ANALYSIS OF FACTORS AFFECTING THE REGIONAL POVERTY GAP INDEX

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ABSTRACT

The poverty gap index is a measure of poverty that emphasizes the average expenditure gap against the poverty line. This study aims to propose theoretical modelling of how the poverty gap index can approach the poverty line or in other words, the gap is getting smaller. The theory used in this research is the theory of the vicious circle of poverty as well as through the theory of economic growth. The factors that influence the poverty gap index analyzed and identified are the dependency ratio, mean years of schooling, and gross domestic product at constant prices. This research method uses a qualitative approach with literature study techniques, by analyzing theories and previous research and determining factors as predictors of poverty problems. Grounded theory by comparing correlation results as the findings of this research. This study shows that the dependency ratio has a positive effect on the poverty gap index, while the mean years of schooling and gross regional domestic product have a negative effect on the poverty gap index. Recommendations for future research, researchers suggest using other measurement indicators in poverty or other research methods to add or support similar research references.

Keyword: poverty gap index; dependency ratio; mean years of schooling; gross regional domestic product

ABSTRAK

Indeks kedalaman kemiskinan merupakan ukuran kemiskinan yang menekankan pada rata-rata kesenjangan pengeluaran terhadap garis kemiskinan. Penelitian ini bertujuan untuk mengajukan pemodelan teoritis bagaimana indeks kedalaman kemiskinan dapat mendekati garis kemiskinan atau dengan kata lain kesenjangannya semakin mengecil. Teori yang digunakan dalam penelitian ini adalah teori lingkaran setan kemiskinan maupun melalui teori pertumbuhan ekonomi. Faktor-faktor yang mempengaruh indeks kedalaman kemiskinan dianalisis dan diidentifikasi adalah rasio ketergantungan, rata-rata lama sekolah, dan produk domestic bruto atas dasar harga konstan. Metode penelitian ini menggunakan pendekatan kualitatif dengan Teknik studi literatur, dengan menganalisis teori dan penelitian terdahulu dan menentukan faktor sebagai prediktor terjadinya masalah kemiskinan. Grounded theory dengan membandingkan hasil korelasi sebagai temuan penelitian ini. Dalam penelitian ini menunjukan bahwa rasio ketergantungan berpengaruh positif terhadap indeks kedalaman kemiskinan, sedangkan Rata-rata lama sekolah dan produk domestik regional bruto berpengaruh negatif terhadap indeks kedalaman kemiskinan. Rekomendasi untuk penelitian selanjutnya, peneliti

menyarankan untuk dapat menggunakan indikator pengukuran lain dalam kemiskinan ataupun metode penelitian lain untuk menambah atau mendukung referensi penelitian serupa.

Kata kunci: indeks kedalaman kemiskinan; rasio ketergantungan; rata-rata lama sekolah; pdrb adhk

INTRODUCTION

Differences in demography, geography, human resources, and so on can create distinctive diversity in each region of Indonesia. This diversity can often have a negative impact. One of the problems that arise in the socio-economic field is poverty. Poverty, which can be defined as the inability to fulfill the basic needs of life (Mustafakulov et al., 2020), has become a classic problem that has been heard until now even though it has been attempted to be alleviated. Economic development is important to be carried out evenly and measurably in every province in Indonesia (Minzner, 2020). However, given the diversity of the region, each province has a different poverty rate.

Papua is one of the provinces that has the highest poverty problem in Indonesia amid all the alleviation efforts made by focusing on handling extreme poverty in seven provinces in Indonesia, one of which is Papua through various strategies (Badriy, 2021). This shows that Papua has always been one of the important provinces to pay attention to achieve equitable economic development. The poverty gap index is the average difference between the per capita expenditure of the poor and the poverty line (Santi et al., 2022). In the size of the poverty gap index, Papua has become the highest index in Indonesia over the past 10 years, which illustrates that Papua in this case is still far from being able to reach the poverty line and still needs hard efforts to be mobilized to lift the Papuan population out of poverty.

The poverty gap index in Papua province fluctuates from year to year. If you look at the comparison between 2011 and 2020, Papua has experienced a decrease of 1.77, indicating that the average expenditure of the poor tends to get closer to the poverty line and the inequality of expenditure of the poor is narrowing (Sugiyanto, 2021). However, the data on the poverty gap index in 2015 and 2016 experienced a fairly high increase, namely from 6.42 in 2014 to 8.82 in 2015 and continued to increase to 9.37 in 2016. This shows that there has not been a consistent decline in the number that has occurred in its course, this indicates that it could be in the future. In addition, if you look at national data, Papua is the province with the highest poverty gap index for the past 10 years, namely 2011-2020, in 2020 alone Papua is at an index of 6.16, far different from the lowest poverty gap index, namely Bali province of 0.52 in 2020 (Taufiq et al., 2020). Because of this problem, it is necessary to know the factors that affect the Poverty Gap Index in Papua.

