



The Effect of Human Development Index, Domestic Investment (PMDN), and Foreign Direct Investment (PMA) on Labor Absorption in the Sulawesi Region, 2016–2024

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ABSTRACT

This study aims to analyze the influence of the Human Development Index (HDI), Domestic Investment (PMDN), and Foreign Investment (PMA) on labor absorption in the Sulawesi region during 2016–2024. This study uses a quantitative approach with secondary data obtained from the Central Statistics Agency (BPS) and analyzed using panel data regression. Based on the results of the model selection regression test through the Chow test and the Hausman test, it was obtained that the Fixed Effect Model (FEM) is the most appropriate model. The results of the study show that simultaneously HDI, PMDN, and PMA have a significant effect on labor absorption, with the F Test (Simultaneous) producing a probability value of 0.00000 (< 0.05). Partially, HDI and PMDN have a significant effect. Showing that improving the quality of human resources and domestic investment have an important role in optimizing labor absorption. Meanwhile, FDI has no significant effect, indicating that foreign investment has not been able to absorb labor optimally.

INTRODUCTION

Labor absorption is one of the important indicators in economic development because it reflects a region's ability to create job opportunities and improve community welfare. In the Sulawesi region, labor absorption is influenced by various factors, including the quality of human resources and investment activities, both domestically and abroad. In this case, the Human Development Index (HDI) reflects the quality of human resources through aspects of education, health, and living standards that play a role in increasing labor absorption opportunities.

The International Labour Organization (ILO) emphasizes that labor absorption is one of the important components in achieving sustainable development, where increasing productive employment opportunities is considered the main means to reduce poverty and strengthen people's social welfare. In line with the ILO, the World Bank (2022) highlights that the spatial distribution of employment opportunities greatly determines the direction of national economic development. The concentration of economic activity in certain regions results in high gaps in labor absorption between regions. This inequality not only causes economic disparities, but also has an impact on labor migration, urbanization, and unbalanced regional growth. The World Bank explains that to achieve inclusive development, regional policies are needed that are able to expand the base of labor absorption to areas with lower economic capacity.

Indonesia is one of the countries with a region that has a wealth of natural resources and abundant human resource potential, including the Sulawesi region. Human resources are the main factor in the national economic development process, because through improving the quality and productivity of labor, economic sectors in various regions can grow more optimally. In the context of regional development, Sulawesi Island has a strategic role as one of the centers of economic growth in the eastern region of Indonesia. However, the dynamics of national economic growth that tend to move towards capital-intensive rather than labor-intensive industries cause its own challenges to labor absorption, including in the Sulawesi region. This condition indicates that although the Sulawesi

region has great potential in the industrial and investment sectors, increasing labor absorption still needs to be optimized in order to reduce the unemployment rate and improve the welfare of the people in the region .

Table 1. Number of Population by Labor Force, Work, and Unemployment in the Sulawesi Region in 2016-2024

Year	AK Work		Work		Unemployment	
	(Soul)	(Soul)	(%)	(Soul)	(%)	
2016	9.035.720	8.655.477	95,79	380.243	4,21	
2017	8.725.369	8.293.997	95,06	431.372	4,94	
2018	9.487.467	9.065.526	91,74	421.941	4,45	
2019	9.575.450	9.169.580	92,14	405.870	4,24	
2020	9.718.398	9.188.550	94,55	529.848	5,45	
2021	9.896.143	9.404.582	95,03	491.561	4,97	
2022	10.199.304	9.782.008	95,91	417.296	4,09	
2023	10.428.116	10.015.268	96,04	412.848	3,96	
2024	10.827.224	10.405.998	96,11	421.226	3,89	

Source: Central Statistics Agency 2024

Based on table 1, labor absorption in the Sulawesi region during 2016–2024 tends to increase, with the labor force increasing from 9.035 million people to 10.82 million people, and the number of working population from 8.65 million to 10.40 million people. This increase shows the expansion of employment, especially in the processing, trade, and construction industry sectors. However, the unemployment rate still shows fluctuations, from 491,561 people in 2021 to 412,848 people in 2023, then slightly to 421,226 people in 2024. This reflects that the growth of labor absorption is relatively good in aggregate, but the effectiveness of job creation differs between provinces due to uneven sectoral dynamics, so that the increase in the working population is not always in line with the decrease in unemployment in each province in the Sulawesi region.

