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ABSTRACT


Keywords: pengeluaran pemerintah, kemiskinan, sumber daya manusia, pemerintah daerah.
THE IMPACT OF GOVERNMENT EXPENDITURE ON POVERTY:
CASE OF JAVA 1996, 1999 AND 2002

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ABSTRACT


Keywords: pengeluaran pemerintah, kemiskinan, sumber daya manusia, pemerintah daerah.
Studies on poverty alleviation showed various results. For example, public investment on rural infrastructures has a positive impact on poverty reduction by improving productivity, mobility, and industrialization (Bhagwati, 1998). Research by Fan et al. (2000), which used simultaneous equation method to measure the direct and indirect impacts of government spending in rural India, concluded that investments on rural roads and agricultural research have the highest impact on poverty alleviation. They claimed that 1 percent increase in rural road spending and research would reduce poverty by 0.05 percent and 0.06 percent, respectively. They also pointed out that education and rural development should be given a priority when the governments formulates a budget because they reduce poverty significantly.

Warr (2003) studied the relationship between fiscal policy and poverty incidence in Thailand using simulation method. A 10 percent increase in education, health and social services expenditure will reduce poverty. However, he claimed that an increase in transportaion expenditure would increase poverty because it provides greater benefit to those with private transport.

Obi (2007), using a static general equilibrium model, studied the impact of three hypothetical fiscal policies in Nigeria’s poverty reduction. He examined a cash transfer to households, increase of public spending in several sectors, and tax policy changes using the 1999 data set. He argued that transfers to poor households were ineffective to alleviate poverty, as compared with government spending in agriculture, construction, and services.

After examining the impact of welfare programs on poverty in the United States, using state level data, Fording & Berry (2007) argued that welfare programs have two effects: an income enhancement effect that decreases poverty and a work disincentive effect which increases poverty through discouraging people to search for a job. If an income enhancement effect is larger than a work disincentive effect, government welfare programs diminish poverty; on the other hand, if smaller, government welfare programs will increase poverty. They found that welfare programs are less effective because policy makers tend to shift cash program to in-kind program that resulted in the greater work disincentive effect than income enhancement effect.

In the case of Indonesia, a study conducted by Damuri and Perdana (2003), which analyzed the impact of fiscal policy on income distribution and poverty using a CGE model, found that a 20% fiscal expansion would reduce poverty by approximately 9.5%.

The objective of this research is to determine the impact of local government expenditures on poverty. Thus, significance of total government expenditure, human capital expenditure and non human capital expenditure on poverty alleviation will be tested by a model which mostly quoted from a study conducted by Krongkaew et al. (2006), which analyzed the relationship between growth, employment, and poverty in Thailand during the
period from 1988-1996. Human capital expenditure and non-human capital expenditure hypothetically have a significant impact on poverty reduction. However, non-human capital expenditure seems to benefit everyone. Hence, this expenditure is expected to have no significant impact on poverty reduction.

DATA AND METHODOLOGY

Data

This study employed the consumption expenditure module of National Socioeconomic Survey (SUSENAS) conducted by the Statistics Indonesia (BPS) every three years since 1981. Consumption expenditure module is a survey of household expenditure on food and non-food items. This study used the consumption expenditure survey compiled in 1996, 1999, and 2002 in 5 provinces in Java. These surveys covered over 90,000 households, 210 food items and over 100 non-food items. Expenditure per capita can be calculated using these surveys. This study like the studies of many other researches, used expenditures derived from the surveys to measure the incidence of poverty. Expenditure figures were used because they are better indicators of living standard than income (Huppi & Ravallion, 1991). The other reason is that income data is unreliable in Indonesia.

The 1996 consumption expenditure module included 5 provinces in Java: 1) Jakarta, which consists of 5 districts; West Java, 25 districts; Central Java, 35 districts; Yogyakarta, 5 districts; and East Java, 37 districts. In 1999, the survey included a new city, Bekasi City, which was established in West Java Province. Moreover, Pandeglang, Lebak, Tangerang, Serang, and Tangerang City were separated from West Java Province to form a new province -Banten Province-, and now includes a new city -Depok City- formed in the year 2000. As a result, 5 districts were removed and one district was added in West Java in our data set. Moreover, in all surveys, some districts, especially city districts, do not have rural areas and one district, Pacitan, do not have urban areas. Therefore, this study cannot cover all the districts in Java.

