



# The Effect of the Women's Human Development Index on the Poverty Level: The Case of the Province of Bali

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**Abstract.** Poverty is a condition where a person is unable to meet the needs of a decent life. This study aims to analyze the effect of the female human development index which is proxied by the average length of schooling, life expectancy, per capita spending and women's involvement in parliament on poverty rates in the Province of Bali. The data analysis method used panel data regression and was processed with Eviews 10 software. Using the Random Effect Model, the results showed that only women's per capita expenditure had an effect on poverty levels, while the average length of schooling, life expectancy and women's involvement in parliament does not affect the level of poverty.

**Keywords:** poverty · average length of schooling for women · life expectancy for women · per capita expenditure for women · women's involvement in parliament

## 1 Introduction

Poverty is a problem that is constantly found in developing countries, one of which is Indonesia. According to the Central Bureau of Statistics, poverty is a condition of life that is completely deficient experienced by a person so that he is unable to meet the needs of a decent life. Meanwhile, according to Todaro, poverty is distinguished by its nature, namely absolute poverty and relative poverty [1]. Absolute poverty can be seen from the number of people living below the minimum income level to meet basic needs such as clothing, food and shelter [2]. So that every individual who cannot meet their basic needs can be said to be poor. Meanwhile, relative poverty is the inequality of income distribution that creates gaps, even though the income is able to meet basic needs but the amount of income is still below the average of the surrounding community, then that person can be said to be poor.

Poverty is no longer understood only as weakness in the economic field, but also failure to fulfill basic rights and treatment for a person or group of people who are different in living a decent life [3]. People living in poverty cannot carry out their religious obligations to the fullest, have low education, and do not have access to proper health [4]. Poverty not only affects humans but also the environment. The negative impact of poverty on the environment is the declining quality of the environment in both urban

and rural areas [5]. Poverty can be triggered by several factors, such as low wages, high unemployment and a low Human Development Index (HDI) [6]. Of the three factors, HDI is one of the factors that has a major influence on poverty, because a low HDI affects population productivity, where low productivity can reduce income. Thus, the number of poor people is increasing.

Conceptually, poverty can be explained through poverty theories such as cultural poverty, structural poverty, and natural poverty [7]. Cultural poverty is where some women are still heavily influenced by traditional culture with patriarchal ideology. Structural inequality is a limitation of women's access to the economy and organization. Structural poverty stems from cultural poverty, namely the low level of education and skills possessed by women. Natural poverty explains that some women are resigned to accepting themselves in the position of household and social life, because they are considered by nature to be women [8].

Poverty is understood as a condition where there is a lack of money and goods to ensure survival [9]. Poverty is one of the complex and persistent challenges faced by this country, one of which is in the Province of Bali. In the midst of rapid economic development in Bali, the number of poor people is still relatively high [10]. The rapid development of the tourism sector has not been able to reduce poverty to its full potential [11]. The poverty rate in Bali has fluctuated from 2017–2021 although it tends to decrease.

The Province of Bali in 2017–2019 has succeeded in reducing the poverty rate. However, in 2020 the poverty rate in Bali Province increased slightly, and there was a drastic increase in 2021, this was triggered by the outbreak of the Covid-19 outbreak which affected all aspects of people's lives, one of which was job loss due to layoffs, many businesses had their hours of operation reduced. Even to the point of closing, as well as declining public health conditions. So that people find it difficult to make a living and do not generate income and have an impact on increasing the poverty rate.

Initially, development was the duty and obligation of the government and the state, while society was considered a passive object of development. Recently, a new view of development has emerged which no longer only burdens the government, but also involves the community and third parties such as the business world and other stakeholders. The development plan is the continuous improvement of society towards a good life [12]. HDI is used to categorize whether the country is included in the category of developed countries, developing countries or underdeveloped countries. The Human Development Index (HDI) is an indicator that is widely used to measure the success of human resource development [13]. In measuring the HDI, we look at 3 aspects, namely the quality of the level of education, health and the economy [14].

The high poverty rate in a country can be influenced by the quality of its human resources through the Human Development Index (HDI) [15]. The Human Development Index (HDI) which increases every year can affect productivity so that it can increase income so that the poverty rate will decrease. Increased productivity affects income and the poverty rate in Indonesia tends to decrease. If the HDI increases, the level of social welfare will also increase. If welfare increases, the poverty rate will also decrease [16]. According to the Central Bureau of Statistics, the Human Development Index per district/city in the Province of Bali in 2017–2021 has increased every year.

