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Identification of Growth, Poverty and Health and Their Relationship with the Education in Indonesia

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ABSTRACT

This research explains in detail the conditions of primary and secondary education levels, aims to determine and examine the influence of economic growth, poverty, health facility, teacher quality, and school participation rate (SPR) on children not in school (CNS), using panel data in 34 provinces in Indonesia during 2017-2023. Economic growth has a positive effect on teacher quality or the higher the level of economic growth, the higher the quality of teachers in the three groups (elementary, junior high and senior high), only at the elementary school level the effect is not significant. Furthermore, poverty and health facilities do not affect teacher quality at the three levels. SPR is negatively affected by health facilities for all levels of education, but economic growth and teacher quality do not affect SPR. Poverty has a significant positive effect on CNS, conversely, increasing teacher quality has a negative impact on CNS at the elementary school level, but at the junior high and senior high levels the opposite occurs, where increasing teacher quality actually increases CNS. Then SPR has a negative effect at the elementary school level, but at the junior high and senior high levels it does not affect children not in school. At the high school level, increasing economic growth causes a significant decrease in CNS, but at the junior high school level it is not significant while at the elementary school level it does not have a significant effect.

Key Words: Economic Growth, Poverty, Health Facility, Children not in School, School Participation Rate and Teacher Quality

JEL Classification: A10, A20, C01

INTRODUCTION

Education has an important role in the life of the nation and state in an effort to create quality human resources. Education has become a basic need for every human being in an effort to educate the life of the nation, because through education efforts to improve people's welfare can be realized. Through education, human resources can understand and be ready to face changes and development of a country more quickly. The problem of the quality and quantity of human resources is also caused by the low quality of education which is marked by low literacy rates, low equality of education, and relatively inadequate educational process standards. Understanding the education system in a country cannot be separated from the philosophy that has been used as the basis and ideals of the struggle to achieve goals. When western countries have a rationalist, materialist, and pragmatic philosophy of life, the education system created by the west is certainly rationalist, pragmatic, and materialist. On the other hand, Indonesia is a country based on Pancasila where national education is an investment in human resources rooted in the nation's culture based on Pancasila and the 1945 Constitution. The concept of Pancasila includes various philosophies and activities including socio-economics such as economic development and education.

Economic development with one of its indicators is growth can be the main driver and motivator in education, because with growth, government and private spending, especially in terms of investment, can increase production capacity which will lead to growth and employment opportunities, so that poverty can be suppressed or even eliminated through human development because this poverty can have a negative impact on various sectors, especially in the field of education. On the other hand, education is also believed to be one

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way to break the chain of poverty where Indonesia still has a percentage of poor people and even extreme poverty that still needs to be improved, especially through education. In line with the existence of poverty that can have a direct or indirect impact on dropping out of school or children not in school (CNS). Children not in school are actually worse than CNS because they have not been able to receive education at a certain level of education with their school age. An overview of the development of the CNS percentage from 2022 to 2023 can be seen in Figure 1.

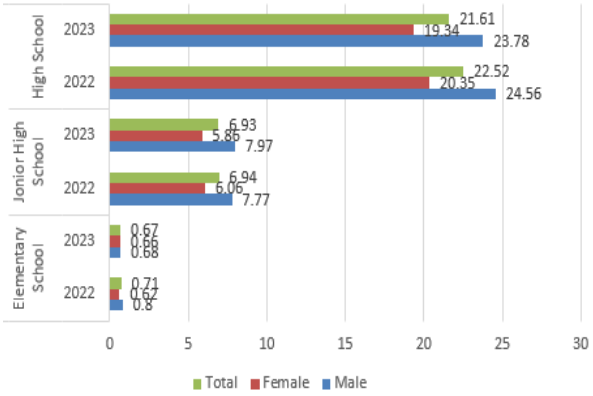

Figure 1. Development of CNS Percentage from 2022 to 2023

The decrease in the percentage of children not attending school from 2022 to 2023 can be seen in Figure 1. For elementary schools with a very small percentage, it can be seen in the same figure that the decrease was from 0.80% to 0.71%, which is a decrease of 0.09% from 2022 to 2023. Meanwhile, the junior high school level actually experienced an increase of 0.20% while the high school level experienced a decrease of 0.91 but had the highest percentage of CNS of the three levels in 2022 and 2023. The increase in CNS at the junior high school level is a problem at the high school level that can be caused by various problems, especially from family economic problems such as limited funds and demands to work due to the child's family economic problems. The problem is directly related to the low level of family income so that government policies are needed. One of them is an effort to increase economic activity through economic growth.

