ANALYSIS OF FACTORS AFFECTING THE HUMAN DEVELOPMENT INDEX IN DISTRICTS/CITIES IN BALI PROVINCE

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ABSTRAK


Berdasarkan hasil analisis diketahui bahwa dengan tingkat kepercayaan 98,1 persen, seluruh variabel independen berpengaruh signifikan baik secara simultan maupun parsial terhadap variabel dependen. Artinya faktor-faktor yang diteliti yaitu angka harapan hidup, rata-rata lama sekolah dan tingkat kemiskinan mempengaruhi indeks pembangunan manusia pada Kabupaten/Kota di Provinsi Bali berpengaruh signifikan baik secara parsial maupun simultan. Jika dilihat dari koefisien determinasi yang tinggi 98,1 persen variasi angka harapan hidup, rata-rata lama sekolah dan tingkat kemiskinan yang dapat menjelaskan variasi indeks pembangunan manusia pada Kabupaten/Kota di Provinsi Bali, sehingga bisa memberikan kontribusi yang berbeda-beda untuk setiap model studi.

Kata kunci: indeks pembangunan manusia, angka harapan hidup, rata-rata lama sekolah dan tingkat kemiskinan.

ABSTRACT

The aim of this research is to 1) determine the influence of life expectancy on the human development index in districts/cities in Bali Province; 2) Knowing the effect of average length of schooling on the human development index in districts/cities in Bali Province; 3) Knowing the effect of poverty levels on the human development index in districts/cities in Bali Province; 4) Knowing the effect of life expectancy, average length of schooling, and poverty level on the human development index in districts/cities in Bali Province. Research was conducted in districts/cities in Bali Province. This research was conducted in districts/cities in Bali Province using 117 observation points taking into consideration the occurrence of disparities in life expectancy, average length of schooling, poverty level, and human development index between districts/cities in Bali Province. This research used data released by the Bali Province Central Statistics Agency (BPS). The object of this research focuses on four main variables, namely life expectancy, average years of schooling, poverty level, and human development index. The data analysis techniques used to solve the problems in this research are: Classic Assumption Test and Hypothesis Testing with Multiple Linear Regression Analysis Techniques.

Based on the results of the analysis, it is known that with a confidence level of 98.1 percent, all independent variables have a significant effect, both simultaneously and partially, on the dependent variable. This means that the factors studied which consist of life expectancy, average length of schooling and poverty level influence the human development index in districts/cities in Bali Province have a significant effect both partially and simultaneously. If we look at the high coefficient of determination, 98.1 percent of the variation in life expectancy, average years of schooling and poverty levels, which can explain variations in the human development index in districts/cities in Bali Province, so that they can provide different contributions for each model. Studies.

Keywords: human development index, life expectancy, average years of schooling and poverty level.
INTRODUCTION

In simple terms, development can be considered as an effort or process to make changes for the better. Development is literally used as a tool to achieve the nation's goals, one of which is to improve the welfare of its people, where in the preamble to the 1945 Constitution the goals of the Indonesian nation are stated, namely advancing general welfare, making the nation's life intelligent and participating in implementing a world based on independence, eternal peace and social justice. The implementation of development in the regions is reflected in the realization of the implementation of the Regional Revenue and Expenditure Budget (RREB). According to the Directorate General of Financial Balance (2017), the Regional Revenue and Expenditure Budget (RREB) is a regional government financial plan for one year which is determined by regional regulations. RREB can be used as a means of communication between regional governments and their communities regarding allocation priorities made by regional governments after coordinating with the legislature, DPRD. The Regional Revenue and Expenditure Budget should be used as a tool to determine the amount of regional income/revenue and expenditure/expenditure which can effectively play a role in efforts to increase the human development index. Regional budgets play an important role in increasing the Human Development Index (Pratowo, 2012; Irianto et al, 2021). The government's role in allocating regional spending for health and education plays an important role in increasing the HDI component (Imaningsih, 2020). The Human Development Index (HDI) is known as a measuring tool to see the condition of human resources in a country. The Human Development Index (HDI) was introduced by the United Nations Development Program (UNDP) in 1990. Human development means positive growth and changes in the level of welfare, which includes social, economic, cultural, political and environmental aspects. Therefore, the main focus of human development is on humans and their welfare. Apart from that, the human development index also has a positive and significant effect on the environmental quality index in Indonesia (Harris et al, 2023). The new economic theory (new growth theory or endogenous growth theory) by Robert Solow (Fikri, 2017) places human capital as a key factor and is considered the driving force of economic growth (engine of growth). This shows that high quality human resources will increase output and national income, where quality education will provide many benefits in accelerating economic growth. Improving the quality of human resources can be realized through increasing one's knowledge and skills. Increasing the human development index is not only driven by economic growth because economic growth is a necessary condition for the human development index, so economic growth must be accompanied by sufficient conditions, namely equitable development. With equitable development, there is a guarantee that all residents can enjoy the results of development. Wicaksono (2014) stated that achieving equitable development conditions will encourage the acceleration of the human development index. The steps that have been taken by the government in relation to accelerating inclusive and sustainable development with one of the indicators are reducing poverty by providing a strong foundation for its own strengths in development where the government has a very important role in accelerating inclusive growth, especially the main priority of development in rural areas in Indonesia. (Murthi et al., 2022).