Gender-related development indices are the Gender Development Index (IPG) and the Gender Empowerment Index (IDG). According to the Ministry of Women's Empowerment and Child Protection (Kemenppa), GPI is the HDI of women as measured by education, health and the economy. While the IDG is an index used to measure women's participation in politics, decision-making, and the economy. IPG and IDG are used to measure the success of gender development and empowerment so as to minimize gender inequality [17]. In GPI and IDG, the amount of achievement is seen from the value that can measure how big the gender gap is or how big the success of gender capabilities is between men and women.

Gender inequality in Indonesia is still very high. Women still experience discrimination in various areas of life. This is indicated by the large Gender Development Index (GDI) which places Indonesia in a disadvantageous position. The slowdown in the Human Development Index (HDI) for women is a factor causing Indonesia's GDI to be below the world average [18]. This indicates that the quality of Indonesian women is still lagging behind other countries. Among ASEAN countries, the HDI of Indonesian women still lags behind the HDI of women in Singapore, Laos, Timor Leste, Thailand and Vietnam. One of the main factors that causes the HDI of women to lag behind other countries is the low representation of women in the economy. Indonesian women's Gross National Income (GNP) still lags behind Singapore, Brunei Darussalam, Malaysia, Thailand and the Philippines [18].

In addition to economic factors, women's participation in public (political) decision-making is relatively low. Women's representation in parliament can improve women's welfare by representing, overseeing, and influencing policies that are more just and gender responsive. Women's participation in the political decision-making process will strengthen democracy. Without women's participation and the incorporation of women's perspectives at all levels of decision-making, the goals of equality, development and peace will not be achieved. In this case it is recognized that equality in decision-making is very important for women's empowerment.

According to the 2019 National Statistics Agency at the national level, women's representation in the DPR is only 20.87 percent. At the regional level, the figure is better at 30.88 percent. In addition, the position of women in government is relatively insignificant. In fact, the government has taken various steps to improve the realization of gender equality and reduce discrimination against women. Empowerment of women absolutely needs to be increased, both in the economic and political fields. Therefore, in the Technocratic Draft Medium Term Development Plan (RPJMN) 2020–2024, gender equality has been determined as 1 of 6 mainstreaming. This is done as a form of an innovative approach that will become a catalyst for national development that is just and adaptive.

However, these results are considered not optimal, this situation is exacerbated by the problem of inequality between regions in Indonesia. Therefore, women's empowerment absolutely needs to be increased, both in the economic and political fields. Empowering women in the economy is a process that enables women to become "bread recipients", eliminating economic dependence and getting out of poverty. Meanwhile, empowerment in the political field means a process to increase women's interest in politics and participate in decision making [18].

The success of development does not only involve the role of men but the balance of women's participation is also very important and must be maximally encouraged in all aspects of life. In the last 10 years, human development in Indonesia for women has increased faster but still lags behind men. The life expectancy of women is always higher than that of men, which means that women have a longer life expectancy than men. The average length of schooling for women is lower than for men, so that the RLS gap for women can be reduced to become more equal to that of men. In the economic aspect it is still dominated by men, as seen from the expenditure per capita earned by women is always lower than men.

Human development can also be measured by a decent standard of living. Expenditure per capita to measure human living standards. This is also influenced by knowledge and various productive activities that can be implemented to generate income in the form of output of goods and services. In GPI spending per capita is used to see achievements in the economy. According to BPS, Per Capita Expenditure for Women is the average expenditure of the population in an area adjusted for purchasing power. Women's Per Capita Expenditure is an approach to men's income. Conducted research on HDI, Unemployment and Women's Income Against Poverty in the City of Surabaya using quantitative analysis using time series data for 2010–2020 and the multiple regression analysis method. Women's income has no effect on poverty.

Factors that can affect the increase in women's HDI against poverty is the increase in health services for women. In addition, a high level of education can also have a positive influence on women's participation in the economic sector and support opportunities to increase women's representation in politics. It is hoped that women's representation in parliament can advance the welfare of women's groups by representing, overseeing, and influencing policies that are more just and gender responsive [18]. With these factors, women's productivity can automatically increase. So you can do various activities. One of them is to increase employment opportunities and earn income. Thus the quality of life of women increases and can meet needs so as to minimize poverty.