Indonesia's economic growth can be said to be slightly unstable, especially in 2020 due to COVID-19, which peaked at -2.07% in 2021, but reached an average of 5% per year, precisely in 2023, 5.05%; in 2022 it reached 5.31% and in 2019 it reached 5.02%. This can encourage an increase in facilities and infrastructure for a more productive education sector. However, the quality of education is still not up to expectations, namely the occurrence of school dropouts and CNS. With high economic growth, the government can also obtain more taxes that can be used in the education sector in an effort to increase facilities and infrastructure as well as career development and teacher motivation, all of which can have an impact on ensuring an increase in education including overcoming CNS which on average has decreased, but has not reached the minimum point or the elimination of CNS itself. The expected direct effect in economic growth is a decrease in poverty rates through job creation that can reduce poverty. As an illustration, BPS stated that the rate of poverty reduction in Indonesia has decreased from year to year with details in 2023 reaching 9.36%, in 2021 reaching 9.71 and in 2020 reaching 10.10% and in 2019; 9.22%. With this decrease in the percentage of poverty, it is hoped that it will have an impact on increasing school participation which will ultimately have a decreasing effect on CNS. Furthermore, the development of health facilities can also be an option in reducing CNS because a certain level of health is one of the main requirements for achievement, especially for children who are undergoing elementary and secondary education.

Health facilities proxies by health centers can provide services to the community in an effort to improve health. Because adequate health levels can create socio-economic improvements in the community. The number of health centers has increased from year to year, but not evenly (BPS, 2023). This can be a barrier to forming healthy humans, including students, so that they cannot directly learn with full hope, which can result in a decrease in school participation rates which can have a negative impact on education, especially increasing CNS, because the increase in School Participation Rates is expected to have a direct impact on decreasing CNS. One of the factors expected to reduce CNS is improving the quality of teachers because it can provide

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motivation and enthusiasm to students to learn responsibly both at home and at school. However, the quality of teachers is also determined by the level of income or salary they receive, while income or output increases in line with economic growth. The relationship between the concepts of economic growth, poverty, LFPR health facilities and teacher quality and CNS can be stated in Figure 2.

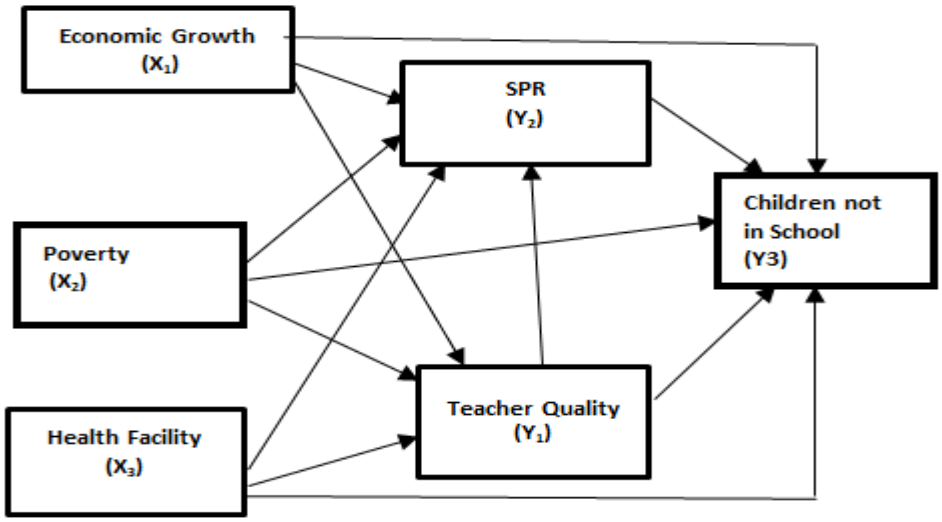

Figure 2. Framework

Based on the information and gap research that has been stated, the research objective aims to analyze and examine the influence economic growth, poverty and health facility on SPR, teacher quality and children not in school. In detail, the aims are:

1. Examining the effect of economic growth, poverty and health facility on terakhir quality
2. Examining the effect of economic growth, poverty, health facility, and teacher quality on SPR
3. Examining the influence of economic growth, poverty, health facility, SPR and teacher quality on children not in school (CNS)

LITERATURE REVIEW

Economic Growth

Economic growth can be sourced from supply and demand. In terms of demand, it can be expressed in a mathematical equation as Y = C + I + G + (X-M), where Y = output or income, C = consumption, I = investment or capital accumulation, G = government spending, X = exports and M = imports. So it can be seen that to increase income or economic growth can be done by increasing the four variables either together or partially. Furthermore, economic growth can also be reviewed in terms of supply by increasing capital and labor which can be expressed as a function Y = (K, L, T). Where Y is output, K = capital, L = labor, and T = technology. These three factors can be used to compile a Cob Douglas production function to express the relationship between economic growth input factors in the form of capital, labor and technology. This function is used by the Neo Classical Theory which is also called exogenous growth with increasing, constant or decreasing returns to scale properties because of the application of diminishing returns. The theory that emerged as a reaction to this growth theory is endogenous economic growth, one of which is the production function Y = AK (one form of this function which is a simplification of the Cobb-Douglas function).