Labor absorption in the Sulawesi region shows a different pattern between provinces in terms of absolute numbers, provinces with large populations such as South Sulawesi, Central Sulawesi, and Southeast Sulawesi continue to dominate the total absorbed workforce, in line with the large scale of the economy and the population of the labor force in the region, South Sulawesi consistently recorded the highest number from 2016-2024 of 36,591,009 people, followed by Central Sulawesi 13,498,489 people and Southeast Sulawesi of 11,540,744 people, then North Sulawesi 10,356,402 people followed by West Sulawesi 6,072,140 people and Gorontalo of 5. 214,131 people, but when viewed from the growth rate of the percentage of labor absorption in 2016-2024, the province of West Sulawesi consistently recorded the highest labor absorption rate with an average of 97.08 percent, followed by Central Sulawesi at 96.67 percent, Gorontalo at 96.60 percent, and Southeast Sulawesi at 96.58 percent, while South Sulawesi province showed an increasing trend even though with a slightly lower absorption rate than the regional average of 95.00 percent and North Sulawesi province showed an increasing trend but was still the province with the lowest labor absorption rate of 93.45 percent, thus, the direction of the development of labor absorption in the Sulawesi region which showed an increasing trend but varied between provinces cannot be separated from the role of economic and social factors that affect the dynamics of the labor market in this region.

The problem of labor absorption is a significant problem in developing countries such as Indonesia To boost the economy, flexible labor is needed in the current rapidly growing global market situation in Keynes' theory, a positive correlation was found in investment and job opportunities. More investment means more labor is needed. Keynes stated that investment is able to create more. Employment with high investment, it is certainly able to increase production capacity so that it can cause the number of labor absorption to increase by reaching the highest output figure.

The creation of a good investment climate in an area can generally be a stimulus in increasing output, through this increase in output, it will create an increase in demand which in the end will expand employment opportunities for the workforce. Therefore, investment is the key to economic growth. Increased investment is the most important factor in determining the size and size of the income level obtained. Investment can make people to increase their economic activities, create adequate employment opportunities for the workforce, increase the level of prosperity and income on a national scale.

Investment is an important factor in creating job opportunities in increasing aggregate demand that drives the relationship between wages and employment Domestic Investment (PMDN) and Foreign Investment (FDI) can drive economic growth through the private and household sectors in an area which then affects the increase in the number of outputs and the increase in the workforce. The level of investment is determined by the level of profit obtained by interest rates, technological advances, and the level of national income as well as its changes and the profits obtained by the company.

In addition, improving the quality of human resources through human capital investment is an important factor in long-term investment because the use of human resources depends on the needs of management and

utilization of resources in increasing economic productivity in a country and can maintain growth in the long term and enable good results in the future.

Based on the theory of human capital put forward by Becker, (1975) said that human beings are not only a resource, but can also be considered capital. The importance of human capital can be seen through various aspects, including income, health, education, or the development of good habits that contribute to productivity. These aspects are considered human capital because of their relationship to knowledge, skills, health, and financial and physical values that are inseparable from human existence. In Becker's view, human capital refers to the reserve of skills and knowledge generated by humans through efforts in terms of health and education. A high level of education and health in a person reflects the expected higher level of human capital. Education and training are a form of human capital investment that is expected to increase individual productivity and bring economic benefits to society as a whole, so that every individual who works has the necessary skills and abilities and ultimately creates competitiveness in the labor market in influencing the number of people who work .

The quality of human resources is reflected in the value of the Human Development Index which is a composition index based on three indicators, namely health, education and human living standards is one of the aspects that has an impact on the absorption of labor if every community has quality human resources, it makes it easier to get the desired job. Quality human resources can be achieved by investing in education and health through the mastery of knowledge and skills.

