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Research Article

The Influence of Domestic Investment, Foreign Investment, and Labor on the Human Development Index (HDI) of Bali Province

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Abstract: The Human Development Index (HDI) is a crucial indicator for measuring the success of human development, encompassing the dimensions of education, health, and a decent standard of living. In Bali Province, disparities in the HDI among regencies/municipalities still exist, which may hinder the overall regional economic development. This study aims to analyze the influence of Domestic Investment, Foreign Investment, and Labor both simultaneously and partially on the Human Development Index during the 2016–2023 period. The data used are secondary data obtained from the Central Statistics Agency, comprising 72 observations. The data collection method employed is the observation method, and the analysis technique used is panel data regression. The results show that (1) Domestic Investment, Foreign Investment, and Labor simultaneously have a significant effect on the Human Development Index of Bali Province, and (2) Domestic Investment partially has no significant effect on the Human Development Index of Bali Province, while Foreign Investment and Labor partially have a positive and significant effect on the Human Development Index of Bali Province.

Keywords: Domestic investment; Foreign investment; Human development index; Labor

1. INTRODUCTION

Economic Economic development is an effort or process to bring about positive change (Izzah & Hendarti, 2021). This process involves transformations in various sectors, including social, political, economic, and cultural aspects. Economic development is a fundamental requirement for the sustainability of a country. Along with the advancement of the times, economic development has undergone rapid transformation, shifting its paradigm from a growth-focused approach to equity, and currently to human development as the central focus. This paradigm shift led the United Nations Development Programme (UNDP) in 1990 to introduce the concept of measuring the quality of human capital, known as the Human Development Index (HDI).

HDI is an inclusive indicator that measures living standards with greater emphasis on development rather than Gross Domestic Product (Kaewnern et al., 2023). The HDI is constructed from core components of human development: a long and healthy life, knowledge, and a decent standard of living (BPS, 2024). These three dimensions reflect comprehensive efforts to improve community welfare (Oktavia, 2021). Health is measured by life expectancy at birth; knowledge is assessed through expected years of schooling and mean years of schooling for adults; and the standard of living is measured by per capita purchasing power. Human resources are a fundamental asset for national development.

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According to BPS (2024), the HDI has a value range from 0 to 100, with values closer to 100 indicating higher human development quality. HDI achievements are categorized into four levels: very high (HDI > 80), high (70 ⩽ HDI < 80), medium (60 ⩽ HDI < 70), and low (HDI < 60).

Human development aims to expand people's choices and is generally understood as a planned effort to enhance the capacity of individuals and communities to actively shape their future, improving both material and spiritual welfare (Kamilia & Widiastuti, 2016). The quality of human development determines the population's ability to absorb and manage potential, both in terms of technology and institutions, which are essential tools for achieving economic growth (Koraus et al., 2023).

Based on BPS publications, Bali Province has successfully improved its HDI. In 2023, Bali achieved an HDI score of 77.1, which is higher than the national average of 74.39. However, the average HDI growth remains low, with less than 1% growth annually, thus requiring special attention from the provincial government. According to the 2018 HDI report, Bali was among the three provinces with the lowest HDI growth, at 0.63% (BPS, 2018). This slow growth continues to be a persistent issue. The lowest HDI growth among regencies/municipalities in Bali occurred in 2020, with an average growth rate of only 0.11%, primarily due to the COVID-19 pandemic. According to Rinaldi et al. (2022), HDI values were significantly affected by the pandemic. The decline in economic activity caused a drop in employment absorption and a rise in unemployment, which reduced per capita income—a key component of a decent standard of living.

Although Bali's overall HDI is high, this achievement is not equally distributed among its regencies and municipalities, as reflected by HDI disparities. In 2023, the highest disparity occurred between Denpasar City (84.73) and Karangasem Regency (68.91), showing a gap of 15.82 index points. This indicates a significant inequality in human development across the province.

