



Analysis of the Influence of Life Expectancy, Average Years of Schooling, and Gross Regional Domestic Product (GDP), on the Human Development Index in Denpasar City.

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ABSTRACT

This study investigates the impact of life expectancy, average years of schooling, and Gross Regional Domestic Product (GRDP) on the Human Development Index (HDI) in Denpasar City. Utilizing annual data from 2010 to 2021 sourced from the Central Statistics Agency (BPS), the study employs multiple linear regression analysis to discern the relationships among these variables.

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The findings indicate that both life expectancy and average years of schooling have a positive and significant effect on the HDI in Denpasar City. In contrast, GRDP exhibits a positive but insignificant effect on HDI. These results suggest that enhancing the quality of health and education is the primary driver for improving HDI in Denpasar City. Consequently, initiatives aimed at improving community welfare in Denpasar should prioritize advancements in health and education to achieve superior human development outcomes.

INTRODUCTION

Development remains a primary focus for the government to achieve a more prosperous life for the people in our country. Development can be carried out in a detailed and sustainable manner according to the needs of each region and established in long-term and short-term plans. In Indonesia, there are still many areas that are underdeveloped in terms of economy, resources, and infrastructure. Humans play a key role in achieving development in a region or area. Human development is fundamental in placing humans as national assets in the economic field, making humans the center of development. Human development occurs in all aspects of societal life, such as life, economy, education, politics, health, etc.

Humans are the true wealth of a nation. The main goal of development is to create an environment that allows people to enjoy a long, healthy, and productive life. This may seem simple, but it is often forgotten due to the short-term hustle to accumulate wealth and money (UNDP Human Development Report, 2000). Human development is also defined as a process of expanding choices for more people through empowerment efforts that prioritize enhancing basic human capabilities so they can fully participate in development (United Nations Development Programme, UNDP). The importance of humans in development is seen as humans are viewed as the subjects of development, meaning development is carried out for the benefit of humans or society.

The quality of human development is also a crucial aspect of national policy strategies for economic development. The importance of human development quality becomes a necessity because superior resources can generate advanced life in various fields such as social, economic, and environmental, so human quality plays a significant role in determining the success of regional development. The United Nations Development Programme (UNDP) explains that humans are the true wealth of a nation. In this context, it is seen from economic progress in terms of investment, trade, and technology, which become key points. Humans are the most important resource in creating development aimed at creating a productive society in their lives (Arofah & Rohimah, 2019).

According to the UNDP (1995), the human development paradigm is composed of four essential components:

1. Productivity: Society must enhance its productivity and actively engage in income-generating activities and employment. Economic growth is thus integral to human development.

2. Equity: There must be fair access to opportunities for everyone in society. Economic and political opportunities should be equally accessible without any barriers.

3. Sustainability: Opportunities should be available not only to the present generation but also to future generations. This involves preserving all forms of capital, including physical, human, and environmental.

4. Empowerment: Development should be driven by the community rather than merely being done for them. The community should be actively involved in decision-making processes that impact their lives. By enhancing

capabilities, creativity, and productivity, individuals become effective agents of growth..

Human resources are a vital component for development in any country. Human resource development can be seen as a benchmark for the success of a country. One measure of human living standards is the Human Development Index (HDI), which is measured using the quality of education, health, and living standards of the community (Astri et al., 2013). The goal of development is to improve the welfare of people's lives, but in the implementation of this development, the community should not be made objects of economic development so that they can receive macro-based contributions that can benefit regions or areas to build the nation (Diba.A.O.f et al., 2018).

THEORETICAL REVIEW

The United Nations Development Programme (UNDP) in its 2000 Human Development Report describes human development as a process aimed at expanding people's choices. Three key aspects are emphasized: the environment, education, and a high standard of living. The UNDP employs the Human Development Index (HDI) as a primary indicator to measure alternative welfare.

The HDI, introduced by UNDP in 1990, serves as a reliable and equitable reference for assessing human development progress. Specifically, the HDI evaluates the capabilities resulting from economic development and determines if a country's economic policies enhance the quality of life for its citizens. In this framework, individuals are considered the ultimate objective, with development initiatives being the essential means to achieve these goals.

