

Research article

Factors Affecting Inter-Regional Human Development Index in Jambi Province

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Abstract: This study aims to analyze the factors that affect the human development index between regions of Jambi Province for the 2010-2020 period. The measured factors are health, education, and economy. Health factors are measured by life expectancy. The education factor has proxy the length of school expectation and average length of schooling. The economy can be measured by expenditure per capita. The type of data in this study is secondary data, namely data obtained and collected indirectly from the object under study. The objects of this research are 9 districts and 2 cities in Jambi Province for the period 2010-2020 from the official portal of the Central Statistics Agency (BPS) Jambi Province. Data analysis through panel data regression. The finding of this study shows that life expectancy, length of school expectation, and expenditure per capita has positive effect on HDI among regions in Jambi Province. The findings can be used as material for consideration to identify various obstacles/problems faced by a particular area that has a high or low human index. After that, the government can make policies to increase one or more human development index factors that show a decline.

Keywords: HDI, life expectancy, school length expectation, average of schooling length, expenditure

JEL Classification: C33, H51, H52, H53

Abstrak: Penelitian ini bertujuan untuk menganalisis faktor-faktor yang mempengaruhi indeks pembangunan manusia antar wilayah Provinsi Jambi periode 2010-2020. Faktor yang diukur adalah kesehatan, pendidikan dan ekonomi. Faktor kesehatan di proksi dari usia harapan hidup. Faktor pendidikan di proksi dari harapan lama sekolah dan rata-rata lama sekolah. Perekonomian dapat diukur dengan pengeluaran per kapita. Jenis data dalam penelitian ini adalah data sekunder yang diperoleh dan dikumpulkan secara tidak langsung dari objek yang diteliti. Objek penelitian ini adalah 9 kabupaten dan 2 kota di Provinsi Jambi periode 2010-2020 dari portal resmi Badan Pusat Statistik (BPS) Provinsi Jambi. Teknik analisis mengaplikasikan model regresi data panel. Hasil temuan studi ini menunjukkan bahwa faktor usia harapan hidup, rata-rata lama sekolah, dan pengeluaran per kapita berpengaruh positif terhadap IPM antar wilayah di Provinsi Jambi. Hasil temuan yang diperoleh dapat dijadikan sebagai bahan pertimbangan untuk mengidentifikasi berbagai kendala/permasalahan yang dihadapi suatu wilayah tertentu yang memiliki indeks pembangunan manusia yang sedang ataupun rendah. Setelah identifikasi dilakukan maka pemerintah dapat membuat kebijakan untuk meningkatkan salah satu atau beberapa faktor indeks pembangunan manusia yang menunjukkan gejala terjadinya penurunan.

Kata kunci: IPM, harapan hidup, harapan lama sekolah, rata-rata lama sekolah, pengeluaran

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1. INTRODUCTION

The Human Development Index (HDI) is a simple statistical measure in assessing the development of countries in the world from a social and economic perspective. The concept of human development was developed by a Pakistani economist named Mahbub ul Haq in the 80's. Gross Domestic Product is considered to fail to measure the level of human welfare (Javed Burki & Ul Haq, 1981). Human-centered development will have a positive effect on the environment and become the basis for intragenerational equality, global policy reform and international economic cooperation in shaping the concept of sustainable development (Fukuda-Parr & Muchhala, 2020).

The HDI measurement is conceptualized in three components: longevity and health, access to educational knowledge and a decent standard of living. These components are targets to be achieved to get a quality life. Components are quantified in indicators: life expectancy at birth, expected length of schooling and average length of schooling, and annual per capita expenditure (BPS, 2018). HDI is based on health, education, and economic components because of its contribution to improving the quality of life of the community which encourages economic growth, contributes to increased employment opportunities by making life more meaningful for oneself and others. It dictates greater growth for personal gain and paves the way for economic growth and progress of the country (Barro, 2007; Koestoeer et al., 2016; Yakunina & Bychkov, 2015).

Currently, human development in Indonesia for the period 2010-2021 is decreasing. The HDI in Java, Bali, is in a position above the national average. Sumatra and Kalimantan regions are in the national average position. Meanwhile, Eastern Indonesia regions such as Nusa Tenggara and Papua are in a position below the Indonesian average. However, in the last few years the HDI rate has increased more rapidly (BPS, 2021). Although there has been an increase in which HDI has increased rapidly over the last few years, based on BPS data, the distribution of HDI figures in Indonesia has not been evenly distributed in 34 provinces in Indonesia. Inequality creates inequality in the welfare of the Indonesian people. When the community does not feel prosperous, it shows that the development goals of a region have not been achieved (Bhakti, Istiqomah, & Suprpto, 2014).

Inequality of development can also show differences in the state of education development between eastern and western Indonesia which are clearly visible. Access to education in providing educational facilities and infrastructure in eastern Indonesia is not as fast and smooth as in western Indonesia. Weak education will affect the level of productivity which has an impact on the low income of the community (Kahar, 2018). In the HDI per province on the island of Sumatra in 2010 – 2019. The highest average HDI among provinces on the island of Sumatra was obtained by the Riau Islands with a score of 73.60. While the lowest average was obtained by the province of Lampung with a value of 66.91. Jambi Province achieved an average HDI score of 68.74, ranking 7th out of 10 provinces on the island of Sumatra. If we calculate the average HDI per province on the island of Sumatra, we get a value of 69.40. Based on that, Jambi province is still below the average HDI for the island of Sumatra and the HDI for Indonesia (BPS, 2020).

