Variables influencing allocation of capital expenditure in Indonesia

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Abstract. The purpose of this study is to examine the factors affecting capital expenditure in Indonesia. The independent variables used are The Effects of Financing Surplus, Total Population and Regional Sizes and the dependent variable used is The Effects of Financing Surplus. This type of research is a causal associative research. The type of data used is secondary data in several provinces in Indonesia with multiple regression analysis. The results show significantly the determinants of capital expenditure allocation in Indonesia are affected by Financing Surplus, Total Population and Regional Sizes.

Keywords: CAPEX, Budget Realization Report, Signaling Theory and Financing Surplus

1. Introduction

Financial statements which are part of the accountability prepared by the organization’s management provide stakeholders with information about the financial performance that has been attained and predictions about the organization’s financial condition in the future. In running an organization, the management should formulate an accountability report. Among the objectives of such a report is to measure performance of the organization and to estimate the organization’s future performance. Moreover, these financial statements can also provide benefits to investors and creditors in assessing the overall performance of the organization [12], [20], [20], [31] and [34]. The component commonly used as the main focus while assessing performance based on financial statements earnings [4]. Many believe that this component is able to describe the overall economic condition as well as prospects for growth of the company in the future [14], [15], [16], [17] and [33].

Besides considering earnings, stakeholders should also think about the company’s size, including the company’s scope associated with the life cycle of the company in evaluating earnings. By considering the company’s size, they will have information about the company’s need for facility and infrastructure procurement. When compared to the life cycle of a government, in the elucidation of the [22] concerning Financial Balance between the Central Government and Regional Governments, it mentions a number of variables that reflect the need for the procurement of public facilities in each region, among of which are the regional size and the total population. In their research, [9] state that areas with a larger regional size will certainly require a greater number of facilities to serve their society than the ones required by areas with a smaller regional size. In addition, the need of the public facilities varies between regions depending on the total population.

Reform in 1998 has led to political and administrative changes, among the examples of such reform is manifested in the change in the government structure, which formerly was centralized, into a decentralized one after the enactment of the amended for the last time by the [21] concerning regional
governments. The economic goals to be achieved through decentralization are to bring about prosperity through the provision of more evenly-distributed public services and to shorten the distance between public service providers and local communities. The signaling theory describes the ways the management should give a signal to the users of financial statements. [1], [2], [8], [10], [11], explain that managers provide information through financial statements that they apply conservative accounting policies to produce better earnings. Regional autonomy is defined as the right, power, and obligation of autonomous regions to set up and manage their own governance-related affairs and interests of local communities in accordance with the legislation [3], [5], [9], [13] & [16].

2. Methods
This is associative-causal research, which was aimed at analyzing the relationship between two or more variables. The dependent variable of the research was the Capital Expenditure on the financial reporting date of the budget realization years of 2008-2015. The independent variables of the research was the financing surplus information in the Budget Realization Report of provincial governments in the Budget Years of 2008-2015, the report on the total population during 2008 to 2015, and the report on regional sizes during 2008 to 2015.

2.1. Operational variables and variable measurement

2.1.1. Financing surplus (SiLPA). SiLPA is part of the Budget Realization Report reported by the government in the related budget year. [25], concerning cash-based Budget Realization Reports defines that SiLPA or Financing Surplus refers to the surplus from the realization between the revenue and expenditure for one reporting period. SiLPA is actually an indicator of efficiency as it is generated only if there is a surplus to the APBD accompanied by positive net financing, where the revenue component is greater than the expenditure component [9] & [27]. The variable SiLPA was measured using the Budget Realization Report prepared by Regional Governments.

2.1.2. Total population. The total population varies between regions. Regions with a large area do not necessarily have a large population and vice versa. Total population is a variable that describes the needs for the provision of public services in every area [16] & [28]. The variable Total Population was measured using the total population data retrieved from the Statistics Indonesia’s website.

2.1.3. Regional size. Regions with a larger area require more facilities and infrastructure to facilitate the delivery of services to the public than those required by regions with a smaller area. [30] states that the regional size will affect the allocation of the capital expenditure. It is also an area controlled or belongs to the territory of particular sovereignty. The variable Regional Size was measured using data retrieved from the website of the Ministry of Home Affairs.

