Analysis of the Impact of Supply Chain of Government Procurement, Investments and Human Development Index on the Level of Indonesian Community Welfare

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Abstract- The role of the government in the welfare of the community with existing policies is expected to be able to alleviate existing poverty and form a better society in thinking and managing existing resources. The development of a region must also be supported by various budgets that will later support any planning activities that will be made by the government with the implementation of regional autonomy and fiscal decentralization policies. The consideration is that the regions know more about the needs and service standards for the people in their regions so that the provision of regional autonomy is expected to spur an increase in the welfare of the people in the regions through increased economic growth. The existence of an increase in decentralization funds transferred by the central government every year is expected to encourage an increase in the rate of economic growth. The rate of regional economic growth is positively and significantly influenced by human development. In essence, development is human development, so it is necessary to prioritize the allocation of procurements for this purpose in budget preparation. Human development is an indicator for the progress of a country. A country is said to be developed by looking at gross domestic income. This study aims to analyze the impact of supply chain of government procurement, investment, and the human development index on the level of welfare of the Indonesian people using multiple linear regression analysis. The results show that the government procurement and investment had a positive and significant effect on people's welfare while the human development index is not statistically significant.

Keywords- The supply chain of government procurement; investment; human development index; level of welfare.

Introduction
The welfare of the community in an area is a manifestation that has been achieved by the community which is obtained from various efforts, including the efforts and activities of the economic activities of the community. To achieve this ideal condition, it is necessary to plan and activities other than by the community, the role of the government is very dominant, both regarding planning, activities and financial assistance in the form of capital. Community welfare is one indicator of the Government's success in implementing development. In order to improve community welfare and poverty alleviation, the Government has carried out various assistance programs in the form of physical capital development (infrastructure), credit assistance, and human capital development.

The inadequate level of welfare both materially and spiritually is triggered by a vicious cycle, which causes poverty, underdevelopment, and an economic downturn. Therefore, various efforts can be made by the government to get out of this cycle of poverty. One important aspect to support poverty reduction strategies is the availability of accurate poverty data. A reliable measure of poverty can be a formidable instrument for policy makers to focus attention on the living conditions of the poor. For this reason, in addition to data on how much the number and percentage of poor people are perceived, it is also important to know how their living conditions are through data and profile information and the characteristics of the poor. Table 1 shows that the number of poor people in 2018 decreased compared to 2017 the number of poor people in Indonesia in March 2018 was 25.95 million people (9.82 percent), a decrease compared to March 2017 which amounted to 27.77 million people (10.64 percent). During the period March 2017-March 2018, the poor population in urban areas decreased by 0.53 million people, while in rural areas it decreased by 1.29 million people.
The disparity in the level of poverty between provinces is quite high by using the standard poverty line for each province which is differentiated according to urban and rural areas, so the number and percentage of poor people in each province according to urban and rural areas can be calculated. The number and percentage of poor people by province and region in March conditions. In 2018, the lowest poverty rate was in DKI Jakarta Province at 3.57 percent, while the highest was in Papua Province which reached 27.74 percent.

The role of the government in the welfare of society with existing policies is expected to be able to alleviate existing poverty and form a better society in thinking and managing existing resources. The development of a region must also be supported by various budgets that will later support any planning activities that will be made by the government, with the implementation of regional autonomy and fiscal decentralization policies based on the consideration that regions know better the needs and service standards for the people in their regions, so that the provision of Regional autonomy is expected to spur an increase in the welfare of the people in the regions by increasing economic growth. The existence of an increase in decentralization funds transferred by the central government every year is expected to encourage an increase in the rate of economic growth. The rate of regional economic growth is positively and significantly influenced by human development. In essence, development is human development, so it is necessary to prioritize the allocation of procurements for this purpose in budgeting [2]. Human development is an indicator for the progress of a country. A country is said to be developed, intervention in the economy. The government procurement of a country represents a financing for government activities. Government procurements through the State Revenue and Expenditure Budget had reflected in the realization of the routine procurement budget and the realization of the development budget. The success of developing a region is not only determined by the amount of government spending but also by the amount of investment. Investment or investment is the purchase of capital goods and production equipment to increase the ability to produce goods and services needed in the economy. Investment is called the engine of growth, therefore high and sustainable economic growth rates are generally supported by increased investment.

