

**THE IMPACT OF GOVERNMENT EXPENDITURE, HUMAN
DEVELOPMENT INDEX (HDI), WORKER AND INVESTMENT ON
INDONESIA'S PROVINCIAL GROSS REGIONAL DOMESTIC
PRODUCT (GRDP)**

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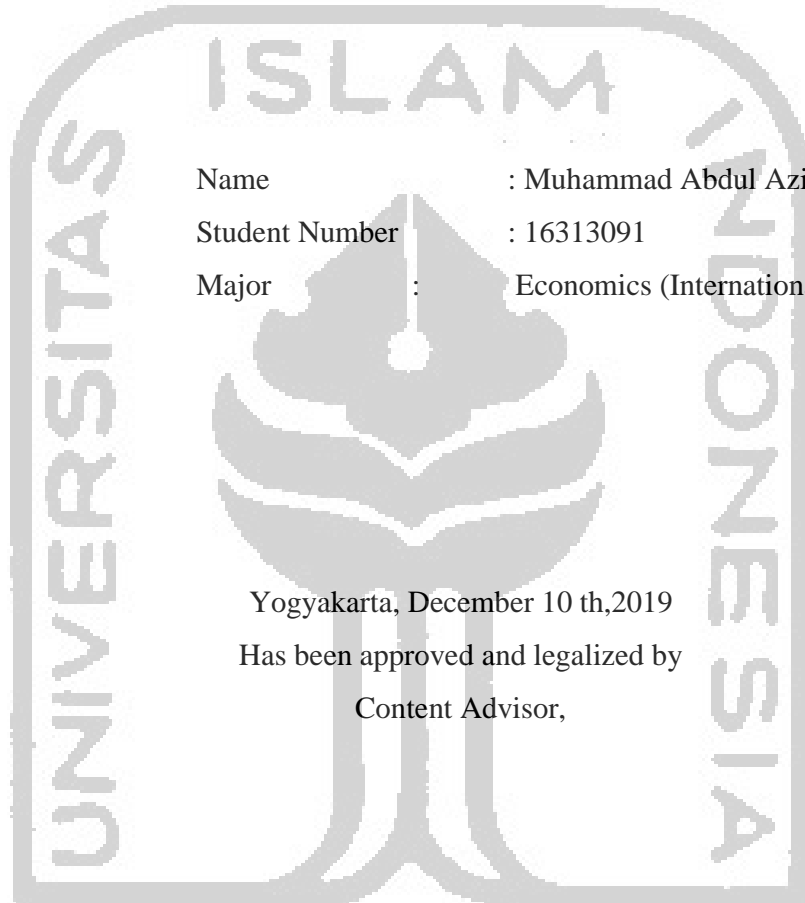
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THE IMPACT OF GOVERNMENT EXPENDITURE, HUMAN DEVELOPMENT INDEX (HDI), WORKER AND INVESTMENT ON INDONESIA'S PROVINCIAL GROSS REGIONAL DOMESTIC PRODUCT (GRDP)



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Abstract

This study aims to analyze the impact of government spending, Human Development Index (HDI), worker and investment on Gross Regional Domestic Product (GRDP) in Indonesia. The data used in this study are secondary data for each province taken from the central statistical agency (BPS) and the directorate general of financial balance (DPJK). The analysis used in this research is panel data analysis with fixed effect model as the best model to describe the relationship between dependent and independent variables. The data used are data from thirty-four Provinces in Indonesia in the period 2013-2018. The results of the analysis show that individually government spending, HDI, and investment have a significant positive effect on Gross Regional Domestic Product (GRDP), with the greatest effect on human resources. Meanwhile, worker does not have a significant effect on Gross Regional Domestic Product (GRDP) in Indonesia.

Keywords: Gross Regional Domestic Product (GRDP), Economic growth, HDI, investment, human resources, government.