Bali Province has a very unique economic structure compared to other provinces in Indonesia. This uniqueness is because most of the community's livelihood sources come from the tertiary sector (tourism) while other sectors only act as supporting sectors (BPS Bali Province, in Kusuma and Bendesa, 2022). The economic resources and potential possessed by each region determine the progress of development in each district/city region. Districts/cities that are rich in resources or economic potential will have greater opportunities to develop more quickly than districts/cities that are classified as poor areas, for example Badung Regency which has greater potential in developing tourism activities, Gianyar Regency which has potential in small industrial activities (Artaman et al, 2015) and Tabanan Regency in the agricultural and people's market sectors (Murthi, 2023). Meanwhile, Karangasem Regency or Bangli Regency have relatively limited economic resources or potential which can hamper the rate of economic growth.

In general, Bali's human development was recorded as progressing during the period 2010 to 2022 (BPS Bali Province, 2022b). Bali's HDI was recorded to have increased from 70.10 in 2010 to 76.44 in 2022. In 2022, human development in Bali Province was recorded to have increased compared to the previous year (BPS Bali Province, 2022c). This can be seen from the Human Development Index (HDI) which this year was recorded at 76.44 or grew 0.99 percent (an increase of 0.75 points) compared to the achievement in 2021. Based on the dimensions of long life and healthy living, babies born in In 2022 there is an expectation of being able to live up to 72.60 years, 0.36 years longer than babies born in the previous year, while from the knowledge dimension, in 2022 children aged 7 years and over have the hope of being able to enjoy education for 13.48 years or almost the same as the length of time to complete Diploma I level education or second semester at university level. This figure increased by 0.08 years compared to the previous year which reached 13.40 years. The average length of schooling for people aged 25 years and over also increased by 0.33 years, from 9.06 years in 2021 to 9.39 years in 2022. Likewise, the dimension of decent living standards which is measured based on average expenditure real per capita, this year also increased.
Life expectancy (LE) is a tool to demonstrate the government's performance in improving the welfare of society in general, and improving health status in particular. Low life expectancy in an area must be followed by health development programs and other social programs including environmental health, nutritional and calorie adequacy, including poverty eradication programs. BPS Bali Province data (BPS Bali Province, 2022a) shows that Life Expectancy at birth (LEB), which represents the dimension of long life and healthy living, continues to increase from year to year. Life expectancy at birth (LEB), which represents the dimension of longevity and healthy living, continues to increase from year to year. During the period 2010 to 2022, LEB has increased by 1.99 years or an average growth of 0.23 percent per year (BPS Bali Province, 2022c). In 2010, life expectancy at birth in Bali was 70.61 years and in 2022 it will reach 72.60 years.

Another component forming the human development index is the average number of years of schooling. Todaro and Smith (2015) stated that education is a fundamental development goal. Education plays an important role in shaping a country's ability to absorb modern technology and to develop capacity to create sustainable growth and development. The higher a person's level of education, the knowledge and skills will also increase, which will encourage an increase in a person's productivity. Education greatly determines the ability to absorb and manage sources of economic growth both in relation to technology and institutions that are important for economic growth. With good education, the use of technology or technological innovation becomes possible. The knowledge dimension of the HDI is formed by two indicators, namely the Expected Years of Schooling (EYS) for the population aged 7 years and over and the Average Years of Schooling (AYS) for the population aged 25 years and over (BPS Bali Province, 2022c). These two indicators continue to increase from year to year. During the period 2010 to 2022, the expected length of schooling in Bali was recorded to have increased by 1.77 years, while the average length of schooling was recorded to have increased by 1.65 years (BPS Bali Province, 2022c).