The dependency ratio is an indicator that can roughly describe the economic situation of a region. The dependency ratio can be defined as the ratio between the number of non-labor force population compared to the number of labor force population (Putra et al., 2020). The higher the percentage of dependency ratio means the higher the burden borne by the productive population to finance the lives of the unproductive and unproductive population and vice versa. The dependency ratio has decreased from year to year in Papua province when compared to 2019 and 2020 the decrease was 0.56 and when compared to 2011 and 2020, the decrease was 8.48, indicating that there are more productive age people in Papua province (Walilo, 2020). However, this data when compared to the poverty gap index is not in line with the economic concept. The data is not in line with the poverty rate which has fluctuated while the dependency ratio has always decreased from year to year.

Success in education development can be seen in the achievement of education output indicators, such as the mean years of schooling (Moko & Subektianto, 2020; Aulia et al., 2021). The mean years of schooling are defined as the average number of years spent by the population

aged 15 years and over to take all types of education that have been undertaken (Subektianto, 2020). Where the average length of schooling is used as one measure or representation of education in Indonesia. From several studies, it is stated that the average length of schooling can reduce poverty levels. The data on the average length of schooling in Papua shows an increase from year to year, when viewed over the past 10 years beginning in 2011 the average length of schooling was 5.6 years, and then in 2020, it became 6.69, which means an increase of 1.09.

Gross regional domestic product aims to measure economic growth and see the development of aggregate income from year to year. Papua's GRDP experienced fluctuations that tended to increase from Rp 106,066,720 in 2011 to Rp 159,711,852 in 2018. Then it decreased in 2019 to IDR 134,562,239 which then increased again in 2020 to IDR 137,677,571, the fluctuation of this value affects the poverty gap index, which is related to economic growth which acts to increase the real consumption level of the poor can strongly impact on poverty elimination (International Labour Organisation, 2005). Economic growth is the most important factor affecting poverty, and macroeconomic stability is essential for achieving high and sustainable growth rates. Therefore, macroeconomic stability should be a key component of poverty reduction strategies (Ames et al., 2001).

Based on this background, this research is important to do with the aim of knowing the factors that influence the poverty gap index, especially in Papua Province because it has been the province with the highest poverty gap index for the last 10 years (2011-2020). This research study will provide recommendations for a model that can reduce poverty, so that it can be a matter of policy consideration in poverty alleviation efforts by the relevant agencies, these considerations are carried out by looking at poverty in the size of the poverty gap index as in this research model and not only looking at the percentage of poverty or the number of poor people to be able to have an impact not only on the reduced poverty rate but also on the reach of the deeper poor or the policy results of poverty alleviation efforts can reach people who are further below the poverty line.

LITERATURE REVIEW Poverty Gap Index

Poverty is the economic inability to fulfill basic food and non-food needs measured in terms of expenditure (Santi et al., 2022). The poverty measures used include the percentage of poor people (Head-Count Index), poverty gap index and poverty severity index. The Head-Count Index is the percentage of the population that lies below the poverty line, the headcount index is an important poverty indicator that analyzes the proportion of the population that is classified as poor (Taufiq et al., 2021). The Poverty Gap Index is a measure of the average expenditure gap of each poor person against the poverty line. The greater the index value, the further the average expenditure of the population from the poverty line (Habib & Wahyudi, 2022). the poverty severity index is the average square of the poverty gap relative to the poverty line. The poverty severity index can be thought of as taking into account the extreme or maximum distance from actual income to the poverty line for the worst-off households (Haughton & Khandker, 2009).

The theory of the vicious circle of poverty is essentially that poverty is not only caused by the absence of development in the past but also by obstacles to development in the future. In connection with this Nurkse said "A country is poor because it is poor" which means that a country is poor because it is a poor country. In his opinion, the core of the vicious cycle of poverty is the conditions that cause obstacles to the creation of a high level of capital formation (Nurkse, 2012). Nurkse also argued that continuous capital investment in a wide range of

industries that can expand markets is needed to break the vicious cycle of poverty (Amalia et al., 2022).

Dependency Ratio

The dependency ratio is the ratio between the total population aged 0 to 14 years plus the total population aged 65 years and over and also compared to the total population aged 15 to 64 years (Putra et al., 2020). Population Trap Theory Malthus had the idea that when the growth rate of total income is greater than the population growth rate, per capita income increases. Conversely, if the rate of growth of total income is smaller than the rate of population growth, then per capita income falls and when these levels are the same, per capita income does not change (Todaro & Smith, 2012). Demographic Bonus Theory is basically a theory that connects population dynamics with the economy. The smaller the number of non-productive ages that must be borne by the productive age population will have an impact on better economic growth. Countries or regions with a high proportion of children tend to mobilize most of the resources for care, which tends to suppress the rate of economic growth. Conversely, if a large proportion of a country's population is of working age, the additional productivity of this group can generate a "demographic bonus" or "demographic dividend" of economic growth, assuming that policies to take advantage of this are in place (Diczfalusy, 1999).

One of the factors affecting the poverty gap index is the dependency ratio (Wahid & Sarfiah, 2021). Several socio-demographic factors underlie the occurrence of poverty, multivariate analysis shows that household size, dependency ratio, and gender and age of the household head are significantly associated with poverty status (Shaukat et al., 2020). demographic changes can affect economic outcomes and estimate the relationship between changes in the proportion of working-age population with per capita growth and poverty rates. An increase in the share of the working-age population and a decrease in the dependency ratio associated with an increase in gross domestic product growth per capita have similar positive effects on poverty reduction (Cruz & Ahmed, 2018). In both the long run and short run, economic growth and dependency ratio have a positive effect on the poverty rate. The response of poverty fluctuates to shocks in economic growth and dependency ratio (Nurhafizah & Mafruhat, 2021).