Economic growth is an increase in the long-term capacity of the country concerned to provide various economic goods to its population. A strong economy is reflected in high economic growth. The economic growth of a country can be influenced by the existence of an open economic system (Branson, 1992; Todaro and Smith, 2013,). Next according to Adam Smith explained that economic growth is a process of combining population growth with technological progress. In line with David Ricardo, he stated that economic growth is a

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process of attraction between two forces, namely "the law of diminishing returns" and technological progress. Apart from that, proponents of classical economic growth theory really prioritize liberal or laissez faire principles, where all economic activities are expected to be free without any government interference, in this case supporting economic openness, both trade openness and financial openness. The linear growth theory stages of growth theory developed by Rostow, also formulates development patterns through 5 stages including 1) Modern economic stage; 2) Take-off precondition stage; 3) Take off stage; 4) stage towards maturity and 5) stage towards high consumption. Furthermore, the economic growth theory according to Harrod–Domar also explains the same thing, to achieve a steady level of economic growth in a country's economy lies in the active role of investment (Jhingan, 1997). Harrod-Domar stated that the level of investment in a country can make a major contribution in encouraging economic growth, especially. On the basis that investment has two major objectives in the economy, namely as a source of income and capital to increase production capacity.

The mathematical model used by Solow is the Cobb-Douglas function with the equation:

$Y = AK^{\alpha}L^{\beta}$, $\alpha+\beta=1$ merupakan syarat fungsi asal

Where: Y = Total production, A = Technology level, K = Capital or total capital stock and L = Number of workers. This equation can be linearized to obtain:

$$\ln Y = \ln A + \alpha \ln K + \beta \ln L$$

Next, by differentiating this equation regarding K and L, growth is obtained

$$\frac{\partial Y}{Y} = \alpha \frac{\partial K}{K} + \beta \frac{\partial L}{L}$$

So it can be seen that growth is the elasticity of capital times its growth plus the elasticity of labor plus the growth of labor. There is a level of economic growth that comes from 3 sources, namely capital accumulation, increasing the number of workers and improving technology.

Neoclassical economic growth theory is known as the Solow growth model. This model was built to determine how the influence of capital stock growth, labor force growth, and technological progress interact in the economy, as well as how they affect the output of goods and services in a country as a whole. According to Solow's theory, there are several things that can be done to stimulate economic growth. Increasing the savings portion will increase capital accumulation and accelerate economic growth. Apart from that, increase appropriate investment in the economy, both in physical and non-physical forms. Encouraging technological progress can increase income per worker so that providing opportunities for innovation in the private sector will have a big influence on economic growth. Technological advances, many economists view this component as the most important. Technological progress in its simplest form, technological progress occurs due to improvements in old ways of completing work that was previously carried out traditionally (Cypher and Dietz, 2020). In the development process, economic growth, science and technological development have a broader role besides capital as recommended by endogenous growth theory (new growth theory). Science and technology can be the main input to encourage desired economic growth with the assumption that technology is not only exogenous but endogenous.

Endogenous growth theory which attempts to explain that the sources of growth are increased capital accumulation in a broad sense. Capital in this case is not only physical but also non-physical in the form of science and technology. This technological development will develop innovation thereby increasing productivity and leading to increased economic growth (Romer, 1990). New discoveries originate from the learning by doing process, which can give rise to new discoveries that increase production efficiency. This efficiency can increase productivity. So in this case the quality of human resources is a factor that influences economic growth. The endogenous growth model emphasizes human capital and research and development (R&D), the main drivers of economic growth.