Jambi Province consists of 9 regencies and 2 cities, namely: Kerinci, Merangin, Sarolangun, Batanghari, Muaro Jambi, East Tanjung Jabung, West Tanjung Jabung, Tebo, Bungo, Jambi City and Sungai Penuh City with different HDI values. Based on BPS data, the highest HDI value is concentrated in Jambi City, followed by Sungai Penuh City from 2010-2020 with an average HDI value for 9 years of 75.50 and 72.91 which is included in the category of high HDI level. Other districts achieved an average HDI score for a period of 9 years less than 70.00 with the lowest average score of 60.93 by Tanjung Jabung Timur Regency which was almost in the category of low HDI level (BPS Provinsi Jambi, 2020b). Tanjung Jabung Timur Regency has the lowest access to education. Kerinci Regency and Sungai Penuh City rank the highest in educational attainment in Jambi province (BPS Provinsi Jambi, 2020a). This is because low income levels result in people not being able to meet their basic needs and improve their quality of life such as health and education (Mahroji & Nurkhasanah, 2019).

Human development is influenced by the level of education, health and the economy of the community with the most important choice elements being longevity and health, access to education and the achievement of a decent standard of living (Schröder, Lemille, & Desmond, 2020;

Wibowo, 2019). Therefore, the human development index (HDI) becomes the main instrument through human development to represent human welfare at the national, regional or city level (Bagolin & Comim, 2008).

Health is an important component in increasing the life expectancy of the population. This refers to an individual's life expectancy which is a synthetic indicator to assess the economic development and progress of a country or region (Bhakti et al., 2014; Girum, Muktar, & Shegaze, 2018; Schröder et al., 2020). Education is also a major part of human development strategy. School achievements reflect the individual's role in promoting regional growth and development (Hanushek, 2013; Hanushek & Wößmann, 2007; Latuconsina, 2017; Melliana & Zain, 2013; Pratowo, 2011). Human development refers to human well-being (community economy) as the core of development goals to achieve a decent life (Bagolin & Comim, 2008; Pratowo, 2011; Teixeira & Queirós, 2016; Yakunina & Bychkov, 2015). Health factors in human development can be measured through life expectancy (LE) based on certain demographic factors, namely year of birth and current age. The average number of estimates expected to live by an individual from birth defines a statistical measure of life expectancy at birth. Life expectancy is a prediction of survival based on the observed specific mortality rate. LE is an estimate of an individual's length of life from birth to death. LE does not predict changes in mortality over time, but rather reflects the pattern of death at a certain point (Roser, 2015).

Education is the second factor in human development. This factor consists of two indicators, namely: expected length of schooling (LSE) and average length of schooling (ALS). LSE is an expectation of long schooling that will be felt by children at the age of 7 years in the future. The average length of schooling (ALS) is different from LSE. ALS shows the education quality of the population of a country or region. The ALS size is calculated based on the population aged 15 to 25 years and shows the average years of schooling at the elementary, middle and high levels (Roser, 2015). The third factor is the economy by measuring the purchasing power aspect that describes the standard of living of a population.

The indicator of a decent standard of living is gross national income (GNP). GNP is the amount of gross domestic product (GDP) plus income received from income abroad (UNDP, 2020). The economy greatly influences the achievement of education and health aspects, either through expansion of individual real expenditures or government policy programs. Economic growth will increase development humans (Chiappero-Martinetti, Jacobi, & Signorelli, 2015). Therefore, this study to investigate the factors that influence the human development index between regions in Jambi province. These factors are in the form of health through life expectancy indicators, education with indicators of average length of schooling and expected length of schooling, as well as economy which has indicators of per capita income. It is hoped that the research results can be used to formulate and plan government programs to improve the quality of life of the community for the better.

2. RESEARCH METHODS

The research method used is quantitative. Quantitative methods are used to analyze economic indicators, namely the factors that influence the Jambi provisional development index for the period 2010-2020 (Gujarati, 2006; Widarjono, 2017). This research is deductive in nature, using concepts and theories to answer the problem formulation so that it can formulate and test the hypothesis. After the data is collected, the data is analyzed quantitatively (Sugiyono, 2013). Then it will produce empirical support based on observations and experiments in the form of numbers on economic theory (Gujarati, 2006; Widarjono, 2017). The subjects of this study were residents of every district and city in Jambi province. Jambi province residents are all people who live in the Jambi province geographical area for 6 months or more for the purpose of settling in the 2010-2020 period.

The type of data in this study is secondary data which is data obtained and collected indirectly from the object under study. Secondary data sources were obtained from the official portal of the United Nation Development Program (UNDP) and the Central Statistics Agency (BPS). The secondary data used is panel in nature, with the intention that the data consists of a combination of time series

and cross section data. The objects of this research are 9 districts and 2 cities in Jambi province for the period 2010-2020 from the official portal of the Central Statistics Agency (CSA) Jambi Province. The data used are the human development index (IPM), life expectancy (LE), expected length of schooling (LSE), average length of schooling (ALS) and per capita expenditure of Jambi Province in the 2010-2020 period. Life expectancy (LE) represents the dimensions of long life and healthy life, long schooling expectancy (LSE) is the expected length of schooling at a certain age in the future while the ALS is the length of schooling taken by the population at the age of 25 years and over. Expenditure per capita represents a decent standard of living through the consumption of household members (BPS, 2021).