Poverty is one of the factors that influences the human development index. Poverty is a problem in development that is multidimensional because to overcome poverty the problems faced are not limited to matters relating to the cause and effect relationship of poverty but also involve preferences, values and politics. According to Todaro, there is still a lot of striking poverty in developing countries, even though there have been significant improvements over the last half century. Economic inequality or inequality in the distribution of income between high-income community groups and low-income community groups as well as poverty or the number of people below the poverty line (poverty line), lack of education level, a general and continuous trend of increasing prices, and increasing poverty, which is a factor in the occurrence of poverty, where these factors influence each other and are interconnected (Murthi, 2023; Margareni et al., 2016).

In general, in the period September 2015-September 2022, the poverty level in Bali experienced fluctuations, both in terms of number and percentage (BPS Bali Province, 2022d). It was recorded that from September 2015-September 2016 there was a decline and from September 2016-March 2017 there was an increase. The downward trend occurred again from March 2017-September 2019, while September 2019-September 2021 experienced an increase. Starting from September 2021-September 2022 there will be a decline in both the number and percentage of poor people. The number of poor people in Bali in September 2022 was recorded at 205.36 thousand people, compared to September 2021, it decreased by 6.10 thousand people. Meanwhile, compared to March 2022, the number of poor people decreased by 0.32 thousand people. The percentage of poor people in September 2022 was recorded at 4.53 percent, down 0.04 percentage points compared to March 2022 and down 0.19 percentage points compared to September 2021 (BPS Bali Province, 2022d; Radityana, et al., 2023). The poverty line is used as a measure/limit to classify people who can be categorized as poor or not poor in measuring macro poverty rates. Poor people are defined as people with per capita expenditure below (or lower) than the amount known as the poverty line (BPS Bali Province, 2022d). The Poverty Line in September 2022 was recorded at IDR 515,037 per capita, compared to conditions in March 2022, the increase was 6.19 percent, while compared to September 2021, there was an increase of 11.59 percent. By paying attention to the components of the Poverty Line (PL), which consists of the Food Poverty Line (FPL) and the Non-Food Poverty Line (NFPL), the role of food commodities is still much greater than the role of non-food commodities. The size of FPL's contribution to PL in September 2022 was 69.44 percent, while the size of NFPL's contribution to PL was 30.56 percent (BPS Bali Province, 2022d).

The problem of poverty is not just the number and percentage of poor people (BPS Bali Province, 2022d). Another dimension that needs to be considered when looking at poverty indicators is the depth and severity of poverty itself. Poverty Depth Level is a measure of the average expenditure leakage of each poor person towards the poverty line. The Poverty Severity Level provides an illustration of the distribution of expenditure among the poor. In the period March 2022-September 2022, the Poverty Depth Level (P1) and Poverty Severity Level (P2) decreased. The depth of poverty level in September 2022 was recorded at 0.563, down 0.062 points compared to conditions in March 2022 which was recorded at 0.625. When compared to conditions in September 2021 which was recorded at
0.759, this value decreased by 0.196 points. Likewise, the Poverty Severity Level, in the same period decreased by 0.027 points from 0.129 in March 2022 to 0.102 in September 2022. When compared with conditions in September 2021 which was recorded at 0.171, this value decreased by 0.069 points.

Another indicator that is included to accompany the poverty indicator is a measure of inequality in population expenditure (BPS Bali Province, 2022e). One measure of inequality used is the Gini Ratio. The Gini Ratio value ranges from 0-1. The higher the Gini Ratio value, the higher the level of inequality. Throughout the period September 2015 to September 2022, it was recorded that the Gini Ratio in Bali tended to fluctuate, the highest Gini Ratio was recorded at 0.400 in September 2015, and the lowest was recorded at 0.362 in September 2022. Conditions in September 2022, the Gini Ratio decreased by 0.001 points when compared to conditions in March 2022 which was recorded at 0.363. This indicates an improvement in income distribution in Bali (BPS Bali Province, 2022e). Based on area of residence, the Gini Ratio in urban areas in September 2022 was recorded at 0.371. This achievement is relatively the same as the condition in March 2022 which was recorded at 0.371. This indicates that the level of inequality in urban population expenditure has remained relatively unchanged, namely being in the moderate inequality category. The Gini Ratio in rural areas in September 2022 was recorded at 0.282, down 0.012 points compared to conditions in March 2022 which was recorded at 0.294. The decline in the Gini Ratio in rural areas indicates a decrease in expenditure inequality or the increasingly homogeneous income of the population in rural areas (BPS Bali Province, 2022e). This decline may be due to massive rural development with the existence of Village Funds and their use for productive activities in the Village so that BUMDESA performance can increase, especially in developing the creative economy and increasing the role of women in the Village (Murthi, 2023).