Mean years of schooling

Mean years of schooling is defined as the number of years spent by the population in formal education (Moko & Subektianto, 2020). It is further explained that mean years of schooling shows the average number of years of education completed by a country's population. Human capital theory is a term often used by economists for education, health, and other human capacities that can increase productivity when improved. The capital approach focuses on the indirect ability to improve welfare by increasing income (Todaro & Smith, 2012). Human capital is at least as important in modern economies as physical capital in the form of buildings and machinery. A person with a higher amount of human capital usually generates a higher marginal product value by producing products that have a higher price (Krugman & Wells, 2015).

Education is one of the significant determinants of household poverty (Tadesse et al., 2020). factors that affect the poverty gap index The factors that affect the poverty gap index are household expenditure growth, literacy rate, and mean years of schooling (Monang et al., 2018). between mean years of schooling and the percentage of poor people. This very strong negative relationship explains that the higher the mean years of schooling, the lower the percentage of poor people. In addition to the strong relationship, the mean years of schooling

also has a significant effect on the percentage of poor people (Hadi, 2019). The causal relationship between education and various dimensions of poverty found large economic poverty reduction effects of education. Increased labor force participation and full-time

Gross Regional Domestic Product

Gross Regional Domestic Product (GRDP) is defined as the total value added generated by all business units in a region, or is the total value of final goods and services produced by all economic units in a region (Sanjaya, 2022). There are two ways of presenting GRDP, namely, at current prices and at constant prices. Gross Regional Domestic Product at current prices describes the value added of goods and services calculated using prices in each year, while Gross Regional Domestic Product at constant prices shows the value added of goods and services calculated using prices in a particular year (Sapary, 2018). Neoclassical growth theory. Robert Solow formulated the neoclassical growth theory that emphasized the importance of savings and capital formation for economic development and for empirical measures of the sources of growth. Solow showed that growth need not be unstable, because when labor exceeds capital, wages will fall relative to the interest rate, or if capital exceeds labor, wages will rise (Nafziger, 2005).

employment as well as better health are potential mechanisms behind these results (Hofmarcher, 2021). Thus, the need for more intensive efforts from local governments to increase development in the education sector encourages wider learning opportunities, raises

education levels, and improves the quality of population health (Sudaryati et al., 2021).

Financial development can affect poverty indirectly through its impact on economic growth. Where economic growth can reduce poverty (de Haan et al., 2022). GRDP as a calculation of economic growth has a significant effect on poverty (Asrani, 2020). Economic growth is an important instrument to alleviate poverty, where an increase in GDP reduces poverty (Balasubramanian et al., 2022). GRDP has a significant effect on poverty, therefore, the development of GRDP must be considered to overcome the problem of poverty (Fajriah, 2021).

METHOD

This study uses a qualitative method, where this research aims to present research propositions regarding the Poverty Gap Index. The data collection technique in this research uses a literature survey, which is the process of finding, obtaining, reading and evaluating research literature (Bordens & Abbott, 1998). Poverty percentages have been widely studied and researched, but other poverty measures such as the poverty gap index are still limited in terms of their discussion related to poverty in general. This research outlines the findings of previous research references, relevant materials and data, and explores through grounded theory the vicious cycle of poverty that is expected to explain the problem of poverty and the factors that influence the poverty gap index directly or indirectly. This research method is expected to explain the poverty gap index, especially in Papua Province.

RESULTS AND DISCUSSION

Equitable Development to alleviate poverty in various provinces in Indonesia, Papua is the province with the highest poverty gap index over the past 10 years, namely 2011-2020, in 2020 alone Papua is at an index of 6.16, far different from the lowest poverty gap index, namely Bali province of 0.52 in 2020 (Taufiq et al., 2020). In observing data on the development of the poverty gap index from the Central Bureau of Statistics of Papua Province, that in 2020 the poverty gap index has decreased compared to previous years, which means that expenditure inequality among the poor is decreasing. Then if you look at the dependency ratio in 2020, it

has also decreased, which means that the burden borne by the productive population is decreasing. Where if in 2019, every 100 people of productive age in Papua had dependents of 44 people of non-productive age, then in 2020 it was reduced to 43 people of non-productive age. Furthermore, the average length of schooling has increased from 6.65 in 2019 to 6.69 in 2020. And Papua's GRDP has also increased from the previous year 134,566 (in billion rupiah) to 137,787 in 2020, which shows economic growth that continues to show a positive direction. In fact, Papua has the second largest GRDP value in Eastern Indonesia (Pujialarasari & Maghfiroh, 2020).