Government procurements is also included into two types, namely direct expenditure which is budgeted expenditure directly related to the implementation of programs and activities which include personnel procurements, goods and services procurements, and capital procurements. Indirect expenditure is expenditure budgeted not directly related to the implementation of programs and activities which include interest spending, subsidized procurements, grant procurements, social assistance procurements, profit sharing procurements, financial assistance, and unexpected procurements. Table 2 shows the data on the realization of government procurements of all Indonesian provinces that annually experience an increase in spending.

Based on data from the Indonesian Central Statistics Agency (BPS), the overall government procurements of all provinces in Indonesia has increased every year except in 2017 when government procurements decreased. It is hoped that the increase in government procurements, both directly and indirectly, is also driven by investment, which can encourage economic growth in each region to make people prosperous and increase the human development index in Indonesia.

### Table 1. The amount and percentage of poor people regionally (March, 2017-March 2018)

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<tbody>
<tr>
<td>Urban March 2017</td>
<td>10.67</td>
<td>7.72</td>
<td>-0.53</td>
<td>-0.70</td>
</tr>
<tr>
<td>Urban March 2018</td>
<td>10.14</td>
<td>7.02</td>
<td></td>
<td></td>
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<tr>
<td>Rural areas March 2017</td>
<td>17.10</td>
<td>13.93</td>
<td>-1.29</td>
<td>-0.73</td>
</tr>
<tr>
<td>Rural areas March 2018</td>
<td>15.81</td>
<td>13.20</td>
<td></td>
<td></td>
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<tr>
<td>Urban and rural areas March 2017</td>
<td>27.77</td>
<td>10.64</td>
<td>-1.82</td>
<td>-0.82</td>
</tr>
<tr>
<td>Urban and rural areas March 2018</td>
<td>25.95</td>
<td>9.82</td>
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Source: BPS Indonesia, Susenas, March, 2017 and March 2018
best supply chain in term to play good role to support most of business firms in Indonesia can create the business reputation which could be interpreted that [25]. The supply chain management can increase the chain which normally create the value for the firm their procurement as the improvement of supply [13]. Also, by improving the procurement then the activities such as marketing, operations, and finance advantage will increase performance of the firms competitive advantage, and as result the competitive [18]. This result is supported by [30] which find that

According to [15] and [13], the Six Sigma processes disadvantage [13]. On this theory, the firms improve their procurement as the improvement of supply chain which normally create the value for the firm activities such as marketing, operations, and finance [13]. Also, by improving the procurement then the organizations shall get better efficiency [13].

The good improvement of procurement relies on great philosophy called Six Sigma (6σ). According to [15] and [13], the Six Sigma processes improvement model where it including several steps, which are: (1) defining the scope and boundaries of the process; (2) measuring the performance to evaluate a process for clues on how to improve it; (3) analyzing the measurements to perform process analysis to determine where improvements are necessary; (4) improving the new process design of organization; and (5) controlling the process to make sure that high performance levels are maintained. The management engagement and leadership is the most perceived important factor in Lean Six Sigma implementation [3].

The public sector organizations are in a position to monitor the environmental performance of supply chains which brings an opportunity to align improvement initiatives to attain the greatest overall benefit [18]. Furthermore, the improvement will give significant development for environmental management as it overcomes the individualistic and self-interested perspective seen in some instances [18]. This result is supported by [30] which find that the supply chain management moderated by religiosity creates better practice in term to set the regional public budgeting.

The supply chain strategy will increase competitive advantage, and as result the competitive advantage will increase performance of the firms [25]. The supply chain management can increase the business reputation which could be interpreted that most of business firms in Indonesia can create the best supply chain in term to play good role to support the government procurements [1]. The sustainable supply chain management will create good capability of intellectual generation in term to solve various problems in economy and community [12]. The chain value also has an impact on the attitude and manner of decision making and economic problems [12].

Regional economic development theory
Indonesia is a developing country in the implementation of development is an effort to increase all resources that are carried out in a planned and sustainable manner with the principle of equitable and equitable use, in this case it can be said that development is oriented towards community development where education occupies a major position with the aim of opening insight and awareness of citizens of a better direction and ideals [10]. Regional economic development is a process in which local governments and communities manage existing resources and form a partnership pattern between local governments and the private sector to create new jobs and stimulate the development of economic activity in the region [5]. In general, the objectives of economic development are: (1) developing employment opportunities for the current population; (2) achieve an increase in the regional economy; and (3) developing a diverse economic base and employment opportunities.

