Fiscal Decentralization and Community Welfare in the Regional Areas of Indonesia

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Abstract

The purpose of this study was to analyze the implementation of fiscal decentralization in Indonesia towards the welfare of the people of Central Java. Multiple regression analysis tool with Fixed Effects Model (FEM) method, using 7 years series of data panel (2009-2015) and 35 regencies/cities in Central Java Province was applied. The study found that fiscal decentralization in Indonesia has a positive and significant impact on people's welfare in the district/municipality of Central Java Province. The increased private investment and economic growth also have a positive and significant impact on people's welfare.

Keywords: Fiscal decentralization, investment, economic growth, Human Development Index, welfare.

1. Introduction

The policy of regional autonomy and fiscal decentralization in Indonesia has been implemented since 2001. Through these policies, local governments have a wide range authority to generate revenues and allocate budgets to funding the needs of the local community. The implementation of fiscal autonomy and decentralization is the answer to the people's demands for good public services, democratization, and prosperity.

People's welfare is the main goal to be achieved by all levels of government administrations in term of not only economic aspect, but the welfare in a broad sense. The community welfare as one indicator is measured by human development index (HDI) (Todaro and Smith, 2014). In this term, human development is essentially oriented towards improving the basic capacity of the population to increase the opportunity to fully participate in any development programs. As a reference, United Nations Development Program (UNDP) has published the first concept of human development especially Human Development Index (HDI) in the Human Development Report periodical since 1990.

In this paper HDI is used as an indicator of community welfare in the local regions. If the HDI in a region is high, then the welfare of the people in that region is also better. Furthermore, the performance of HDI as a representation of the community welfare can be achieved by government expenditure as a realization of fiscal decentralization. Central Bureau of Statistic (2016) reported that the HDI of Indonesia and Central Java tends to increase every year. The empirical data of HDI in Indonesia and the average HDI of Central Java in five years can be seen in Table 1.
The aggregate of the HDI of Indonesia and Central Java Province falls into medium category and tends to increase every year. The gap of the HDI among regions is expected to promote competition in order to improve a better performance. The implementation of autonomy and decentralization has to encourage competition among regions to be the leader in providing excellent service and improving welfare of the communities (Bahl dan Wallace, 2001).

Several factors might influence the attainment of the HDI in a region, such as government spending, investment, and economic growth. When the government spending reflected in fiscal decentralization is precisely allocated to programs related HDI elements such as economy, health, and education, the result will affect the performance of HDI. A study by Prasetyo dan Zuhdi (2013) about the efficiency of government spending to HDI in 81 countries revealed that Singapore and Zambia successfully maintain their spending efficiency proven by their HDI result compare to the whole sample countries.

The economic growth with equal income distribution affects the HDI to be higher. The economic growth describes the output improvement and job opportunity to foster community welfare that is part of the government responsibility. Economic growth provides direct advantages to the improvement of human development, especially the poor, through income raising, which is spent for household spending allocation such as healthy food and good education.

A positive trend of economic growth might attract investors to increase their investment in various development programs that absorb workforces. The more workforces get involve in development projects, the more income they will generate, and the better welfare they will become. However, the welfare is not only proven economically by the increase of their purchasing power, but, most importantly, by the improvement of their health and education. Given that situation, this study aims to analysis the implementation of fiscal decentralization on the welfare of the people of Central Java of Indonesia.