The data collection technique used in this research is the study of documentation and literature. The literature study comes from written documentation on the official portal of the government agency United Nations Development Program (UNDP) and the Central Statistics Agency (BPS) in the form of secondary data. Data analysis is used with an econometric approach as the basis for research in accordance with economic theory that underlies economic problems (Widarjono, 2017). The estimation of the econometric model used is panel data (pooled data) which is a combination of time series and cross-sectional data. section) (Greene, 2003).

Panel data array of a group of cross-sectional units observed over time. Panel data depicting the time dimension implies a relatively small number of cross-sectional units and shows a group of units observed over a relatively long period of time (Hill, Griffith, & Lim, 2011). Panel data can be used to assist repeated observations through dynamic exploration (Firdaus & Irawan, 2009). In accordance with the definition of panel data in the form of a combination of cross-sectional data and time series, panel data regression has multiple subscripts on its variables, namely:

$$HDI_{it} = \alpha + \beta_1 LE_{it} + \beta_2 LSE_{it} + \beta_3 ALS_{it} + \beta_4 GNP_{it} + \varepsilon_{it} \quad (1)$$

where: the notation α is constant (intercept) Jambi Province, HDI_{it} is human development index; $\beta_1 LE_{it}$ is life expectancy; $\beta_2 LSE_{it}$ is expected years of schooling; $\beta_3 ALS_{it}$ is average length of schooling; $\beta_4 GNP_{it}$ is per capita expenditure; ε_{it} is disturbance; i shows cross section data in the form of households, individuals, companies, countries, etc.; and t indicates time. Most of the panel data uses a one-way error component model for errors (Baltagi, 2005). Panel data regression uses the combination of time series data and cross data through model estimation methods, namely the common effect model, fixed effect and random effect. Panel data can be used to assist repeated observations through dynamic exploration (Firdaus & Irawan, 2009). There are several tests in choosing the right estimation method, namely the Chow, Hausman and Lagrange multiplier tests. The Lagrange multiplier test is used if the model selected in the Chow test is fixed effect and the model selected in the Hausman test is random effect. if the selected Chow and Hausman tests are fixed effects models, then there is no need to do a Lagrange multiplier test.

3. RESULTS AND DISCUSSION

Human development in Jambi province has an increasing trend from year to year. This can be seen from the increase in the human development index (HDI) of Jambi province. In 2020 with a population of 3,548,224, the HDI of Jambi province reached 71.29, an increase of 0.04 points when compared to 2019 which was 71.26. Based on BPS data, the largest increase occurred in 2016 by 0.93 points from the 2015 achievement of 68.69 to 69.62, in 2013 of 0.82 points from the 2012 achievement of 66.94 to 67.76. Meanwhile, growth in 2019 was 0.61 from 70.65 to 71.26. The development of Jambi province shows fluctuations but shows positive developments and needs deep attention (BPS, 2020). This can be observed in Figure 1.

Jambi province's average HDI rose by less than 1.00 percent per year. Figure 1 shows that the level of human development has reached the high category with an HDI growth rate of less than 1.00 percent. Jambi's average HDI for the last 9 years is 68.47. When observed during the 2010-2020 period, the number of districts/cities whose HDI indicators were above the Jambi province average tended to be small, around 2 to 3 districts/cities. Meanwhile, the number of districts/cities whose HDI indicators are below the Jambi average tends to be more.

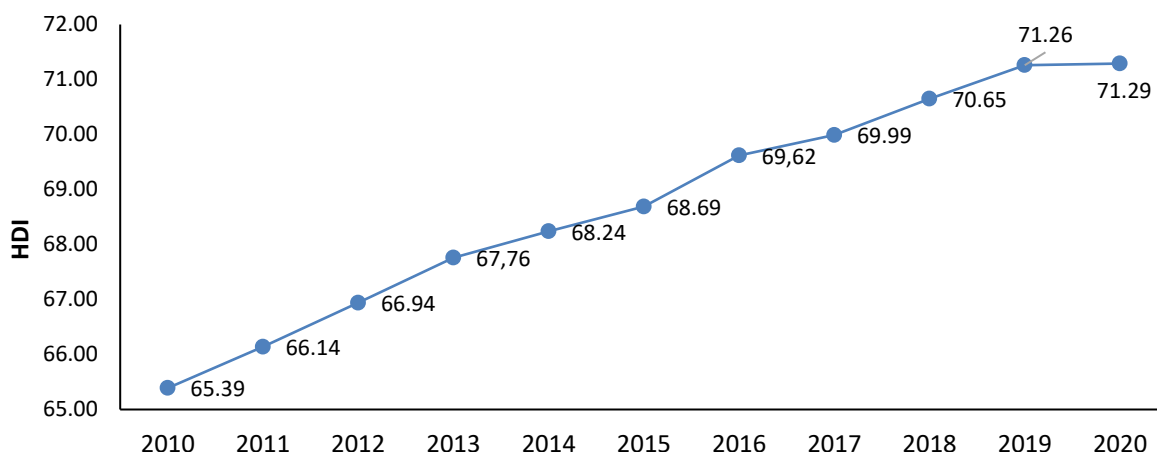


Figure 1. Human Development Index in Jambi Province, 2010-2020

Source: BPS Jambi Province, (2020a)

