

# **The Effect of Investment and Wage Level on Human Development Index (Case 6 Province in Sulawesi) Period 2015-2019**

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## **Abstract**

One of the welfare indicators can be measured by the Human Development Index (HDI), which is measured from the level health, education and people's purchasing power. Welfare is a development product that involves government and private activities in various fields. This study aims to determine the effect of investment and the level of wages of increasing the HDI in Sulawesi. The analytical method used is multiple linear regression using panel data for 2015-2019 in 6 provinces in Sulawesi. The study results show that investment and the level of wages partially affect the increase in HDI in Sulawesi Island.

## **Keywords**

Human Development Index, investment, wages, province, Sulawesi Island

## **1. Introduction**

The Human Development Index (HDI) is a concise measure of the average achievement/success of the main dimensions of human development, namely: a long and healthy life, having knowledge, and having a decent standard of living (BPS, 2020). Health is measured by life expectancy (AHH), education is measured by literacy rate (AMH) and education participation rate that has been completed or average length of schooling (RLS), while the standard of living is measured by a decent standard of living with the approach Gross regional domestic product per capita at the level of real per capita consumption or people's purchasing power as indicated by the income of the people in 6 provinces in Sulawesi.

The HDI condition in Sulawesi in recent years has shown a fairly good improvement. However, there are still some issues that need to be considered so that the HDI can improve even more. Components of life expectancy still require an increase considering the current health condition in the community is quite low. This means that many residents do not really pay attention to health. If this problem is not taken seriously, it will have an impact on decreasing life expectancy, which in turn will have an impact on the HDI value. The increase in HDI is due to various government programs, both provincial and district/city, such as programs in the health, education and economic sectors and improving the quality of other community infrastructure. The success of the program also depends on the mindset of the local community in utilizing the facilities. It should be realized that development investment in the context of human development seen from the HDI value, the results will not immediately have an impact in the following year. For example, efforts to increase the average length of schooling (RLS) which are manifested in the 9-year compulsory education program for basic education, the results will be felt in a few years later.

Judging from the impact, investment will have an effect on increasing the welfare of the community, whether it is public or private investment, because investment will increase the number of workers absorbed. People who were previously unemployed will get jobs and income. Along with the increase in income, the purchasing power of the people who are part of the HDI component will also increase. Economic growth accompanied by an even distribution of income in society will result in a higher HDI increase compared to economic growth that is not accompanied by an even distribution of income in society (Sumanto, 2012). When viewed from a macroeconomic perspective, inequality in income distribution can occur due to differences in resource ownership patterns. Low income will result in a decrease in the amount of savings and investment. Low investment will result in a lack of capital which results in low productivity and low income (Kuncoro, 2000).

Previous research on the HDI variable which is influenced by public and private investment, which is the area of observation in East Java Province. This study aims to examine the effect of investment and the level of improvement on the increase in HDI in Sulawesi as well as the role of investment and the rate of increase in the increase in HDI in each province in Sulawesi. Based on this, it is necessary to conduct research to see the effect of investment and the level of improvement on the Improvement of the Human Development Index in 6 provinces in Sulawesi (2015-2019).

## 2. Literature Review

### 2.1 Domestic Investment/ Domestic Investment (PMDN)

Domestic Investment (PMDN) is an investment activity to conduct business in the territory of the Republic of Indonesia carried out by domestic investors using domestic capital (DPR, 2007). Parties who can become Domestic Investment are Individuals who are Indonesian citizens, and or; Indonesian Business Entities, and or; Indonesian Legal Entity.

The development of investment in the form of PMDN from 2015 to 2019 in 6 provinces in Sulawesi, namely North Sulawesi, Central Sulawesi, South Sulawesi, Southeast Sulawesi, Gorontalo, and North Sulawesi are as follows:

Table 2.1 Domestic Investment in 6 Provinces in Sulawesi Islands (Billion Rupiahs) 2015- 2019

Year	north	centre	south	southeast	Gorontalo	west
2015	270.600	968.400	9.215.300	2.015.400	94.300	1.103.800
2016	5.069.600	1.081.200	3.334.600	1.794.200	2.202.500	84.100
2017	1.488.200	1.929.700	1.969.400	3.841.700	888.400	660.200
2018	4.320.100	8.488.900	3.275.900	1.603.400	2.666.800	3.144.200
2019	8.259.600	4.438.800	5.672.600	3.827.100	8.444.400	1.187.200