Bali is a province which is famous for its patrilineal system, in which men dominate power systems such as politics, social and economics. The patriarchal culture, which in Bali is called the kinship system of peka purusa, which places women unequally with men, more or less influences the role of women in society. According to the Central Statistics Agency, the Bali Province GPI in 2020 was recorded at 93.79, an increase from 2019 which was recorded at 93.72. An encouraging finding, because the value is getting closer to 100, which means that the development between women and men is more balanced. This shows that gender development in Bali Province is better than the national average. Therefore, this study aims to examine the effect of female HDI on poverty in the Province of Bali in 2017–2021.

## 2 Research Methods

### 2.1 Analysis Method

This study uses secondary data sourced from the Bali Provincial Statistics Center for 2017–2021. The method used is panel data analysis in 9 regencies/cities in Bali Province in 2017–2021. The form of the panel data analysis model is as follows:  $POVW_{it} = \beta_0 +$

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$$\beta_1 WALSi_t \beta_2 LEWi_t \beta_3 PCEWi_t \beta_4 WIPi_t \varepsilon_{it}$$

where POVW is the poverty rate for 2017-2021; WALSi is average length of schooling index for women in 2017–2021;  $LEWi$  is the index of life expectancy for women in 2017–2021; PCEWi is the female per capita spending index for 2017–2021; WIP is an index of women's involvement in parliament for the 2017–2021 period; The result will be a constant regression equation.

Operational variable definition:

1. POVW is a poverty variable in the Province of Bali in 2017–2021. The poverty data used in this study is the number of poor people in the Province of Bali in thousands of people.
2. LEW women is the variable life expectancy of the female population in the Province of Bali in 2017–2021. The data used in this study is the life expectancy of women in the Province of Bali, in years.
3. WALSi women is the average length of schooling in the Province of Bali in 2017–2021. The data used in this study is the average length of schooling for girls in Bali, in years.
4. PCEWi is the expenditure per capita of women in the Province of Bali in 2017–2021. That the data used in this study is women's per capita expenditure in thousands of rupiah.
5. WIP is the Variable of Women's Involvement in Parliament in the Province of Bali in 2017–2021. Data used in this research is Women's Involvement in Parliament in percent.

There are 3 models in panel data regression, namely the Common Effect, Fixed Effect and Random Effect models. To determine the selected panel data model, 2 tests were used, namely the Chow test and the Hausman test.

## 2.2 Data Collection Techniques and Sources

The data used in this research is secondary data. Sources for this research were collected from related agencies, in the form of publications from the Central Bureau of Statistics for the Province of Bali for 2017–2021. Poverty level in Bali Province as the dependent variable, independent variables include the average length of schooling for women in a year (WALSi), women's life expectancy (LEWi), women's per capita expenditure (PCEWi) and women's involvement in parliament (WIP). This research was processed using Eviews 10 software with panel data analysis. Cross data is used to see differences between districts or cities, while time period data is used to account for changes over a four-year period, namely 2017–2021 (Table 1).

**Table 1.** Chow and Hausman Test Results

Effect Test	Statistics	df	Problem.
F cross section	460.534521	(9.36)	0.0000
Chi-square cross section	237.737076	9	0.0000

**Table 2.** Hausman test results

Test Summary	Chi-Sq. Statistics	Chi-Sq. df	Problem.	
Random cross section	2.626993	4	0.6220	
Comparison of cross-section random effects tests:				
Variable	Permanent	Random	Var(Dif.)	Problem.
WALS	5.066176	9.004298	7.729937	0.1566
LEW	3.881735	1.122376	3.272825	0.1272
PCEW	-0.015843	-0.011327	0.000011	0.1677
WIP	0.024557	-0.109919	0.011258	0.2050

### 3 Results and Discussion

#### 3.1 Results

Based on the results of the Chow test in the Table 2, it is known that the probability value is  $0.0000 < 0.05$ . Therefore, the chosen model is the Fixed Effect Model (FEM). Next, the Hausman test will be carried out to determine the model or panel data analysis technique.

Based on the results of the Hausman test, a probability value of  $> 0.05$  is obtained. Therefore testing in this study will use the Random Effect Model (REM) (Table 3).

Based on the model selection test conducted by the Chow test, the Fixed Effect Model (FEM) was selected, because the probability value of the Chow test was  $< 0.05$ . Then the next model selection test was carried out with the Hausman test. In this test the probability value is  $> 0.05$ , therefore the Random Effect Model (REM) is chosen.

The results of the analysis show that PCEW has a significant negative effect on poverty in Bali in 2017–2021. A coefficient value of  $-0.011327$  with a linear-linear relationship pattern indicates that if there is an increase in PCEW of 1 million rupiah, it will reduce the poverty rate by a thousand people.