This condition shows that one of the main factors that has the potential to encourage labor absorption is investment, both from Domestic Investment (PMDN) and Foreign Investment (PMA). Investment has an important role in creating new jobs through the expansion of production activities and capacity building of regional economic sectors. In addition, improving the quality of human resources as reflected through the Human Development Index (HDI) is also a key factor in supporting the effectiveness of labor absorption, because the high quality of labor allows for better productivity and economic competitiveness. Therefore, an analysis of the development of FDI, PMDN, and HDI in the Sulawesi region during 2016-2024 is relevant to understand the extent to which these three variables affect the increase in the number of labor absorption in the Sulawesi region in 2016-2024.

Table 2. Data on Investment in PMA, PMDN and Human Development Index in the Sulawesi Region in 2016-2024

Year	PMDN Domestic Investment (Millions)	Foreign Investment of FDI (Millions)	Human Development Index (Points)
2016	13.566,20	37.150,54	67,91
2017	10.084,60	47.241,88	68,55
2018	23.499,30	33.652,40	69,23
2019	24.229,70	12.761,12	69,93
2020	21.211,10	49.557,94	70,11
2021	24.301,50	69.883,88	70,39
2022	26.351,50	142.667,59	70,98
2023	37.644,80	127.812,51	71,59
2024	31.203,10	160.210,67	72,26

Source: Central Statistics Agency 2024

Based on Table 2, the development of investment in the Sulawesi region during 2016–2024 shows a fluctuating trend but tends to increase, both in terms of Domestic Investment (PMDN) and Foreign Investment (PMA). PMDN investment had decreased in 2017 to Rp.10,084.60 from the previous year in 2016 of Rp.13,566.20 then increased again until 2019 of Rp.24,229.70 then decreased again in 2020 to Rp.21,211.10 due to the impact of the COVID-19 pandemic, but increased significantly again in the following years and reached a peak in 2023 of Rp.37,644.80

Meanwhile, FDI had fluctuated, in 2016 the value of FDI amounted to Rp.37,150.54 then increased in the following year in 2017 by Rp.47,241.88 then decreased rapidly to Rp.12,761.12 in 2019 then showed much faster growth with a sharp spike in the following years to Rp.160,210.67 in 2024.

This increase shows the increasing interest of foreign investors in the economic potential of the Sulawesi region, especially in leading sectors such as mining, processing industry, and energy. However, data between provinces shows a significant difference in investment levels. Provinces with greater economic capacity such as Central Sulawesi and Southeast Sulawesi, South Sulawesi tend to record higher total PMDN and FDI values than other provinces during the 2016-2024 research year, with the value of the total investment value of PMDN and PMA in Central Sulawesi Province of Rp.531,504,679 followed by Southeast Sulawesi Province of Rp.131,685,400, South Sulawesi of Rp.117,112,628 and North Sulawesi of Rp.74,715,016 While regions such as

Gorontalo Province Rp.24,014,850 and West Sulawesi Rp.13,997,749 are still at a relatively lower level of investment.

In line with this increase in investment, the Human Development Index (HDI) in the Sulawesi region also shows a consistent trend of improving from 67.91 points in 2016 to 72.26 points in 2024 this increase in HDI indicates progress in the aspects of education, health, and people's purchasing power on the other hand, the Human Development Index (HDI) in all provinces on the island of Sulawesi also shows a gradual increase during the same period. North Sulawesi Province with an average score of 73.04 points recorded the highest HDI score, followed by South Sulawesi with an average of 71.91 points, then Southeast Sulawesi with an average of 71.40 points and Central Sulawesi with an average of 69.57 points while Gorontalo averaged 68.74 points and West Sulawesi had an average of 65.99 points during 2016-2024 being in a lower position. This difference in HDI achievement reflects variations in the quality of human resources between provinces, which generally describes the level of progress in socio-economic development in the region.

Based on the above phenomenon, it shows that the increase in investment and the quality of human resources has not been fully followed by an increase in the equal absorption of labor in the Sulawesi region, several provinces with relatively high investment values and HDI have not shown a commensurate rate of labor absorption, while areas with a smaller economic scale show more stable growth. This condition indicates a difference in the effectiveness of economic development and the quality of human resources in encouraging job creation in the Sulawesi region. Previous research shows various correlation results of the influence of investment in PMA, PMDN and HDI on labor absorption.