Table 1. Development of Poverty Gap Index (PGI), Dependency Ratio (DR), Mean Years of Schooling (MYS), and Gross Regional Domestic Product (GRDP) of Papua Province

Category/Year	2016	2017	2018	2019	2020
PGI	7,5	6,73	7,17	6,16	5,6
DR	46,57	45,69	44,96	44,32	43,76
MYS	6,15	6,27	6,52	6,65	6,69
GRDP	142,225	148,818	159,712	134,566	137,787

Source: Papua Central Bureau of Statistics, 2020

In terms of discussing the poverty gap index, it is closely related to poverty and the poverty circle theory, according to Ragnar Nurkse in the vicious circle theory of poverty, which states that many development failures are caused by the population itself being trapped in a vicious circle of poverty (Amalia et al., 2022). Where poor people are still trying to meet primary needs or in other words, what is produced is used up for consumption, causing a low savings rate. The accumulation of low savings rates leads to low overall income. From the business side, when capital is low, it will cause the productivity level to be low, when productivity is low, it also causes low income, this low income will be used up for consumption so that it cannot be enough to become savings and ultimately results in the accumulation of a low savings rate, and because one of the capital formation comes from the savings rate, this will cause capital formation to also be low (Amalia et al., 2022).

According to Nurkse, expanding the size of the market is essential to increase the attractiveness to invest and thereby break the cycle of poverty (Singh, 2014). The following are some important points on how market size is determined:

1. Population. Nurkse challenges the notion that a large population implies a large market. Although underdeveloped countries have large populations, their productivity levels are low. This results in low real income per capita. Thus, consumption expenditure is low, and savings are very low or non-existent. On the other hand, developed countries have smaller populations than underdeveloped countries, but due to high productivity levels, their real income per capita is higher and thus can create large markets for goods and services (Singh, 2014).

At this point the population can be related to the dependency ratio, which according to Arsyad (2010), accelerated population growth can affect the proportion of the unproductive population to increase and the number of family members to become larger (Bloom & Freeman, 1986). this makes the dependency burden rate higher which means the burden of the productive age population to finance the unproductive age population is getting higher, which will then affect the low savings and ultimately affect the poverty rate.

2. Productivity. Nurkse emphasizes productivity as a key determinant of market size. An increase in productivity (defined as output per unit of input) increases the flow of goods and services in the economy. In response, consumption also increases. Therefore, underdeveloped countries should aim to increase productivity levels in all sectors of the economy. Production creates its own demand, and the size of the market depends on the volume of production. In the final analysis, the market can be enlarged only through an overall increase in productivity, where the capacity to buy is equal to the capacity to produce (Singh, 2014).

At this point productivity is related to the average length of schooling as one measure of education in terms of efforts to improve the quality of human resources, according to Sharp et al. in Kuncoro (2010: 69) states that differences in the quality of human resources cause poverty. Low skill quality means low productivity, which leads to lower wages. Low skill quality is caused by low education, disadvantage, discrimination, or heredity. These causes of poverty give rise to the theory of the Poverty Vicious CircleLow productivity leads to low income. Low income leads to low savings and investment, and low investment leads to underdevelopment and so on (Roring & Rondonuwu, 2022).

In addition, on the economic side, of course this is related to gross regional domestic product, GRDP as an indicator of economic growth is very important to enable the poor to utilize their resources to increase output and income, so that they can get out of the poverty trap and be able to meet basic needs. However, for economic growth to be effective in reducing poverty, it must be inclusive and occur at a higher rate than the population growth rate (Ayoo, 2022).

3. And other factors such as money supply, geographic area, transportation costs and trade barriers, and sales promotions.

Based on the explanation of the sources above, it can be concluded that to be able to solve the problem of poverty, it is necessary to break the poverty cycle, one of which is by looking at important points, namely the problem of low productivity and high population to be able to overcome the problem of poverty.

Dependency Ratio on Poverty Gap Index

Based on research using secondary data from the central statistics agency in Aceh in 2017-2019 and panel data analysis using EViews, the results show that the factors that affect the poverty gap index are the dependency ratio, while the open unemployment rate, crime rate, and sex ratio do not affect the poverty gap index (Wahid & Sarfiah, 2021). In addition, in another study using data from the 2006-2007 Pakistan Demographic and Health Survey (PDHS), it was found that several socio-demographic factors underlie the incidence of household poverty. Multivariate analysis showed that household size, dependency ratio, and gender and age of the household head were significantly associated with poverty status (Shaukat et al., 2020).

Another study with multiple data sources covering the period 1950-2010 and using 3 different methods namely first difference, panel fixed effects, and generalized method of moments (GMM) explained the main mechanisms through which demographic changes can affect economic outcomes and estimated the relationship between changes in the share of working-age population and per capita growth and poverty rates. An increase in the share of the working-age population and a decrease in the child dependency ratio were found to be associated with an increase in gross domestic product growth per capita having similar positive effects on poverty reduction (Cruz & Ahmed, 2018). This previous study used secondary data

on poverty, human development index, dependency ratio, open unemployment rate. The method used is the panel method with multiple linear regression analysis. The results stated that the variables of human development index, dependency ratio and open unemployment rate had a significant influence on poverty partially and simultaneously (Yustie, 2020). Then, another study used secondary data with 145 observations consisting of cross section data of 29 districts and time series data from 2014 to 2018 and also conducted in-depth interviews. The analysis technique used is path analysis, obtaining research results that show that the dependency ratio has a positive and significant effect on poverty in the Papua Province Regency (Ginting et al., 2020).

Proposition 1: There is a positive impact of dependency ratio on poverty gap index.