Figure 2 reports the achievement value of HDI based on districts/cities in Jambi Province has relatively large disparity between districts/cities. West Tanjung Jabung district is classified as very low compared to 8 regencies and 2 cities in Jambi province. The order of achievement of the Jambi province's district/city HDI does not change much from year to year. The order of HDI achievement of districts/cities in Jambi province is from highest to lowest, namely: (1) Jambi City, (2) Sungai Penuh City, (3) Kerinci, (4) Bungo, (5) Sarolangun, (6) Batanghari, (7) Merangin, (8) Tebo, (9) Muaro Jambi, (10) West Tanjung Jabung, (11) East Tanjung Jabung.

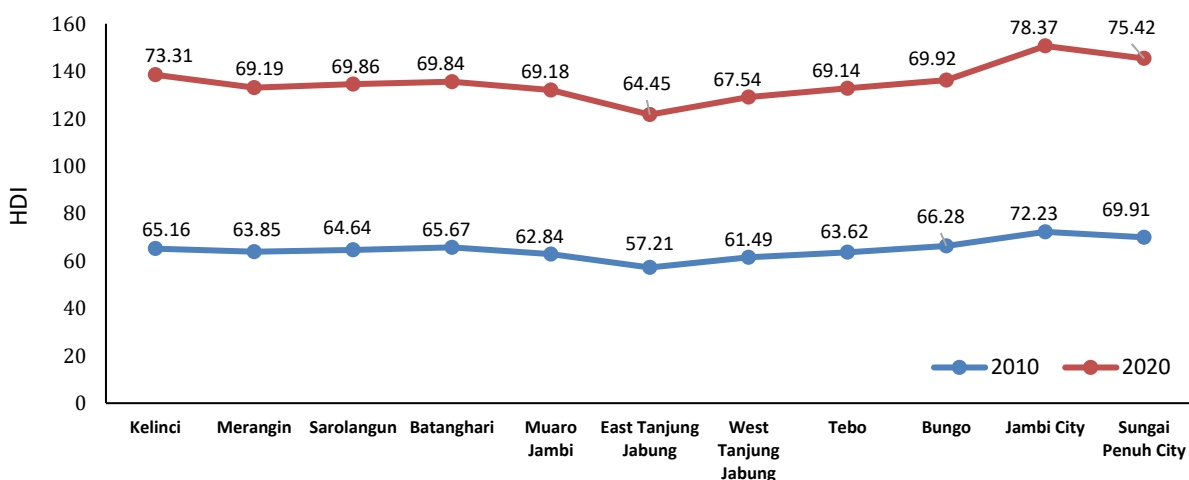


Figure 2. HDI of Jambi Province based on Regency/City in 2010 and 2020

Source: BPS Jambi Province, (2020a)

The first factor that is measured in HDI is health. The measurement uses the Life Expectancy Age (LE) indicator. Based on figure 3 during the period 2010-2020 the life expectancy in 4 districts/cities above the life expectancy of Jambi province, namely Jambi City, Sungai Penuh City, Merangin and Muaro Jambi. Meanwhile, 7 other regencies are still under the LE of Jambi province, namely Batanghari, Tebo, Kerinci, Sarolangun, West Tanjung Jabung, Bungo, East Tanjung Jabung regencies, besides that 6 of them are still under 70 years old.

The distribution of health based on the life expectancy index is still very diverse and tends to be low. Life expectancy in urban areas is superior to life expectance in district areas. The lowest LE during the 2010-2020 period was in the East Tanjung Jabung district. This shows that the life expectancy at birth of the residents of Tanjung Jabung Timur Regency is still very far from other regions. However, what is interesting figure 3 is that for a decade the highest life expectancy growth rate was in the East Tanjung Jabung district. Followed by the highest order, namely the districts of

Kerinci, Bungo, Batanghari, Sungai Penuh City, Tanjung Jabung Barat, Muaro Jambi, Sarolangun, Jambi City, Merangin and Tebo.