According to the Foreign Investment (FDI) investment is a factor that supports the absorption of labor in North Sumatra Province, the increase in foreign investment is relatively large in the absorption of sectoral labor expenditure or investment expenditure to buy production goods, to increase the ability to produce goods and services available in the economy that come from foreign investment that is useful for productive activities, then the potential output of a region will increase and long-term economic growth will also increase. Thus, investment, especially foreign investment, plays an important role in determining the amount of output and income, but there is a difference with the findings made by, where West Java Province whose industry is labor-intensive focuses more on technology development and automation of production processes. This has a large impact because FDI does not provide a definite increase in the absorption of labor in various industrial sectors.

The findings that domestic investment (PMDN) is one of the factors that support the employment of labor in 32 provinces in Indonesia where the increase in domestic investment is able to encourage the absorption of labor in a positive direction so that it can absorb more labor in contrast to the findings, stating that investment (PMDN) has no effect on the absorption of labor in districts/cities of East Java Province, the policy of business actors who tend to allocate investment funds to the procurement of capital goods such as production machinery. In addition, there is a discrepancy between the qualifications of the job readiness needed and the quality of human resources offered in East Java Province.

In addition, the findings of the Manuisa Development Index are one of the factors that affect the absorption of labor on the island of Java. That by improving the standard of living, health, and education. will increase people's productivity and affect the demand for goods, which in turn will encourage companies to increase their production and hire more employees. The results of these findings are different from the results of research conducted by the findings in 14 districts/cities in East Java Province during 2010-2015. Where the high Human Development Index in an area does not necessarily guarantee the absorption of labor, this is due to the incompatibility of the qualifications needed by companies where companies tend to look for workers whose wages are not too high. This is related to the quality of human resources affecting the wage level of the human resources.

Based on data from the Central Statistics Agency related to the variables of labor absorption, investment in FDI and PMDN and the Human Development Index, it can be seen that the increase in investment and quality of human resources has not been fully followed by an increase in the absorption of labor evenly in all provinces in the Sulawesi region. Some provinces with relatively high investment values and Human Development Index (HDI) have not shown a commensurate rate of labor absorption. On the other hand, provinces with a smaller economic scale show a growth in labor absorption that tends to be more stable. This condition indicates a difference in the effectiveness of economic development and the quality of human resources in encouraging job creation in the Sulawesi region.

In addition, the diverse results of research in various regions in Indonesia show that the relationship between investment, quality of human resources, and labor absorption is complex and varies between regions. Therefore, it is important to further examine how Domestic Investment (PMDN), Foreign Investment (PMA), and Human Development Index (HDI) affect labor absorption in the Sulawesi region.

RESEARCH METHODS

This research is based on a quantitative research paradigm with an explanatory research type. Explanatory analysis is a research that aims to explain the relationship and influence between independent variables on dependent variables through hypothesis testing. Thus, this study is used to determine the relationship and influence between the variables studied.

A quantitative approach was used to analyze the influence of the Human Development Index, PMDN and PMA on labor absorption in the Sulawesi region in 2016–2024, focusing on the research location in 6 provinces. The analysis method used was panel data analysis, because the data used consisted of a combination of cross-regional data (e.g. province) and time series (year). The analyzed data was obtained from official sources such as the Indonesian Central Statistics Agency (BPS). The dependent variable in this study was labor absorption (in units of life), while the independent variables were PMDN (in units of rupiah) and PMA (in units of rupiah). The data analysis technique was carried out using regression of panel data through the Eviews software. The panel data model test is a combination of time series data (time series data) and cross section data, so the equation model that will be used in this study is as follows.

$$PENY_{it} = \alpha + \beta_1 IPM_{1it} + \beta_2 PMDN_{2it} + \beta_3 PMA_{3it} + e_{it}$$

Description:

Squirt : Labor Absorption
 α : Constant
 IPM_{1it} : Human Development Index
 $PMDN_{2it}$: Domestic Investment
 PMA_{3it} : Foreign Investment Investment
 $\beta_1, \beta_2, \beta_3$: Regression Coefficient
 e_{it} : Error
i : Province
t : Research Time Constraints

In panel data analysis, the selection of the right model is very important to obtain accurate estimation results. This study conducted a series of tests to determine the best model between CEM, FEM, and REM. In selecting the best model with normal data, the Chow test, the Hausman test, and the Lagrange-Multiplier (LM) test were performed.