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Poverty

The theory of poverty can be divided into three parts, multidimensional poverty theory, relative poverty theory and absolute poverty theory. Multidimensional poverty is a type of poverty that describes the helplessness of various socio-economic aspects which can be in the form of physical weakness, vulnerability, alienation and poverty itself. Furthermore, the theory of relative poverty is a type of poverty that describes the inability to meet basic needs that can differ between countries, the theory of absolute poverty is a condition of poverty that is measured by absolute measures or numbers such as the poverty line. Sida (2024) divides poverty into 4 dimensions, namely: Resources, power and voice, opportunity and choice and human security. So the problem of poverty is not only in the form of material fraud but also other dimensions. Poor people are individuals who do not have sufficient income and consumption to lift them from the minimum adequate level. So in short, poor people are those who live below the poverty line, which is determined by a national or international institution (Haughton, J. and Khandker S.R., 2009). So understanding of poverty covers not only economics, but has expanded to cover various aspects of life, including other social dimensions, such as health, education and even entering the political dimension, although the definition of poverty is the inability to meet minimum standards of needs, both food and non-food. This kind of poverty is also called absolute poverty which is contrasted with relative poverty. Apart from that, Indonesia is known for structural poverty and temporary poverty. Structural poverty is certainly worse than temporary poverty, because in this type of poverty it is difficult to get out of poverty, because it has become chronic (chronic poverty) which is characterized by deprivation, discrimination, and living in areas that do not support the improvement of life (Weiss, J., 2005). One indicator of economic development is economic growth as an instrument for alleviating poverty.

Education and Economy

Economic education is the study of how education can improve economic understanding and skills, which in turn can improve the economic well-being of individuals and society. However, education is full of problems and challenges because education is a complex enterprise and still requires efforts in the form of experience and practical judgment (Boissiere, M.X., 2004). Education can be developed through investment in human resources that can create quality humans. According to (Rastagi, 2002) who stated that human capital is knowledge, competence, attitude, health and nature possessed by humans. The second concept states that human capital is knowledge and skills obtained through various educational activities such as schools, courses and training. The main concept of this model is that capital is something obtained through the accumulation of a certain process. Another opinion Romer (1999) states that human capital is a fundamental source of economic productivity. Human capital is also an investment made by humans to increase their productivity (Rosen, 1999). Furthermore, Frank & Bemanke (2007) argue that human capital is a combination of education, experience, training, skills, habits, health, energy and initiative that affect human productivity. This concept assumes that human capital does not come from human experience. The third concept views human capital through the perspective of production orientation. Reinforced by Schultz (1961) who stated that human capital is one of the important factors in increasing economic productivity in a country. The core of Human capital theory uses the concept that the main human capital is education, skills, and health. Human investment theory uses the concept of sacrificing something now for more benefits in the future.

Human Development Theory or human development is a process to enlarge the choices for humans (UNDP, 1990). This theory was initiated by UNDP to improve the previous concept of human resource analysis based on gross domestic product or average per capita income. According to this opinion, the average does not describe in detail the condition of human resources in a region. This is due to the gap between rich and poor which tends to be high. The core of Human Development Theory is a process to enlarge the choices for humans. Sustainable Development Theory is a development concept that seeks to meet current needs without sacrificing future interests. Both theories explain the educational process that is related to economic growth. The pattern of the relationship between education and economic growth, both directly and indirectly, such as the production function model, prepares jobs that education is carried out in order to seek knowledge to work. between economics and education and education has a close relationship. The economy is able to encourage education to run effectively and efficiently while the results of education will create humans who have quality so that they are able to explore and optimize economic resources, so that the rate of economic growth becomes better.

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Blaug, M., (1976) stated that a good case can now be made for the view that educational expenditure does partake to a surprising degree of the nature of investment in enhanced future output. To that extent, the consequences of the education in the sense of skill embodied in people may be viewed as human capital, which is not to say that people themselves are being treated capital. In other word, the resources devoted to maintaining and increasing the stok of human beings, but the resources devoted to maintaining and increasing the stock of human beings remain consumption by virtue of the abolition of slavery".

The argument goes that a good case can now be made for the view that educational expenditure does take on a surprising share of the character of investment in improving future output. To that extent, the consequences of education in terms of the skills embodied in human beings can be viewed as human capital, which does not mean that human beings themselves are required as an investment in human beings, but that the resources devoted to maintaining and improving human joints are nevertheless consumed through the abolition of slavery. This is reinforced by Jones's opinion (1985) which states that human capital can be analogized in some respects to physical capital because both are used together to produce a stream of income over some period of years". The opinion states that people have certain skills, habits, and knowledge, which they sell to employers in the form of wage labor, and which can be expected to provide them with a stream of income over their lives. Furthermore, human capital can be analogized in some respects to physical capital because both are used together to produce a stream of income over some period of years that can drive economic growth in various sectors. If growth happens to concentrate in sectors with scarce pro-poor potential, like commodity-driven growth, redistributive strategies are necessary to compensate for the weak effect on poverty (Berardi, N., and Marzo, F., 2017).

The Method

This type of research is quantitative, taking the type of study of comparative causality that processes numerical data that can be calculated using statistical formulas. The data analysis technique used in this study is path analysis which estimates the direct and indirect influence of exogenous variables on endogenous variables although in this study we only look at and discuss the direct effect, both effects are available in the statistical program used for estimation in this study. The study uses secondary data, namely data that is already available and collected by other parties and it was panel data. The data was taken from the Indonesia Central Statistics Agency (BPS) and the Ministry of Ministry of Manpower of the Republic of Indonesia which covers 34 provinces in Indonesia, where since the end of 2022 there have been 38 provinces, but the necessary data is not yet available. The data used which is divided into three groups, based on the level of education. The statistical analysis technique used is path analysis using the Amos 18 statistical application program.