Aside from the consumption expenditure module of SUSENAS, this study utilized the government expenditure data for 1996/1997, 1999/2000 and 2002 fiscal years at the district level compiled by the Ministry of Finance. All the districts reported their expenditures in 1996/1997 and 1999/2000 fiscal year. However, due to the new financial law implemented in 2001, provincial and district governments are no longer required to submit their expenditure reports to the Ministry of Finance. Some districts, therefore, like Pati and Magelang in Central Java Province and Sleman in Yogyakarta Province, did not report their expenditure in the 2002 fiscal year. Moreover, Semarang City and Kudus only reported their total expenditures. They did not report their expenditures in detail. In addition, government expenditure data in Jakarta is available only at the provincial level while district level data was unavailable.

Methodology

The objective of this research is to determine the impact of local government expenditures on poverty. This study conducted a panel data regression analysis using district level data in Java provinces for 1996, 1999, and 2002 based on the following model where $i$ refers to districts and $t$ refers to survey years.

$$ P_0 = \beta_0 + \beta_1 MEANEXP_i + \beta_2 SDEXP_i + \beta_3 TOTEX_i + \epsilon_t $$

Furthermore, to analyze the impact of a particular expenditure, the following model was used:

$$ P_0 = \beta_0 + \beta_1 MEANEXP_i + \beta_2 SDEXP_i + \beta_2 NONHUMEX_i + \beta_3 HUMEX_i + \epsilon_t $$

where:

- $PO$ = headcount index in district or rural and urban within district;
- $MEANEXP$ = average of per capita household consumption expenditure;
- $SDEXP$ = standard deviation of per capita household consumption expenditure;
- $TOTEX$ = per capita total government expenditure;
- $NONHUMEX$ = per capita con human capital expenditure (expenditure on industry, transportation, trade, business development, and cooperation, agriculture and forestry, irrigation and water resources management, mining and energy, tourism and telecommunication, housing, environmental, science and technology, law, district apparatus and monitoring, political and mass media, and security);
- $HUMEX$ = per capita human capital expenditure (expenditure on education and culture, family welfare, social welfare, and religion).

Headcount index of poverty ($P_0$) was used as the dependent variable. Headcount index that used in this study was estimated based on consumption expenditure data and the poverty lines for each provinces.

The independent variables in the model were suggested by the study done by Krongkaew et. al. (2006), which analyzed the relationship between growth, employment, and poverty in Thailand during the period from 1988-1996. They considered the logarithm of the headcount ratio as an endogeneous variable. As exogenous variables, they used the logarithms of GDP, of the elasticity of employment with respect to real output, of per capita household income, of dependency ratio and of the Gini coefficient.

As a proxy for per capita household income, this study used average per capita household expenditure instead; whereas, standard deviation of per capita household expenditure was used as proxy for the Gini coefficient.

Damuri and Perdana (2003), using a Computable General Equilibrium (CGE) model, stated that the expansion of government expenditures mostly benefited non-poor segments of society. Therefore, additional independent variables, which are total government expenditure and government expenditures on human capital and non-human capital were included in order to analyze the impact of public expenditure on poverty. This study used the actual government expenditure in 1996/1997, 1999/2000, and 2002 fiscal year as government expenditure in 1996, 1999, and 2002, respectively. Government expenditure in 1999/2000 and 2002 fiscal year were deflated into...
RESULT
This study conducted six regressions, which are headcount poverty in district, urban and rural areas within district with per capita total government expenditure and sectoral government expenditures, using panel data. Therefore, 3 models which are pooled regression model, fixed effects model, and random effects model can be selected as the appropriate model for each regression. While all pooled regression models resulted in negative R2, all fixed effects model resulted in positive R2. Thus, fixed effects is better than pooled regression in all regressions.