The implementation of development is to increase national income while ensuring an even distribution of income for all people in accordance with a sense of justice and realizing the principle of social justice. Regional development is a process in which local governments and their communities manage all existing resources and form a partnership pattern between local governments and the private sector to create new jobs and stimulate economic development or economic growth in the region. Regional economic development is a process that includes the formation of new institutions, development of alternative industries, improvement of the capacity of the existing workforce to produce better products and services, identification of new markets, transfer of knowledge, and development of new enterprises. Every effort to develop regional economies has the main objective of increasing the

<table>
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<tr>
<th>Year</th>
<th>Indirect procurements (IDR. 000)</th>
<th>Direct procurements (IDR. 000)</th>
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<tbody>
<tr>
<td>2011</td>
<td>66,590,354,071</td>
<td>65,627,357,161</td>
</tr>
<tr>
<td>2012</td>
<td>101,468,624,588</td>
<td>77,977,219,171</td>
</tr>
<tr>
<td>2013</td>
<td>109,747,735,878</td>
<td>94,000,696,054</td>
</tr>
<tr>
<td>2014</td>
<td>123,757,686,233</td>
<td>95,577,183,625</td>
</tr>
<tr>
<td>2015</td>
<td>143,155,765,704</td>
<td>103,885,713,143</td>
</tr>
<tr>
<td>2016</td>
<td>202,072,447,513</td>
<td>147,883,304,387</td>
</tr>
<tr>
<td>2017</td>
<td>186,536,045,056</td>
<td>120,503,128,406</td>
</tr>
<tr>
<td>2018</td>
<td>202,072,447,513</td>
<td>147,883,304,387</td>
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</tbody>
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*Source: BPS Indonesia*
number and types of job opportunities for local communities. In an effort to achieve these goals, local governments and communities must jointly take regional development initiatives. Therefore, local governments (along with community participation and by using existing resources) must be able to estimate the potential of each resource needed to design and develop the regional economy [4].

Supply chain of government procurement
As part of supply chain management, the procurement typically includes the added activities of specifications development, value analysis, negotiation, expediting, contract administration, supplier quality control, and some logistics activities [29]. Also, the procurement normally used by government agencies due to the type of purchases and frequent service contracting they made with government suppliers [29].

According to Government Regulation Number 24 of 2015, the procurements are concerning to Government Accounting Standards Statement Number 2 where all procurements from the state/regional general treasury accounts that reduce current fund equity in the period of the fiscal year concerned will not be repaid by the government.

Regulation of the Minister of Home Affairs Number 13 of 2006 concerning Regional Financial Management Article 23 paragraph 2 states that regional spending include all procurements from the regional general treasury accounts which reduce fund equity, constitute a regional obligation in one fiscal year, and will not be recovered by the regions. Regional procurements is used in the framework of implementing programs and activities. The direct procurements made by producers (private) for the purpose of production purposes. This means that these goods are purchased with the hope of making a profit at a later date. This further means that the considerations taken by the company in deciding whether or not to buy goods and services are the expectations of the entrepreneur of the possible profit that can be obtained by later selling these goods or using them for the production process. The reason for this advantage is the main factor in this decision.

Investment
The supply chain management of most of domestic and foreign investments will increase the number of regional projects and the efficiency of investment resource management to improve the socio-economic development of the area, as well as the coverage of measures aimed at investment development [22]. The investment is the procurements made by producers (private) for the purchase of goods and services for investment purposes, namely to add stock in warehouses or factory expansion [8]. The corporate sector buys goods not for consumption purposes as is often done by the household sector, but for investment purposes. This means that these goods are purchased with the hope of making a profit at a later date. This further means that the considerations taken by the company in deciding whether or not to buy goods and services are the expectations of the entrepreneur of the possible profit that can be obtained by later selling these goods or using them for the production process. The reason for this advantage is the main factor in this decision.

Investment is a very important component in economic development. Several components of accelerated economic growth, such as capital accumulation, population growth, and technological advances, mean that investment as capital accumulation is the dominant factor in improving and multiplying the quality of physical and human resources [27]. As the procurements, the investment of investors and production equipment to increase the ability to produce goods and services available in the economy [23]. According to [24], investment can be classified into 3 (three), namely:
1. **Autonomous investment**, namely investment that is not influenced by income levels, for example investment in road and irrigation infrastructure rehabilitation. This type of investment is usually carried out more by the government sector because this investment will involve many socio-cultural aspects that exist in society.
2. **Induced investment**, which is a type of investment that is related to the level of income, for example, an increase in income in a community in a place or country causes an increase in the need for certain goods. The increase or increase in demand for goods will certainly encourage investment.
3. **Investments** which are influenced by the increase in the interest rate of money on capital prevailing in society.
The three investments that are classified above tend to be more dominant in the induced investment group, namely investments that are related to the level of income. This is because, in general, people invest only in those who have more income. The advantages of investing in an industry will attract other investors to invest because they want profits. Thus, investors can estimate the benefits of the investment they will make. According to [9], the factors that affect the amount of investment include:

1. **Innovation and technology.** The existence of new inventions makes the old production methods inefficient. For that companies need to find investment to buy sophisticated machineries.