Mean Years Of Schooling on Poverty Gap Index

Based on a study using primary data that has been collected from 399 randomly selected households using structured questionnaires from 8 purposively selected urban towns in North Shewa zone, Oromia, Ethiopia. The data has been analyzed using descriptive and logistic regression. Household poverty level was measured by the Foster Greer Thorbecke (FGT) measure. Thus, poverty headcount, poverty gap index, and poverty severity were found to be 25.15%, 9.98%, and 4.75% respectively for the study area. Logit regression results revealed that household gender, marital status, age, household family size, education, employment status, home ownership, access to health services, and access to electricity were significant determinants of household poverty (Tadesse et al., 2020).

Other research uses secondary data obtained from the Central Bureau of Statistics of North Sumatra Province in 2012-2015. The independent variables used in this study from the demographic aspect are the open unemployment rate and the labor force participation rate, from the economic aspect are economic growth, PAD growth, and household expenditure growth, and from the educational aspect are literacy rate, mean years of schooling (MYS), and expected years of schooling (EYS). The best model obtained is the Random Effect Model (REM). The factors that affect the poverty index and poverty gap index are household expenditure growth, literacy rate, and mean years of schooling (Monang et al., 2018).

Furthermore, research from Hofmarcher states that more than 1 in 7 people in Europe live in households whose income is below the national poverty line. The study provides evidence on the causal relationship between education and various dimensions of poverty. The study created a new database consisting of compulsory schooling reforms in 32 European countries and used it as an educational instrument. The researchers found economically large poverty reduction effects of education. Increased labor force participation and full-time employment as well as better health are potential mechanisms behind these results, particularly in eastern European countries (Hofmarcher, 2021).

Other research uses secondary data obtained from the Central Bureau of Statistics of Banjarnegara Regency. The analysis method used is multiple linear regression with time series data. The results of this study are the average length of schooling and life expectancy have a negative and significant effect on poverty, while economic growth in the agriculture, forestry and fisheries sectors has no significant effect on poverty (Sudaryati et al., 2021).

This study uses secondary data from the statistical center of East Java province in 2017 and the methods used are Pearson correlation statistics and linear regression. The results of this study show a strong negative relationship between the mean years of schooling and the percentage of poor people. This very strong negative relationship explains that the higher the mean years of schooling, the lower the percentage of poor people. In addition to the strong relationship, the mean years of schooling also has a significant effect on the percentage of poor

people. However, it is necessary to look for other factors that can reduce the percentage of poor people faster (Hadi, 2019).

Proposition 2: There is a negative impact of mean years of schooling on the poverty gap index. **GRDP to Poverty Gap Index**

Based on de Haan's research, which found that financial development can affect poverty directly and indirectly through its impact on income inequality, economic growth, and financial instability, this study uses the ratio of private credit to GDP or the IMF composite measure. The poverty measure chosen is poverty gap, which is the shortfall from the poverty line. The estimation results from 84 countries over the period 1975-2014 show that financial development has no direct effect on the gap of poverty. to determine the gap of poverty, in this study found that economic growth reduces poverty (de Haan et al., 2022).

Furthermore, previous research in the form of secondary data obtained from the results of SUSENAS 2012-2014 published by the Central Bureau of Statistics. The observation unit of this research is 24 regencies/cities in South Sulawesi Province. The appropriate panel regression model is the Fixed Effect Model (FEM) with individual effects. The R2 value of 0.5082 means that the independent variables used can explain 50.82% of the poverty gap index information, while the other 49.18% is explained by other factors. The results of testing the model obtained that GRDP at constant prices and Labor Force Participation Rate have a significant effect on the poverty gap index (Hasmah & Asrani, 2020)

In another study, it was found that a 10% increase in GDP reduces multidimensional poverty by about 4-5%. However, there is heterogeneity in the results in particular, the elasticity is higher in the second sub-period (2001-2018) and for countries with lower initial poverty levels. In addition, comparative analysis reveals that the elasticity of income poverty with respect to growth is five to eight times higher than that of multidimensional poverty. In conclusion, our results suggest that economic growth is an important instrument for alleviating multidimensional poverty, but its effect is substantially lower than that of monetary poverty (Balasubramanian et al., 2022).

In addition, the study used a panel data method with a fixed effect model approach, and the data used was secondary data from the Central Bureau of Statistics of East Java Province in 2010-2020. The Adjusted R2 value is quite high, then the results of this study are the variables of GRDP, population, open unemployment rate and HDI have a significant effect on poverty, while the minimum wage variable has no significant effect on poverty. Therefore, the development of GRDP, population, open unemployment rate must be considered to overcome the problem of poverty (Fajriah, 2021).

Then the research from Feriyanto used periodic data from the Central Statistics Agency (BPS) during the 2010-2019 period, the fixed effects model of panel data analysis. The results showed that unemployment and wages have a significant positive effect on poverty in provinces in Indonesia. Meanwhile, real GRDP has a significant negative effect on poverty in Indonesia. Thus, government policies should focus on reducing unemployment, maintaining price stability to maintain wage levels and purchasing power, and increasing real GRDP to reduce poverty in Indonesia (Feriyanto et al., 2020).

Propostion 3: there is a negative impact of Gross Regional Domestic Product on the Poverty Gap Index.

