International Economics and Business Conference (IECON)
Vol. 1, No. 1, 112-120

The Determinant of Regional Expenditure: A Study in Central Java

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Abstract

Regional expenditures are part of regional spending, where these expenditures consist of direct expenditures and indirect expenditures. This studyaims to examine the factors that influence regional expenditures. Variables that affect regional spending consist of Regional Original Income, Gross Regional Domestic Product, Human Development Index, and Population. This research method uses panel data regression with the Fixed Effect Model approach throughEviews 10 to analyze panel data from 2015-2020 in 29 districts and six cities in Central Java province. The study results show that Regional Original Income andGross Regional Domestic Product significantly positively affect Regional expenditure. In contrast, the Human Development Index and Total Population have no significant effect on Regional expenditure.

Keywords: Regional Expenditure, Regional Original Income, Gross Regional Domestic Product

1. Introduction

The local governments must manage their resources efficiently and effectively to achieve and create regional autonomy. Decentralization policies can achieve this through regional autonomy. The realization of regional autonomy and decentralization of finance is based on theidea that local governments better understand their regions' potential, events, and problems. Asa result, each region also better understands the budget needed to carry out government operations and development.

Local governments must distribute local expenditures fairly and reasonably so that they canbe enjoyed by all levels of society relatively without exception, especially in the provision of public services. Therefore, to be able to control the effectiveness and efficiency of the budget, in the process of planning budget expenditures, it is necessary to consider the goals and objectives, results and benefits, determine the priority of activities and calculate the workload, as well as setting a reasonable unit price [1].

Regional development is prepared by the regions and implemented entirely using the resources available in the regions. The region's rapid development requires a large allocation ofdevelopment funds, resulting in increased spending by local governments. The amount of regional expenditure is determined by the regional income in question. Local government agencies receiving budgets must undoubtedly be able to support the growth of spending in theregions to improve the welfare of the people in every city/regency in Indonesia [1].

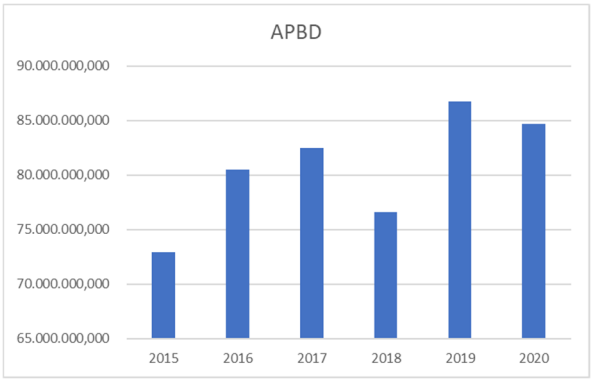
[2] explained that local government transfers/funds are a source of budget revenue to support local government performance in achieving local community empowerment goals, including improving services and community welfare. The revenue generated by local governments is used to finance various spending plans. Expenditure is a payment made at this time for future obligations in order to obtain some goods or services received [3].

Revenues from taxes, levies, and intergovernmental funds transfers may not be sufficient to meet the infrastructure needs of local authorities. For this reason, local governments may alsowant to access private capital, which is achieved through initiatives such as lending. In this case,it is hoped that the local government will prioritize expenditures used to finance regional development rather than those used to finance employee expenditures because the independenceof a region can be seen from the region's development. [4]

Studies on the effect of regional income on regional expenditures have been widely carriedout. [5], stated in his research hypothesis that local revenues (mainly taxes) would affect local government spending budgets, known as the tax spend hypothesis. In this case, local government expenditures will be adjusted to local government revenues, or changes in incomeoccur before

changes in expenditures.

Chart Of The Central Java Provincial APBD For 2015-2020(Thousand Rupiah)



Source : *Badan Pusat Statistik*

Based on the graph above, it can be explained that the total value of the Central Java Provincial Budget constantly changes every year. In 2015, Central Java Province had a total APBD value of 72,929,22,488 then increased in 2016 to 80,510,004,351 and continued to increase by 82,460,035,621 in 2017, in 2018; the Central Java APBD decreased to 76,605,675,602.In the following year the Central Java APBD increased with a value of 86,728,086,011 and again decreased to 84,708,281,428 in 2020

Local Revenue (PAD) is local government revenue collected under its authority. The high initial income of the region indicates that regional autonomy is going well [6]. Local Revenues (PAD) are all local cash receipts that count towards an increase in net worth over a fiscal year and do not need to be repaid by the government. Taxes levied by local governments may not result in levies higher than local tax revenues [7].