### 2. Literature Review

According to UNDP (1996), human development is a process of enlarging choices for human. This implies that the focus of development is either human or community in a region. The concept of human development has a broad meaning as it is not only about economically welfare aspect but also health and access to education. Human development is significant if people prosper economically, healthy, and have access to education to improve their life. To assess it, the index of the three components of the HDI is calculated by comparing the differences between the indicator value and the determinant of its minimum value with the difference between the determinants of the maximum and minimum indicators. Briefly it can be written as follows (UNSFIR, 2000):

\[
\text{HDI} = \frac{1}{3} \left[ X(1) + X(2) + X(3) \right] \text{……………………………………………………………………} (1)
\]

Where:
- \( X(1) \) = Life expectancy index
- \( X(2) \) = Educational index (2/3 index of literacy and 1/3 index of average length of schooling)
- \( X(3) \) = Live standard index

The range of minimum and maximum values for indicators covered as a component of HDI is as follows (UNSFIR, 2000):
• Life expectancy : 28 - 85 (UNDP Standard)
• Literacy rate : 0 - 100 (UNDP Standard)
• Average length of schooling : 0 - 15 (UNDP Standard)
• Adjusted consumption per-capita : IDR 300,000 - IDR 732,720

Central Bureau of Statistics (CBS) interprets human development index as development achievement measurement based on a number of basic components of life quality. Three aspects are used to measure HDI; economic, health, and education aspects. The economic aspect is assessed from real income per capita adjusted for purchasing power. Health aspect is measured from life expectancy; while, educational aspect is calculated from the average length of schooling and literacy rate.

In addition, Rani et al. (2000) broadly define human development as human endeavor to live longer, healthier, and more meaningful. Restrictedly, human development is interpreted as a reflection of human health and education status. Based on the previous definitions, consequently, the efforts to improve the welfare of the community by increasing the HDI should continue be done through applicable budget allocation in economic and social by the government and private supports.

Through fiscal decentralization, local governments have the authority to explore and maximize local revenues and allocate them according to the needs of the people. Fiscal decentralization can be a means of encouraging people's welfare in the regions to be more rapidly realized, as local governments are more flexible in anticipating and responding to the changes in the environment and the needs of local communities. By having the authority, local government will be able to optimize its financial resources to be allocated to the related sectors such as health, education, and markets. Therefore, government expenditure especially in those three sectors will affect the HDI (Velástegui, 2013).

Many potential decentralization contributes to human development and HDI performance as decentralization might push the expansion of real capabilities of the regions. As local government is the closest entity to the community and understands their characteristics, local governments should allocate resources efficiently and adequately to the provision of certain goods and services according to local priorities. Transparency, economic facilities, security, and social security might be improved through decentralization. In its implementation, people can monitor the use of resources well, especially at the local level. Economic facilities can be enhanced by cooperation among local governments, markets, and civil society as coordination among these three sectors tends to be more effective at the local level (Velástegui, 2013).

The constraint to apply fiscal decentralization is that the weakness of the local fiscal capacity and; therefore, investment from private sectors is required. In fact, the growing investment has a positive impact on the regional economy for investment might create jobs, promote economic growth, reduce poverty, and encourage regional development that overall will improve the HDI of the community.

Moreover, Khater (2012) describes human development using Cobb Douglass production function approach, where inputs (capital and labor) affect output (human development). Nicholson and Snyder (2008) stated that the function is an action to optimize input to obtain maximum output. Generally the production function is written as follows:

\[ Q = f(K, L) \]

Where \( Q \): output; \( K \) and \( L \) are inputs.

Economic growth accompanied by an increase in income per capita illustrates that the economic capacity and purchasing power of the people increases. The increased purchasing power can affect the quality of a person's health because the person can meet the basic needs, access health care, and education.
3. Research Methods
To analyze the impact of the implementation of fiscal decentralization on welfare in the regional level, the dependent variable of the Human Development Index (HDI) was used as a proxy for community welfare. HDI is an index of development achievement measured from three aspects; economic, health, and education aspects. Meanwhile, the independent variables were 1). Fiscal decentralization which is the ratio of the government expenditure in each district/city to total central government expenditure. 2) Investment which is an overall private investment covering Foreign Investment (FDI) and Domestic Investment (DI). 3). Economic Growth which is a change of Gross Regional Domestic Product (GDP) per year according to constant price in percent units in 2000. The data used in this study were secondary data obtained from Central Bureau of Statistics, Regional Investment Board, and the Ministry of Finance. The analysis time period was 2009 - 2015, and the scope of this study was 35 districts/municipalities in Central Java Province. So, the form of the data was panel data.