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Abstrak

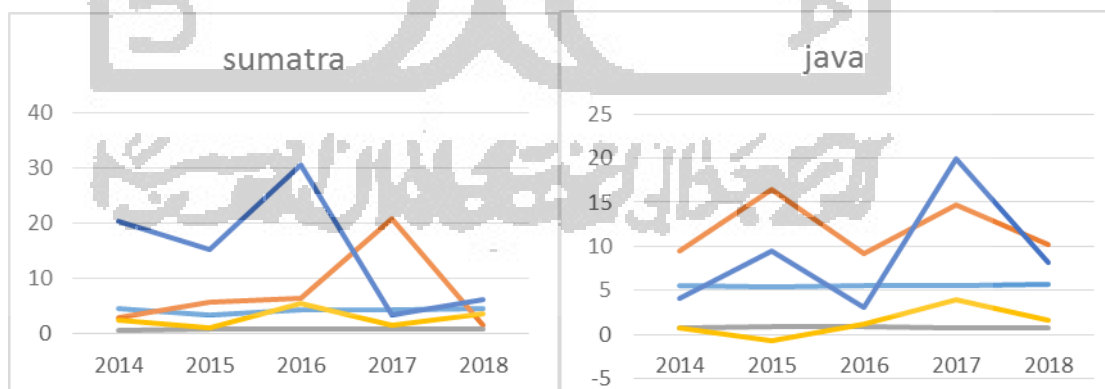
Penelitian ini bertujuan untuk menganalisis dampak pengeluaran pemerintah, indeks pembangunan manusia (IPM), pekerja dan investasi terhadap produk domestik regional bruto (PDRB) di Indonesia. Data yang digunakan dalam penelitian ini adalah data sekunder setiap provinsi yang diambil dari Badan Pusat Statistik (BPS) dan Direktorat Jendral Perimbangan Keuangan (DPJK). Analisis yang digunakan dalam penelitian ini adalah analisis data panel dengan model fixed effect sebagai model terbaik untuk mendeskripsikan hubungan antara variable dependen dan independen. Data yang digunakan adalah data dari tiga puluh empat Provinsi di Indonesia pada periode 2013-2018. Hasil analisis menunjukkan bahwa secara individu pengeluaran pemerintah, IPM, dan investasi berpengaruh positif signifikan terhadap Produk Domestik Regional Bruto (PDRB), dengan pengaruh terbesar dimiliki oleh IPM. Sementara itu, tenaga kerja tidak berpengaruh signifikan terhadap Produk Domestik Regional Bruto (PDRB) di Indonesia.