Based on the conceptual relationship in the framework of thinking, mathematically functional relationships can be written as

$Y_1 = f(X_1, X_2, X_3)$ …..(1)

$Y_2 = f(X_1, X_2, X_3, Y_1)$ …..(2)

$Y_3 = f(X_1, X_2, X_3, Y_1, Y_2)$ … (3)

Whereas:

X1 = economic growth (increase in the number of goods and services, %)

X2 = poverty (percentage of poor people in each province)

X3 = health facilities (number of health centers in a province)

Y1 = Teacher quality (percentage of teachers who have a teacher certificate)

Y2 = School participation rate (ratio of the number of students attending school to the number of school-age population, %)

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Y3 = Children Not in School (children aged 5-18 years who have never attended school or who have not reached the end of their school time)

Based on equations (1), (2) and (3) an algebraic equation can be made as $Y_1 = \alpha_0 + \alpha_1 X_1 + \alpha_2 X_2 + \alpha_3 \ln X_3 + \mu_1$ .....(4)

$$Y_2 = \beta_0 + \beta_1 X_1 + \beta_2 \ln X_2 + \beta_3 \ln X_3 + \beta_4 Y_1 + \mu_2 \quad \text{.....(5.}$$

$$\ln Y_3 = \delta_0 + \delta_1 X_1 + \delta_2 \ln X_2 + \delta_3 \ln X_3 + \delta_4 Y_1 + \delta_5 Y_2 + \delta_6 D_1 + \delta_7 D_2 +$$

$$\delta_9 D_1 X_1 + ... + \delta_{12} D_1 Y_1 + \delta_{13} D_1 Y_2 + \delta_{14} D_2 X_1 + ... + \delta_{17} D_2 Y_1 + \delta_{18} D_2 Y_2 + \mu_3 \text{.....(6)}$$

Equation (4) describes the influence of economic growth, poverty and health facilities on teacher quality. While equation (5) describes the influence of the three exogenous variables and teacher quality on SPR, then (6) describes the three exogenous variables, teacher quality and SPR on CNS consisting of three groups; elementary school, junior high school and high school.

Substituting the value of dummy variable in equation (6) obtained:

Group 1 menyatakan elementary school, taken $D_1 = 0$ and $D_2 = 0$, so that from equation (6) obtained, $\ln Y_{31} = \delta_0 + \delta_1 X_1 + \delta_2 \ln X_2 + \delta_3 \ln X_3 + \delta_4 Y_1 + \delta_5 Y_2 + \mu_{13}$ ..... (7)

Group 2 menyatakan Junior high school, D1 = 1, D2 = 0, so that from equation (6) we obtain $\ln Y_{32} = (\delta_0 + \delta_6) + (\delta_1 + \delta_7) X_1 + (\delta_2 + \delta_8) \ln X_2 + (\delta_3 + \delta_9) \ln X_3 + (\delta_4 + \delta_{10}) Y_1 + (\delta_5 + \delta_{11}) Y_2 + \mu_{23}$ Group 3, senior high school by taken $D_1 = 0$ and $D_2 = 1$ so from equation (6) it is obtained

$$\ln Y_{33} = (\delta_0 + \delta_7) + (\delta_1 + \delta_8) X_1 + (\delta_2 + \delta_9) \ln X_2 + (\delta_3 + \delta_{10}) \ln X_3 + (\delta_4 + \delta_{11}) Y_1 + (\delta_5 + \delta_{12}) Y_2 + \mu_{33}$$

RESULT AND DISCUSSIONS

Model fit test

Chi-square statistic, as stated by statistician, is the most fundamental test to measure overall fit, it is very sensitive to the size of the sample used and the relation of exogenous variables, almost the same as multiple linear regression model. The model is considered good if the Chi-square value is small. The smaller the value, the more feasible the research, meaning that the more it describes the match between the variance of the sample taken and the research population. The results of data processing that have been carried out using the AMOS 18 program are as shown in Table 1. It can be seen in this table that the model built, statistically, can be used to estimate the influence of independent variables on dependent variables.