Investment plays a critical role in regional economic development as it serves as a key driver of economic growth (Angela & Budhi, 2019). Essentially, promoting development in a region requires substantial capital to drive economic growth, enhance infrastructure, and create sustainable employment opportunities (Lestari, 2013). Investment contributes to capital accumulation, increases building and equipment stock, enhances regional output potential, and stimulates economic growth that can support human development. Equitable investment can stimulate economic activity, increase job opportunities, and reduce income inequality. Investment also serves as a way to improve future welfare by anticipating the effects of inflation (Guna & Yuliarmi, 2021). This aligns with the Harrod-Domar theory, which states that economic growth requires investment. As economic growth is part of economic development, it consequently influences human development, as measured by HDI.

Investment is a key resource in human development (Supranto et al., 2022). The government needs to implement policies that provide broader opportunities for both domestic and foreign private sectors to participate in national development. One form of participation in addressing these issues is through investment. Based on Law No. 25 of 2007 concerning investment, Article 1 defines two types of investment: Domestic Investment (PMDN) refers to investment activities conducted within the territory of the Republic of Indonesia by domestic investors using domestic capital, while Foreign Investment (PMA) refers to

investment activities conducted within the Republic of Indonesia by foreign investors, either entirely using foreign capital or in partnership with domestic investors.

Labor is also a factor that can influence the HDI of a region. Enhancing labor skills and quality can increase productivity and income, ultimately improving quality of life. Conversely, unequal access to quality employment can create disparities in HDI. Labor, as the driving force of economic activities, is equipped with skills and expertise to facilitate production, distribution, and other economic processes. Labor quality is not only assessed by quantity but also by education level and health status (Prayitno & Yustie, 2020).

This study is also motivated by a research gap found in previous studies. Izzah & Hendarti (2021) found that labor has a positive and significant effect on HDI. In contrast, Prayogo & Indira (2022) concluded that labor has a negative and significant effect on HDI. Previous studies have mostly focused on macro-level analysis, while in-depth studies on the direct impact of labor on HDI at the regency/municipality level remain limited. Therefore, the researcher is interested in examining the influence of labor on HDI. Accordingly, this research proposes the title: "The Influence of Domestic Investment, Foreign Investment, and Labor on the Human Development Index in Bali Province."

2. METHOD

This study employs a quantitative approach with an associative design to analyze the effect of Domestic Investment (X_1), Foreign Investment (X_2), and Labor (X_3) on the Human Development Index (Y) in nine regencies/municipalities of Bali Province over the period 2016–2023. The data used are secondary panel data, which combine time series and cross-sectional data obtained from the Central Bureau of Statistics (Badan Pusat Statistik). Data collection was conducted through non-participant observation and documentary studies based on official sources and relevant literature (Sugiyono, 2019).

The research variables consist of one dependent variable, namely the Human Development Index (HDI), and three independent variables: Domestic Investment (in million Rupiah), Foreign Investment (in million Rupiah), and Labor (in thousands of people). The data were analyzed using panel data regression analysis, which considers three model approaches: Common Effect Model (CEM), Fixed Effect Model (FEM), and Random Effect Model (REM). The selection of the best-fitting model was conducted using the Chow Test, Hausman Test, and Lagrange Multiplier Test, followed by classical assumption tests including normality, multicollinearity, heteroscedasticity, and autocorrelation (Gujarati, 2015; Purnomo, 2016)).

Furthermore, hypothesis testing was carried out simultaneously using the F-test to evaluate the joint influence of the three independent variables on HDI, and the t-test to assess the partial influence of each variable. The regression model is formulated as follows Yit=β0+β1X1it+β2X2it+β3X3it+eY_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + eYit=β0+β1X1it+β2X2it+β3X3it+e, where YYY is the HDI, X1X_1X1 to X3X_3X3 are the independent variables, and e is the error term. The results of this analysis are expected to provide empirical insights regarding the contribution of investment and labor to human development in Bali (Sugiyono, 2019; Gujarati, 2015).