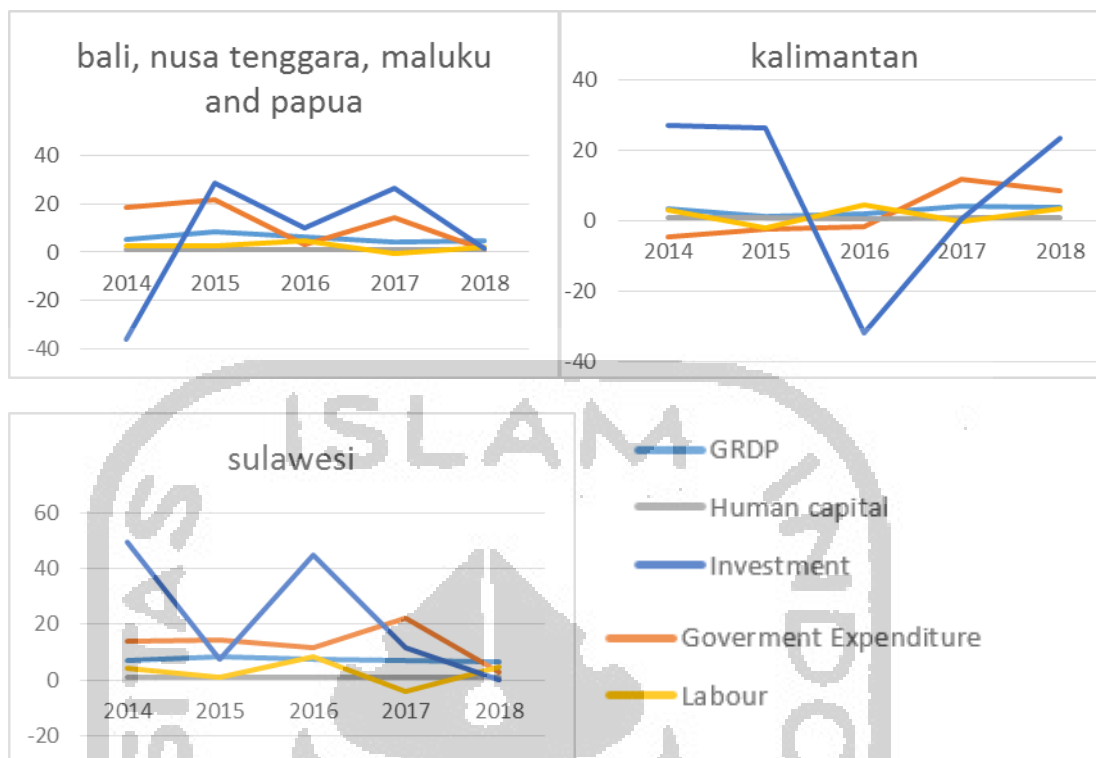
Kata kunci: Produk Domestik Regional Bruto (PDRB), Pertumbuhan ekonomi, IPM, Investasi, pemerintah.

1. INTRODUCTION

The government is responsible for the prosperity of the people who live in a country, one of the indicators of prosperity is economic growth which is calculated through a country's gross domestic product (GDP). Regional income growth has a good impact on the economy as seen from the increase in regional income / gross regional domestic product (GRDP), it is not surprising that the government is always competing to maintain and even improve these indicators in the region. In order to achieve the goals of the national economy, each region must be able to achieve the gross regional domestic product (GRDP) target that has been set together and solve problems in its improvement. Therefore, local governments are required to be able to utilize the resources they have both humans and nature.

In achieving this goal the government must be active in collaborating and intervening economic activities. In fact, there are a number of non-economic components which are driving and inhibiting the economy. As a tropical country and right on the equator, Indonesia has abundant natural resources both at sea and on land, besides that Indonesia's population is also the fourth largest in the world, making Indonesia have a vast and growing domestic market, investment in Indonesia be the right investment destination. The growth of every components both economic and non-economic can be seen as below:





Source: Badan Pusat Statistik processed, 2019

Figure 1.2 Growth of GDRP, Government Expenditure, HDI, Worker and Investment based on the island. (Percent %)

If we look at an outline of investment in Indonesia experiencing very large fluctuations in each year and has never been consistent, and the focus of investment in the last 5 years only occurred in Java, and Papua, Southeast Nusa Tenggara, Maluku, and Papua which have positive trends while other islands have negative trends. Besides that, through other variables namely the government expenditure side only Kalimantan and Sumatra islands which have a positive trend, a significant decrease occurred in the groups of Bali, Southeast Nusa Tenggara, Maluku and Papua. If seen from the variable number of workers, almost all the islands in Indonesia experienced positive fluctuations, although not significantly in line with the increasing population in Indonesia around 1.3% each year. In 2016, there was a drastic decrease in investment growth on two islands in Indonesia, especially in Kalimantan which experienced a 31.7 per cent investment decline, after a 27.2 percent increase in the previous year, due to the investment position in Kalimantan which was dominated by Foreign Direct. Investment (FDI), as seen in 2015 FDI controlled 80.1 percent of total investment, when in