Tabel 1. Goodness of Fit Index

No.	Goodness of fit Measure	Cut-off Criteria	Estimation (cut off Value)	Fit Situation
1	Chi-Square (χ^2) Significance Probability (p)	smaller the better ≥ 0.05	2.001 0.919	Fit
2	RMSEA (the Root Mean Square Error of Approximation)	≤ 0.05	0.000	Fit
3	NFI (Normed of Fit Index)	≥ 0.95	0.986	Fit

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4	IFI (Incremental Fit Indices)	≥ 0.95	1.029	Fit
`5	CMIN/DF (the minimum Sample Discrepancy Function)	≤ 2	0.334	Fit
6	TLI (Tuckler Lewis Index)	≥ 0,95	1.306	Fit
7	CFI (Comparative Fit Index)	≥ 0,95	1.000	Fit
8	Hoelter's Index	≥ 200	4468	Fit

Sources: Malkanthie, 2015; Wan, 2022 and Amos Result

Research findings

As is known, this research divides the data into 3 groups, so the estimation results consist of three components. Dengan demikian hasil estimasi untuk ketiga grup tersebut dengan menggunakan bantuan program statistik Amos, masing-masing dapat dilihat pada gambar 3; 4 dan 5. The estimation results for group 1 (the elementary school) group 2 (Junior high school) and the group 3 which is named the high school group. As. it can be seen in Figure 3, where there are only three independent variables that influence the independent variable, at the confidence level α = 5%. Likewise in Figure 4 it can be seen that there are only 3 independent variables that influence the dependent variable and in Figure 5 there are only 4 variables at that confidence level.

Regression Weights: (Group number 1 - Default model)

			Estimate	S.E.	C.R.	P
TeachQuality	<---	EcoGrowth	.469	.322	1.457	.145
TeachQuality	<---	Poverty	-.018	.233	-.077	.939
TeachQuality	<---	HealthFacil	.021	1.760	.012	.990
SPR	<---	HealthFacil	-.815	.333	-2.445	.014
SPR	<---	Poverty	-.053	.044	-1.213	.225
SPR	<---	TeachQuality	-.001	.012	-.078	.938
SPR	<---	EcoGrowth	-.014	.061	-.235	.814
CnSchool	<---	TeachQuality	-.014	.004	-4.043	***
CnSchool	<---	HealthFacil	-.123	.098	-1.261	.207
CnSchool	<---	SPR	-.034	.019	-1.785	.074
CnSchool	<---	EcoGrowth	.013	.018	.741	.459
CnSchool	<---	Poverty	.054	.013	4.194	***

Figure 3. Variabel Coefficients in Group 1

Resource: Amos 18 data processing results.

Estimates (Group number 2 - Default model)

Scalar Estimates (Group number 2 - Default model)

Maximum Likelihood Estimates

Regression Weights: (Group number 2 - Default model)

			Estimate	S.E.	C.R.	P	Label
TeachQuality	<---	EcoGrowth	.579	.309	1.874	.061	
TeachQuality	<---	Poverty	-.018	.232	-.077	.938	
TeachQuality	<---	HealthFacil	.009	1.754	.005	.996	
SPR	<---	HealthFacil	-.815	.333	-2.446	.014	
SPR	<---	Poverty	-.053	.044	-1.212	.226	
SPR	<---	TeachQuality	-.001	.012	-.068	.946	
SPR	<---	EcoGrowth	-.016	.059	-.268	.789	
CnSchool	<---	TeachQuality	.013	.004	2.953	.003	
CnSchool	<---	HealthFacil	.115	.119	.971	.332	
CnSchool	<---	SPR	.003	.023	.113	.910	
CnSchool	<---	EcoGrowth	-.032	.021	-1.531	.126	
CnSchool	<---	Poverty	.036	.016	2.288	.022	

Figure 4. Variabel Coefficients in Group 3

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Resource: Amos 18 data processing results

Estimates (Group number 3 - Default model)

Scalar Estimates (Group number 3 - Default model)

Maximum Likelihood Estimates

Regression Weights: (Group number 3 - Default model)

			Estimate	S.E.	C.R.	P	Label
TeachQuality	<---	EcoGrowth	.579	.309	1.874	.061	
TeachQuality	<---	Poverty	-.018	.232	-.077	.938	
TeachQuality	<---	HealthFacil	.009	1.754	.005	.996	
SPR	<---	HealthFacil	-.815	.333	-2.446	.014	
SPR	<---	Poverty	-.053	.044	-1.212	.226	
SPR	<---	TeachQuality	-.001	.012	-.068	.946	
SPR	<---	EcoGrowth	-.016	.059	-.268	.789	
CnSchool	<---	TeachQuality	.020	.009	2.182	.029	
CnSchool	<---	HealthFacil	-.015	.256	-.057	.955	
CnSchool	<---	SPR	-.078	.049	-1.576	.115	
CnSchool	<---	EcoGrowth	-.216	.045	-4.803	***	
CnSchool	<---	Poverty	.073	.034	2.162	.031	