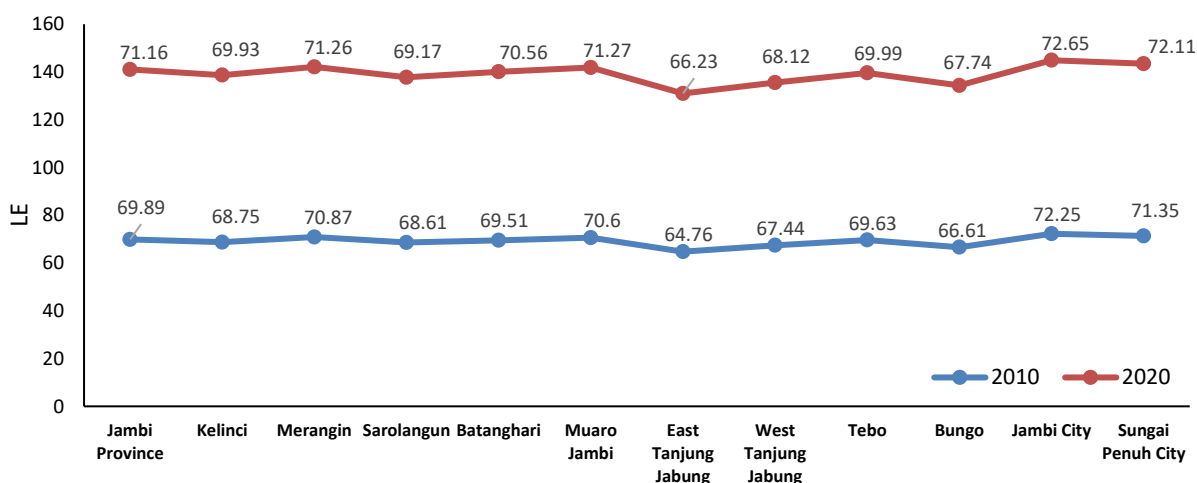


Figure 3. Life Expectancy Age based on Jambi Province and Regency/City, 2010 - 2020

Source: BPS Jambi Province, (2020a)

The length of school expectation (LSE) and the average length of schooling (ALS) are indicators that determine HDI in the education sector. Both indicators provide a snapshot of the human potential in a region to increase productivity and enable income growth that can lead to a higher standard of living for everyone. The development of education indicators has increased every year. During the decade of 2010-2020, based on figure 4, the school expectations for the residents of the city of Jambi were very good because they reached the 15-year expectation rate or achieved school expectations up to the D3/D4/Bachelor level. Meanwhile, the lowest school expectation rate is occupied by Merangin district. Merangin Regency is just about to step on the 12-year mark, or rather 11.99 in 2020. The growth rate of school expectations is still ahead of the city of Jambi, which is 2.29 years. While the lowest growth was occupied by Sungai Penuh City which only experienced an increase of 1.06 years, even though Sungai Penuh City is one of the cities that has the highest LSE rate.

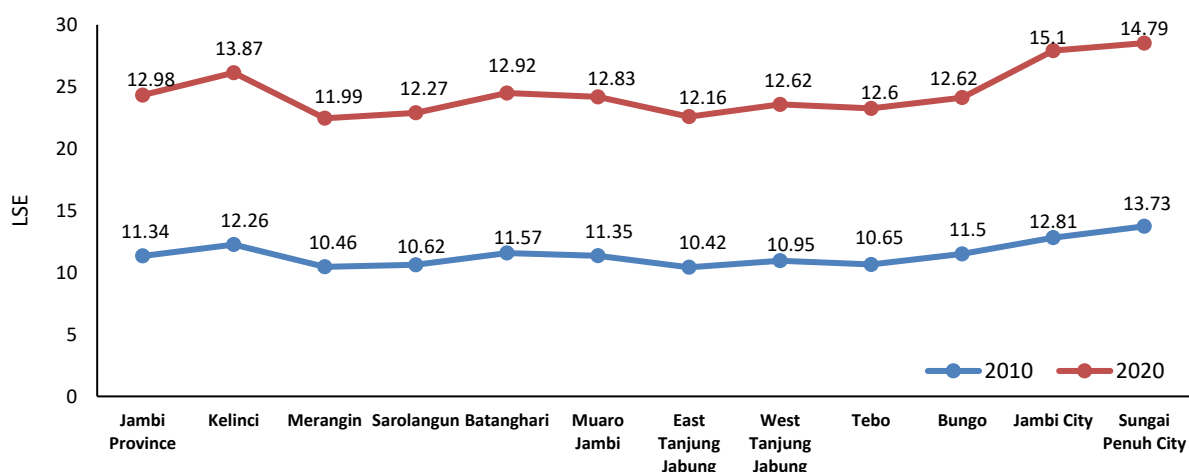


Figure 4. Long Schooling Expectancy based on Jambi Province and Regency/City 2010 - 2020

Source: BPS Jambi Province, (2020a)

The average length of schooling (ALS) indicator between regions in Jambi province has very diverse achievements and disparities occur. In 2020, the city population's ALS achievement rate reaches more than 10 years, meaning that the city's residents finish school up to the junior high

school level. Meanwhile, the lowest A figure is occupied by the Tanjung Jabung Timur district with an ALS score of 6.70 years, meaning that the residents of the Tanjung Jabung Timur district only finish school up to elementary school. However, in its development, the growth rate of the Tanjung Jabung Timur Regency ALS figure is the fastest, namely, 1.83 years. Meanwhile, the slowest ALS growth rate is Bungo Regency, which only reaches a growth rate of 0.50 years. This can be observed in Figure 5.