2016 FDI declined to 51.08 percent the total investment also experienced a sharp decline.

Compared to all the variables, only human capital has experienced stagnant growth, strangely the growth in income of each province seems to sting depending on human capital that remains on stable growth, as stated by Durlauf et al (2004) that human capital plays an important role in economic growth and macroeconomic performance in East Asia and South-east Asia., Indonesia has not focused yet on the development of human resources shown by HDI in Indonesia did not experience a drastic increase, during the 27-year is vulnerable period, from 1990 to 2017, Indonesia could only raise 1,66 points, while Vietnam and Myanmar could increase their HDI by 21,9 Until 2017 the quality of Indonesian human resource development is still in the seventh position out of ten countries, whereas when viewed in 1990 Indonesia ranks 6th, so it can be concluded that the quality of Indonesian human resources is less able to compete among ASEAN countries.

2. LITERATURE REVIEW

Odit, et al. (2010) explained that human capital plays an important role in economic or GDP growth mainly as an engine for improvement of the output level. In addition, this theory supported by Liu,et al. (2018) which found that Fixed-asset investment, human capital has played a more important role in the Gross domestic product (GDP). While governance quality only could bring high-speed economic growth effect in the western region and high-quality economic development effect in the eastern region.

Pambudi and Misyanto (2013) said that one of the factors that can affect growth of economy is investment. Investment is the first step in activities production and be a factor for increasing growth the economy. Thus, investing in essence is also the first step in economic development activities. subsequently in their research found that The only investment and work-force have a positive effect and significant to influence the economic or GRDP growth, while human capital variable has insignificant positive and agglomeration have insignificant negative toward economic growth. In addition, the significance influence of

investment on GRDP also supported by Nasab and aghae (2009) and Karlita and Yusuf (2013) .

Maisaroh and Risyanto (2018) explained that besides investment, as a benchmark for the growth of a regional economy, it also cannot be separated from the role of government spending in the public service sector, it proven by the findings of his research which states Investment, government expenditure and worker was a positive and significant impact on the gross regional domestic product (GRDP) in Banten Province. Wardana, et al. (2014) concluded in their research that investment, government expenditures, exports have a positive effect on Economic Growth, only export variables that have a partial effect on Economic Growth. Moreover, a research conducted by Syahputra (2017) shows a positive significance by export, tax revenue and exchange rate towards the gross domestic product (GDP).

While different findings about government spending is expressed by Rabnawaz, et al. (2015) There is a positive relationship between GDP and revenue in public investment in the short run. Reversely, in the long run, revenue of public investment could decrease in GDP. Moreover, Fitri (2016) which said in the short term, government consumption, private investment, and human capital are not significant in influencing gross domestic product (GDP) in Indonesia. Meanwhile, in the long run, government consumption has a positive and significant impact on gross domestic product (GDP) in Indonesia. Whereas private investment and human capital have a negative and significant influence.

Maharani (2016) stated that worker is seen as a capable factor of production to increase factor usability other production (tillage, utilizing capital, etc.) so the company views the labor as an investment and a lot the company that delivers education to its employees as a form of capitalization of worker. which results from his theory is also supported by Sitindaon (2013) which found that population growth, has a significant negative and significant positive effect on the workforce on economic growth. Regarding the population Klasen, et al. (2007) conducted a research in Uganda and found the contrary that both theoretical and empirical

evidence founded that high population growth puts a considerable break on per capita Economic growth in Uganda.

From the above literature, it can be concluded that in broad outline the variables that have a significant influence on regional income are the following investment both private and government, human capital, government consumption, tax revenue, labor force, government expenditure, exports, population and exchange rate.

Apart from all, there are some researchers who find research results quite far from theory, such as Huda (2006) conducted research focused on Exchanges, Inflation, and SBI rates of Indonesia in the period 1999-2006 (1st quarter). Data analysis used panel data where FEM was the best model to explain the results of regression. Clearly, the regression show that only one variable, that is Securities of Indonesian Bank (SBI), influencing economics growth. In addition, Research conducted by Ervani (2008). The economic growth was a dependent variable and the independent variables were real investment, human capital, and rate deposit. The sample in this study used time series data and the results of this study indicate that in the short-term, Indonesia economic growth was not significantly affected by investment. While real investment, HDI, and rate deposit will affect economic growth in long-term.