Economic development can be interpreted as various activities carried out by a region to develop economic activities, which result in an increase in the per capita income of the community in the long term, so that it can improve the standard of living and welfare of the community (Arsyad in Nadhifah, 2018). However, the direction of economic development does not only focus on growth, but also on poverty alleviation, overcoming inequality in income distribution, and providing employment opportunities. Poverty is synonymous with rural areas, with the Village Law, the role of government and community participation is very important in managing Village Funds through the formation of Village Owned Enterprises with a social entrepreneurial spirit so that the Village development goal of reducing extreme poverty in the Village and equal distribution of income can be achieved (Murthi, 2023). The composition of the workforce in August 2022 consists of 2.61 million employed people and 131.47 thousand unemployed people (BPS Bali Province, 2022f). When compared to August 2021, there was an increase in the workforce of 158.02 thousand people. The working population increased by 165.22 thousand people and unemployment fell by 7.20 thousand people.

The Labor Force Participation Rate (LFPR) is the percentage of the workforce to the working age population (BPS Bali Province, 2022f). LFPR indicates the large percentage of the working age population who are economically active in a region. The LFPR in August 2022 was recorded at 76.86%, an increase of 3.32 percentage points compared to the LFPR in August 2021. Based on gender, the LFPR for men in August 2022 was recorded at 84.06%, higher than the LFPR for women recorded amounting to 69.62%, when compared with conditions in August 2021, both male and female LFPR increased, respectively by 4.62 percentage points and 2.01 percentage points (BPS Bali Province, 2022f). Work participation has a significant influence in reducing poverty levels (Artika & Marini, 2022).

Based on BPS Bali Province (2022d), several factors that influence the poverty level in Bali during the period March 2022-September 2022 include: (1) The economy in the third quarter of 2022 grew by 8.09 percent (y-on-y) or more higher than in the first quarter of 2022 which was recorded at 1.46 percent. This illustrates that the economy in Bali is getting better. (2) Household consumption in GDP expenditure in the third quarter of 2022 was recorded as growing 4.53 percent, this condition is higher compared to the first quarter of 2022 which was recorded at 2.51 percent. This increase in household consumption expenditure illustrates that people's purchasing power in Bali is improving. (3) The hotel Room Occupancy Rate (TPK) in September 2022 was recorded at 46.45 percent. This achievement has doubled compared to conditions in March 2022 which was recorded at 21.19 percent. (4) Foreign tourist visits in September 2022 increased by 276,542 visits compared to March 2022, recorded from 14,620 people in March 2022 to 291,162 people in September 2022. (5) Denpasar City inflation in September 2022 was recorded at 0.54, if you look at the year calendar was recorded at 5.66, and on a (y-on-y) basis it was recorded at 6.96. Meanwhile, inflation in Singaraja City in September 2022 was recorded at 0.35, if you look at the calendar year it was recorded at 4.10, and (y-on-y) it was recorded at 6.09. (6) The Open Unemployment Rate (TPT) in August 2022 was 4.80 percent or down 0.04 percentage points when compared to the TPT in February 2022 which was recorded at 4.84 percent (7) The Farmer Exchange Rate (NTP) in September 2022 was recorded at 96.40. This achievement has increased compared to the conditions in March 2022 which was recorded at 94.44. Even though NTP has increased, farmers in Bali still suffer losses because the value they pay is still lower than the value they receive. (8) Distribution of government assistance programs (PKH, Basic Food Program, and BLT-BBM) in September 2022 (BPS Bali Province, 2022d). Based on differences in life expectancy, average length of schooling, and poverty levels in
districts/cities in Bali Province, the author is interested in examining these variables as factors that influence the human development index in districts/cities in Bali Province.

Increasing economic well-being as a result of increasing longevity is very important. In comparing levels of welfare between social groups, it is very important to look at life expectancy, as well as annual income levels. Life expectancy as one of the factors that influences the human development index is confirmed by the research results of Masrurroh and Subekti (2016) which state that life expectancy has a positive and significant effect on the human development index. Keman's research results (2020) state that life expectancy has a significant effect on the human development index. Asmawani and Pangidoan (2021) stated that life expectancy (Le) partially has a positive and significant effect on the human development index. Different results were found in research conducted by Fajri (2021) stating that partial life expectancy does not have a significant effect on the human development index.