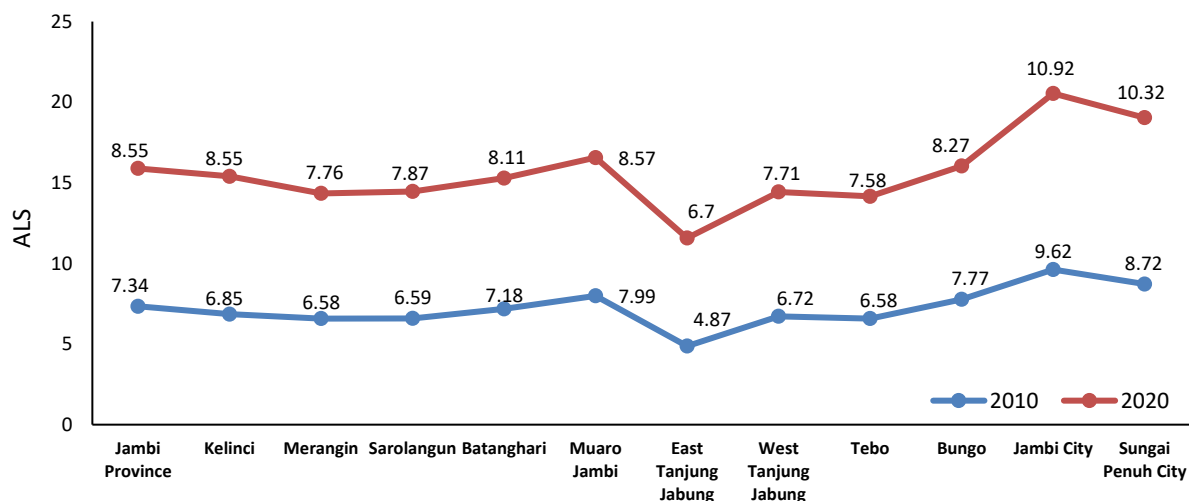


Figure 5. The Average Length of Schooling based on Jambi Province and Regency/City, 2010 -2020
 Source: BPS Jambi Province, (2020a)

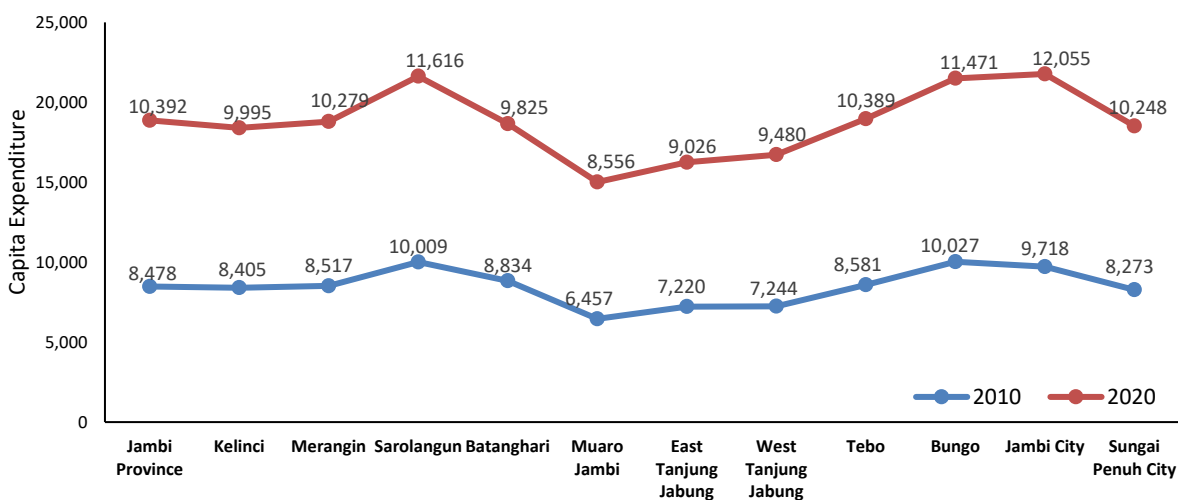


Figure 6. Expenditure per Capita based on Jambi Province and Regency/City, 2010-2020
 Source: BPS Jambi Province, (2020a)

The third factor is the economy with indicators measured by income per capita. The distribution of economic growth between districts/cities in Jambi province for the period 2010-2020. Based on the index of expenditure per capita, the economic differences between regencies/cities are quite clear, as seen from Table 6 the regional economic growth rate of Jambi City, East Tanjung Jabung Regency, Muaro Jambi and Sungai City is above the economic growth rate of Jambi province or above Rp 1,914. The slowest rate of economic growth is in the Batang Hari area, which only experienced an increase in expenditure per capita of Rp. 991 during the 2010-2020 period.

3.1. Empirical Analysis Results

The model used in this study is the random effect. This is known from the Chow test, Hausman test, and lagrange multiplier test. Chow test results obtained a F-stat of 6.895 with d.f (10.106). The probability of cross-section Chi-square is significant with a value of 0.000. So it can be concluded that p-value smaller than 0.05, this means that the results of the Chow test refuse to use the common effect model and accept the fixed effect model. Then continued with Hausman test, the Chi-square statistic result is 4.995 with Chi-square d.f is 4. The probability value is 0.288. It can be concluded that p-value greater than 0.05, this means that the Hausman test results refuse to use the fixed effect model and accept the random effect model. Because the results are different between the Chow and Hausman tests, it continues to the lagrange multiplier test. the results of the lagrange multiplier test obtained the probability value of Breusch-Pagan greater than 0.05, this means that the results of the Lagrange Multiplier test refuse to use the common effect model and accept the random effect model. So the chosen model is the random effect model. The following is the regression result of the random effect model.