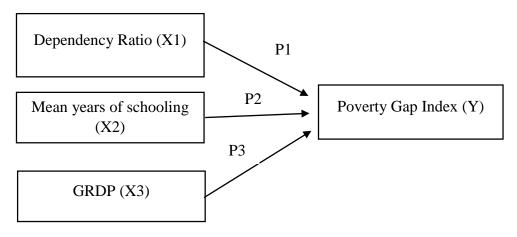


Figure 1. Proposed Poverty Gap Index Model

CONCLUSION AND RECOMMENDATION

Based on the results of the study on the development of the poverty gap index model above, this study proposes predicator variables that have been studied theoretically as a reference and analysis. In an effort to alleviate the problem of poverty, it is necessary to break the chain of the poverty cycle, one of which is by overcoming the problem of low productivity and high population that often occurs in poor regions or countries. In the literature review, the dependency ratio variable has a positive effect on the poverty gap index, this can be explained that with a low dependency ratio, the poverty gap index is low, where this effect comes from the burden borne by productive age is reduced so that savings increase. Then, the average length of schooling has a negative effect on the poverty gap index, this can be explained by the average length of schooling as a measure of education in an effort to improve the quality of human resources or human capital to be more productive so that when the average length of schooling is increased, poverty is reduced and gross regional domestic product has a negative effect on the poverty gap index, this relates to GRDP as an indicator of economic growth, where when GRDP increases, poverty will decrease.

Recommendations for future research In order to update research that is still within the scope of the same discussion, namely poverty, researchers suggest being able to use other measurement indicators in poverty, such as the poverty severity index as a continuation of this research to add research references In addition, research can be added with other variables to be tested as factors of the poverty gap index. In addition, other research methods can also be used to add references to similar research. With this research, it is hoped that it can also become one of the reference materials for related agencies to also pay attention to other poverty measures in poverty alleviation efforts so that they can better reach the poor to the deepest level.

REFERENCES

Amalia, F., Sinaga, R., Asyari, Soeyatno, R. F., Silitonga, D., Solikin, A., Hubbansyah, A. K., Siregar, R. T., Maulina, D., Kusumaningrum, R., Sahamony, N. F., Litriani, E., & Ladjin, N. (2022). *Ekonomi Pembangunan* (R. Kusumaningrum (ed.); 1st ed.). Widina Bhakti Persada Bandung. https://repository.penerbitwidina.com/media/publications/355760-ekonomi-

Ames, B., Brown, W., Devarajan, S., & Izquierdo, A. (2001). Macroeconomic Policy, Growth and Poverty Reduction. In *World Bank*. International Monetary Fund.

pembangunan-09fa3153.pdf

- https://doi.org/10.1016/s0147-5967(03)00016-7
- Asrani, G. (2020). Aplikasi Regresi Panel Pada Model Indeks Kedalaman Kemiskinan Provinsi Sulawesi Selatan. INFINITY-Jurnal Matematika Dan Aplikasinya (IJMA), I(September 2017), 8–15.
- Ayoo, C. (2022). Poverty Reduction Strategies in Developing Countries. In Cognitive Computation. IntechOpen. https://doi.org/10.1007/s12559-021-09926-6
- Aulia, R.M., Herlitah, Nurjanah, S. (2021). The Impact of Education and Investment on Poverty in Indonesia. Jurnal Pendidikan Ekonomi, Perkantoran, dan Akuntansi, 2(1), 63-69. https://journal.unj.ac.id/unj/index.php/jpepa/article/view/30117
- Badriy. (2021). Menteri Desa Beber Strategi Mengentaskan Kemiskinan Ekstrem Di Papua. 1. https://kemendesa.go.id/berita/view/detil/3908/menteri-desa-beber-strategimengentaskan-kemiskinan-ekstrem-di-papua
- Balasubramanian, P., Burchi, F., & Malerba, D. (2022). Does economic growth reduce multidimensional poverty? Evidence from low- and middle-income countries. World Development, 161, 106119. https://doi.org/10.1016/j.worlddev.2022.106119
- Bloom, D. E., & Freeman, R. B. (1986). The effects of rapid population growth on labor supply and employment in developing countries. Population & Development Review, 12(3), 381-414. https://doi.org/10.2307/1973216
- Bordens, K. S., & Abbott, B. B. (1998). Research Design and Methods A Process Approach. In Superconductor Science and Technology (Eighth Edi, Vol. 11, Issue 3). https://doi.org/10.1088/0953-2048/11/3/002
- Cruz, M., & Ahmed, S. A. (2018). On the impact of demographic change on economic growth poverty. World Development, 105, 95–106. https://doi.org/10.1016/j.worlddev.2017.12.018
- de Haan, J., Pleninger, R., & Sturm, J. E. (2022). Does Financial Development Reduce the Poverty Gap? Social **Indicators** Research, *161*(1), https://doi.org/10.1007/s11205-021-02705-8
- Diczfalusy, E. (1999). The demographic revolution. In European Review (Vol. 7, Issue 2). https://doi.org/10.1017/S1062798700004038
- Fajriah, N. A. (2021). Analysis of the Effect of Gross Regional Domestic Product, Number of Population, Regional Minimum Wage, Open Unemployment Rate, and Human Development Index on Poverty in 2010-2020 East Java Province. Jurnal Ilmu Ekonomi Terapan, 6(2), 171. https://doi.org/10.20473/jiet.v6i2.27778
- Feriyanto, N., El Aiyubbi, D., & Nurdany, A. (2020). The Impact Of Unemployment, Minimum Wage, And Real Gross Regional Domestic Product On Poverty Reduction In Provinces Of Indonesia. Asian Economic and Financial Review, 10(10), 1088–1099. https://doi.org/10.18488/journal.aefr.2020.1010.1088.1099
- Ginting, T. A. B., Sudibia, I. K., Dewi, N. P. M., & Marhaeni, A. A. I. N. (2020). The Effect of Education and Dependency Ratio on Economic Growth and Poverty in Papua. American Journal of Humanities and Social Sciences Research (AJHSSR), 4(6), 186-195.
- Habib, U., & Wahyudi, H. (2022). Indeks Kedalaman Kemiskinan Sebelum dan Saat Pandemi Covid-19 di Indonesia. Studi Ekonomi Dan Kebijakan Publik, 1(1), 59-72. https://doi.org/10.35912/sekp.v1i1.1424
- Hadi, A. (2019). Pengaruh Rata-Rata Lama Sekolah Kabupaten/Kota Terhadap Prosentase Penduduk Miskin Kabupaten/Kota Di Provinsi Jawa Timur Tahun 2017. Media Trend, 14(2), 148–153. https://doi.org/10.21107/mediatrend.v14i2.4504
- Hasmah, H., & Asrani, G. (2020). Aplikasi Regresi Panel Pada Model Indeks Kedalaman Kemiskinan Provinsi Sulawesi Selatan. Infinity: Jurnal Matematika Dan Aplikasinya,