3. RESULTS AND DISCUSSION

Statistical Criteria Results

Descriptive Analysis

Table 1. Results of Descriptive Statistical Analysis

	X1	X2	X3	Y
Mean	1006,575	690.5825	246.2420	74.48394
Median	301.7960	186.4600	265.4350	73.11000
Maximum	5666.227	6587.903	550.2140	84.73000
Minimum	2.239000	0.000000	0.000000	65.23000
Std. Dev.	1534.055	1221,603	144.3878	5.405488
Skewness	1.804062	2.854271	0.051998	0.363563
Kurtosis	4.935488	11.71736	2.398223	2.036660
Jarque-Bera	49.59551	321.2155	1.103315	4.309509
Probability	0.000000	0.000000	0.575994	0.115932
Sum	71466.81	49031.36	17483.18	5288.360
Sum Sq. Dev.	1.65E+08	1.04E+08	1459350.	2045.351
Observations	71	71	71	71

Source: Processed secondary data, 2025

Table 1 presents the results of the descriptive statistical analysis based on 72 observations collected over an 8-year period from 2016 to 2023 across the regencies/municipalities in Bali Province. The variable Domestic Investment (X_1) has an average value of IDR 1,006,575 million, with a median of IDR 301,796 million. The maximum value recorded is IDR 5,666,227 million, while the minimum is IDR 2,239 million. The standard deviation of IDR 1,534,055 million indicates a considerable fluctuation in the amount of domestic investment across the regencies/municipalities in Bali Province during the 2016–2023 period. This suggests that domestic investment tends to be concentrated in certain areas such as Denpasar City and Badung Regency, whereas other areas like Karangasem or Bangli experience significantly lower investment levels.

The variable Foreign Investment (X_2) shows an average value of IDR 690,582 million, with a median of IDR 186,460 million. The maximum value of foreign investment recorded is IDR 6,587,903 million, while the minimum is IDR 0. A standard deviation of IDR 1,221,603 million indicates a substantial disparity among regions, where most foreign investments are concentrated in major tourist destinations such as Badung, while several other regencies recorded no foreign investment at all during certain years. This reflects the unequal distribution of foreign direct investment within Bali Province.

The variable Labor (X_3) has an average value of 246,242 people, with a median of 265,435 people. The maximum number of laborers recorded is 550,214, while the minimum is 0, due to either unrecorded data or the absence of formal labor records for certain regencies in 2016. The standard deviation of 144,387 people shows significant variation in the number of workers across regencies/municipalities. Areas with high economic activity, such as Denpasar and Badung, generally have much larger labor forces compared to other regions.

Meanwhile, the Human Development Index (Y) has an average value of 74.48, with a median of 73.11. The maximum HDI recorded is 84.73, while the minimum is 65.23. The standard deviation of 5.41 indicates that the level of human development across the regencies/municipalities in Bali does not vary drastically. Regions such as Denpasar and

Badung typically record the highest HDI due to better education, healthcare, and income levels, whereas Karangasem and Bangli have lower HDI values. Nonetheless, the differences in HDI across regions are not as extreme when compared to the fluctuations in investment variables.

Panel Data Regression Model Estimation

he estimation of panel data regression models can be carried out using three approach methods, namely: the Common Effect Model (CEM), the Fixed Effect Model (FEM), and the Random Effect Model (REM)).

1) Common Effect Model(CEM)

Table 2. Estimation Results Using the Common Effect Model (CEM) Approach

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	68.69908	0.948816	72.40505	0.0000
X1	0.000288	0.000349	0.826084	0.4117
X2	0.001350	0.000446	3.025515	0.0035
X3	0.018530	0.003497	5.298872	0.0000
R-squared	0.478836	Mean dependent variable		74.48394
Adjusted R-squared	0.455501	SD dependent var		5.405488
SE of regression	3.988720	Akaike info criterion		5.659507
Sum squared residual	1065,962	Schwarz criterion		5.786981
Log likelihood	-196.9125	Hannan-Quinn criter.		5.710199
F-statistic	20.51949	Durbin-Watson stat		0.527790
Prob(F-statistic)	0.000000			