3. RESEARCH METHOD

The type of study conducted by researcher is quantitative research. This research uses quantitative methods by generating numerical data or data that can be transformed into useable statistics. The data model used in this study is secondary data, which is the report on Indonesia's Gross Regional Domestic Product (GRDP) based on Constant Prices 2010 by Province, government expenditure, Human Development Index (HDI), Worker and Investment issued by the Central Statistics Agency (BPS) and the directorate general of financial balance (DJPK). This research contained independent variable and dependent variable. The dependent variable in this research is Indonesia's Gross Regional Domestic Product (GRDP) by Provinces and the independent variables are Government expenditure, worker, Investment, and Human Development Index

(HDI) . The tool that will be used for for Panel Data testing is Eviews8 by entering the data into Microsoft Excel 2013 software in the .xlsx format, then imported into Eviews 8 software to be tested.

Gujarati (2003) says that panel data combines features from both time series and cross-section data. This data integration makes the data more efficient, informative, has less collinearity and could minimize bias that might occur. In addition, the use of data panels also makes a greater degree of freedom, so that the estimation results are better. Can only use cross-section analysis or time series. The regression data panel has three estimation models, namely the Common Effect model, the fixed effect model, and the random effect model. Then out of the three available models, only one model is chosen which is the best to explain the relationship between the dependent and independent variables. The toll to choose the most appropriate techniques will be chosen to estimate panel data regression as below:

A) Chow Test

Chow test is used to test the best model in explaining data between the common effect model (CEM) and fixed effect model (FEM). In this test the hypothesis is as follows:

H_0 : common effect model (CEM) is better than the Fixed Effect Model (FEM).

H_1 : fixed effect model (FEM) is better than common Effect Model (CEM).

If $F_{stat} > F_{table}$ then H_0 is rejected and it can be concluded that the best model is the fixed effect model (FEM). Conversely, if $F_{stat} < F_{table}$ then H_0 is accepted and it can be concluded that the best model is the common effect model (CEM).

B) Hausman Test

Hausman test conducted to determine between Fixed Effect Model and Random Effect Model as the appropriate model that should be used. Hausman test statistic follows the Chi-Square statistic distribution with a degree of freedom is k, where k is the number of independent variables, then we can see the result of Chi-square. The hypotheses proposed are the following:

H_0 : Random Effect Model (REM) is better than the Fixed Effect Model (FEM).

H₁: Fixed Effect Model (FEM) is better than Random Effect Model (REM).

When chi-square table is greater than chi-square statistic means accept H₀ then Random Effect Model is better and reversely if the chi-square statistic is greater than the chi-square table, Fixed Effect Model (FEM) is better while rejecting H₀.

Hence, We can choose the best model and end up with with the regression on the influence of independent variable toward the dependent variable systematically can be described in the following formula:

$$\log(Y_{it}) = \beta_0 + \beta_1 \log(X_1) + \beta_{2it} \log(X_{2it}) + \beta_{3it} \log(X_{3it}) + \beta_{4it} \log(X_{4it}) + e_{it} \dots \dots \dots (3.1)$$

Where:

Y: Gross Regional Domestic Product (GRDP)

X₁, X₂, X₃, and X₄: government expenditure (X₁), human development index (X₂), worker (X₃) and investment (X₄).