Todaro (Rafiqi S, 2020) states that income level is greatly influenced by the length of time a person has received education. The average length of schooling is an indicator of the level of education in an area. Education is a form of human capital which shows the quality of human resources (HR). To maximize the difference between expected profits and estimated costs, the optimal strategy for a person is to try to complete as much education as possible. Investment in human capital will show higher benefits when comparing the total educational costs incurred during education to the income that will be obtained when they are ready to work. Highly educated people will start full-time work at an older age, but their income will rise faster than people who work earlier (Todaro in Rafiqi S, 2020). Therefore, the average length of schooling is one of the factors that influences the human development index. This statement is confirmed by research conducted by Astuti (2018) which states that the average number of years of schooling has a significant positive effect on the human development index. Fajri (2021) also states that the average length of schooling partially has a significant effect on the human development index. Asmawani and Pangidoan (2021), also stated that the average length of schooling (RLS) partially has a positive and significant effect on the human development index. Different results were found in research conducted by Manurung and Hutabarat (2021), stating that there was no significant influence between the average length of schooling and the human development index.

According to research by Murthi et al (2015; 2018), Bali province's income is still supported by the people's high purchasing power and consumptive behavior towards trade products. According to Artini et al (2019); Marta et al (2019), this elasticity shows that imported commodities between Bali are luxury goods and these commodities are used to fulfill the consumption of local residents, so that the trade sector grows faster when the Covid-19 pandemic is slowly starting to end. Even though Bali Province has been supported in its income by the economic potential of each district, Bali Province still has the same and relatively classic problem, namely the problem of poverty (Wisnama and Widanta, 2021; Russicaria et al, 2014; Diatmika et al, 2017). According to Soekanto (Senewe et al., 2021), poverty is defined as a situation where a person is unable to maintain himself according to the standard of living of the group and is also unable to utilize his mental and physical energy within the group. Based on research by Muliza et al. (2017) stated that poverty has a negative and significant effect on the human development index, so reducing the poverty level can increase the human development index (Dewi, 2017; Saputro, 2022). This is different from the research results of Zamharir (2016) which states that poverty partially has a negative but not significant effect on the human development index (Astuti, 2018; Fajri, 2021)

Factors that influence the human development index in districts/cities in Bali Province are problems that will be attempted to be observed and analyzed. In reality, many factors influence the human development index in districts/cities in Bali Province, but not all of them can be analyzed in this research. Factors that are thought to influence the human development index in districts/cities in Bali Province are life expectancy, average length of schooling, and poverty level.

Statements Of The Problem

Based on the background of the problem stated previously, the problem formulation in this research is: 1) Does life expectancy have a partial effect on the human development index in districts/cities in Bali Province? ; 2) Does the average length of schooling have a partial effect on the human development index in districts/cities in Bali Province? ; 3) Does the poverty level have a partial effect on the human development index in districts/cities in Bali Province? ; 4) Do life expectancy, average years of schooling, and poverty levels simultaneously influence the human development index in districts/cities in Bali Province?.

Objectives Of The Study

Based on the main problems described above, this research aims to: 1) Find out the effect of life expectancy on the human development index in districts/cities in Bali Province; 2) Knowing the effect of average length of schooling on the human development index in districts/cities in Bali Province; 3) Knowing the effect of poverty levels on the human development index in districts/cities in Bali Province; 4) Knowing the influence of life
expectancy, average years of schooling, and poverty levels on the human development index in districts/cities in Bali Province.

**RESEARCH METHODS**

A descriptive research design with a quantitative approach was used in the research. Research emphasizes testing theories through measuring research variables using numbers and analyzing data using statistical procedures, then complemented by descriptive explanations of phenomena that occur in the field which reflect the actual situation (Sugiyono, 2010).

This research was conducted in districts/cities in Bali Province using 117 observation points taking into account disparities in life expectancy, average length of schooling, poverty level, and human development index between districts/cities in Bali Province. This research uses data released by the Bali Province Central Statistics Agency (BPS). The object of this research focuses on four main variables, namely life expectancy, average years of schooling, poverty level, and human development index.

**Operational Definition of Variables**

The operational definition of a variable is an explanation of the theoretical meaning of a variable so that it can be observed and measured. The operational definition of variables in research conducted in districts/cities in Bali Province includes:

1. **Life expectancy (X₁)**
   Life expectancy (LE) is a tool for evaluating the government's performance in improving the welfare of the population in general, and improving health status in particular. Life expectancy describes the average age a person attains in the prevailing mortality situation in their community. In this study, life expectancy is calculated from the average estimated number of years a person can live in a lifetime according to the Central Statistics Agency (BPS) in each of the 9 districts/cities of Bali Province for the period 2010 to 2022 which is measured in years.