To calculate HDI, three indicators are used:

1. The infant mortality rate, or life expectancy at birth, is a measure of health.
2. The population's years of education, education level, or literacy rate are used to determine education level.
3. Per capita spending is used to calculate the standard of living (for a one-year period).

Several important aspects that are the main focus in human development are:

- Development focuses on population.
- Development requires expanding people's choices, not just increasing income. Therefore, human development plans must involve everyone, not just the economic aspect.
- Human development is not only about enhancing human capabilities but also aims to maximize these capabilities.
- Human development is based on four pillars: productivity, equity, sustainability, and empowerment.
- Human construction is fundamental in identifying goals and analyzing how they will be achieved.

According to Todaro and Smith (2006), the Human Development Index (HDI) is utilized to gauge the success in enhancing the quality of human life and to measure human development achievements based on fundamental components across basic dimensions. The HDI assesses quality of life through three primary dimensions: longevity and healthy life, knowledge, and a decent standard of living. Each dimension is represented by specific indicators. Longevity and healthy life are measured by life expectancy at birth, while the knowledge dimension is indicated by the average length of schooling and the expected length of schooling. In Indonesia, adjusted per capita expenditure is a measure of a reasonable level of life.

The formula used to calculate the Human Development Index (HDI) is as follows:

$$IPM = \frac{1}{3} [(\text{Indeks X1}) + (\text{Indeks X2}) + (\text{Indeks X3})]$$

Where :

X1 : Longevity

X2 : Education Level

X3 : Decent Standard of Living (using the purchasing power indicator)

The current development paradigm in the world is how human development is seen from the quality of human life itself. The quality of human development can be used to measure how good the economic growth of a country or region is. The Human Development Index (HDI) becomes a benchmark that can be seen from the quality of education, health, and economy. From these three indicators, the development and quality of economic growth in a country or region can be observed. The improvement of these three indicators clearly enhances the quality of human life. This is due to the relationship between the Human Development Index (HDI) and these three indexes, which are benchmarks for determining the quality of life of the community.

Indonesia also has a classification measurement whose status is determined based on the UNDP categorization. The classification is as follows:

- Low human development if the HDI value ranges from 0 to 60.
- Medium human development if the HDI value ranges from 60 to 70.
- High human development if the HDI value ranges from 70 to 80.
- Very high human development if the HDI value ranges from 80 to 100.

Usually, the Human Development Index (HDI) has a relatively increasing trend. This can be influenced by the improvement in the quality of education and health systems, which can enhance human resource development and subsequently affect the Human Development Index (HDI) of a country or region (Dewi et al., 2017).

H1: It is suspected that there is an influence between Life Expectancy and the Human Development Index in Denpasar City.