Data analysis method
The tool to analyze the data was multiple linear regression with Fixed Effect Model (FEM) method. The research model is formulated as follows:

\[
\text{HDI} = f(\text{DF}, \text{INV}, \text{EG}) \quad \text{..........................................................} \quad (3)
\]

\[
\text{HDI}_i = \beta_0 + \beta_1 \text{DF}_{iit} + \beta_2 \text{INV}_{iit} + \beta_3 \text{EG}_{iit} + \mu_i \quad \text{..........................................................} \quad (4)
\]

where: HDI is Human Development Index (HDI); DF is Fiscal decentralization; Inv is Investment; EG is economic growth; \(\mu\) is the term Error; \(\beta_0\) is a constant; \(\beta_1 \ldots \beta_3\) is the regression coefficient; \(i\) is cross-section data (35 regions); \(t\) is the time-series data (2009 - 2015).

4. Result and Discussion
The subject of this study was district/municipality government justified that the level of local government is directly related to public services and development. The consequence of the extent of decentralized authority by the central government to the regional level was followed by increased local government spending. The principle of money follow function was inherent in the decentralization of authority. The empirical data on local and central government expenditure from 2009 to 2015 are shown in Figure 1.

Figure 1. Central Government Expenditures and Total Expenditures of district/municipal in Central Java (IDR trillion)

Source: Ministry of Finance, 2016
Figure 1 shows that government spending, both central and local, is increasing every year. The fiscal policy taken by the central and regional governments was the expansionary fiscal policy aimed to improve community welfare through government spending. The estimation result of the independent variable to the dependent variable using Fixed Effect Model is shown in Table 1:

<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>Cons</td>
<td>75.80489</td>
<td>0.327532</td>
<td>231.4430</td>
<td>0.0000*</td>
</tr>
<tr>
<td>DF</td>
<td>0.155849</td>
<td>0.019559</td>
<td>7.968327</td>
<td>0.0000*</td>
</tr>
<tr>
<td>Inv</td>
<td>1.193507</td>
<td>1.333507</td>
<td>5.400995</td>
<td>0.0000*</td>
</tr>
<tr>
<td>EG</td>
<td>0.128929</td>
<td>0.056974</td>
<td>2.262955</td>
<td>0.0247*</td>
</tr>
</tbody>
</table>

R-squared | 0.671373  
Adj. R-square | 0.612633  
F-statistic | 11.42955  
Prob (F-statistic) | 0.000000  

Note: *) Significant at α = 5%

Based on the estimation result using FEM as shown in Table 1, the independent variable is able to explain the dependent variable of community welfare by 67%. Simultaneously, the independent variables of fiscal decentralization, private investment, and labor have a significant positive effect on HDI in the districts of Central Java. The analysis of each independent variable to the dependent variable is as follows:

**Fiscal Decentralization of Human Development Index (HDI)**

The result of the estimated regression showed that fiscal decentralization had a positive and significant impact on people's welfare. If there is an increase in fiscal decentralization, the people's welfare (HDI) will be pushed higher. The results of this study supported the earlier findings of Mehmood and Sadiq (2010) in Pakistan that there is a direct relationship between fiscal decentralization and community welfare. In the long run, effective implementation of fiscal decentralization would be able to improve human development, and autonomy in providing services could also improve the welfare of the people in the regional level.

The implementation of fiscal decentralization on the expenditure and income side positively influenced HDI as the tax autonomy and the effort to generate income from the available source was able to gradually reform the condition, while at the same time slowly decreases high distortion. The result of Soejoto et al. (2015) also proved that fiscal decentralization positively affects human development. In general, financial decentralization had a positive and significant impact on HDI. The improvement of the financial decentralization as a balance grant to an autonomous region could be used to finance local expenditures, particularly public spending on health and education. Qureshi (2008) suggested that high spending on education and health sectors will result in better outcomes in human development. Meanwhile, Mirza's findings (2012) also showed that capital spending has a positive effect on human development index.