Table 1. Regression Estimation Results of Panel Random Effect

Dependent variable: HDI				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
Constant	2.887	1.632	1.769	0.080
LE	0.456	0.026	17.817	0.000
LSE	1.079	0.038	28.529	0.000
ALS	1.225	0.051	23.857	0.000
GNP	0.001	0.000	40.653	0.000
<i>Summary</i>				
Adj. R ²	0.99			
F-stat	7906.078			
<i>Diagnostic test</i>				
Heteroscedasticity	F-stat	1.502		
Autocorrelation		1.871		

Source: Author calculations

Table 1 shows that estimation using the Random Effect Model approach, all independent variables namely LE, LSE, ALS and GNP have a significant effect on the human development index. The following is an equation model from the estimation results of the random effect approach. Then the t-test and F-test were performed on the Random Effects model to ensure that the selected model was feasible or not to interpret the effect of the independent variable on the dependent variable and test the individual regression coefficients. The following are the results of the t-test of the random effect model for each HDI factor. Then, the classical assumption of heteroscedasticity and autocorrelation was tested.

The model has a significance level $\alpha = 5$ percent and $df = 116$. The results obtained for LE, LSE, ALS and GNP has t-stat greater than t-table with a probability value of 0.00 smaller than 0.05 so that it accepts H_1 and rejects H_0 . This means that there is a significant effect of each independent variable in the fields of health, education, and the economy towards increasing the human development index in Jambi Province for the 2010-2020 period. Meanwhile, the F-test of random effect model with a significance level at 5 percent and $df_1 = 4$ $df_2 = 116$, the F-stat value is 7906,078 and the probability value is 0.000. The value of F-stat greater than F-table ($7906.078 > 0.227$) Prob (F-statistic) is 0.00 smaller than 0.05, so jointly the variables of LE, LSE, ALS, and GNP affect HDI in Jambi province for the period 2010-2020. The Adjusted R-square Random Effect Model value of 0.99 (99%) means that variations in HDI can be explained by LE, LSE, ALS, and GNP by 99%, while the rest ($100\% - 99\% = 1\%$) is explained by variables outside the model. The results of the heteroscedasticity test are obtained at 1,000, which is greater than 0.005, this indicates that there is no symptom of heteroscedasticity in the data. Autocorrelation results obtained Durbin Watson value of 1.871 which has a value greater than DU (1.772) and less than 4-DU (2.228) indicating no autocorrelation.

Factors in the health sector with life expectancy have a positive and significant effect on the human development index (HDI) in Jambi province for the period 2010-2020. will increase by 0.456465 percent and every 1 percent decrease in the LE index causes the HDI in Jambi province to decrease by 0.456465 percent. This research is in accordance with the concept of health where health is a self-investment with long-lasting benefits. Health can stimulate healthy time output that supports productivity. Long health manifested by increasing age will affect the total amount to generate income to provide added value to the development of human development (Susilawati, 2016). The results of this study are supported by research by Yakunina & Bychkov (2015) and Shah (2016) on the correlation of components of the human development index across countries and the determinants of the human development index. Health is one of the building blocks of the concept of quality of life or human standard of living so that it becomes the main feature in human development. Wibowo (2019) research on human capital also states that life expectancy is very influential in development. Countries with low life expectancy reflect low human development so that it affects the welfare of the people in it.

The long-term school expectancy shows that the research conducted is in accordance with the initial hypothesis that in the field of education the LSE has a positive and significant effect on the human development index (HDI) in Jambi province for the 2010-2020 period. The coefficient value of the LSE variable is 1.079, which means that if the LSE index increases by 1 percent, the HDI level will increase by 1.079 percent and every 1 percent decrease in the ALS index causes the HDI in Jambi province to decrease by 1.079 percent. The results of the study are in line with the foundation of education as a means of human formation to open up ideologies and ideas in order to strengthen the resilience structure for both individuals and society. The expectations of the old school become an opportunity for individuals to improve their quality to be able to expand better life choices so that they can compete globally. The higher the LSE in an area, the higher the GDP per capita (Handayani, Bendesa, & Yuliarmi, 2016). This findings is supported by Yakunina & Bychkov, 2015 research on the correlation of components of the human development index across countries which states that school expectations have a positive and significant effect on the effectiveness of human development. The research of Citrawan (2018) and Fauzan et al. (2020) on the human development index and education is in line with the results of this study where school expectations become human investments made by parents for their children to grow their potential to be productive in the future. Hanushek & Wößmann (2007) stated that formal education is a measure of the certainty of human capital, the basis of cognitive skills is obtained from perceived school achievement.