2. **The average length of schooling (X₂)**
   The average length of schooling indicates the higher level of formal education achieved by the people of a region. The higher the average length of schooling means the higher the level of education undertaken. The average length of schooling is calculated from the average number of years spent by residents aged 15 years and over at all levels of formal education attended in each of the 9 districts/cities of Bali Province for the period 2010 to 2022 according to the Central Statistics Agency (BPS) which is measured in years.

2. **Poverty level (X₃)**
   Poverty level is the inability from an economic perspective to meet basic food and non-food needs as measured from the expenditure side. Residents are categorized as poor if their average monthly per capita expenditure is below the poverty line. The Poverty Line (GK) reflects the rupiah value of the minimum expenditure required by a person to fulfill his basic life needs for a month, both food and non-food needs. In this research, the indicator used is the number of poor people in districts/cities in Bali Province from 2010 to 2022 which is measured in percent.

3. **The Human Development Index (Y)**
   The Human Development Index is a concept that underlies development to achieve human welfare as the ultimate goal of development. The human development index is a composite index used to measure the achievement of the average quality of life of a country/region. There are three basic indicators used to analyze the development of human development, namely; life expectancy index, literacy index and income index in districts/cities in Bali Province from 2010 to 2010. 2022 which is measured in points.

**Data analysis technique**

According to the opinion expressed by Sugiyono (2010) in quantitative research, data analysis is an activity after data from all respondents or other data sources have been collected. Activities in data analysis are: grouping data based on variables and type of respondent, tabulating data based on variables from all respondents, presenting data for each variable studied, carrying out calculations to answer the problem formulation, and carrying out calculations to test the hypothesis that has been proposed. The data analysis techniques in this research are as follows:

Multiple Linear Regression Analysis according to Riduwan (2009) is an analytical tool for forecasting the value of the influence of two or more independent variables on the dependent variable to prove whether or not there is a functional relationship or causal relationship between two or more independent variables (X₁), (X₂), …… …(Xₙ) with one dependent variable. Multiple Linear Regression Analysis in this research was used to determine the influence of life expectancy (X₁), average years of schooling (X₂), and poverty level (X₃) on the human
development index (Y) in districts/cities in Bali Province. The Multiple Linear Regression Analysis equation is formulated as follows (Sugiyono, 2009):

\[ Y = b_0 + b_1X_1 + b_2X_2 + b_3X_3 + e_i \]  

(1)

Information:
\[ Y = \text{The Human Development Index}; \quad b_0 = \text{Constant}; \quad b_1 = \text{Life expectancy coefficient}; \quad b_2 = \text{The average length of schooling coefficient}; \quad b_3 = \text{Poverty level coefficient}; \quad X_1 = \text{Life expectancy}; \quad X_2 = \text{The average length of schooling}; \quad X_3 = \text{tingkat kemiskinan}; \quad e_i = \text{Standard error}. \]

The coefficient of determination \((R^2)\) is used to determine how big the relationship or ability of variations in the independent variable is to contribute to the dependent variable simultaneously in percentage units. This coefficient value is between 0 and 1, if the result is closer to 0, it means that the ability of the independent variables to explain variable variations is very limited. But if the result is close to 1, it means that the independent variables provide almost all the information needed to predict variations in the dependent variable. According to Wirawan (2010), the coefficient of determination value can be calculated using the following formula:

\[ R^2 = \frac{a \sum Y + b_1 \sum X_1Y + b_2 \sum X_2Y - nY^2}{\sum Y^2 - nY^2} \]  

(2)

Information:
\[ R^2 = \text{Koefisien Determinasi}; \quad a = \text{Intercept}; \quad Y = \text{The Human Development Index}; \quad X_1 = \text{Life expectancy}; \quad X_2 = \text{The average length of schooling}; \quad X_3 = \text{tingkat kemiskinan}; \quad b_1 = \text{Life expectancy coefficient}; \quad b_2 = \text{The average length of schooling coefficient}; \quad b_3 = \text{Poverty level coefficient}. \]

RESULTS AND DISCUSSION

The descriptive statistics used in this research are the average (mean), maximum, minimum and standard deviation values. Based on calculations using the SPSS program, descriptive statistical results were obtained which are displayed in Table 2, as follows:

1. Life Expectancy
Based on the data in Table 2, it can be explained that the value of life expectancy in districts/cities in Bali Province ranges from 68.56 to 75.51 years. The lowest life expectancy was recorded at 68.56 years while the highest life expectancy was recorded at 75.51 years. The average value of life expectancy for districts/cities in Bali Province each year was recorded at 71.9174 years, while the standard deviation of total life expectancy was recorded at 1.84766 years, this shows that the distribution of data on the value of life expectancy in districts/ Cities in Bali Province are relatively small each year because the standard deviation value is smaller than the average value.