- *1*(1), 8–15. https://doi.org/10.30605/27458326-15
- Haughton, J., & Khandker, S. R. (2009). Handbook On Poverty And Inequality. The World Bank. https://doi.org/10.1596/978-0-8213-7613-3
- Hofmarcher, T. (2021). The effect of education on poverty: A European perspective. **Economics** Education 83(April), ofReview. https://doi.org/10.1016/j.econedurev.2021.102124
- International Labour Organisation. (2005). Measures of Poverty. In *Poverty Manual* (pp. 69– https://www.ilo.org/wcmsp5/groups/public/---americas/---ro-lima/---sroport of spain/documents/presentation/wcms 304851.pdf
- Krugman, P., & Wells, R. (2015). ECONOMICS (Fourth Edi). Worth Publishers. http://students.aiu.edu/submissions/profiles/resources/onlineBook/b4L7T8_k_econom ics.pdf
- Minzner, A. (2020). Measuring the Effectiveness of Equitable Economic Development Strategies. Foundation Review, 12(4), 22–34. https://doi.org/10.9707/1944-5660.1540
- Moko, F. E., & Subektianto, R. A. (2020). Indikator Pendidikan Provinsi Papua Tahun 2020. https://papua.bps.go.id/publication/2021/06/02/cdf80d37120fc5158ca1072d/indikator -pendidikan-provinsi-papua-2020.html
- Monang, J., Tambun, S., & Herawaty, R. (2018). Pemodelan Faktor-Faktor yang Mempengaruhi Indeks Kedalaman Kemiskinan dan Indeks Keparahan Kemiskinan Kabupaten / Kota di Sumatera Utara Menggunakan Regresi Data Panel. Jurnal Administrasi Publik, 6(1), 100–110. https://doi.org/10.31289/publika.v6i1.1574
- Mustafakulov, S. I., Karimov, D. A., Murodullaev, N. N., Rajabov, N. R., Khamidov, R. T., & Alisher, O. (2020). Poverty: Basic Principles of the State at its Reduction. International Journal Scientific Engineering Research, 11(9), 1501-1508. & https://ejournal.tsue.uz/index.php/archive/article/view/3415
- Nafziger, E. W. (2005). Economic development, fourth edition. In Economic Development, Fourth Edition. https://doi.org/10.1017/CBO9780511805615
- Nurhafizah, & Mafruhat, A. Y. (2021). Pengaruh Pertumbuhan Ekonomi dan Dependency Ratio terhadap Tingkat Kemiskinan di Provinsi Jawa Barat Tahun 2000-2019. Jurnal Riset Ilmu Ekonomi Dan Bisnis, 1(2), 109–117. https://doi.org/10.29313/jrieb.v1i2.402
- Nurkse, R. (2012). Problems of Capital Formation in Underdeveloped Countries. In Trade and Development (pp. 99–212). Cambridge University Press. https://doi.org/https://doi.org/10.7135/UPO9781843318187.010
- Pujialarasari, L., & Maghfiroh, D. R. (2020). Statistik Daerah Provinsi Papua 2021 (L. Pujialarasari, R. P. Ayu, V. D. B. Sinaga, & A. P. Pramana (eds.)). Badan Pusat Statistik Provinsi https://papua.bps.go.id/publication/2021/09/27/6a72add7c47158e07f29c82d/statistikdaerah-provinsi-papua-2021.html
- Putra, Y. B. A. P. A., Moko, F. E., Pujialarasari, L., Tarigan, E. A., & Maghfiroh, D. R. (2020). Analisis Profil Penduduk Provinsi Papua. Badan Pusat Statistik Provinsi Papua. https://papua.bps.go.id/publication/2022/06/24/7665b4bb01b11ff2b1141b09/analisisprofil-penduduk-provinsi-papua.html
- Roring, G. D. J., & Rondonuwu, D. B. (2022). The Effect of Education and Unemployment Rate on Poverty Rate of 4 Cities in North Sulawesi. Journal of International Conference Proceedings, 5(2), 212–221. https://doi.org/10.32535/jicp.v5i2.1686
- Sanjaya, I. (2022). Tinjauan Regional Berdasarkan PDRB Kabupaten/Kota 2017-2021. In M. Wulandari Badan Pusat (Ed.). buku 5. Statistik. https://www.bps.go.id/publication/2022/09/06/ec4e245f63de63c0e1e1534c/tinjauanregional-berdasarkan-pdrb-kabupaten-kota-2017--2021--buku-5-pulau-nusa-tenggara-