In addition, the number of inhabitants also affects regional consumption: development planners consider the large population of the province as the primary capital of development but simultaneously as a burden of development. An asset if it can improve its quality or knowledgeor knowledge in such a way as to increase national production.

A large population becomes a burden when the regional spending structure is low, and its distribution and quality only require social services. The production level is low so that it becomes the responsibility of the efficient working people. Therefore, it needs to be emphasizedthat in the implementation of regional autonomy, it is not only the relief funds received from the center in the form of compensation funds, but also the regions' ability to utilize and manageexisting opportunities. in the province. Regions to improve public services and regional community development

Based on the description and thoughts above, the author is encouraged to research " The Determinant of Regional Expenditure: A Study in Central Java".

2. Literature Review

2.1. Regional Expenditure Theory

It is helpful to know the development of shopping from year to year. In general, shopping always tends to go up. The reasons for the increase in spending are usually associated with adjustments to inflation, changes in the rupiah exchange rate, changes in the number of service coverage, and adjustments to macroeconomic factors. However, with the new paradigm of regional autonomy, local governments must be able to control local spending and carry out budget efficiency and budget savings. A shopping growth analysis is carried out to find out howmuch each expenditure has grown and whether the growth is rational and accountable [1].

2.2. Regional Expenditures

In creating regional independence, local governments must be able to manage their resources efficiently and effectively. Decentralization policies can realize this through regionalautonomy. The application of regional autonomy and fiscal decentralization is based on the idea that local

governments much better understand their regions' potential, conditions, and problems. Therefore, each region also better understands the number of budget needs needed toorganize government and development activities [8]

2.3. Regional Original Income

Local Revenue (PAD) is income that shows the ability of a region to obtain funds to finance routine activities and development. Regional Native Income (PAD) is a source of income that must continue to be cultivated to develop. In this regional autonomy, the independence of the state government in financing regional development and social services isindispensable.

2.4. Gross Regional Domestic Product

GRDP is the added value generated by all economic units of all economic sectors in a particular region or region in a certain period or the total value of the final goods and services produced by all economic units. GRDP based on prevailing prices is the added value of goods and services calculated annually based on prevailing prices. In contrast, GRDP based on constant prices is the added value of goods and services calculated using the prices in force in agiven year in the base year.

2.5. Human Development Index

HDI measures and describes the progress of development programs. The HDI outlines how people can use or access development benefits, such as money, educational opportunities, transportation options, and health facilities. According to [9] HDI is a sign that shows how residents can benefit from development as part of their legal right to income, health, education,and other benefits. The new theory of growth describes the vital role played by governments, particularly in promoting the expansion of human resources and stimulating various forms of research and development to encourage labor productivity. This can be seen from the investmentin education that can improve the standard of human resources, which is shown by increasing one's knowledge and abilities. The information and abilities that come with a higher level of education can motivate the person to be more productive and qualified. A very productive person will notice an increase in his level of well-being. The increase in income and consumption can be used to indicate this. Therefore, if a nation wants skilled labor, its human resource base must be developed. If more people can work abroad, they will be better able to boost the national economy.

2.6. Total Population

The total population is the total population in a region or area. Population Numbers affect Regional Expenditure because the large population of local government development planners is seen as the essential capital asset of development and a development burden. As an asset, it can improve its quality and expertise or skills to increase national production. A large population will become a burden if the regional spending structure is low, the distribution and quality are such that it only demands social services, and the level of production is low so that it is dependent on the population who work effectively [8]

3. Research Methods

As outlined in advance, the Human Development Index, Population, Gross Regional Domestic Product and Regional Original Income to Regional Expenditure will be observed using panel data regression analysis tools. Panel data regression has several advantages. First, the degree of freedom will become more significant. Secondly, the panel data can solve the variable removal problem. The estimation stage of the regression model with panel data includes the Common Effects Model (CEM), Fixed Effects Model (FEM), and Random Effects Model (REM) approaches; the selection of the best estimator with the chow test and Hausman test; testthe goodness of the model; and influence validity test. With the following econometric model:

$$\widehat{logBD}_i = \beta_0 + \beta_1 logPAD_{it} + \beta_2 logGRDP_{it} + \beta_3 HDI_{it} + \beta_4 logPOP_{it} + \varepsilon_{it}$$

BD : Regional expenditure

HDI : Human Development Index
POP : Total Population
$GRDP$: Gross Regional Domestic Product
PAD : Regional Original Income
ε : *Error term* (error factor)
β_0 : Constant
$\beta_1 \cdots \beta_5$: Regression coefficient of the independent variable
Log : Logarithm
t : Year t
i : Regency