β₀: Constanta

β₁, β₂ β_n: The magnitude of the influence of the independent variable toward the dependent variable

i: 34 Provinces in Indonesia

4. RESULT AND DISCUSSION

The data in this research use panel data. Panel data is a combination of time series data and cross-section data. The time-series data in this study are 6 years, namely 2013 to 2018. While the estimation result of these 3 models (Common Effect, Fixed Effect, and Random Effect) and choosing the best model can be seen as follows:

Table 4.1 Chow Test

Redundant Fixed Effects Tests
Pool: POOL
Test cross-section fixed effects

Effects Test	Statistic	d.f.	Prob.
Cross-section F	1311.889012	(33,166)	0.0000
Cross-section Chi-square	1135.784323	33	0.0000

**** Source: Secondary data processed with Eviews 8, 2019

From the results of the Chow Test above it can be seen that the Chi-square statistic is 1275.656077 with a probability of 0.0000 which is significant in alpha 5%, which means that H_0 is rejected and accepts H_1 , then the most appropriate model to use is Fixed Effect Model (FEM).

Table 4.2 Hausman Test

Correlated Random Effects - Hausman Test
Pool: POOL
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	102.375757	4	0.0000

Source: Secondary data processed with Eviews 8, 2019

From the Hausman test results above it can be seen that the Chi-square statistic of 101.130931 with a probability of 0.0000 which is significant in the alpha of 5%, which means that H_0 is rejected and accepts H_1 , then the most appropriate model to use is the Fixed Effect Models (FEM):

Table 4.4 Fixed Effect

Dependent Variable: LOG(GRDP?)
Method: Pooled Least Squares
Date: 01/18/20 Time: 18:01
Sample: 2013 2018
Included observations: 6
Cross-sections included: 34
Total pool (balanced) observations: 204

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	4.796243	0.786601	6.097425	0.0000
LOG(GOV?)	0.024671	0.008988	2.745001	0.0067
HDI?	0.075752	0.003356	22.56891	0.0000
LOG(WORKER?)	0.101021	0.065572	1.540619	0.1253
LOG(INVESTMENT?)	0.013549	0.003407	3.977042	0.0001
Fixed Effects (Cross)				
_ACEH--C	-0.217248			
_SUMUT--C	1.003140			
_SUMBAR--C	-0.038333			
_RIAU--C	1.000849			
_JAMBI--C	-0.047971			
_SUMSEL--C	0.673267			
_BENGKULU--C	-1.156550			
_LAMPUNG--C	0.473912			
_BABEL--C	-0.925310			
_KEPRI--C	-0.119799			
_DKI--C	1.451316			
_JABAR--C	1.849049			
_JATENG--C	1.483071			
_DIY--C	-1.134680			
_JATIM--C	1.998322			

_BANTEN--C	0.772073
_BALI--C	-0.377083
_NTB--C	-0.207969
_NTT--C	-0.367823
_KALBAR--C	0.070353
_KALTENG--C	-0.450828
_KALSEL--C	-0.154147
_KALTIM--C	0.765166
_KALUT--C	-0.748214
_SULUT--C	-0.670347
_SULTENG--C	-0.263177
_SULSEL--C	0.536699
_SULTRA--C	-0.516687
_GORONTALO--C	-1.363766
_SULBAR--C	-1.037804
_MALUKU--C	-1.389933
_MALUT--C	-1.475001
_PABAR--C	-0.260684
_PAPUA--C	0.846136

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.999558	Mean dependent var	11.80577
Adjusted R-squared	0.999459	S.D. dependent var	1.154263
S.E. of regression	0.026841	Akaike info criterion	-4.231324
Sum squared resid	0.119597	Schwarz criterion	-3.613243
Log likelihood	469.5951	Hannan-Quinn criter.	-3.981299
F-statistic	10141.47	Durbin-Watson stat	0.917611
Prob(F-statistic)	0.000000		

Source: Secondary data processed with Eviews 8, 2019

Based on Table 4.4 the Constanta value is 4.79, it means the dependent variable (GRDP) is 4.79 percent if the independent variable is valued at zero. R-squared value of 0.999558, it means the change in the dependent variable that can be explained by the independent variable is 99.95%. The F-statistic value is 10141.47 with a prob (F-statistic) of 0.0000 which means that the independent variables simultaneously influence the dependent variable. Based on the t-statistic in this model if using alpha 5%, then only worker does not have a significant influence on GRDP in Indonesia 2013-2018.