2.1.4. Capital expenditure. Capital expenditure refers to regional governments’ expenditure whose benefits last for more than one budget year and will increase assets or wealth of regions, resulting in an increase in the routine expenditure [17] & [20]. In their research, [17] classify this capital expenditure into two. The first one is the capital expenditure, which is included in the public expenditure, i.e. the type of capital expenditure whose benefits can be immediately enjoyed and perceived by the public. Examples of the type of capital expenditure which belongs to this group are construction of roads and bridges, purchases of ambulances for public facilities and so on. The second one is the capital expenditure of the apparatus, i.e. the type of capital expenditure whose benefits are not directly enjoyed by the public, but they can be felt by the state apparatus. For examples, expenditure on the construction of government buildings, procurement of official vehicles, and the like.

[27] argue that the capital expenditure is closely related to the investments made by regional governments. An investment can be defined using a variety of viewpoints or contexts. In accounting in the context of the type of expenditure/ costs, an investment is made because of differences in the
revenue expenditure and the capital expenditure. The capital expenditure can be classified as part of an investment because of its definition.

3. Results and Discussions

3.1. Result

- **Normality test.** The figure shows that the research histogram is normally distributed because the graph is balanced, not leaning to the right or to the left. Likewise, the normal probability plot appears to follow a diagonal line in an orderly manner, thus it can be concluded that the research data have already met the assumption of normality. To further ensure that the data are normally distributed, the researcher undertook the Kolmogorov-Smirnov test to prove the normality of particular research data using numbers. The researcher believes that verification using numbers is more certain than verification using graphs or figures which may cause various perceptions. In the Kolmogorov-Smirnov test, data are deemed normal if the Asymp. Sig (2-tailed) value is higher than 0.05, otherwise they will not be considered normally distributed [6]. The following are the results of the Kolmogorov-Smirnov test. The Asymp. Sig (2-tailed) value is equal to 0.765, thus it can be concluded that the data are normally distributed.

- **Multicollinearity test.** From the table of Collinearity Statistics values, it is revealed that the Tolerance value of each independent variable is higher than 0.10 (Tol>0.10) and the VIF value of each independent variable is also smaller than 10 (VIF<10), thus it can be concluded multicollinearity is not found [6]. As for the Correlation Coefficient value, it shows the resulting correlation between independent variables. The resulting correlation between the independent variables is below 0.9, meaning that multicollinearity is not found.

- **Heteroskedasticity test.** This research suggests that the problem of heteroscedasticity is not found in the regression model of equations (1) and (2) which are based on the scatterplot graph illustrating that the dots spread randomly with no specific pattern and scattered both above and below the number zero on the Y axis [6]. Thus, it implies that heteroskedasticity is not found in the regression model.

- **Autocorrelation test.** Autocorrelation tests are part of the classic assumption test that can determine whether an autocorrelation exists in the research data. Good research data will contain no autocorrelation. To examine the existence of an autocorrelation, the Durbin-Watson (DW) value is used. If the value of $D_U<DW<D_L$, thus there is no autocorrelation. If the value of $DW<D_U$, it means that there is a positive autocorrelation [12]. If the value of $DW>4(D_U)$, it means that there is a negative autocorrelation. If the DW lies between $D_U$ and $D_L$, the results cannot be concluded. The following are the SPSS results that indicate whether the data contain an autocorrelation or not.

Based on the results of the Autocorrelation test, the DW value is equal to 1.956, with a total of 178 observation data, $k = 3$, thus based on the DW table, a $D_U$ value by 1.752 and a $D_L$ value by 1.7115 are generated. From these values, it can be concluded that there is no autocorrelation in the research as $D_U<DW<4-D_U$ or $1.752 < 1.956 < 4-1.752=2.248$ thus the research data meet the classical assumption.