Figure 5. Variabel Coefficients in Group 3

Resource: Amos 18 data processing results

RESULT AND DISCUSSIONS

Economic growth will be caused by the simultaneous and joint work of production factors such as capital and labor. This growth also has an impact on various sectors including the education sector. The quality of teachers is closely related to facilities and economic activities. Based on Figure 1, 2 and 3, the results of the study show that economic growth has an impact on the quality of teachers, where the higher the growth rate achieved, the higher the quality of teachers. This fact is indicated by the influence or elasticity of economic growth on the actual quality of teachers of 0.58, which means that if the economic growth variable increases by 1%, the quality of teachers increases by 0.47% at the elementary school level; 0.58% at the junior high school level and also at the high school level. Health facilities have a negative effect on SPR at the $\alpha = 5\%$ confidence level, which means that if health facilities decrease, SPR will decrease. This is closely related to health facilities as measured by the number of health centers where health centers in each province in Indonesia on average do not experience an increase, there are even health centers that have decreased due to regional expansion, so that the parent region experiences a shortage of health centers in terms of quantity, besides that according to BPS the number of health centers throughout Indonesia continues to increase every year, but is not distributed according to expectations.

The quality of teachers in this study only uses the number of teachers who have held teacher certification letters. Furthermore, based on 8 and 9 In showing that the influence has a significant positive effect on the level of confidence $\alpha = 0.05$ on CNS at the junior high and high school levels, meaning that the higher the quality of teachers, the more CNS. This fact is certainly not in accordance with the expectations of the government and society. However, at the elementary school level, the opposite occurs where teacher quality can reduce CNS with an elasticity of 0.01, which means that if teacher quality increases by 1%, the number of children not going to school (including dropouts) can be reduced by 0.01%. This fact supports the importance of improving teacher quality in motivating students and adequate emotional support in the teaching and learning process. One of the reasons is based on data (BPS, 2023) that the percentage of certified teachers at the elementary school level is higher than at other levels in elementary and secondary education. The results of the study showed a positive relationship between certified teachers and CNS at the junior high and senior high school levels, indicating that the quantity of certified teachers at the junior high and senior high school levels did not have a negative impact on CNS, meaning that teachers at both levels need to look at the quality of certified teachers regarding responsibility by paying attention to competence and improving the quality of teaching.

The estimation results show a negative relationship between economic growth and CNS of senior high school, which means that if economic growth increases, CNS will experience a significant decrease at the confidence level $\alpha = 0.05$ with an elasticity of 0.22, which means that if economic growth increases by 1%, there will be a decrease in CNS at the senior high school level of 0.22%. This fact also applies to junior high schools, namely

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there is a negative relationship between economic growth and CNS at the junior high school level with an elasticity of -0.03. Furthermore, for elementary school level, there is no significant relationship between economic growth and CNS.

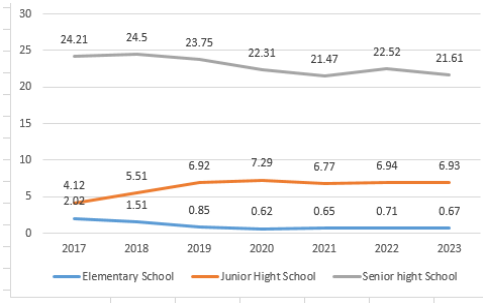

Figure 6. Development of CNS at Three Levels of Education in Indonesia

Source: Data from BPS, Processed

Poverty is a state of economic and social inability for an individual or society. The results of the study show that poverty has a positive impact on CNS significantly at $\alpha = 0.05$. As is known, the average poverty in Indonesia has decreased little by little each year, so this has an impact on the decline in CNS. However, in several provinces such as Jambi, the Banka Belitung Islands, Central Kalimantan, Papua and South Papua, poverty actually increased in 2024, which can be strongly suspected of also experiencing an increase in CNS in that year. One of the factors that causes poverty is unemployment, so it is appropriate if CNS produces unemployment. BPS (1924) stated that the average dropout or not attending elementary school is lower than other secondary levels, so this can have an impact on the absence of economic growth on CNS at this level of education. This is due to the awareness of the population about the importance of education, even at the elementary school level only. In addition, the central government has issued a ban starting in 2023 on the Calistrum (reading, writing and arithmetic) test for elementary school admissions. In addition, it is also known that school fees are borne by the government by prohibiting levies from students, especially at the elementary school level which is a basic educational institution that must be attended by all Indonesian residents. In addition, it was also found in this study that SPR will experience CNS because with the increase in school participation, CNS will decrease, because it can be said that CNS is the opposite of SPR at the elementary and high school levels, while at the level it shows a positive relationship between the two variables but not significant. So it can still be shown that an increase in SPR causes a decrease in CNS.