Source: Processed secondary data, 2025

2) Fixed Effect Model(FEM)

Table 3. Model Estimation Results Using the Fixed Effect Model (FEM) Approach

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	73.12443	0.290311	251.8835	0.0000
X1	-0.000244	8.21E-05	-2.977991	0.0042
X2	0.000284	0.000130	2.186338	0.0328
X3	0.005724	0.001073	5.336450	0.0000
	Effects Specification			
Cross-section fixed (dummy variables)				
R-squared	0.978273	Mean dependent variable		74.48394
Adjusted R-squared	0.974222	SD dependent var		5.405488
SE of regression	0.867879	Akaike info criterion		2.707356
Sum squared residual	44.43959	Schwarz criterion		3.089781
Log likelihood	-84.11114	Hannan-Quinn criter.		2.859434
F-statistic	241,5000	Durbin-Watson stat		0.932776
Prob(F-statistic)	0.000000			

Source: Processed secondary data, 2025

3) Random Effect Model(BRAKE)

Table 4. Model Estimation Results Using the Random Effect Model (REM) Approach

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	73.08625	1.273403	57.39445	0.0000
X1	-0.000238	8.20E-05	-2.899210	0.0051
X2	0.000303	0.000129	2.335951	0.0225
X3	0.005944	0.001069	5.562163	0.0000
Effects Specification				
			Elementary School	Rho
Random cross-section			3.720016	0.9484
Idiosyncratic random			0.867879	0.0516
Weighted Statistics				
R-squared	0.382171	Mean dependent variable		6.165988
Adjusted R-squared	0.354507	SD dependent var		1.149903
SE of regression	0.910452	Sum squared residual		55.53780
F-statistic	13.81474	Durbin-Watson stat		0.774764
Prob(F-statistic)	0.000000			
Unweighted Statistics				
R-squared	0.183416	Mean dependent variable		74.48394
Sum squared residual	1670.200	Durbin-Watson stat		0.025763

Source: Processed secondary data, 2025

Selection of the Best Estimation Model

1) Chow Test

Table 5. Chow Test Results

Redundant Fixed Effects Tests			
Equation: Untitled			
Cross-section fixed effects test			
Effects Test	Statistics	df	Prob.
Cross-section F	169.527445	(8.59)	0.0000
Cross-section Chi-square	225.602679	8	0.0000

Source: Processed secondary data, 2025

Based on Table 5, the probability value for the Chow test is 0.00, while the significance level (α) used in this study is 0.05; since the probability value of 0.00 is less than α (0.05), the null hypothesis (H_0) is rejected and the alternative hypothesis (H_1) is accepted, indicating that the Fixed Effect Model is more appropriate to use.

2) Hausman test

Table 6. Hausman Test Results

Correlated Random Effects - Hausman Test			
Equation: Untitled			
Cross-section random effects test			
Test Summary	Chi-Sq. Statistic	Chi-Sq. df	Prob.

Random cross-section		9.729048	3	0.0210
Cross-section random effects test comparisons:				
Variable	Fixed	Random	Var(Diff.)	Prob.
X1	-0.000244	-0.000238	0.000000	0.0296
X2	0.000284	0.000303	0.000000	0.0614
X3	0.005724	0.005944	0.000000	0.0158

Source: Processed secondary data, 2025

Based on Table 6, the probability value for the Hausman test is 0.0296, while the significance level (α) used in this study is 0.05. Since the probability value of 0.0296 is less than α (0.05), the null hypothesis (H_0) is rejected and the alternative hypothesis (H_1) is accepted, indicating that the Fixed Effect Model is more appropriate to use.

Considering the results of both the Chow test and the Hausman test, both indicate that the Fixed Effect Model (FEM) is superior to the Common Effect Model (CEM) and the Random Effect Model (REM). Therefore, this study employs the Fixed Effect Model (FEM) for the analysis. Based on the regression estimation using this model, the following equation is obtained.