3.2. Hypothesis Testing

- **Testing of $R^2$ of the coefficient of determination.** Coefficient-of-Determination Tests are a test undertaken to determine how significant is the effect an independent variable has on a dependent variable in the research. The value ranges from 0 to 1. The following are the results of the Coefficient-of-Determination test carried out in this research.
Table 1. Testing of the coefficient of determination ($R^2$).

| Model | R   | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | R Square Change | F Change |
|-------|-----|----------|-------------------|---------------------------|-------------------|----------------|----------|
| 1     | .604$^a$ | .365     | .350              | 1.95751                   | .365              | 24,285         |

|   | a. Predictors: (Constant), Regional Size, Total population, SiLPA |
|   | b. Dependent Variable: Capital Expenditure |

Based on the Table above, the following conclusions can be drawn:

- The $R$ value by 0.604 indicates that the correlation or relationship between Capital Expenditure and Financing Surplus (SiLPA), Total population, and Regional Size (independent variables) is equal to 60.4%.

- The $R$ Square is equal to 0.365, meaning that 36.5% of the Capital Expenditure can be predicted by the Financing Surplus (SiLPA), Total population, and Regional Size while the remaining 63.5% can be predicted by other variables not examined in this research.

- The value of Adjusted $R$ Square or the coefficient of determination is equal to 0.350, meaning that 35% of the Capital Expenditure can be predicted by the Financing Surplus (SiLPA), Total population, and Regional Size while the remaining 65% can be predicted by other variables not examined in this research.

- There are two options available, i.e. to use the $R$ Square or the Adjusted $R$ Square. If the number of variables is more than two, the Adjusted $R$ Square should be used. Therefore, the value used as the coefficient of determination is 35%.

Simultaneous testing. The following are the results of the ANOVA test:

| Table 2. F Test |
|----------------|
| Model | Sum of Squares | df | Mean Square | F       | Sig. |
|-------|----------------|----|-------------|---------|------|
| 1     | Regression     | 372,223 | 4  | 93,056       | 24,285  | .000$^b$ |
|       | Residual       | 647,582 | 169 | 3,832       |         |      |
|       | Total          | 1019,804 | 173 |             |         |      |

| a. Dependent Variable: Capital Expenditure |
| b. Predictors: (Constant), Regional Size, Total population, SiLPA |

Source: Data processed using SPSS (2016).

From Table 2 above, the Sig. value is equal to 0.000, which implies that the significance value of F is <0.05 which means that the independent variables simultaneously or jointly affect the dependent variable of the research.

Partial Testing (T-Test). The following are the results t test:

| Table 3. Coefficients$^a$. |
|-----------------------------|
| Model | Unstandardized Coefficients | Standardized Coefficients | t | Sig. |
|-------|-----------------------------|---------------------------|---|------|
|       | B | Std. Error | Beta |       |     |
| 1     | (Constant) | 2.306 | 1.628 | 1.417 | .158 |
|       | SiLPA | .489 | .097 | .370 | 5.056 | .000 |
|       | Total population | .344 | .080 | .291 | 4.281 | .000 |
|       | Regional Size | .548 | .129 | .276 | 4.239 | .000 |

| a. Dependent Variable: Capital Expenditure |
Source: Data processed using SPSS (2016)

Based on Table 3 above, the following conclusions can be drawn from the \( t \)-test:

1. The effect of financing surplus (SiLPA) on capital expenditure. The significance value for the variable Financing Surplus (SiLPA) is 0.000<0.05. Thus, it can be concluded that the variable Financing Surplus (SiLPA) partially affects the variable Capital Expenditure.
2. The Effect of Total Population on Capital Expenditure. The significance value for the variable Total Population is 0.000<0.05. Thus, it can be concluded that the variable Total Population partially affects the variable Capital Expenditure.
3. The Effect of the Regional Size on Capital Expenditure. The significance value for the variable Regional Size is 0.000<0.05. Thus, it can be concluded that the variable Regional Size partially affects the variable Capital Expenditure.