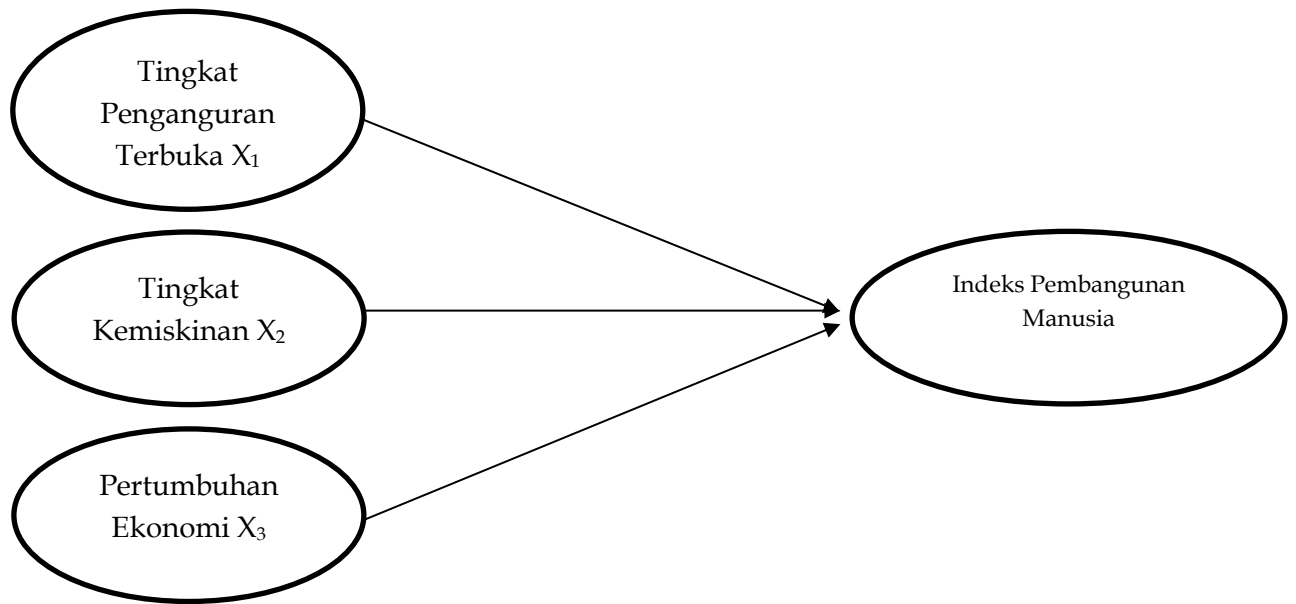


Figure 1. Conceptual Framework

METHODOLOGY

Multiple linear regression analysis is a linear relationship between two or more independent variables. This analysis aims to determine the direction of the relationship between the independent variables and the dependent variable. The independent variables consist of Life Expectancy, Average Years of Schooling, and Gross Regional Domestic Product, while the dependent variable is the Human Development Index. The formula for multiple linear regression is as follows:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + e$$

Where:

- Y = Human Development Index
- α = Constant
- X1= Life Expectancy
- X2 = Average Years of Schooling
- X3= Gross Regional Domestic Product
- β = Slope or Coefficient
- e = Disturbance Variable

RESULTS

The linear relationship between two or more independent variables is the subject of multiple linear regression analysis. The purpose of this study is to ascertain which way the independent and dependent variables are related to one another. The independent variables consist of Life Expectancy, Average Years of Schooling, and Gross Regional Domestic Product, while the dependent variable is the Human Development Index. The formula for multiple linear regression is as follows:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + e$$

Where:

- Y = Human Development Index
- α = Constant
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- β = Slope or Coefficient
- e = Disturbance Variable

Table 4.9 Multiple Linear Regression Results

Dependent Variable: IPM Method: Least Squares Date: 05/20/24 Time: 20:01 Sample: 2010 2021 Included observations: 12				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	49.85367	25.98570	1.918504	0.0913
AHH	0.045098	0.286070	0.157647	0.8786
RLS	2.028802	0.839901	2.415526	0.0421
PDRB	2.36E-07	4.95E-08	4.757664	0.0014
R-squared	0.964908	Mean dependent var		82.09583
Adjusted R-squared	0.951749	S.D. dependent var		1.638139
S.E. of regression	0.359835	Akaike info criterion		1.054859
Sum squared resid	1.035849	Schwarz criterion		1.216494
Log likelihood	-2.329154	Hannan-Quinn criter.		0.995016
F-statistic	73.32505	Durbin-Watson stat		0.772877
Prob(F-statistic)	0.000004			

Source: processed data, 2024. Appendix 2, p. 76

Based on the table above, the multiple linear regression equation model is obtained as follows:

$$IPM(Y) = 49.85367 + 0.045098 X_1 + 2.028802 X_2 + 0.0000002356 X_3 + e$$

From the regression results, the following regression equation can be concluded:

- The constant value of 49.85367 means that if the values of Life Expectancy (X1), Average Years of Schooling (X2), and Gross Regional Domestic Product (X3) remain constant, the Human Development Index will increase by 49.85367%.