$IPM_{it} = 73.12443 – 0.000244PMDN_{it} + 0.000284PMA_{it} + 0.005724Workforce + e$

Description:

Y	=	Human Development Index
β_0	=	constant
β_1 β_2 β_3	=	coefficient of each variable
X1	=	Domestic Investment
X2	=	Foreign investment
X3	=	Labor
i	=	cross-sectional data
t	=	time series data
e	=	error

The interpretation of the regression model results in this study is presented as follows

1) Intercept (β_0 = 73.12443)

The intercept value of 73.12443 indicates the estimated Human Development Index (HDI) in the regencies/cities of Bali Province when all independent variables—namely Domestic Investment (PMDN), Foreign Investment (PMA), and Labor Force—are equal to zero. Although such a condition is practically unrealistic, the intercept serves as the starting point of the regression model.

2) Coefficient of Domestic Investment (β_1 = –0.000244)

The regression coefficient for Domestic Investment (PMDN) is –0.000244, which means that an increase of 1 million rupiahs in domestic investment will reduce the Human Development Index (HDI) by 0.000244 points, assuming other variables remain constant. The negative coefficient indicates that domestic investment has not yet directly contributed positively to the improvement of HDI.

3) Coefficient of Foreign Investment ($\beta_2 = 0.000284$)

The regression coefficient for the Foreign Direct Investment (FDI) variable is 0.000284, indicating that every 1 million rupiah increase in FDI will increase the Human Development Index (HDI) by 0.000284 points, assuming other variables remain constant. This positive coefficient indicates that foreign investment has a unidirectional relationship with the HDI.

4) Coefficient of Labor Force ($\beta_3 = 0.005724$)

The regression coefficient for the Labor force variable is 0.005724, indicating that every increase in the workforce by one person will increase the Human Development Index (HDI) by 0.005724 points, assuming other variables remain constant. This positive coefficient indicates that growth in the workforce has a unidirectional effect on the HDI.

5) Error(e)

This variable represents other factors not included in the model that may influence the Human Development Index.

Classical Assumption Test

The selected model in this study is the Fixed Effect Model (FEM). Classical assumption tests are conducted to determine whether there are violations of residual normality, multicollinearity, autocorrelation, and heteroscedasticity in the regression model (Purnomo, 2016b).

1) Normality Test

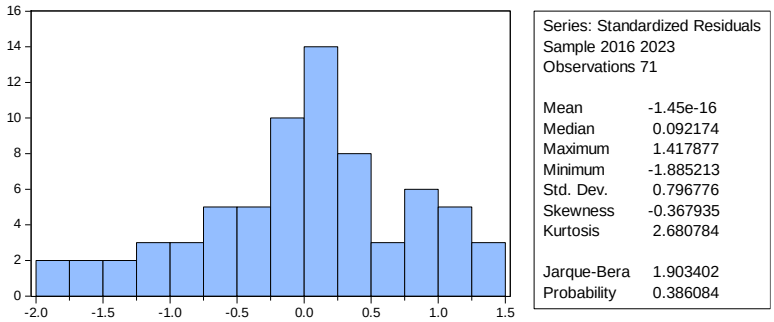

Figure 1. Results of Normality Test

Based on Figure 1, the result of the normality test shows a probability value of 0.386084, which is greater than 0.05, indicating that the residuals of the regression model are normally distributed.

2) Multicollinearity Test

Table 7. Results of the Multicollinearity Test

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	0.084280	7.944488	NA
X1	6.73E-09	1.737975	1.094957
X2	1.69E-08	1.877948	1.119651
X3	1.15E-06	7.598849	1.023938

Source: Processed secondary data, 2025

Based on Table 7, the results of the multicollinearity test using the Variance Inflation Factor (VIF) method indicate that the tested regression model does not suffer from

multicollinearity. This is evidenced by the centered VIF values for each independent variable: Domestic Investment (X_1) = 1.094957, Foreign Investment (X_2) = 1.119651, and Labor Force (X_3) = 1.023938, all of which are well below the threshold value of 10. This means there is no strong correlation among the independent variables that could distort the estimation of the regression parameters.