Since, the FEM assumes that there are different intercepts for each individual. The intercept similarities for each province could be different if there is no independent variable. Maluku Utara is the province with the lowest GRDP with total intercepts 3.32 percent, while the highest GRDP is East Java Province with an intercept value of 6.78 percent on the total GRDP that province in certain period

Each influence of independent variable towards dependent variable is below:

- A) Government expenditure (X_1) has the probability result 0.0067 or lower than α 5%; it rejects H_0 , which means there is a significant effect of the government expenditure towards GRDP in Indonesia 2013-2018. In addition, coefficient 0.024671 concluded that the increase in government expenditure will increase GRDP simultaneously. In conclusion, when the government expenditure increased by 1 percent, the number of provincial GRDP in Indonesia will increase by 0,024 percent these results are supported and similar to previous studies including Wardana, Budhi & Yasa (2014); Fitri (2016); dan Maisaroh & Risyanto (2016). Government Expenditure aims to finance regional needs is very influential on Gross Regional Domestic Product (GRDP) because the expenditure will be used for public interests such as employment expenditure, goods and services expenditure, and capital expenditure, which will support economic activities in the production goods and services. As a result, Gross Regional Domestic Product (GRDP) in a region will increase
- B) HDI (X_2) has the probability result 0.0067 or less than α 5%; it rejects H_0 , which means there is a significant effect of HDI towards GRDP in Indonesia 2013-2018. In addition, with a regression coefficient of 0,075 which means that when HDI rises 1 percent, the number of provincial GRDP in Indonesia will experience an increase of 0,075 percent. As has been found by Izzah (2015); Irmayanti (2017); and Rahmawati (2013) in their study which stated a very strong relationship between human quality and national/regional income. Increase GRDP simultaneously.
- C) Worker (X_3) has the probability result 0.1253 or bigger than α 5% and 10%; it rejects H_0 , which means there is no significant effect of worker on GRDP in Indonesia 2013-2018. It can be concluded that the increase in worker will not have a serious impact on GRDP. this result might be happened as explained by bloom, et al (2003) although basically workers and population can affect the income of a country/region, the population and the number of workers can be neutral; once other factors such as country size, openness to trade, educational attainment of the population, and the quality of civil and political institutions

are taken into account. And also as explained by karlita, & yusuf (2013) who conclude that this happens because of the low productivity of these workers so that even though the numbers are many but not significantly affect GRDP.

D) Investment (X_4) has the probability result of 0.001 or less than α 5%; it accepts H_0 , which means there is a significant effect of the investment on GRDP in Indonesia 2013-2018. In addition, with a regression coefficient of 0.013549 which means that when the investment goes up by 1 percent, the total GDP of the Province in Indonesia will increase by 0,013 percent. As researched by Pratama (2011) and Putra (2018) who found the results of the study that investment is very influential on the growth of regional Gross Regional Domestic Product (GRDP)

5. CONCLUSION

Based on the empirical results and discussion about the influence four independent variables namely government expenditure, human development index, worker and investment on gross regional domestic product (GRDP) in indonesia period 2013-2018, it can be summed up as follows:

1. Government expenditure had positive and significant impact in influencing GRDP, then an increase in government expenditure would increase Indonesia's GRDP period 2013-2018.
2. Human Development Index (HDI) had positive and significant impact in Indonesia's GRDP, then an increase in HDI would have an effect on the increasing of GRDP in Indonesia period 2013-2018. Moreover, it is the most significant factor influencing GRDP.
3. Worker income had no significant impact significant impact in influencing GRDP in Indonesia period 2013-2018.
4. Investment had a significant positive impact in influencing Gross Regional Domestic Product (GRDP) in Indonesia period 2013-2018. Thus, an increase in investment would increase Indonesia's GRDP period 2013-2018.



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