- The regression coefficient for the variable Life Expectancy (X1) is 0.045098, which indicates a positive influence on the Human Development Index (Y). This can be interpreted as if there is an increase in Life Expectancy by 1 year, the Human Development Index in Denpasar City will increase by 0.045098%.

- The regression coefficient for the variable Average Years of Schooling (X2) is 2.028802, which indicates a positive influence on the Human Development Index (Y). This can be interpreted as if there is an increase in Average Years of Schooling by 1 year, the Human Development Index in Denpasar City will increase by 2.028802%.

- The regression coefficient for the variable Gross Regional Domestic Product (X3) is 0.0000002356, which indicates a positive influence on the Human Development Index (Y). This can be interpreted as if there is an increase in Gross Regional Domestic Product by 1 million, the Human Development Index will increase by 0.0000002356%.

DISCUSSION

The research findings indicate that the Average Years of Schooling has a probability value greater than 0.05 ($0.0421 > 0.05$), demonstrating a positive and significant impact on the Human Development Index (HDI). According to Todaro and Smith (2015), education is a fundamental development goal that plays a crucial role in a country's ability to assimilate modern technology and foster sustainable growth and development. Education aims to create quality human resources and is essential for improving people's welfare. Higher income levels enable individuals to pay local taxes and levies, which in turn supports local government initiatives. Consequently, higher education levels in a region lead to better quality human resources, contributing to an improved HDI.

Anoraga and Rachmansyah (2022) also highlight the relationship between Average Years of Schooling and HDI, noting that higher education levels correlate with a higher HDI. Good education offers intrinsic benefits by enhancing life skills and independence and provides instrumental benefits by increasing opportunities for higher income. Education is critical for absorbing and managing economic growth resources, including technology and institutions vital for economic development. Effective education facilitates technological utilization and innovation.

Supporting this research, Asmawani and Pangidoan (2021) found that the Average Years of Schooling significantly positively affects the HDI in North Sumatra Province. Additionally, Masruroh and Subekti (2017) observed that a 1% increase in the Average Years of Schooling, while keeping life expectancy, literacy rate, and purchasing power index constant, results in a 0.9827 increase in the HDI. The Average Years of Schooling reflects the number of years individuals

aged 15 and over have spent in formal education (excluding repeated years), indicating that higher education levels lead to better human development. Increased education levels signify improved thinking and acting quality, thereby enhancing human development..

CONCLUSIONS

Based on the tests conducted and the discussion, it can be concluded that:

1. Life Expectancy (LE) has a positive and insignificant influence on the Human Development Index (HDI) in Denpasar City.
2. Average Years of Schooling (AYS) has a positive and significant influence on the Human Development Index (HDI) in Denpasar City.
3. In Denpasar City, the Human Development Index (HDI) is positively and significantly impacted by the Gross Regional Domestic Product (GRDP).

RECOMMENDATIONS

Therefore, in an effort to improve the Human Development Index in Denpasar City, there are three dimensions that need to be improved and enhanced, namely health, education, and a decent standard of living.

1. In the effort to increase Life Expectancy to improve the Human Development Index, there are three important points that need to be improved and enhanced, namely:

a. In the field of health, efforts that can be made include setting up health posts and providing education about health or basic first aid to the community.

b. In the field of education, efforts that can be made include building libraries or reading gardens as an alternative to increase reading interest and a thirst for knowledge.

c. In the field of achieving a decent standard of living, efforts that can be made include creating commodity segmentation within the community or region to prevent the rise in commodity prices and increase the purchasing power of the community for other commodities.

2. In the effort to increase the level of education or Average Years of Schooling in Denpasar City, several things need to be considered:

a. The proportion of budget allocation that provides direct benefits to educational services needs to be continuously increased to ensure the sustainability of educational development.

b. Increasing public awareness of the importance of education through socialization and education involving all stakeholders.

FURTHER STUDY

Considering the researchers' own limited knowledge and skills, the researcher has come to the realization while producing this article that there are still numerous deficiencies in language, writing, and presentation style. As a result, the researcher anticipates helpful critiques and recommendations from a range of sources to ensure the piece is flawless.

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