio of public service spending to economic growth in each region. Overall, these areas have low public service spending, which reflects the lower availability of facilities such as public services, housing and public facilities compared to other areas. This reflects that areas with a ratio of health spending below the province's growth can be categorized as low infrastructure quality. The overall analysis shows that there is a relatively high difference in infrastructure spending between regions, thus this condition illustrates the occurrence of an imbalance in the public service expenditure budget so that it has an impact on equitable infrastructure conditions.

The last infrastructure component analyzed is the Housing & Facilities can be explained in it is necessary to study based on the comparison of the ratio of spending on housing and facilities with the growth of the province which is mapped based on the analysis of the typology of the region described in Figure 4.

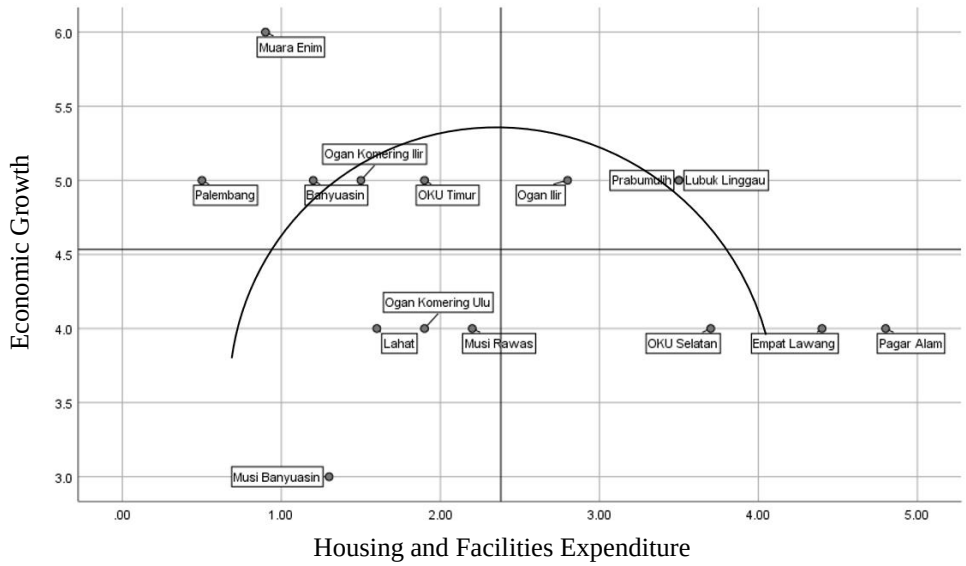

Figure 4. **Distribution of Housing and Facilities Expenditure Ratio to Economic Growth during period 2010-2020**
Source: Processed data, 2022.

Comparison of the Housing and Facilities Expenditure Ratio and economic growth is explained in Figure 4 which is mapped by Regency/City Area which is categorized into 4 quadrants with the following results: (1) Muara Enim, Ogan Komering Ilir, Palembang, Banyuasin, and East Oku are located in Quadrant I with average spending on housing and facilities and economic growth above the provincial average. (2) Musi Banyuasin, Musi Rawas Ogan Komering Ulu, and Lahat districts are located in quadrant II, including the category of regions with below-average economic growth, but spending on housing and facilities above the provincial average. (3) The cities of Prabumulih, Ogan Ilir, and Lubuk Linggau are located in quadrant III with average economic growth and government spending below the provincial average. (4) Pagar Alam City, Empat Lawang Regency, South Oku Regency in quadrant IV with a high average growth above the provincial average, but housing and facilities spending below the average.

The Influence of Government Size of Public Services Sector on Economic Growth

Based on the estimation results show that the government size of government spending in the field of public services has a positive effect on economic growth. This condition means that every increase in the size of government spending in the field of public services will increase economic growth. It is theoretically possible that the advanced stage of economic development described by Rostow is that when government activity increases, in this case, the provision of special economic infrastructure, and educational service programs will have an impact on overall economic development, especially increasing economic growth.

The condition of increased development is inseparable from the increase in government spending seen from the ratio of government spending in the field of public services to GRDP, overall an increase in the ratio of public service spending will have a positive impact on economic growth, in which public service spending will improve public service facilities and infrastructure more adequately than in terms of infrastructure, government facilities, and infrastructure so that it will determine the improvement of the quality of public services in all sectors.

Increased economic growth in terms of the ratio of public service spending to GRDP will have a positive impact on increasing economic growth which is reviewed by several studies with the findings showing that education spending determines an increase in economic growth which is in line with Palayukan's research (2019) that government spending on public services positive effect on increasing economic growth. The same result was found by Sasana (2012) where public service spending has a positive and significant effect.