The finding of this study was also in line with that of Edeme's (2014) in Nigeria that the impact of public spending on HDI proved to have a positive and significant impact. The government spending on education has the highest impact on HDI, followed by health, agriculture, rural development, energy, environmental protection, housing, and water resources; and has a marginal positive impact on human development. The findings of Ranis
et al (2000) showed that public spending on health and education has a significant effect on human development.

However, different finding was proposed by Ehimare et al. (2014) that government spending on education has a detrimental effect on educational performance, so policies relating to improving education should be reviewed. The formulation of a policy shall appropriately consider the increase of budget allocations to education sector. Incentives shall be given to teachers and trainers involved in human capital development in the education sector. Moreover, Udoh et al. (2015) found that decentralization of expenditure has a negative impact on human resource development. The pattern and characteristic of decentralized spending in Nigeria, in the long run, seems to support the adoption of inefficient resources as governance costs raises rather than to ensure cost-effectiveness in the provision of public services.

Under Law No.33 of 2014, the structure of local government spending in Indonesia is divided into direct and indirect spending. Direct spending are allocated for capital goods and productive sectors; while, indirect expenditures are allocated to civil service salaries and public goods maintenance. Empirical facts showed that the allocation of regional spending was dominated by indirect spending, resulting in the effect of economic and social multiplier had not touched small community. Therefore, to accelerate the achievement of HDI, local governments had to change the allocation of expenditure to direct expenditure with proportion of 65% for direct expenditure and 35% for indirect spending. The direct spending should primarily be invested on public goods such as infrastructure, education, and health to accelerate the achievement of HDI and community welfare.

**Investment in Human Development Index (HDI)**

The estimated result of the investment variable on welfare (HDI) showed that investment had positive and significant effect to welfare (HDI). The increased value of investment (FDI and DI) would encourage economic and social activities and improve the achievement of HDI in Central Java. The realization of investment in Central Java tended to increase from year to year as in 2010, the realization of investment in Central Java was IDR 10.7 trillion, and increased to IDR 26.04 trillion in 2015 (Regional Investment Board of Central Java Province, 2016).

According to Neo Classical theory (in Todaro, 2011), economic growth requires investment, economic growth is part of economic development, and economic development will have an impact on human development as measured by HDI. Investments invested in a regional administration might take several forms; funds, projects, or other activities. Whenever the fund is allocated to activities related HDI indicators, the performance of HDI in that particular region will improve. Meanwhile, human resource investment in the form of education and training can develop skills and human resource capabilities and improve the quality of life of the community.

The finding of this study is in line with the study of Suwandi (2016) who argued that investment has a positive effect on HDI. HDI is defined as the level of persons’ ability to meet their basic needs such as clothing, food, home, education and health. HDI is also defined as the level of accessibility of persons in having production factors that they can use in the production process; so that, they might get compensation from the use of the production factors. The compensation in the form of income might be used to meet the basic needs and improve the quality of life. The result of this study also supported the previous finding of Gohou and Soumare (2011) that Foreign Direct Investment (FDI) has a strong impact on people's welfare. Investments have proven positively and significantly reduce poverty and improve people's welfare/quality of life. Investments can create jobs, improve
employee skills, stimulate technological developments, reduce poverty, and improve wellbeing.

In addition, Reiter and Steensma (2010) pointed out that FDI has a positive and strong influence on human development improvement. The effect of investment on human development is also positive and strong when the level of corruption in a region is low. From the perspective of Neo-classical economy, FDI in developing countries is considered an integral part of economic growth, and the best economic development occurs when the nation plays a limited role in controlling the market (Cave, 1996; Hymer, 1976; Kindleberger & Herrick, 1977; Todaro, 1989; Vernon, 1966 in Reiter and Steensma, 2010). Developing countries directly get benefit from FDI through capital inflows, tax revenues, and employment, and indirectly through technological spillovers, and knowledge, and access to overseas markets. According to Illegbinosa (2013), the accumulation of human capital by the nation is considered an investment decision. He argued that investment in human capital has been a major source of economic growth for individual, communal, and national in the developed countries.