4. Discussion

Based on the results described statistically for the tests that have been conducted, the researcher thinks that it is necessary to do further examination to obtain more in-depth understanding. Surplus refers to the surplus between the revenue and expenditure for one reporting period [25]. Surplus from the previous budget year is called SiLPA. The presence or absence of Financing Surplus (SiLPA) and its magnitude highly depends on the level of expenditure of a regional government as well as performance of the regional revenue. A capital structure is the proper combination of debts and equity. Thus, an optimal capital structure is a combination of debts and equity that maximizes the company’s stock price. At a certain moment, the company’s management set a target capital structure interpreted as a mix of debts, preferred stocks, and common stocks planned by the company to increase capital. The target may change at any time according to the condition, but the management should have in mind a picture of a specific target capital structure at any time. It often raises problems in the company’s finance because on the average, companies will tend to use external funding sources rather than internal funding sources [18]. Actually, the use of debts in a significant amount is allowed, provided that the use of such debts does not exceed the total assets a company owns [32]. In this case, financial balance between assets and liabilities is a must. If in a certain budget year a region’s level of expenditure is relatively low or budget efficiency takes place, thus it is likely to generate a higher SiLPA. Conversely, if a region’s level of expenditure is high, then the obtained SiLPA will be smaller, and if a region’s level of expenditure exceeds its revenue, resulting in fiscal deficit, Financing Deficit (SiKPA) will take place. The t-test results show that the variable SiLPA has a partially significant effect on Capital Expenditure. The research findings suggest that increases in the SiLPA will also affect an increase in the Capital Expenditure. The findings of this research are consistent with the findings of the research by [9] & [17], who prove that SiLPA has a partially significant effect on Capital Expenditure. However, these findings are not in line with the research conducted by Purnama [20], where the variable SiLPA does not have any effect on Capital Expenditure.

Developing countries with an exploding population, including Indonesia, will always relate population issues with economic development. However, the relationship between the two depends on the nature and the population problems each country is dealing with, thus each country or region will have its own population problems as well as potential and challenges [1] & [13]. Based on the results of the t-test undertaken in this research, it is implied that the variable Total Population has a partially significant effect on Capital Expenditure. The research findings suggest that increases in the Total Population will also affect an increase in the Capital Expenditure. These findings are consistent with the findings of the research conducted by [19], where the variable Total Population has a significant effect on Capital Expenditure. A region is an area controlled or belongs to the territory of particular sovereignty. A government’s regional size refers to the total area of the government, either the regency, city or provincial government. The regional size is closely related to the geography of an area. Indonesia has a vast territory and consists of tens of thousands of scattered islands. To facilitate governmental processes in large areas, among the objectives of development is intended to build...
infrastructure [31]. Infrastructure is an instrument to expedite the circulation of the wheels of government and the economy which eventually will accelerate the development [30]. In accordance with the results of the t-test undertaken in this research, the variable Regional Size has a partially significant effect on the variable Capital Expenditure. The findings of this research reveal that the larger the Regional Size of an area, the greater its Capital Expenditure is. Results of this hypothesis testing are consistent with the findings of the research conducted by [17], namely the variable Regional Size has a partially significant effect on the variable Capital Expenditure. The dependent variable in this research is the Capital Expenditure. The Capital Expenditure proxy used the Capital Expenditure realization report of Indonesian Provincial Governments. Capital Expenditure is defined as the budget expenditure for the acquisition of fixed assets and other assets that provide benefits that last for more than one accounting period [23] & [24].

The capital budget shows the long-term plan and expenditure of fixed assets. The capital expenditure is a type of expenditure whose benefits tend to exceed one budget year and will increase the government’s assets or wealth, which in turn increase the regular budget for operational costs and maintenance. As for the independent variables of the research, they consist of Financing Surplus Information, Total population, and Regional Size. Results of the simultaneous test (F-test) indicate that, simultaneously, the independent variables had a significant effect upon Capital Expenditure. This is evident from the results of the simultaneous test which generated a significant value by 0.00, or less than 0.05, which implies that if the F-test between the dependent variable and the independent variables is less than 0.05, it means there is a simultaneous effect between the independent variables and the dependent variable.

5. Conclusions

Based on the data analysis the following conclusions can be drawn from this research:

- Partially, the variables Financing Surplus, Total Population, and Regional Size had a significant effect on the Capital Expenditure of Indonesian Provincial Governments.
- The variables Financing Surplus, Total Population, and Regional Size simultaneously had a significant effect on the Capital Expenditure of Indonesian Provincial Governments.

Acknowledgement

The results of this study are expected as support to the Ministry of Finance of the Republic of Indonesia in the model formulation Funds Financial Balance between Regency and Cities.

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