Source: BPS (various editions)

From table 2.1, it can be seen that the development of domestic investment in the Sulawesi Islands is very fluctuating. Very volatile developments occurred in Gorontalo and North Sulawesi Provinces, where in 2015 Gorontalo Province was able to achieve an investment of Rp. 94,300 billion and at the end of the research year reached Rp. 8,444,400 billion, which means an increase of Rp. 8,350,100 billion but in 2017 it experienced a decline. Likewise in North Sulawesi Province, although it increased by Rp. 83,400 billion until 2019 but decreased from 2015 to 2016 after that there was an increase of almost more than 50% from the achievement in 2015 but decreased again in 2019.

### 2.2 Regional Minimum Wage Rates

Wages are one of the means used by workers to improve welfare. The welfare of workers/labor is a fulfillment of physical and spiritual needs and/or needs, both inside and outside the working relationship which can directly or indirectly enhance work productivity in a safe and healthy work environment. The development of the Regional Minimum Wage in 6 provinces in the Sulawesi archipelago is shown in table 2.2 below:

Table 2.2 Minimum Wages in 6 Provinces in Sulawesi Islands (million rupiah) per year 2015- 2019

Year	north	centre	south	southeast	Gorontalo	west
2015	2.150.000	1.500.000	2.000.000	1.652.000	1.600.000	1.655.500
2016	2.400.000	1.670.000	2.250.000	1.850.000	1.875.000	1.864.000
2017	2.598.000	1.807.775	2.435.625	2.002.625	2.030.000	2.017.780
2018	2.824.286	1.965.232	2.647.767	2.177.052	2.206.813	2.193.530
2019	3.051.076	2.123.040	3.103.800	2.334.838	2.334.838	2.369.670

Source: BPS (various editions)

Table 2.2 shows that from the beginning of the research year, the highest regional minimum wage was in North Sulawesi Province at Rp. 2.150.000,- while at the end of the research year the highest UMR was in South Sulawesi Province of Rp. 3.103.800,-. It is known that some of the forming variables that influence the determination of the minimum wage are the Decent Living Needs (KHL), namely the standard of needs that must be met in order to live

properly (Menteri Tenaga Kerja dan Transmigrasi Republik Indonesia, 2005). The second factor is based on the Consumer Price Index which calculates the average price change of a consumed good or service (BPS, 2020). The last factor is the Gross Regional Domestic Product to determine the real economic growth from year to year which is not influenced by prices.

### 2.3 Human Development Index (HDI)

The Human Development Index (HDI) is a value that shows the level of community welfare as measured by the level of health, education, and decent living standards. HDI conditions in several provinces in Sulawesi in the study year showed a fairly good increase, this can be seen in table 2.3 below:

Table 2.3 Human Development Index in 6 Provinces in Sulawesi Islands 2015- 2019 (%)

Year	north	centre	south	southeast	Gorontalo	west
2015	70,39	66,76	69,15	68,75	65,86	62,96
2016	71,05	67,47	69,76	69,31	66,29	63,60
2017	71,66	68,11	70,34	69,86	67,01	64,30
2018	72,20	68,88	70,90	70,61	67,71	65,10
2019	72,99	69,50	71,66	71,20	68,49	65,73

Sumber : BPS edisi 2016 – 2019

Nilai HDI di tahun 2015 sampai dengan tahun 2019 terendah adalah di Provinsi Sulawesi Barat yaitu di 63% dan 66%.sedangkan HDI tertinggi di tahun 2015 adalah di Provinsi Sulawesi Utara sedangkan di tahun 2019 HDI tertinggi juga di Provinsi Sulawesi Utara yaitu sebesar 73%.

### 3. Method

This study wants to see the relationship between the amount of investment and the level of wages on the total Human Development Index in 6 provinces in Sulawesi. One of the steps in this research is to determine the general model used by using regression function analysis. Regression model is used to see the effect of wage and investment level on the total Human Development Index in 6 Provinces in Sulawesi. Where the relationship between the variables can be expressed in a function as follows:

$$HDI = f(W, Iv) \quad (1)$$

Econometric model of the relationship between variables using the Ordinary Least Square (OLS) approach:

$$HDI = \beta_0 + \beta_1W + \beta_2Iv + \varepsilon \quad (2)$$

Where HDI is the number of Human Development Index expressed in percentage; W is the Regional Minimum Wage Level expressed in rupiah; while IV is the amount of domestic investment expressed in rupiah in 6 provinces in Sulawesi.