3) Heteroscedasticity Test

Table 8. Heteroscedasticity Test Results

Heteroskedasticity Test: Breusch-Pagan-Godfrey			
F-statistic	0.530814	Prob. F(3,67)	0.6627
Obs*R-squared	1.648336	Chi-Square Prob.(3)	0.6485
Scaled explained SS	2.594763	Chi-Square Prob.(3)	0.4584

Source: Processed secondary data, 2025

Table 8 shows that the probability value is 0.66 > 0.05. This result indicates that this study does not exhibit heteroscedasticity symptoms and passes the heteroscedasticity test.

Hypothesis Testing Results

F test

The F-test in regression is used to examine the overall significance of the model, specifically whether the independent variables collectively have a statistically significant effect on the dependent variable. The F-test is based on a comparison between the variability explained by the regression model and the unexplained variability (error) (Gujarati & Porter, 2009).

a) Calculating F Table

The significance level in this study is α = 5 percent or a confidence level of 95 percent with degrees of freedom df = (k–1); (n–k) = (3–1); (72–3) so Ftable = 3.13

b) Testing Criteria

If Fcalculated ⩽ Ftable or the significance value > α then H0 is accepted meaning that Domestic Investment Foreign Investment and Labor Force collectively do not have a significant effect on the Human Development Index in the districts and cities of Bali Province if Fcalculated > Ftable or the significance value ⩽ α then H0 is rejected meaning that Domestic Investment Foreign Investment and Labor Force collectively have a significant effect on the Human Development Index in the districts and cities of Bali Province.

c) F Test Results

Table 9. F Test Results

R-squared	0.978273
Adjusted R-squared	0.974222
SE of regression	0.867879
Sum squared residual	44.43959
Log likelihood	-84.11114
F-statistic	241,5000
Prob(F-statistic)	0.000000

Source: Processed secondary data, 2025

Based on the results of data processing using the Eviews 10 application the F-statistic value is 241.5000 > F-table and the significance is 0.00 < 0.05 thus H0 is rejected and H1 is accepted meaning that the variables Domestic Investment Foreign Investment and Labor Force simultaneously have a significant effect on the Human Development Index in the districts and cities of Bali Province for the 2016–2023 period at a 95% confidence level.

t-test

Table 10. t-Test Results

Variable		Coefficient	t-Statistic	Prob.	Criteria
X1		-0.000244	-2.977991	0.0042	Significant
X2		0.000284	2.186338	0.0328	Significant
X3		0.005724	5.336450	0.0000	Significant

Source: Processed secondary data, 2025

Based on Table 10, the t-test results are interpreted as follows.

1) The results of the t-test show that the coefficient value of Domestic Investment (X1) is 0.000244 and is negative The significance value is 0.00 < 0.05 and the t-statistic value is greater than the t-table value (2.977991 > 1.66757) thus H0 is rejected and H1 is accepted.
2) The results of the t-test show that the coefficient value of Foreign Investment (X2) is 0.000284 and is positive The significance value is 0.00 < 0.05 and the t-statistic value is greater than the t-table value (2.186338 > 1.66757) thus H0 is rejected and H1 is accepted.
3) The results of the t-test show that the coefficient value of Labor Force (X3) is 0.005724 and is positive The significance value is 0.00 < 0.05 and the t-statistic value is greater than the t-table value (5.336450 > 1.66757) thus H0 is rejected and H1 is accepted.

Discussion of Research Findings

The Simultaneous Effect of Domestic Investment, Foreign Investment, and Labor Force on the Human Development Index in Regencies/Cities of Bali Province for the Period 2016–2023

Domestic Investment, Foreign Investment, and Labor Force. These findings indicate that Domestic Investment, Foreign Investment, and Labor Force influence the Human Development Index (HDI) in regencies/cities of Bali Province. This result aligns with the human capital theory, which states that the quality of human resources is a primary factor in improving human development. According to this theory, investments aimed at improving education, skills, and health have a direct impact on enhancing the quality of life. By increasing the quality of the labor force through adequate education and health, the key components of the Human Development Index—such as longevity and health, access to education, and a decent standard of living—can be optimally achieved.