Fixed effects model generally gives a consistent estimator but does not give an efficient one. However, random effects model gives an efficient estimator but does not assure whether this model is consistent or not. In order to review whether random effects model is consistent or not, the Hausman test is usually conducted. The null hypothesis of Hausman test is that coefficient estimated by random effects model is the same as coefficient estimated by fixed effects model. Receiving null hypothesis refers to conclusion that coefficient estimated by random effects model is the same as fixed effects model, thus, it is more appropriate to select random effects model since estimation by random effects model is not only the same as fixed effects model but also gives an efficient estimator. On the other hand, refusing the null hypothesis gives a conclusion that the coefficient estimated by random effects model differs from fixed effects model. Therefore, it is more appropriate to select fixed effects model.

Table 1 shows the Hausman test of six regressions. Five regressions out of six regressions resulted in refusing null hypothesis. This implies that fixed effects model is more appropriate than random effects model. On the other hand, Hausman test resulted in receiving null hypothesis in the regression for headcount poverty index in urban areas and per capita total government expenditure; therefore, random effects model should be selected in this regression.

Using the most appropriate model, the results of this study are: first, the coefficient mean expenditure as proxy of income was negative and significant at 1% significance level. This result shows that increasing income will reduce poverty in both rural and urban areas. Second, the coefficient standard deviation income was positive and significant at 1% significance level. This finding implies that the more equal the distribution of income, the lesser the poverty incidence in a population. On the other word, inequality increase poverty incidence.

Table 1. Hausman Test

<table>
<thead>
<tr>
<th>Regression</th>
<th>Chi square statistic</th>
<th>Chi-square degree of freedom</th>
<th>Probabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>PO and total government expenditure</td>
<td>20.606479</td>
<td>3</td>
<td>0.0001</td>
</tr>
<tr>
<td>PO and sectoral government expenditure</td>
<td>21.162936</td>
<td>4</td>
<td>0.0003</td>
</tr>
<tr>
<td>PO and total government expenditure in rural areas of the district</td>
<td>10.254616</td>
<td>3</td>
<td>0.0165</td>
</tr>
<tr>
<td>PO and sectoral government expenditure in rural areas of the district</td>
<td>20.479906</td>
<td>4</td>
<td>0.0004</td>
</tr>
<tr>
<td>PO and total government expenditure in urban areas of the district</td>
<td>3.772711</td>
<td>3</td>
<td>0.2871</td>
</tr>
<tr>
<td>PO and sectoral government expenditure in urban areas of the district</td>
<td>9.528170</td>
<td>4</td>
<td>0.0492</td>
</tr>
</tbody>
</table>

Third, relationship between local government expenditure and poverty are indicated various results. The detail results are presented in the following discussion:

The effect of district government expenditure on poverty
Table 2 shows the regression results where poverty incidence is the dependent variable and the mean per capita household consumption expenditure income, the standard deviation of per capita household consumption expenditure and per capita total government expenditure are the independent variables. The coefficient of per capita total government expenditure indicates a positive sign but is statistically insignificant. This result indicates that government expenditure does not have much effects on poverty reduction.

Table 3 shows regression result for the case where per capita human capital and per capita non human capital expenditures are included as independent variables. The results show that the coefficient of per capita human capital expenditure has a negative sign and is statistically significant while non human capital per capita expenditure has a positive sign and is statistically significant at 5 percent significance level.
The effect of government expenditure on rural poverty

Table 4 presents the regression result for the impact of sectoral government expenditures on poverty incidence. The coefficients of per capita human capital expenditure is negative and not significant, while the coefficient of non human capital expenditure is positive and not significant. This result indicates government expenditures did not have significant impacts on rural poverty.

The effect of government expenditure on urban poverty

Table 5 presents the regression result for the impact of sectoral government expenditures on poverty incidence. The coefficients of per capita human capital expenditure is negative and not significant, while the coefficient of non human capital expenditure is positive and not significant. This result indicates government expenditures did not have significant impacts on rural poverty.