The results of the study average length of schooling also shows that the research results are related and have a positive influence on the human development index. percent and every 1 percent decrease in the ALS factor causes the HDI in Jambi province to decrease by 1.225 percent. The results of the study are in line with the concept of education which is one of the keys to alleviating social inequality. Individuals who receive a long education reduce economic worries and focus more on self-growth to pursue interests. Education is the best balancer that provides a great opportunity to improve a person's standard of living and has a positive impact on the lives of those around him (Fajar & Mulyanti, 2019). The results of the study are in line with the concept of education which is one of the keys to alleviating social inequality. Individuals who receive a long education reduce economic worries and focus more on self-growth to pursue interests. Education is the best balancer that provides a great opportunity to improve a person's standard of living and has a positive impact on the lives of those around him (Fajar & Mulyanti, 2019). The positive influence of the ALS on HDI is supported by the research Yakunina & Bychkov (2015) on the correlation of components of the human development index across countries which states that the average length of schooling (ALS) has a positive and significant effect on human development. The research of Citrawan, 2018 and Fauzan et al. (2020) on the human development index and education is in line with the results of this study where the average length of schooling (ALS) will form individuals who are more independent, creative, and able to create jobs. Research by Teixeira & Queirós (2016) concluded that the population of a country with high educational attainment is able to develop faster because it increases the skills of the workforce which has a positive impact on their productivity.

However, currently, according to the Executive Director of CORE Indonesia, Mohammad Faisal, as reported by Makki (2021), he said that Indonesia's youth unemployment rate is the highest in Southeast Asia. From the data he described the proportion of youth unemployed in Indonesia almost touched 20 percent in 2020. Meanwhile, other countries such as the Philippines, Thailand, Vietnam, Singapore, and Malaysia are still below 15 percent. Unemployment continues to increase, especially at the age of 20-29 or in their 20s, with the percentage of young unemployed being dominated by those with upper secondary education. One of the problems that caused it was a mismatch or mismatch between job creation and the qualifications of new graduates that occurred before the Covid-19 pandemic. The occurrence of an education mismatch can be caused by three things, namely: (1) the number of workers who have the ability in a field but the jobs that require these skills are fewer (Green & McIntosh, 2007), (2) the education mismatch occurs due to a lack of information regarding a job so that the graduate does not have the expected ability to do the job in accordance with the expected job description (Cedefop, 2011), (3) There are heterogeneous abilities created by the education system and pattern imposed by a government (Wardani & Fatimah, 2020).

The large number of young unemployed in Indonesia can also be caused by Covid-19 which creates obstacles such as (1) disruption to education and training, which can reduce potential job opportunities in the future; (2) the current wave of job losses and the collapse of businesses and start-ups are reducing incomes and jobs (and threatening rights at work); and (3) the emergence of greater barriers to finding work, re-entering the labor market and trying to shift to better jobs (ILO, 2020). Based on the problems of the large number of unemployed in Indonesia, the government should formulate policies, plan, and evaluate the distribution of good education programs. Especially in improving the quality of prospective workers for those who are pursuing higher education. The government should make policies that encourage young people to make new innovations. So that labor will not increase the number of unemployed but will play a role in reducing the number of unemployed.

Factors that affect the human development index in the economic field have factors of per capita expenditure adjusted. The results show that the adjusted per capita expenditure has a positive and significant effect on the human development index (HDI) in Jambi province for the period 2010-2020. The coefficient value of the variable per capita expenditure is adjusted to 0.001091, which means that if the per capita expenditure is adjusted to increase by 1, the HDI level will increase by 0.001 percent and every decrease in per capita expenditure is adjusted by 1, causing the HDI in Jambi province to decrease by 0.001091 percent. The results of this study are in line with Yakunina & Bychkov (2015) concerning the correlation of components of the human development index across countries which state that income has a positive and significant effect on human development. Research by Anand & Sen (2017) and Schröder et al. (2020) on the sustainability of human and economic development states that income and consumption per capita, and quality of life or HDI are positively related in various countries. The economy both income and expenditure per capita contribute constantly to generate resources that can be directed towards improving social services.

The concept of per capita expenditure which describes the income of the people of a region. High per capita expenditure shows economic activity of economic growth to describe the fulfillment of production, distribution and consumption needs that move quickly and significantly. The greater the expenditure, the greater the individual's ability to meet their needs, both food and clothing needs or non-economic needs such as health, education, and social needs (Martínez-Guido, González-Campos, & Ponce-Ortega, 2019). One of the poverty alleviation strategies is the development of human resources. Improving access to consumption of social services (education, health, and nutrition) is an important policy tool in the government's overall strategy to reduce poverty and improve the welfare of the Indonesian population. HDI is a measure of relative human development, if the HDI increases, it means that the welfare of the community also increases, thereby decreasing poverty (Fadilah, Dwi, & Sukiman, 2016).

4. CONCLUSIONS

This study aims to analyze the factors that influence the human development index between regions in Jambi province. Factor analysis in this study includes health, education, and economic factors. Based on the analysis using panel data, health sector factors with life expectancy have a positive and significant impact on the human development index (HDI) in Jambi province for the period 2010-2020. Long health manifested by increasing age will affect the total number to generate income to provide added value to the development of human development. On the education factor, the results of the study show that the long-term school expectations and average length of schooling have a positive and significant effect on the human development index in Jambi province for the period 2010-2020. Education is a human investment made by parents in their children to grow their potential to be productive in the future. Education is the best balancer that provides a great opportunity to improve a person's standard of living and has a positive impact on the lives of those around him. The economic field, the expenditure per capita is adjusted to have a positive and significant effect on the human development index in Jambi province for the period 2010-2020. High per capita expenditure shows economic activity of economic growth. The greater the expenditure, the greater the individual's ability to meet their needs, both food and clothing needs or non-economic needs such as health, education, and social needs.

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