The Influence of Government Size of Housing and Public Facilities Sector on Economic Growth

Based on the results of the study, it is explained that Government Size in the Housing and Public Facilities Sector has a positive but not significant effect. This means that the increase in the ratio of spending on housing and public facilities to GRDP will determine the increase in economic growth. Government investment in housing and public facilities will provide opportunities for the community to receive more equitable and adequate public facilities. The increase in the housing sector encourages an increase in people's purchasing power for housing so that it will encourage an increase in public consumption which has an impact on increasing economic growth.

It is theoretically possible that increased spending on housing and public facilities will determine an increase in economic growth in the housing and public facilities sector that is more evenly distributed. So public facilities and housing improvements will encourage investment and the quality of public facilities such as places of worship, parking lots, highways, city parks, street lighting, and traffic lights. Overall, if spending on housing and public facilities increases, it will have an impact on the condition of public facilities, especially better infrastructure, especially facilities and infrastructure. This condition will generally improve the community's economy, investment attractiveness, and tourism which will determine the increase in overall economic growth. In line with the study of Safitri (2016) researching the effect of government spending on infrastructure spending on economic growth, the findings show that infrastructure spending has a positive and significant effect on economic growth economy.

The Influence of Government Size of Health Sector on Economic Growth

Based on the results of the study, the ratio of health spending to GRDP has a positive and significant effect. This means that an increase in the ratio of health spending to GDP will determine an increase in economic growth. Government investment in the health sector will provide opportunities for more equitable health services to the community so that reliable and healthy human resources will increase. Increasing the level of health will encourage an increase in the quality of human resources, and increase labor productivity which in turn will create an economic improvement in the community. Improved economic conditions and the quality of public health are also reflected in the increase in endogenous economic growth in terms of increasing human resources.

It is theoretically possible that increased health spending will determine the Human Development Index Indicator from a health perspective. So increasing health services, especially infrastructure facilities, will encourage increased economic growth. Overall, if Health Spending increases it will have an impact on the condition of health services, especially better infrastructure, especially health facilities and infrastructure, this condition will generally improve public health, which is an endogenous growth component that will determine the increase in overall economic growth.

This research is also in line with research conducted by Puspitasari & Sarfiah (2019), that government spending on health has a positive and significant effect on

economic growth. These results are also supported by the theory of Tjiptoherijanto & Soestyo (1994) under conditions of increasing economic growth, it will also affect the level of social welfare. Increasing productivity will also affect economic growth.

The Influence of Government Size of Education Sector on Economic Growth

Based on the estimation results show that government spending on education has a negative and significant effect on economic growth. This condition means that every increase in education spending will increase the human development index. It is theoretically an advanced stage of economic development described by Rostow that when government activity increases, in this case, the provision of special economic infrastructure, and educational service programs will have an impact on overall economic development.

The condition of increased development cannot be separated from the increase in government spending, especially education spending, the overall increase in Education Spending will have a positive impact on the human development index, in which government spending on education will improve educational facilities and infrastructure, especially education services that are more adequate in terms of school infrastructure, facilities and infrastructure, so that it will determine the components of education in the field of education, namely the increase in literacy rates and the average length of schooling.

The negative effect is explained that education spending has not played a direct role in growth, because the expansion area is still in the early stages of economic development and is still in the process of improving educational facilities and infrastructure such as improving educational facilities and human resources. The results of this study are not in line with the findings showing that education spending determines a decrease in economic growth which is not in line with the Palayukan research (2019) that government spending on education has a positive effect on economic growth. The same result was found by Sasana (2012) where education spending has a negative and significant effect on economic growth.

CONCLUSIONS

The results of this study provide a better understanding of how the government size affects economic growth in the Regencies/Cities of South Sumatra Province.

1. The distribution of class typologies in health spending, education spending, public services, housing and infrastructure is known for each region. Though the budget issued by the government is focused on the sector it wants to develop, it is also diverted to other sectors. So, South Sumatra Province has relatively high economic growth in regencies/cities.

2. Government size of public and health services has a positive and significant effect on economic growth. Meanwhile, government size in housing and public facilities has a positive and insignificant effect, while government size in the education sector has a negative and significant impact on economic growth.

3. It is expected to increase government spending, which has been proven to boost economic growth, especially health and infrastructure expenditures.

Thus, this study recommends that local governments increase the allocation of regional expenditure to sectors that lead to economic growth, especially in newly created regions.

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