#### 3.2 Discussion

Based on the research results, it is known that women's per capita expenditure has a negative and significant effect on the level of poverty. This means that the higher the expenditure per capita of women, the lower the poverty rate in Bali Province. Because when the average per capita expenditure of a person rises, it will increase the level of

**Table 3.** Random Effect Model Test Results

Variable	Coefficient	St. Error	t-Statistics	Problem.
C	33.09656	337.5889	0.098038	0.9223
WALS	9.004298	6.496165	1.386094	0.1725
LEW	1.122376	5.241072	0.214150	0.8314
PCEW	-0.011327	0.004419	-2.563396	0.0138
WIP	-0.109919	0.244403	-0.449746	0.6551
Securities Specifications				
			SD	Rho
Random cross section			62.49908	0.9939
Special random			4.912933	0.0061
Weighted Statistics				
R-squared	0.178884	Means var depends		1.240761
Adjusted R-squared	0.105896	SD depends on var		5.115856
SE from regression	4.837403	Total population squared		1053021
F-statistics	2.450870	Durbin-Watson statistics		1.721991
Prob(F-statistics)	0.059597			
Unweighted Statistics				
R-squared	-0.166468	Means var depends		35.31620
Total population squared	134042.8	Durbin-Watson statistics		0.013528

welfare, which means that poverty will decrease. Most women are housewives, whose job is to manage all household needs. In addition, on average, women are more consumptive than men. The results of this study are in line with research conducted by [23] that expenditure per capita has a negative and significant effect on poverty.

The average length of schooling for girls has no effect on poverty levels. This happens because Balinese people adhere to a patrilineal culture where women have an important role in household matters, so even though they have a high level of education it will not have much effect on their ability to earn a living, especially outside the home. This can make poverty alleviation efforts less effective. These results are in line with research conducted by [24] who found that the average years of schooling had no effect on povertyBali in 2017–2021.

The life expectancy of women has no effect on the level of poverty. That is, the high or low life expectancy of women is not able to affect the level of poverty. In Bali Province, most of the economic activities are carried out by men [25] Men are the traditional and most common breadwinners in Balinese society. Therefore, the life expectancy of women does not have a significant effect on the level of poverty. The results of this study are in line with research conducted by [10] who found that life expectancy had no effect on povertyBali in 2017–2021.

Based on the research results, it is known that the involvement of women in parliament has no effect on the level of poverty. This means that the involvement of women in parliament is not able to influence the rise and fall of the poverty rate in the Province of Bali. This type of poverty in the districts/cities of the Province of Bali is mostly sourced from cultural values and not structural ones. In addition, the involvement of women in parliament has no impact on reducing poverty in the districts/cities of the Province of Bali. The results of this study are in line with research conducted by [27] which states that the involvement of women in parliament has no effect on economic growth.

## 4 Conclusions and Recommendations

### 4.1 Conclusion

This study aims to analyze the effect of HDI on the poverty rate in the Province of Bali in 2017–2021. Based on the analysis that has been done, it can be concluded that the average school year index for women, the index for women's life expectancy, and the index for women's involvement in parliament have no significant effect on the poverty rate. Meanwhile, the index of expenditure per capita for women has a negative and significant effect on the level of poverty in the Province of Bali. The government must provide better financial infrastructure, especially for women in the Province of Bali, to increase women's sources of income which enable them to have bigger expenditures. Because it is the strongest factor in poverty alleviation in the province of Bali.

### 4.2 Research Limitations

The ability of the independent variables to explain the dependent variable in this study is quite low, therefore further research can develop factors that influence poverty such as minimum wages, unemployment and inflation. The subjects studied in this study only focused on data from the Province of Bali, further research could conduct research with subjects from other provinces or on a national scale to gain better knowledge in understanding poverty.

## References

1. R. Fadila and Marwan, "The Influence of the Human Development Index (IPM) and Economic Growth on Poverty Levels in West Sumatra Province for the 2013–2018 period," *EcoGen*, vol. 3, no. 1, 2020.
2. M. Silooy, "Analysis of Factors Affecting the Absolute Poverty Level of Coastal Communities (Fishermen) in Seilale Village, Nusaniwe District," *J. Cita Ekon.*, vol. 11, no. 1, p. 79–84, 2017, *Ekonomika.v11i1.2634*.
3. R. Imanto, M. Panorama, and R. Sumantri, "The Influence of Unemployment and Poverty on Economic Growth in South Sumatra Province," *AL-INFAQ J. Ekon. Islam*, vol. 11, no. 2, p. 118–139, 2020, <https://doi.org/10.32662/golder.v1i1.115>.
4. RF Saragih, PR Silalahi, and K. Tambunan, "The Effect of the Human Development Index, the Open Unemployment Rate on the Poverty Rate in Indonesia in 2007–2021," *Education, Social, and Hum.*, vol. 1, no. 2, p. 71–79, 2022, [Online]. Available: <https://ulilalbabinstitute.com/index.php/PESHUM/article/view/36/96>