<table>
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<tr>
<th>Table 2 Descriptive Research Variables</th>
<th>Descriptive Statistics</th>
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</tbody>
</table>

Source: processed SPSS data

2. The average length of schooling
Based on the data in Table 2, it can be explained that the average length of schooling in districts/cities in Bali Province ranges from 4.55 to 11.50 years. The lowest average length of schooling was recorded at 4.55 years while the highest average length of schooling was recorded at 11.50 years. The average length of schooling in districts/cities in Bali Province each year was recorded at 7.9941 years, while the standard deviation of the average length of schooling was recorded at 1.66410 years, this shows that the distribution of data regarding the average length of schooling in the districts / Cities in Bali Province are relatively small each year because the standard deviation value is smaller than the average value.

3. Poverty level
Based on the data in Table 2, it can be explained that poverty in districts/cities in Bali Province ranges from 1.52 to 8.11 percent. The lowest poverty was recorded at 1.52 percent, while the highest poverty was recorded at 8.11 percent. The average poverty in regencies/cities in Bali Province each year was recorded at 4.9012 percent, while the standard deviation of poverty was recorded at 1.64579 percent, this shows that the distribution of data on
poverty in regencies/cities in Bali Province each year is relatively small because the standard deviation value is smaller than the average value.

4. Human Development Index

Based on the data in Table 2, it can be explained that the human development index in districts/cities in Bali Province ranges from 60.58 to 84.37 percent. The lowest human development index in districts/cities in Bali Province was recorded at 60.58 percent, while the highest human development index was recorded at 84.37 percent. The average annual human development index in districts/cities in Bali Province was recorded at 72.5995 percent, while the standard deviation of the human development index in districts/cities in Bali Province was recorded at 5.75290 percent, this shows that the distribution of data on the index development per person per year in districts/cities in Bali Province is relatively small because the standard deviation value is smaller than the average value.

**Multiple Linear Regression Analysis**

By using the SPSS (Statistical Product and Service Solution) application version 21.0 for Windows, the analysis results obtained are as described in Table 3 below:

Based on Table 4.3, the multiple linear regression equation is: \( Y = -21.346 + 1.087X_1 + 2.097X_2 - 0.208X_3 \), with the following explanation:

a. A constant of -21.346 means that if the life expectancy \((X_1)\), average years of schooling \((X_2)\) and poverty level \((X_3)\) are 0 (constant), then the human development index \((Y)\) is -21.346.

b. The regression coefficient for the variable life expectancy \((X_1)\) is 1.087, meaning that an increase in life expectancy \((X_1)\) by one year will influence an increase in the human development index \((Y)\) of 1.087 points assuming the variables are average years of schooling \((X_2)\) and the poverty level \((X_3)\) is zero.

c. The regression coefficient for the variable average length of schooling \((X_2)\) is 2.097, meaning that an increase in the average length of schooling \((X_2)\) by one year will influence an increase in the human development index \((Y)\) of 2.097 points assuming the variable life expectancy \((X_1)\) and the poverty level \((X_3)\) is zero.

d. The regression coefficient for the poverty level variable \((X_3)\) is -0.208, meaning that an increase in the poverty level \((X_3)\) by one percent will affect the decline in the human development index \((Y)\) by 0.208 points assuming the variable life expectancy \((X_1)\) and the average years of schooling \((X_2)\) zero.

<table>
<thead>
<tr>
<th>Independent variable</th>
<th>Coefficient Regression</th>
<th>t</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Life Expectancy ((X_1))</td>
<td>1.087</td>
<td>10.221</td>
<td>0.000</td>
</tr>
<tr>
<td>The average length of schooling ((X_2))</td>
<td>2.097</td>
<td>15.043</td>
<td>0.000</td>
</tr>
<tr>
<td>Poverty level ((X_3))</td>
<td>-0.208</td>
<td>-2.291</td>
<td>0.024</td>
</tr>
<tr>
<td>Constant</td>
<td>-21.346</td>
<td>-3.092</td>
<td>0.003</td>
</tr>
</tbody>
</table>

Coefficient of determination \((R^2)\): 0.981

F count: 1.910,166

Signification: 0,000

Source: processed SPSS data

**Partial test (t test) and F test**

Partial hypothesis testing or the T test is used to test the influence of each independent variable \((X)\) on the dependent variable \((Y)\), with partial testing the real influence of the variables life expectancy, average years of schooling and poverty level on the index will be tested. Human development in districts/cities in Bali Province.