After the model is selected, a classical assumption test is carried out to ensure the validity of the model. The fulfillment of classical assumptions is very important to ensure that the model used meets the BLUE (Best Linear Unbiased Estimator) criteria, which is the best, unbiased, and efficient conjecture. If one of the classical assumptions, such as multicollinearity, heteroscedasticity, is not met, then the results of the model estimation can be inefficient, so that the coefficient value obtained can be inaccurate in its economic interpretation. And conducting a hypothesis test to examine the assumptions that have been made to answer the assumptions or problems proposed in this test consists of *f*, *t*, and *R*² (coefficient of determination) tests.

RESULTS AND DISCUSSION

Panel Data Analysis Results

Model Selection Test Results

The chow test is used to determine whether the more suitable model is a common effect or a fixed effect, based on decision-making on the p-value of the cross-section F. If the p-value is greater than 0.05, then the model chosen is common effect. On the other hand, if the p-value is less than 0.05, then the model that is considered appropriate is the fixed effect. Thus, this test plays an important role in ensuring that the model used is completely in accordance with the characteristics of the research data.

Table 3 Chow Test Results

Effects Test	Statistic	D.F.	Prob.
Cross-section F	754.439952	(5,45)	0.0000
Cross-section Chi-square	239.792934	5	0.0000

Source: Output Eviews 13, 2025

In Table 3, the Chow Test Results show a Cross-section F probability value of $0.0000 < 0.05$, which means that FEM is better than CEM.

Table 4 Hausman Test Results

Test Summary	Chi-Sq. Statistics	Chi-Sq. D.F.	Prob.
Cross-section random	67.266410	3	0.0000

Source: Output Eviews 13, 2025

Furthermore, in table 4, the Hausman Test produces a probability value of $0.0000 < 0.05$, which means that FEM is better than REM. Based on the results of the model selection test, the estimation model selected in this study is FEM.

It was obtained that the most suitable model to be used in this study is the Fixed Effect Model (FEM). The selection of this model shows that there are significant differences in individual characteristics between provinces in the Sulawesi Region that need to be controlled in the analysis, so that each region has a different intercept but with the same slope coefficient for independent variables. The results of the Fixed Effect model estimation in detail are presented in Table 5.

Table 5 Fixed Effect Model Results as Selected Regression Model

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Coefficient	-2458061.	1010585.	-2.432315	0.0190
IPM	560.8431	147.4180	3.804441	0.0004
PMDN	20.87498	8.745985	2.386807	0.0213
PMA	-0.044149	0.776037	-0.056891	0.9549

Source: Output Eviews 13, 2025

The Fixed Effect model used in this study accommodates the differences in individual characteristics between provinces through different intercepts for each region. These intercept differences reflect locally-specific factors that are not captured by independent variables in the model, but affect the absorption of labor in each province. The value of individual fixed effects (cross-section fixed effects) for each province.

Table 6 Provincial Individual Fixed Effects

Regency/City	CROSSID Effect
North Sulawesi	-585592.8
Central Sulawesi	-21734.50
South Sulawesi	2396415.
Southeast Sulawesi	-342496.6
Gorontalo	-855376.9
West Sulawesi	-591213.9

Source: Output Eviews 13, 2025

Table 6 shows the value of the individual fixed effect (cross-section effect) of each province in the Sulawesi region. The difference in values reflects the variation in intercept between provinces that describes local characteristics that are not measured in the model, but affect labor absorption. after being controlled by the variables of the Human Development Index (HDI), Domestic Investment (PMDN), and Foreign Investment (PMA).