According to Schultz (1961), human development is a process of enhancing human resource quality through investments in education, health, and job skills. This concept emphasizes that humans are not merely a factor of production, but also a critical form of capital in driving economic growth. One of the main factors influencing the HDI is Domestic Investment. Domestic Investment (DI) reflects efficiency in allocating local resources to stimulate economic growth and human development. DI can create employment opportunities, increase domestic production capacity, and support infrastructure development that enhances the quality of life for the population.

Foreign Investment (FI) also has a significant impact on improving the Human Development Index (HDI). The increase in FI inflows contributes to expanding business opportunities, generating new jobs, and boosting production capacity across various economic sectors. The entry of foreign investment facilitates technology transfer, market expansion, and improved production efficiency, which indirectly drives regional economic growth. High levels of Foreign Investment, particularly in infrastructure, technology, and human resource development, contribute to improving labor productivity and regional competitiveness. This productivity increase results in higher household incomes, which is one of the indicators within the decent standard of living dimension of the HDI. Moreover, foreign investment in the education and health sectors directly improves access to and quality of public services, thereby enhancing the other two main HDI dimensions: education and healthy longevity.

The labor force plays a crucial role in supporting human development efforts. The availability of a qualified labor force, in terms of both education and health, is a determining factor in driving productivity and regional economic growth. Enhancing the quality of the labor force directly contributes to the three main dimensions of the Human Development Index (HDI): education, health, and a decent standard of living. A healthy and well-educated workforce is better equipped to adapt to technological advancements and can manage resources more efficiently.

The results of the study show that the adjusted R^2 value is 98 percent, indicating that variations in the Human Development Index in the regencies/cities of Bali Province are explained by Domestic Investment, Foreign Investment, and Labor Force, while the remaining 2 percent is explained by other factors not included in the model.

The Partial Effect of Domestic Investment, Foreign Investment, and Labor Force on the Human Development Index of Regencies/Cities in Bali Province for the Period 2016–2023

1) The Effect of Domestic Investment (X1) on the Human Development Index (Y)

Based on the results of data analysis, the coefficient of the Domestic Investment variable is -0.000244 with a significance level of 0.0042, which is smaller than the significance level used, namely 0.05. This means that the Domestic Investment variable has a negative and significant effect on the Human Development Index. Domestic Investment in a region is one of the important factors in the Human Development Index. High realization of Domestic Investment can enhance local economic activity through job creation, infrastructure development, and increased access to public services. An increase in Domestic Investment can improve efficiency in the production and distribution process of resources in a region.

The uneven distribution of Domestic Investment across regencies/cities in Bali Province is one of the factors causing disparities in development achievements among regions, particularly in improving the Human Development Index. Although Domestic Investment is an important source of development funding in the regions, its impact on HDI will only be seen if the investment is directed toward sectors that are directly related to improving the quality of life, such as education, health, and the provision of basic infrastructure. In addition, issues such as the unequal distribution of Domestic Investment, the lack of allocation to strategic sectors such as education and health, weak regional development planning, and low efficiency of Domestic Investment in several areas may also be factors that hinder the significant contribution of Domestic Investment to HDI.