2. **Economic level.** The more economic activity the greater the national income and the more part of the income that can be saved which in turn will be invested in a profitable business.

3. **The level of company profits.** The greater the level of company profits, the more part of the profit that can be retained and can be used for investment purposes.

4. **Political situation.** If the political situation is safe and the government provides many conveniences for companies, the level of investment will be high. One of the investment activities that can be identified is investment. Investment can be carried out by both the government and the private sector. The investment in Indonesia is carried out with easy facilities in the form of foreign investment (or PMA) and domestic investment (or PMDN). The investment in Indonesia has been guaranteed since the issuance of Law Number 25 of 2007 concerning Investment. Based on sources and capital ownership, the investment is divided into domestic and foreign investment.

**H2: The investment has significant effect on level of public welfare.**

**Human Development Index (HDI)**

The development measures used so far, namely the Gross Domestic Product (GDP) in the national situation and the Gross Regional Domestic Product (GRDP) in the regional situation are only able to describe economic development. Therefore, a more comprehensive parameter is needed which is able to describe the development of social aspects and human welfare, not just economic growth. Economic development can be defined as a process that causes the per capita income of a society to increase in the long term [26].

The Human Development Index is used to measure the impact of efforts to increase the capacity of basic human capital. Human development is a component of development through population empowerment which focuses on improving the human foundation. Development is calculated using the size of the size of the education, health, and purchasing power figures. The higher those figures obtained, the more the development goals will be achieved. Development is a process to make changes for the better [6]. The Gross Domestic Product (GDP) and Income Tax (PPN) had an effect on the Human Development Index (HDI) in the long and short term [20]. Also, the 2008 economic crisis had an effect on the Human Development Index (HDI), while the 1997 crisis and government decentralization had no effect on the Human Development Index [20]. The Gross Regional Domestic Product (GRDP) from the agricultural sector, direct government procurement, and investment had a positive and significant effect on the Human Development Index (HDI) in West Sulawesi Province [21]. The government spending in the health sector has a positive and significant effect on the Human Development Index (HDI) in the sense that an increase in the level of health will encourage an increase in the quality of human resources, increase labor productivity which in turn will create an improved community economy [17].

**H3: The Human Development Index has significant effect on level of public welfare.**

*The framework concept*

This study develops a concept for level of public welfare based on the supply chain of government procurement, domestic and foreign investments, and Human Development Index (HDI) in Figure 1.
Methodology

The type of data used in this study is secondary data, namely data obtained based on available data and published by the Indonesian Central Statistics Agency and the type of data used is the time series in the data period from 2005 to 2018 with the aim of knowing the effect of direct spending, investment, and HDI to the level of community welfare. The type of data collected in this study consists of quantitative data with secondary sources through the Central Statistics Agency (BPS) and relevant publications published by the agencies/institutions/professional organizations and others. This study conducts quantitative analysis methods in the form of multiple linear regression methods using Microsoft Excel 2013 and Eviews 0.8. Multiple regression analysis is a study of the dependence of one variable called the dependent variable on one or more variables, namely the variable that explains or is often called the independent variable with the aim of estimating and or predicting the average value of the independent variable if the explaining variable value is known.

\[ Y = f(X_1, X_2, X_3) \]

The above equation is then formed in an econometric model with the following equation.

\[ Y = \alpha + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \varepsilon \]

Y is the level of public welfare, X1 is supply chain of government procurement (SCGP), X2 is investment (INV), X3 is the Human Development Index (HDI), \( \alpha \) is a constant, \( \beta \) is the regression coefficient, and \( \varepsilon \) is the standard error. To determine the significant level of each regression coefficient of the independent variable (dependent variable) on the dependent variable (independent variable), a statistical test was performed. The statistical hypothesis formulation of the equation is:

- \( H_0 : \beta_1 < 0 \)
- \( H_1 : \beta_2 > 0 \)
- \( H_2 : \beta_3 \neq 0 \) or \( \beta_1 < 0 \) or \( \beta_3 > 0 \)

To analyze the relationship between the dependent and independent variables, data analysis was performed using the Ordinary Least Square (OLS) model. The OLS method is used to obtain parameter estimates in analyzing the effect of independent variables on the dependent variable. The OLS method was chosen because it is a simple method with strong and popular regression analysis, with certain assumptions [11].