Classical Assumption Test Results

After the FEM model is selected, a classical assumption test is carried out to ensure the validity of the model. The multicollinearity test aims to find out whether there is a strong relationship between independent variables. The test is carried out by comparing the adjusted R^2 value of the regression result with the correlation coefficient (r) between independent variables. If the correlation value exceeds 0.90, it can be concluded that multicollinearity occurs. On the other hand, if the correlation value is less than 0.90, then the regression model can be said to be free of multicollinearity problems.

Table 7 Multicollinearity Test

Variable	IPM	PMDN	PMA
IPM	1.000000	0.686280	0.113199
PMDN	0.686280	1.000000	0.062440
PMA	0.113199	0.062440	1.000000

Source: Output Eviews 13, 2025

Based on Table 7, the results of the multicollinearity test show that there is no problem of multicollinearity in this study model. The value of the correlation coefficient between independent variables is entirely below 0.90. The value shows a relatively weak relationship between independent variables and there is no indication of a high linear relationship between the two.

Table 8 Heteroscedasticity Test

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Coefficient	83058.27	588982.0	0.141020	0.8885
IPM	-3.233976	85.91711	-0.037641	0.9701
PMDN	1.628128	5.097273	0.319412	0.7509
PMA	-0.123407	0.452284	-0.272853	0.7862

Source: Output Eviews,2025

Based on Table 8, the results of the heteroscedasticity test using the Glejser method can be found that all independent variables, namely HDI, PMDN, and PMA, have a probability value (Prob.) greater than 0.05. The probability value of each variable is HDI of 0.9701, PMDN of 0.7509, and PMA of 0.7862. Referring to the test criteria, if the value of Prob. > 0.05, it can be concluded that there are no symptoms of heteroscedasticity in the regression model.

The fulfillment of this assumption indicates that the estimated parameters produced are efficient and reliable for hypothesis testing and interpretation of the influence of independent variables on Labor Absorption in Wllayah Sulawesi.

Hypothesis Test Results

The hypothesis test in this study, where FEM is the selected model, consists of an F test (simultaneous), a t test (partial), and a determination coefficient test.

Table 9 F Test Results

F-statistic	768.5478
Prob(F-statistic)	0.000000

Source: Eviews 13 (2025)

The F (Simultaneous) test produced a probability value of 0.00000 (< 0.05), which shows that simultaneously HDI, PMDN and PMA have a significant effect on labor absorption.

The t-test (Partial) showed that the HDI variable (X1) had a probability value of 0.0004 and PMDN (X2) of 0.0213, both of which were smaller than 0.05. Thus, partially, both variables had a significant effect on labor absorption while the PMA variable (X3) had a value of 0.9549 so that the variable did not have a significant effect.

Table 10 Test Results t

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Coefficient	-2458061.	1010585.	-2.432315	0.0190
IPM	560.8431	147.4180	3.804441	0.0004
PMDN	20.87498	8.745985	2.386807	0.0213
PMA	-0.044149	0.776037	-0.056891	0.9549

Source: Eviews 13, 2025

Based on the results of the t-test on the Fixed Effect Model (FEM) model, the results of this study are as follows:

The HDI variable (X1) has a t-stat probability value of 0.0004, smaller than the significance level of $\alpha = 0.05$, so H_0 is rejected. This means that the HDI variable has a unilateral and partially significant effect on labor absorption in the Sulawesi region in 2016–2024.

The PMDN variable (X2) has a t-stat probability value of 0.0213, smaller than the significance level of $\alpha = 0.05$, so H_0 is rejected. This means that the PMDN variable has a unilateral and partially significant effect on labor absorption in the Sulawesi region in 2016–2024.

The PMA variable (X3) has a t-stat probability value of 0.9549, also greater than the significance level of $\alpha = 0.05$, so H_0 is not rejected. This means that the PMA variable does not have a significant partial effect on labor absorption.

The R-squared value of 0.992734 indicates that only about 99% of the variation in labor absorption can be explained by the HDI, PMDN and PMA variables. The remainder, 1%, is influenced by other factors not included in this model.