4. Results and Discussion

4.1. Estimated Model Selection Test

Table 1.1
Panel Data Regression Econometric Model Estimation Results

CEM Variable Coefficient	Prob.	FEM Coefficient	Prob.	REM Coefficient	Prob.
C	-0.1210	0.7347	-10.255	0.0107	-1.2243	0.0000
Log(PAD)	0.2641	0.0000	0.1975	0.0000	0.3124	0.0000
Log(GRDP)	0.0069	0.7657	0.8844	0.0000	0.0356	0.3784
HDI	0.0002	0.9352	-0.0176	0.2773	0.0060	0.1860
Log(POP)	0.4400	0.0000	-0.0728	0.6943	0.4249	0.0000
R^2	0.9174		0.9778		0.7603	
Adj. R^2	0.9158	0.9728			0.7556	
F-stat.	569.77	198.34			162.57	
Prob.(F-stat)	0.0000	0.0000			0.0000	

Model Selection Test:

4.1.1. Chow

Cross-section F(34, 171) = 13,6796; Prob. F = 0,0000

4.1.2. Hausman

Cross section random $\chi^2(4)$ = 79,8147; Prob. χ^2 = 0,0000

After the panel data regression is performed, the next step is determining the appropriate regression model. The Chow and Hausman tests can use appropriate panel data regression models. The Chow test is carried out to test the common effect model with the fixed effect model. Meanwhile, the Hausaman test was carried out to test the fixed and random effect models. In more detail, the chow test and thirst test are described below:

4.2. Chow Test

The chow test was carried out to test the common effect model with the fixed effect model,the

panel data model is a fixed effect if the probability value of the chow test <α. Based on table1.1, the probability value of the chow test is 0.0000 <0.01. So the regression model uses the fixed effect model.

4.3. Hausman Test

The Hausman test tests the random effect and fixed effect models. The model uses a fixed effect if the Hausaman test probability value < α. Based on the probability value of the Hausmantest in table 1.1, it can be seen that the probability is 0.0000 <0.01. So the regression model usesa fixed effect..

Table 1.2
Fixed Effect Model (FEM) Estimation Model

$logBD_{it}$ = -10,2555+ 0,1975$logPAD_{it}$ +0,8844$logGRDP_{it}$ -0,0176HDI_{it} – 0,0728$logPOP_{it}$				
(0,0107)*	(0,0000)*	(0,0000)*	(0,2773)	(0,6943)
R^2 = 0,9778; F = 198,34; Prob.F = 0,0000				

Source : Table 1.1

4.4. Model Existence Test (Test F)

The *F* test is carried out to determine the effect of the independent variables on the dependent simultaneously or together. H0 *F* test is the Human Development Index (HDI), Total Population (POP) Gross Regional Domestic Product (GRDP) and Regional Original Income (PAD) together do not affect Regional Expenditures. The HA of the *F* test is the Human DevelopmentIndex (HDI), Total Population (POP), Gross Regional Domestic Product (GRDP) and RegionalOriginal Income (PAD) which together affect Regional Expenditures. H0 is rejected if the probability value of the F statistic <α.

Based on table 1.2, it can be seen that the probability value of the F-statistic is 0.0000 <0.01; which means that H0 is rejected, the Human Development Index (HDI), Total Population (POP)Gross Regional Domestic Product (GRDP) and Regional Original Income (PAD) together affect Regional Expenditures.

4.5. Interpretation of the Coefficient of Determination (R2)

The coefficient of determination R2 from the results of the Fixed Effect Model regression shows the number 0.9778, which means that 97.78% of the variation in Regional Expenditure variables can be explained by the variables Human Development Index (HDI), Total Population (POP) Gross Regional Domestic Product (GRDP) and Original Regional Income (PAD). Whileother variables outside the model can explain the remaining 2.22%..

4.6. Test the Validity of the Effect of Independent Variables (t-test)

Test the validity of the effect using the *t*-test. The results of the t-test show that the Gross Regional Domestic Product (GRDP) and Regional Original Income (PAD) have a significant effect on Regional Expenditures (BD). At the same time, the Human Development Index (HDI) and Total Population (POP) have no significant effect on Regional Expenditures (BD). The t- test can be seen in the table below:

Table 1.3
Results of the Validity Test of the Effect of Independent Variables

Variabel	Coefficient	Prob.t	Criteria	Conclusion
Log(PAD)	β_1	0,0000	< 0,01	Significant at α 0,01
Log(GRDP)	β_2	0,0000	< 0,01	Significant at α 0,01
HDI	β_3	0,2773	> 0,10	No significant effect
Log(POP)	β_4	0,6943	> 0,10	No significant effect

Source: Table 1.2

Based on the *t*-test, Gross Regional Domestic Product (GRDP) and Regional Original Income (PAD) have a significant effect on Regional Expenditures (BD). At the same time, the Human Development Index (HDI) and Total Population (POP) have no significant effect on Regional Expenditures (BD).