- -maluku--dan-papua.html
- Santi, N. D., Mumtaz, T., Fatmawati, A. D., & Retnosari, L. (2022). *Perhitungan dan Analisis Kemiskinan Makro Indonesia*. https://www.bps.go.id/publication/2022/11/30/041b11a57ce8fe671631f684/penghitun gan-dan-analisis-kemiskinan-makro-indonesia-tahun-2022.html
- Sapary, S. (2018). Produk Domestik Regional Bruto Provinsi Papua Menurut Pengeluaran 2013-2017. https://doi.org/9-772477-414000
- Shaukat, B., Javed, S. A., & Imran, W. (2020). Wealth Index as Substitute to Income and Consumption: Assessment of Household Poverty Determinants Using Demographic and Health Survey Data. *Journal of Poverty*, 24(1), 24–44. https://doi.org/10.1080/10875549.2019.1678550
- Singh, P. P. (2014). *Economics of Growth and Development*. Lovely Professional University. https://ebooks.lpude.in/arts/ma_economics/year_2/DECO501_ECONOMICS_OF_G ROWTH_AND_DEVELPOMENT_ENGLISH.pdf
- Subektianto, R. A. (2020). *Indikator Pendidikan Provinsi Papua 2019*. https://papua.bps.go.id/publication/2020/05/20/01af22f1b8a6424b77961fc9/indikator-pendidikan-provinsi-papua-tahun-2019.html
- Sudaryati, S., Ahmad, A. A., & Suprapto, S. (2021). The Effect of Average Length of Schooling, Life Expectancy and Economic Growth on Poverty in Banjarnegara Regency 2005-2019. *Eko-Regional: Jurnal Pengembangan Ekonomi Wilayah*, *16*(1), 29–35. https://doi.org/10.20884/1.erjpe.2021.16.1.1677
- Sugiyanto. (2021). Profil Kemiskinan di Provinsi Papua Maret 2020. In *Biro Pusat Statistik Papua* (Vol. 13, Issue 14). https://papua.bps.go.id/pressrelease/2021/07/15/572/profil-kemiskinan-di-provinsi-papua-maret-2021.html
- Tadesse, D., Abebaw, A., & Takele, A. (2020). Determinants of Urban Household Poverty; the Case of North Shewa Zone, Oromia, Ethiopia. 5(2), 14–21. https://doi.org/10.20372/ajbs.2020.5.2.194
- Taufiq, N., Prasetya, A. A., & Mumtaz, T. (2020). *Data dan Informasi Kemiskinan Kabupaten/Kota* 2020. Badan Pusat Statistik. https://www.bps.go.id/publication/2020/11/30/337a88d303fca9911cb7b0a8/data-dan-informasi-kemiskinan-kabupaten-kota-tahun-2020.html
- Taufiq, N., Pratiwi, E. W., Fatmawati, A. D., Retnosari, L., & Santi, N. D. (2021). Perhitungan dan Analisis Kemiskinan Makro Indonesia 2021. In N. Sahrizal, N. Taufiq, & Masfufah (Eds.), Badan Pusat Statistik. https://www.bps.go.id/publication/2021/11/30/9c24f43365d1e41c8619dfe4/penghitun gan-dan-analisis-kemiskinan-makro-indonesia-tahun-2021.html
- Todaro, M. P., & Smith, S. C. (2012). Economic Development. In *Pearson* (Eleventh E). Pearson. http://eco.eco.basu.ac.ir/BasuContentFiles/57/57304a77-1269-4081-bd5b-4c66b84b06a4.pdf
- Wahid, R. M., & Sarfiah, S. N. (2021). Analysis of Factors Affecting the Poverty Gap Index in Aceh Province 2017-2019. *Research Horizon*, 1(6), 217–228. https://doi.org/10.54518/rh.1.6.2021.217-228
- Walilo, Y. (2020). Infografis Pembangunan Prrovinsi Papua. In *Infografis Pembangunan Provinsi Papua*. https://bappeda.papua.go.id/file/456182342.pdf
- Yustie, R. (2020). Faktor-Faktor yang Mempengaruhi Kemiskinan di 9 (Sembilan) Kota di Provinsi Jawa Timur. *OECONOMICUS Journal of Economics*, 5(1), 1–9. https://doi.org/10.15642/oje.2020.5.1.1-9