1. Partial life expectancy \((X_1)\) on the human development index in districts/cities in Bali Province. The regression coefficient test \((b1)\) obtained a calculated \(t\) value = 10.221 > \(t\) table = 1.658 and the significance was less than 0.05 \((0.000 < 0.05)\), so Ho was rejected and Ha was accepted. This means that life expectancy has a real influence on the human development index in districts/cities in Bali Province. These results are in line with research (Humaira & Nugraha, 2018).

2. Average length of school \((X_2)\) partially affects the human development index in districts/cities in Bali Province. The regression coefficient test \((b2)\) obtained a calculated \(t\) value = 15.043 > \(t\) table = 1.658 and the significance was less than 0.05 \((0.000 < 0.05)\), so Ho was rejected and Ha was accepted. This means that the average length of schooling has a real influence on the human development index in districts/cities in Bali Province.

3. Partial poverty level \((X_3)\) on the human development index in districts/cities in Bali Province. The regression coefficient test \((b2)\) obtained a calculated \(t\) value = -2.291 < \(t\) table = -1.658 and the significance was less than 0.05 \((0.024 < 0.05)\), so Ho was rejected and Ha was accepted. This means that the poverty level has a real
effect on the human development index in districts/cities in Bali Province. These results are in line with research (Utami, 2017).

4. F test (variance test), is used to strengthen the $R^2$ value, where from the calculated F calculation results it is obtained that it is $14.169 > F_{	ext{table}} = 2.685$ and the significance is smaller than 0.05 ($0.000 < 0.05$) so $H_0$ is rejected and $H_A$ is accepted. This means that life expectancy, average years of schooling and poverty levels have a significant simultaneous effect on the human development index in districts/cities in Bali Province.

**Coefficient of determination**

Test the coefficient of multiple determination ($R^2$) to measure the magnitude of the contribution of the independent variables including: life expectancy ($X_1$), average years of schooling ($X_2$) and poverty level ($X_3$) to the dependent variable, namely to the human development index in the Regency/City in Bali Province ($Y$). Based on the data in table 3, it is known that the value of the coefficient of multiple determination, namely $R^2 = 0.981$, means that the variation (up and down) of the variable in the human development index in districts/cities in Bali Province ($Y$) is 98.1% influenced by average life expectancy ($X_1$), the average length of schooling ($X_2$) and poverty level ($X_3$) and the remaining 1.9% are influenced by other variables outside the model included in this research.

**CLOSING**

**Conclusions**

1. Life expectancy has a partial positive and real effect on the human development index in districts/cities in Bali Province. Increasing life expectancy in districts/cities in Bali Province will have an impact on increasing the human development index.

2. The average length of schooling partially has a positive and real effect on the human development index in districts/cities in Bali Province. An increase in the average length of schooling in districts/cities in Bali Province will have an impact on increasing the human development index.

3. Poverty partially and significantly has a negative effect on the human development index in districts/cities in Bali Province. Increasing poverty in districts/cities in Bali Province will have an impact on reducing the quality of the human development index.

4. Life expectancy, average years of schooling, and poverty levels simultaneously have a significant effect on the human development index in districts/cities in Bali Province. Increasing life expectancy, average length of schooling, and poverty levels in districts/cities in Bali Province will collectively have an impact on the human development index.

**Suggestions**

As a result of the conclusions outlined above, several suggestions are put forward which are expected to provide benefits in taking policies as an effort to reduce the human development index in districts/cities in Bali Province, namely:

1. Regency/City governments in Bali Province should continue to maintain an increase in the human development index by continuing to make development efforts in the fields of education, health and per capita expenditure. For the economic growth variable, the government is expected to carry out economic development so that it is pro-poor. Increasing GRDP is not only for industrial production purposes, but MSMEs must also receive attention by providing organized and continuously monitored loan assistance. The government is also expected to pay more attention to educational facilities, health facilities, production sectors and employment opportunities, especially in areas where the human development index is still far behind the surrounding areas.

2. Efforts related to economic recovery must continue to be carried out so that people can live in prosperity. This can be done by starting to develop themselves so that they can take advantage of the small opportunities that exist so as to revive the economy.

3. The poverty level in districts/cities in Bali Province is still very unequal. The distribution of development has not been evenly distributed to all regions in Bali Province. Areas that are not located around the city's administrative center have not experienced equitable development in terms of the Human Development Index, so equal economic conditions must be improved to increase development so that people's choices for life are more diverse. This can be done by starting to build small facilities in areas far from the city center so that they can also enjoy facilities like those in the city center.

4. Future researchers are expected to be able to add other variables that can influence the human development index. The variables in question are income distribution, type of work, and health level.
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