Table 11 Determination Coefficient Test Results (R2)

R-squared	0.992734
Adjusted R-squared	0.991442

Source: EvIEWS 13, 2025

DISCUSSION

The Effect of the Human Development Index on Labor Absorption

Theoretically, the absorption of labor is influenced by the quality of human resources and the availability of job opportunities created from investment activities in terms of labor supply, HDI reflects the quality of human capital through the dimensions of education, health, and living standards. The human capital theory put forward by Becker, (1993) explains that workers with better levels of education and health have higher productivity, so they are more easily absorbed by the labor market. Therefore, the variation in HDI between regions directly affects the ability of labor to enter and survive in the formal labor market. The higher the HDI of a region, the greater the ability of labor to be absorbed in the labor market.

Based on the results of the partial test using the Fixed Effect model, the estimated coefficient value was obtained at 56084.31 with a probability of $0.0004 < 0.05$. Thus, H_0 is rejected, which means that HDI partially has a direct and significant effect on Labor Absorption can be interpreted that every increase in HDI by 1 point will increase Labor Absorption by 56084.31 people assuming other variables remain

Thus, the results of this partial test confirm that the Human Development Index is one of the important factors that directly affect labor absorption, so that improving the quality of human development is a relevant strategy in encouraging labor absorption in the Sulawesi region.

The results of this study are in line with , and that the Human Development Index is one of the factors that affect the absorption of labor. That with an increase in living standards, health, and education. will increase people's productivity and affect the demand for goods, which in turn will encourage companies to increase their production and hire more employees and in the world of work what is needed is the skills and quality of a person, so that in achieving quality human resources there are components such as education and health. Good education and adequate health are expected to be able to create quality human resources.

On the other hand, there are different findings by and found that HDI has no effect on labor absorption. Human Development Index Insignificant results can occur because high HDI possessed by higher education graduates does not promise to be absorbed in the labor market because companies tend to prefer workers with low wages. In addition, it can also occur because workers who do not have adequate quality are not absorbed properly in the labor market. Where the high Human Development Index in an area does not necessarily guarantee the absorption of labor, this is due to the incompatibility of the qualifications needed by companies where companies tend to look for workers whose wages are not too high. This is related to the quality of human resources affecting the wage level of the human resources.

Thus, it can be concluded that these findings indicate that the better the quality of education, health, and living standards of the community, the greater the region's ability to absorb labor. Thus, development policies that focus on improving the quality of human resources are a strategic factor in encouraging labor absorption and reducing unemployment in the Sulawesi region.

The Effect of Domestic Investment (PMDN) on Labor Absorption

Domestic Investment (PMDN) is one of the sources of development financing that comes from domestic investors and plays an important role in encouraging regional economic activities. The existence of PMDN not only increases production capacity and business growth, but also contributes directly to labor absorption.

Theoretically, investment not only creates demand, but also increases production capacity. Labor, which is one of the factors of production, will automatically increase its users. The dynamics of investment affect the high and low economic growth, reflecting the rampant sluggish development. So every country tries to create a climate that can excite investment, especially private investment that can help create jobs so that it can increase job opportunities The concept of theory According to Harrod Domar, investment not only creates demand, but also increases production capacity. Labor, which is one of the factors of production, will automatically increase its users. The dynamics of investment affect the high and low economic growth, reflecting the rampant sluggish development. So every country tries to create a climate that can excite investment, especially private investment which can help create jobs so that it can increase job opportunities .

Based on the results of the partial test using the Fixed Effect model, the estimated coefficient value was obtained at 20,874 with a probability of $0.0213 < 0.05$. Thus, H_0 is rejected, which means that PMDN partially has a direct and significant effect on Labor Absorption, it can be interpreted that every increase in PMDN of 1 Rupiah will increase Labor Absorption by 20,87498 people assuming other variables are fixed, the results of this study indicate that PMDN is one of the real factors empirically having a direct and significant effect on labor absorption which means that PMDN has a strategic role in increasing labor absorption. Therefore, increasing PMDN through policies that support the domestic investment climate is expected to be one of the effective efforts in expanding

employment opportunities and reducing the unemployment rate, so that strengthening domestic investment is an important factor in supporting economic development and job creation.