The Gross Regional Domestic Product (GRDP) variable has a positive regression coefficient of 0.8844. The relationship pattern between gross regional domestic product and regional expenditure is log-log, which means that when the gross regional domestic product increases by1%, regional expenditure will increase by -0.8844%. Conversely, if the gross regional domesticproduct falls by 1%, regional spending will decrease by 0.8844%.

Regional Original Income (PAD) variable has a positive regression coefficient of 0.1975. The relationship pattern between Regional Original Income (PAD) and Regional Expenditures (BD)is log-log. This means that if Regional Original Income (PAD) increases by 1%, Regional Expenditures (BD) will increase by 0.1975%. Conversely, if the Regional Original Income (PAD) decreases by 1%, the Regional Expenditure (BD) will decrease by -0.1975%.

5. Discussion

5.1. The Effect of Regional Original Income on Regional Expenditure

Based on the *t*-test, Regional Original Income positively affects Regional Expenditures. The government adjusts the regional defense budget with the original regional income. When Regional Original Income increases, the government will also increase the regional budget. Local original income is essential for regional expenditures because it reflects the region's independence [10]. More regional original income indicates good economic conditions and will encourage development activities, community services, and economic activity in an area. This research follows research by[11], who show that original regional income significantly affects regional spending. However, a different result was found by[12]who found that regional original income did not significantly affect regional expenditure.

5.2. Effect of GRDP on Regional Expenditure

From the results of the *t*-test, the Gross Regional Domestic Product significantly affects Regional Expenditures. This follows Peacock and Wiseman's theory which explains thateconomic growth will lead to increased tax collection even though tax rates do not increase— with increasing tax revenues causing GRDP to increase and followed by government spending,which also increases. This result is in line with research conducted by[13], which shows that GRDP has a significant effect on Regional Expenditures. However, different results were obtained by[14], which showed that GRDP has no significant effect on Regional Expenditures.

5.3. The Effect of the Human Development Index on Regional Expenditures

The results of the *t* test show that the Human Development Index does not have a significant effect on Regional Expenditures. Based on these results, the regional budget is not allocated to increase the human development index through education, health, transportation, and so on[15].This is because the human development index in districts in Central Java province is high enough so that the regions do not need to allocate regional spending to increase the human development index. This research is in accordance with research conducted by[16], which shows that the human development index has no effect on regional spending. But different results were obtained in research conducted by[17], which showed that the human development index affects regional spending because the government provides a budget to increase the human development index.

5.4. Effect of Population on Regional Expenditure

The t test results showed that the total population does not affect regional spending. This can be explained because the local government does not issue a budget for the community whenthe population increases. The standard of living and social facilities for the community are sufficient and sufficient so that the regional government no longer needs to spend budgets for infrastructure development and assistance to the community. This research is in accordance with the results of research conducted by[11], which show that the population does not have a significant effect on Regional Expenditures. but different results were obtained by research[18],which in his research found that population size has a significant effect on regional expenditures.

6. Conclusion

Based on the research that has been done, it can be concluded that the results of the ChowTest and Hausman Test are the best models, *Fixed Effects Model*(FEM). The *F* test shows if themodel used exists with empirical significance, the F statistic is 0.0000 (<0.05). The value of thecoefficient of determination (R2) shows the number 0.9778, which means that the Human Development Index can explain 97.78% of the variation in the Regional Expenditures variable(HDI) variable, Total Population (POP) Gross Regional Domestic Product (GRDP) and Regional Original Income (PAD). While other variables outside the model can explain the remaining 2.22%. The results of the influence validity test show that Regional Original Income and Gross Regional Domestic Product have a significant positive effect on Regional expenditure. In contrast, the Human Development Index and Total Population have no significant effect on Regional Expenditures during 2015-2020.

Acknowledgments

The author expresses his gratitude to the International Economics and Business Conference (IECON), which has provided a forum for writers to publish scientific articles from this research, Muhammadiyah University of Surakarta, and individuals who have provided supportduring the implementation of the research.

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