The research method used in this study is the panel data method with fixed effects. This is because with the fixed effect, different intercept results can be obtained between cross section units. In the first step, the data will be analyzed using panel data regression to see the relationship between the independent variables and the dependent variable using primary data. Then the second step is to do a classic test to see if the data used is unbiased. This study uses two econometric models to see the tendency of the relationship between the level of wages and the level of investment to the Human Development Index.

### 4. Data Collection

The data used is time series data or time series data for 6 years of observation from 2015 to 2019. The dependent variable in this study is the number of Human Development Index (HDI) expressed as a percentage (%) obtained from the Population data in 6 provinces in Sulawesi. West, while the independent variables are the level of wages (W) and investment (Iv) which are expressed in Rupiah in 6 provinces in Sulawesi.

## 5. Results and Discussion

### 5.1 Results

The regression used is panel data regression which combines cross section data and time series data. The panel data regression model to be estimated requires assumptions about the intercept, slope and disturbance variable (Gujarati, 2011). In this study using an econometric model to see the effect of the results of the regression test are as follows:

Table 5.1 Regression Test Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-35.69347	3.496808	-10.20744	0.0000
LOG(IV?)	0.042401	0.014080	3.011450	0.0064
LOG(W?)	7.116417	0.226963	31.35496	0.0000
Fixed Effects (Cross)				
_NORTHSULUT--C	1.652605			
_SOUTHSULSEL--C	0.687515			
_SOUTHEASTSULTR...	1.806454			
_WESTSULBAR--C	-3.807620			
_CENTRESULTENG--...	0.715205			
_GORONTALO--C	-1.054159			
Effects Specification				
Cross-section fixed (dummy variables)				
Weighted Statistics				
R-squared	0.997658	Mean dependent var	84.10039	
Adjusted R-squared	0.996913	S.D. dependent var	26.35386	
S.E. of regression	0.190431	Sum squared resid	0.797811	
F-statistic	1338.729	Durbin-Watson stat	1.738011	
Prob(F-statistic)	0.000000			
Unweighted Statistics				
R-squared	0.995720	Mean dependent var	68.58667	
Sum squared resid	0.859444	Durbin-Watson stat	1.866264	

From table 5.1 it can be seen that the wage and investment variables can explain the Human Development Index variable which can be seen from the R Squared value of 0.99. In this study there was also no autocorrelation, which means that there was no relationship between variables.

### 5.2 Results

The results of Panel Data Regression using the Fixed Effect method to see the HDI relationship that is influenced by the level of investment and the level of wages are as follows:

$$\text{HDI} = -35,70 + 0,041\text{LogIV} + 7,17 \text{LogW} + e$$

The results of this study indicate that the level of the Human Development Index in 6 provinces in Sulawesi is influenced by the level of investment and the level of wages. If viewed partially, if the wage rate increases by 1 million rupiah it will increase the HDI by 7.17 while if the investment rate increases by 1 billion rupiah it will increase the HDI by 4%. However, when there is an increase in the level of wages and the amount of investment simultaneously, it will reduce the HDI significantly by 35%.

The results of the study indicate that if investment in 6 provinces in Sulawesi increases, it will provide positive results for increasing the HDI of the community. This is in accordance with the Harrod-Domar theory which states that economic growth requires investment, where economic growth is part of economic development, economic development will also have an impact on the development of community HDI.

The increase in investment will also be followed by an increase in people's income so that the community's ability will also be better which is also measured by HDI.

## 6. Conclusion

This study examines the effect of investment and wages on increasing HDI in 6 provinces in Sulawesi, namely South Sulawesi Province, Central Sulawesi Province, North Sulawesi Province, Southeast Sulawesi Province, West Sulawesi Province, and Gorontalo Province. If public investment and wages increase, it will also increase the HDI of the community in 6 provinces in Sulawesi.

It is still necessary to increase investment in the nature of human resource development, for example in the fields of education, health, and infrastructure supporting the economy so that it will increase HDI evenly in every province on Sulawesi Island.

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