5. B. Sumargo and RN Haida, "The Linkage between Economic Growth, Poverty and Environmental Quality in Indonesia," *J. Ekon. Developer. Review. Mass. Econ. and Developers.*, vol. 21, no. 1, p. 47–59, 2020, <https://doi.org/10.23917/jep.v21i1.8262>.
6. E. Hariani, "Analysis of Factors Affecting Income Inequality in 38 Regencies/Cities of East Java in 2012–2015," *int. J. Appl. Bus.*, vol. 3, no. 1, p. 13–23, 2019, [Online]. Available: <https://ejournal.unai.ac.id/index.php/TIJAB>
7. A. Fadilla, "Policy Analysis and Poverty Alleviation Strategy in Tangerang City, Banten Province," *Eqien J. Ekon. and Business*, vol. 6, no. 1, p. 38–47, 2017, <https://doi.org/10.34308/eqien.v4i2.46>.
8. AF Raz, TPK Indra, DK Artikasih, and S. Citra, "Global Financial Crisis and Economic Growth: Evidence from the East Asian Economy," *Bull. Econ. Monet. and Banking.*, vol. 15, no. 2, p. 35–54, 2012, <https://doi.org/10.21098/bemp.v15i2.420>.
9. EW Azizah, Sudarti, and H. Kusuma, "The Influence of Education, Per Capita Income and Population on Poverty in East Java Province," *J. Science of Econ.*, vol. 2, p. 167–180, 2018.
10. NAT Pramesti and IKG Bendesa, "The Influence of Socioeconomic Factors on Poverty in Bali Province," *E-JURNAL EP UNUD*, vol. 7, no. 9, p. 1887–1917, 2018.
11. DN Rewah, AG Kumenaung, and DC Rotinsulu, "Analysis of the Impact of Tourism Sector Development on the Economy and Poverty Alleviation in North Sulawesi Province," *J. Developer. Econ. and Finance. Drh.*, vol. 22, no. 1, p. 100–116, 2021.
12. MH Ansyar, R. Padjung, and M. Salam, "Analysis of the Linkage of Human Development Index to Regional Development of West Sulawesi Province," *int. J. Pap. Public Pastor*, vol. 2, no. 1, p. 31–38, 2021, <https://doi.org/10.1088/1755-1315/921/1/012041>.
13. A. Amir, R. Rafiqi, AD Amri, and E. Alissa, "Determinants of the Human Development Index and the Regency/City Islamic Human Development Index of Jambi Province 2016 - 2020," *int. J. Sci. Res. Arch.*, vol. 5, no. 2, p. 018–031, 2022, <https://doi.org/10.30574/ijrsra.2022.5.2.0055>.
14. E. Yektiningsih, "Analysis of the Human Development Index (Ipm) of Pacitan Regency in 2018," *J. Ilm. Agribis Socio*, vol. 18, no. 2, p. 32–50, 2018, <https://doi.org/10.30742/jisa.v18i2.528>.
15. HC Rahayu, P. Purwantoro, and E. Setyowati, "Measuring the Effect of Inequality Indicators and Human Resources on Poverty Density in Indonesia," *J. Ekon. Developer. Review. Mass. Econ. and Developers.*, vol. 22, no. 2, p. 153–160, 2021, <https://doi.org/10.23917/jep.v22i2.13631>.
16. H. Suharlina, "The Influence of Investment, Unemployment, Education and Economic Growth Against Poverty and Their Relations with District/City Community Welfare in West Kalimantan Province," *Pro. Sem. Contract. Thou. Econ Science. and Studs. Developer. 2020*, p. 56–72, 2020.
17. RRA Hasibuan, A. Kartika, FA Suwito, and L. Agustin, "The Effect of Gross Regional Domestic Product (GRDP) on the Poverty Level of Medan City," *Religion Rej. Soc Education. Laa RoibaJ.*, vol. 4, no. 3, p. 683–693, 2022, <https://doi.org/10.47467/reslaj.v4i3.887>.
18. A. Abdurrahman and E. Tusianti, "Is Empowering Women in

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