Discussions

In term to obtain regression results between the independent variables and the dependent variable, secondary data is used from the National Statistics Agency 2005-2018 and processed using the Eviews 8.0 program. Table 3 presents the regression results on the effect of direct spending, investment, and the human development index on people's welfare using the OLS (Ordinary Least Squares) model. Table 3 also shows that direct spending, investment, and the
The human development index simultaneously affects human welfare. The F statistical value obtained is 29.04214 while the F table value is 3.98, so that the F statistical value is greater than the F table value, which means that direct procurement, investment, and the human development index together or simultaneously have a significant effect on people's welfare. The value of determination (R²) obtained is 0.897041, which means that the variation of changes in direct spending, investment, and the human development index affects the welfare of society by 89.7%, while the remaining 10.3% is explained by other variables not included in this research model.

Based on the estimation results in Table 3, it can be explained that the effect of the supply chain of government procurement, investment, and the human development index partially affects people's welfare. Direct procurements have a coefficient value of 1.03E-05, which means that direct procurement has a positive and statistically significant effect at the 99% confidence level on people's welfare. This means that if direct spending increases, the welfare of the community will also increase and vice versa ceteris paribus. The results of the research are in accordance with the theory which states that there is a positive relationship between HDI and community welfare, but it is not statistically significant. This means that if the HDI increases, the level of social welfare will increase and vice versa ceteris paribus. This result is in accordance with the theory which states that there is a positive relationship between HDI and community welfare. The higher the HDI number, the higher the level of community welfare. Human development index is a development component through population empowerment which focuses on improving the human foundation. Development is calculated using the size of the size of the education, health and purchasing power figures. The higher the figure obtained, the more the development goals will be achieved. Development is a process to make changes for the better [6].

Investment has a coefficient value of 38.27362, which means that investment has a positive and statistically significant effect at the 99% level of confidence in people's welfare. This means that if investment increases, the welfare of the community will also increase and vice versa ceteris paribus. The results of the research are in accordance with the theory which states that there is a positive relationship between investment and public welfare.

The investment is procurement made by producers (private) for the purchase of goods and services for investment purposes, namely to increase stock in warehouses or expand factories [8]. With the entry of investment in the region, it is able to move the economy of a region so that in other words, investment means shopping activities to increase the production capacity of an economy [24]. HDI (or IPM) has a coefficient value of 26710.86, which means that HDI has a positive relationship to community welfare, but it is not statistically significant. This means that if the HDI increases, the level of social welfare will increase and vice versa ceteris paribus. This result is in accordance with the theory which states that there is a positive relationship between HDI and community welfare. The higher the HDI number, the higher the level of community welfare. Human development index is a development component through population empowerment which focuses on improving the human foundation. Development is calculated using the size of the size of the education, health and purchasing power figures. The higher the figure obtained, the more the development goals will be achieved. Development is a process to make changes for the better [6].

**Conclusions**

The results showed that the supply chain of government procurement has a positive and significant effect on people's welfare. The results of this study are in accordance with the theory which states that there is a positive relationship between the supply chains of government procurement on
people's welfare. With the increase in procurements, large funds are also needed so that procurements for local government needs can be met. So that with the fulfillment of government spending needs, it is also hoped that the government can carry out activities and services that directly touch the community so that people's welfare can be better.

The results showed that investment such as procurement of assets has a positive and significant effect on people's welfare. The results of the research are in accordance with the theory which states that there is a positive relationship between investment and public welfare. By entering investment in the region, it is able to move the economy of a region. Increase the production capacity of the economy which will have an impact on the welfare of the community.

The results showed that the HDI had a positive but not statistically significant effect. This result is in accordance with the theory which states that there is a positive relationship between HDI and community welfare. The higher the HDI number, the higher the level of community welfare. The higher the HDI figure, the higher the level of community welfare because human development is a component of development through population empowerment which focuses on improving the human foundation.

The local government needs to optimize the supply chain management and to increase the utilization of procurements. More precisely, for programs to support community welfare as well as for services to the community to make it even better. The role of procurements for investments need to optimize in term to increase the welfare of the community so that it can be used more to drive the economy of a region. The government must also continue to support every program in order to increase the HDI both in terms of budget and activities so that later it will have an impact on the welfare of the community.

References