Investment would encourage capital accumulation, increase potential output, and stimulate economic growth for a long period of time. Therefore, in the macroeconomic context, the role of investment was so important that the economy and prosperity grew and increased fast. However, it should be realized that the results of investment in the framework of human development could not be directly given benefits to the community as their impact to human development took time to be realized.

**Economic Growth on Human Development Index (HDI)**

The estimation result indicated that economic growth had a positive and significant impact on welfare (HDI). The long-term of economic growth of a country needed to be supported not only by the increase of physical capital stock and of labor, but also the improvement of the quality of human capital and the utilization of technological progress. Economic growth increased the supply of resources for human development. The increased resources followed by proper allocation and wider distribution of opportunities, particularly employment opportunities, might encourage better human development.

Economic growth had to be accompanied by economic development. According to Todaro (2011), development is a process of improving the quality of all aspects of human life, one of which is the improvement of standard of living (income, level of food consumption, clothing, housing, health services, education, and others) through the process of economic growth. The growth of the economy is expected to improve the quality of human resources followed by the improvement of the quality of health and education. However, the finding of Palinescu (2015) revealed that there is a positive and significant relationship between human capitals with GDP per capita as human capital has proven to influence the rate of innovation and the rate of technological diffusion.

Meanwhile, the result of this study was in line with the previous findings from Ranis et al. (2000) that economic growth (proxy GDP per capita) significantly affects human development. GDP per capita illustrates the economic capacity of the community as the growth of GDP per capita or the improvement of the people's economy is proven to improve the quality of health, economy, and education of the community. Human development is defined as the extension of society's choice by enabling them to live longer, healthier, and more meaningful. There is a strong relationship between economic growth and human development. On one side, economic growth provides resources to enable sustainable improvements in human development and allows the enhancement and improvement of the society welfare from the aspects of health, education, and economy. On the other hand, improving the quality of the workforce is an important contributor to economic growth.
The result of this study was also in line with the study of Suwandi (2016) stating that there is a positive relationship between economic growth and HDI. When there is an increase in economic growth in a local area, the HDI in this area will also increase. Furthermore, he argued that economic growth has a positive impact on HDI in Fak-Fak, Papua. The economic growth in Papua leads to the increase social integration and solidarity and expands opportunities to access health facilities, education, housing, and social protection. The increase of the welfare of the community in a broad sense leads to the increase of the HDI as the economic growth has a positive impact on the HDI community in the local region.

Economic growth which increased the growth of output per capita intensified the purchasing power of the people and ultimately led to increase their prosperity. However, high economic growth did not always ensure that the welfare of the society might also be high. The economy grew well when the growth was accompanied by equal income distribution to avoid social inequality. Furthermore, the performance of HDI reflected the actual improvement of people's welfare identified from the aspects of health, education, and purchasing power.

5. Conclusion

Based on the empirical data and analyses in the previous section, it can be concluded that the implementation of fiscal decentralization in Indonesia can improve the welfare of the people living in the regency/municipality of Central Java Province. In addition, the increase in the realization of the number of private investment (FDI and DI) and economic growth positively affect the welfare of the community. This condition suggests that the increasing realization of private investment and economic growth will further encourage the welfare of people in Central Java.

The study recommends that local governments apply good governance principles, and are strongly committed to supporting economic growth and human resource development by implementing allocation functions effectively and efficiently. Beside that, to accelerate the achievement of HDI, local governments had to change the allocation of expenditure to direct expenditure with proportion of 65% for direct expenditure and 35% for indirect spending. The direct spending should primarily be invested on public goods such as infrastructure, education, and health to accelerate the achievement of HDI and community welfare.

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