The effect of government expenditure on rural poverty

Table 2 presents the regression result for rural district. The per capita total government expenditure has no significant impact on rural poverty.

Table 3 presents the regression result for district poverty and per capita sectoral government expenditure.

Table 4 presents the regression result for rural’s district poverty and per capita total government expenditure.

Table 5 presents the regression result of rural’s district poverty and per capita particular government expenditure.
CONCLUSION

The Asian financial crisis that hit Indonesia in the middle of 1997 obviously affected poverty. Using the FGT indices, this study found that the incidence of poverty in the districts of Java Island mostly increased during the period from 1996-1999. However, Java Island seems to have recovered from the crisis since Java districts mostly decreased their poverty incidence during the period from 1999-2002. Conducting a simple regression analysis, this research investigates the impact of public spending on poverty in five provinces in 1996, 1999, and 2002.

The regression result of this research shows that per capita total government expenditure does not seem to have a significant impact on poverty reduction. This finding indicates that, at least in this study, government expenditures were not pro-poor even though they were not pro-rich either. The regression analysis of per capita non human capital expenditure and human capital expenditure yields a different interpretation. The regressions result for per capita non human capital expenditure with district poverty and urban poverty shows that per capita non human capital expenditure has a significant impact on poverty. However, the regression result for per capita non human capital expenditure with rural poverty indicates that non human capital expenditure does not have a significant impact on poverty. This results might also be interpreted that non human capital expenditure mostly benefited the rich rather than the poor. However, human capital expenditures noted a different result.

The regression result for per capita human capital expenditure with district and urban headcount index shows that human capital expenditure significantly reduces poverty in most cases. Furthermore, this outcomes infer that human capital expenditure was a pro-poor expenditure.

RECOMMENDATION

Local government should also make careful decisions about the best way to use public spending to reduce poverty. They should allocate more money to programs or expenditures that benefit the poor, in this case, human capital expenditure.

This study of the relationship between government expenditure and poverty is part of an ongoing research process. Examining whether fiscal policies have impact on poverty reduction or not is important to ensure that government policies implemented through public spending are pro-poor and effective in alleviating poverty. Further studies that employ better methodology such as utilizing appropriate CPI, covering a longer period, and using current data could provide a more acute analysis of poverty reduction programs.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>0.388970</td>
<td>0.018676</td>
<td>20.82750</td>
<td>0.0000</td>
</tr>
<tr>
<td>MEANEXP?</td>
<td>-3.76E-06</td>
<td>3.02E-07</td>
<td>-12.47142</td>
<td>0.0000</td>
</tr>
<tr>
<td>SDEXP?</td>
<td>1.05E-06</td>
<td>2.69E-07</td>
<td>3.90232</td>
<td>0.0001</td>
</tr>
<tr>
<td>GOVEX?</td>
<td>-2.82E-08</td>
<td>4.55E-08</td>
<td>-0.62090</td>
<td>0.5352</td>
</tr>
</tbody>
</table>

R-squared: 0.436236
Adjusted R-squared: 0.429949

Table 7. Regression result of urban's district poverty and per capita sectoral government expenditure

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>0.443931</td>
<td>0.028564</td>
<td>15.5417</td>
<td>0.0000</td>
</tr>
<tr>
<td>MEANEXP?</td>
<td>-6.73E-06</td>
<td>5.99E-07</td>
<td>-11.2359</td>
<td>0.0000</td>
</tr>
<tr>
<td>SDEXP?</td>
<td>6.96E-07</td>
<td>2.05E-07</td>
<td>3.4015</td>
<td>0.0009</td>
</tr>
<tr>
<td>NONHUMEX?</td>
<td>8.21E-08</td>
<td>4.72E-07</td>
<td>0.1740</td>
<td>0.8621</td>
</tr>
<tr>
<td>HUMEX?</td>
<td>-1.89E-06</td>
<td>1.29E-06</td>
<td>-1.4623</td>
<td>0.1458</td>
</tr>
</tbody>
</table>

R-squared: 0.768437
Adjusted R-squared: 0.644616
REFERENCES


Statistic Indonesia. www.bps.go.id