This research result is different from the study by Loeis & Setiawina (2022), which states that Domestic Investment has a positive and significant effect on the Human Development Index in regencies/cities in Bali Province for the period 2010–2020. However, this result is not in line with the hypothesis stating that Domestic Investment has a positive effect on HDI. Nevertheless, this result is consistent with the findings of Soleha & Fathurrahman (2017), who stated that Domestic Investment had a negative and significant effect on the Human Development Index in Indonesia during the period 1985–2014. This shows that although Domestic Investment is important in supporting regional development, its impact on HDI will not be optimal if it is not directed toward strategic sectors that directly contribute to improving people's quality of life, such as education, health, and basic infrastructure. This research is also in line with the study by Racham & Devi (2023), which found that Domestic Investment had a negative and significant effect on the Human Development Index in Central Java during the period 2017–2021. This is due to the continued unequal distribution of Domestic Investment, weak development planning, and low efficiency in the use of investment funds in several areas, all of which hinder the positive contribution of Domestic Investment to HDI.

2) The Effect of Foreign Investment (X2) on the Human Development Index (Y)

Based on the results of data analysis, the coefficient of the Foreign Investment variable is 0.000284 with a significance level of 0.0328, which is smaller than the significance level used, namely 0.05. This means that the Foreign Investment variable has a positive and significant effect on the Human Development Index. In human capital theory, Foreign Investment plays an important role in driving the improvement of the Human Development Index through investment in sectors directly related to the development of human resource quality, such as education, skill training, health, and technology. This theory explains that human development can be achieved through increasing individual capacity, which is derived from knowledge, skills, and good health.

The ineffectiveness of Foreign Investment in encouraging the improvement of the Human Development Index at the regency/city level in Bali Province is caused by the fact that most of the realized Foreign Investment is still concentrated in sectors that do not directly contribute to improving the quality of life, such as accommodation, tourism services, and property sectors. This condition occurs because investors must consider various environmental factors, such as the availability of natural resources. This is in accordance with the realization of Foreign Investment shown in Table 4.3, where the highest Foreign Investment is in Badung Regency, because Badung is the tourism pillar of Bali Province. This is what causes development imbalances between regions and sectors in the regencies/cities of Bali Province.

This is in line with the study of Sandya & Hakim (2023), which stated that Foreign Investment had a positive and significant effect on the Human Development Index in the Special Region of Yogyakarta Province for the period 2000–2017. The positive influence is reflected in the presence of Foreign Investment, which can promote improved quality of life through job creation, increased income, and technology transfer, all of which ultimately impact the improvement of the Human Development Index, such as education, health, and a decent standard of living.

3) The Effect of Labor Force (X3) on the Human Development Index (Y)

Based on the results of data analysis, the coefficient of the Labor Force variable is 0.005724 with a significance level of 0.0000, which is smaller than the significance level used, namely 0.05. This means that the Labor Force variable has a positive and significant effect on the Human Development Index. According to human capital theory by Todaro and Smith (2020) in Economic Development (13th edition), the labor force plays a central role in the process of economic development as it is one of the main factors of production that can increase output and productivity. This theory emphasizes that a quality labor force, supported by adequate education and health, will encourage productivity growth and sustainable economic development, which in turn will improve the quality of life reflected in the Human Development Index.

The increase in the number and quality of the labor force directly contributes to the achievement of human development. This is in line with the study of Izzah & Hendarti (2021), which stated that the labor force had a positive and significant effect on the Human Development Index in Central Java Province. This is illustrated by the fact that any increase in the labor force will raise the Human Development Index. Increasing levels of education affect people's knowledge and skills, thus increasing high work productivity. High productivity will result in a high-quality workforce and higher production output. With more production output, the income received will be greater and consumption will also increase. A high Human Development Index will improve labor absorption, which means the higher the labor force, the better the quality of human resources, and this will lead to increased labor absorption.

4. CONCLUSION

Based on the research findings, there are several limitations that should be noted for future studies. First, the scope of this study was limited to MSME actors residing in the Tandes District of Surabaya, specifically those under the district's guidance. As a result, the number of respondents was only 105, which may not fully represent the actual conditions of MSMEs in the broader area. Second, the study employed only three independent variables, whereas other influential factors—such as educational background, use of accounting information, and business scale—could also significantly affect MSME success. Third, due to time constraints in completing the thesis, the questionnaire distribution was less effective, and data collection relied solely on respondent input without supplementary observation or interviews.

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