The results of this study are in line with the findings of , and that domestic investment (PMDN) is one of the factors that support the employment of labor where the increase in domestic investment is able to encourage the absorption of labor in a positive direction so that it can absorb more workers, meaning that the value of investment plays a very important role in order to support and accelerate the growth of employment which has a high absorption of labor so that it can help the government in overcoming employment problems. The greater the value of PMDN investment that is invested, the more labor is absorbed the realization of PMDN investment itself is often allocated to build production facilities to increase the competitiveness of local industries through increasing production, production efficiency and innovation which in the process requires a competent workforce.

However, there are different findings on how the influence of PMDN Investment on labor absorption according to and investment (PMDN) does not affect labor absorption.

The Effect of Foreign Investment (FDI) on Labor Absorption

Based on the results of the estimation test using the Fixed Effect model, it was hypothetically shown that Foreign Investment (FDI) had an asymmetrical coefficient of -0.044149 on the absorption of labor in the Sulawesi region. However, a probability value (p-value) of 0.9549 which was greater than the significance level of 0.05 indicates that the influence of FDI was not statistically significant. This indicates that during the study period, the increase in FDI has not been empirically proven to affect labor absorption in the Sulawesi region. The insignificance of the influence of FDI on labor absorption can be caused by the characteristics of foreign investment that tend to be capital-intensive and oriented towards certain sectors, such as mining, energy, and high-tech industries, so that it does not directly encourage an increase in the use of local labor. In addition, the limitation of skill suitability (Skill mismatch) between local labor and the needs of the FDI industry is also suspected to be a factor that hinders the optimization of labor absorption.

The results of this study are also in line with , and that investment has no effect and has a negative relationship with the absorption of labor realization of foreign investment in general in the form of capital-intensive companies. So that the absorption of labor is very minimal. The absorbed labor has high specifications, this is because foreign investors invest with capital intensive or capital-intensive purposes. This can happen if foreign investment carried out by developed countries follows the investment techniques they apply in their home countries. Developed countries tend to have capital-intensive production factors. Therefore, foreign investment tends to reduce labor because capital-intensive techniques accompanied by high technology tend to have better productivity and efficiency so as to produce the same or even greater quantity of output, and fewer workers are needed. In addition, the use of high technology tends to require a higher qualified workforce. Compared to labor-intensive industries.

This research is not in line with the results of the research where Foreign Investment (FDI) investment has a significant effect on the absorption of labor, an increase in foreign investment is relatively large, the effect on the absorption of sectoral labor expenditure or investment expenditure to buy production goods, to increase the ability to produce goods and services available in the economy that come from foreign investment that is useful for productive activities, then the potential output of a region will increase and long-term economic growth will also increase. Thus, investment, especially foreign investment, plays an important role in determining the amount of output and income.

CONCLUSIONS

Based on the results of the selection of the panel data model conducted through the Chow test and the Hausman test, it was obtained that the Fixed Effect Model (FEM) was the selected estimation model so that it became the most appropriate model to analyze the absorption of labor in the Sulawesi region during 2016–2024, because it was able to capture differences in characteristics between provinces that were fixed all the time.

Simultaneously, the variables of the Human Development Index (HDI), Domestic Investment (PMDN), and Foreign Investment (PMA) have a significant effect on the Absorption of Labor in the Sulawesi Region in 2016-2024.

Partially, the variables of the Human Development Index (HDI) and Domestic Investment (PMDN) have a significant effect on the Absorption of Labor in the Sulawesi Region in 2016-2024 while the Foreign Investment (PMA) variable has no significant effect.

SUGGESTIONS

Scientifically, further research is recommended to develop this study by expanding the research variables, observation periods, and using more diverse methodological approaches. This development is important so that the relationship between human development, investment, and labor absorption can be analyzed in more depth, while capturing the dynamics of differences in characteristics between regions and changes in economic conditions over time.

Policy suggestions Based on the results of the research, policy makers are expected to formulate more targeted and integrated development policies, especially in optimizing the role of investment and improving the quality of human resources. These policies need to be directed not only to encourage economic growth, but also to be able to increase job creation effectively and sustainably, so that the benefits of development can be felt more evenly by the community and able to support job creation and increase labor absorption in a sustainable manner.

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