Descriptively, the development of CNS from year to year for the three education level groups is clearly visible in Figure 6, where it is known that the CNS of elementary school continues to decline, while for junior high school continues to increase. The most prominent thing is the high percentage of CNS for high school education levels aged between 20 and 23 years compared to the two education levels, which can cause or worsen unemployment rates and increase social problems such as the potential for increased crime. Employment Law No. 13 of 2003 states that the minimum working age is 18 years, but can be lowered to 15 years for certain activities, such as light work. So CNS or dropping out of school can not only impact educational problems but can also spread to other problems, such as social diseases in society which will basically hinder the progress and competitiveness of the nation.

CONCLUSION AND RECOMMENDATION

Conclusion

Based on the analysis and the results of the previous discussion, the following conclusions are drawn:

Economic growth has a positive effect on teacher quality or the higher the level of economic growth, the higher the quality of teachers in the three groups (elementary, junior high and senior high), only at the elementary school level the effect is not significant. Furthermore, poverty and health facilities do not affect teacher quality at the three levels. SPR is negatively affected by health facilities for all levels of education, but

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economic growth and teacher quality do not affect the SPR. Poverty has a significant positive effect on CNS, conversely, improving teacher quality has a negative effect on CNS at the elementary school level, but at the junior high and senior high school levels, the opposite occurs, where improving teacher quality actually increases CNS. Furthermore, SPR has a negative effect at the elementary school level, but at the junior high and senior high school levels, it does not affect CNS. At the senior high school level, increasing economic growth causes a significant decrease in CNS, but at the junior high school level it is not significant while at the elementary school level it does not have a significant effect. At the junior high school level, an increase in CNS was found while the other two school levels experienced a decrease.

Research Limitations

The finding of the research is not supported by previous research because it is the first study to link macroeconomic variables with school dropout or CNS, which is derived from educational level. However, it is generally supported by general theory or grand theory, particularly Keynesian growth theory, and growth theory, particularly endogenous growth theory. Therefore, there is a lack of research findings that could support this finding. The variables were measured without indicators or only using manifest variables. Nevertheless, the study addressed the problem in accordance with its objectives. Another limitation of the study is that it did not use CNS data per province, but rather for Indonesia.

Recommendation

The suggestions to be put forward based on the discussion and conclusions that have been stated, among others:

1. Efforts that can be made to reduce CNS at the elementary school age to high school and equivalent are by increasing growth and reducing poverty rates by increasing investment, especially in the education sector, including government spending in the basic and secondary education infrastructure sector.

2. The discovery of the percentage of CNS at the junior high school level has increased while the other two levels have decreased, so that the government can pay special attention to the junior high school level by increasing collaboration between schools and parents with a focus on increasing access to education and economic empowerment.

3. Improving the quality of teachers at all levels of elementary and secondary education can be done through efforts to increase economic growth by increasing government spending, especially local governments for education and training for the development of teacher professionalism and dedication

4. Teachers in general, those who are certified in particular should continue to improve their pedagogical competence and continuous professional development which can be obtained by increasing education and training and career development

REFERENCE

1. Berardi , N., & Marzo, F. (2017). The Elasticity of Poverty with respect to Sectoral Growth in Africa. Review of Income and Wealth. Review of Income and Wealth Series 63, Number 1, March 2017 DOI:10.1111/roiw.12203
2. Blaug, Mark. 1974. “An Economic Analysis of Personal Earnings in Thailand. Economic Development and Cultural Change University of Chicago Press, 23(1), 1–31.
3. Boissiere, Maurice X. (2004). Determinants of Primary Education Outcomes in Developing Countries. World Bank. Independent Evaluation Group.
4. Branson, William H. 1992. Macroeconomics Theory and Policy. Hopper & Row Publishers, Singapore.
5. BPS. 2023. Gross Regional Domestic Product of Provinces in Indonesia by Expenditure, 2018-2022. Jakarta
6. BPS. 2023. Statistical Year Book of Indonesia. Catalog Number: 1101001, Publication Number: 03200.2303, ISSN/ISBN: 0126-2912, Jakarta.

ISSN No. 2321-2705 | DOI: 10.51244/IJRSI |Volume XII Issue VIII August 2025

7. Card, D. (2005). The Causal Effect of Education on Earnings. Handbook of Labor Economics, Elsevier, Volume 3, Part A, 1801-1863.
8. Cypher, J.M., 2020. The Process of Economic Development. Imprint Routledge, 5th Edition, eBook ISBN9780429289248, DOI https://doi.org/10.4324/9780429289248.
9. Frank, R.H., & Bernaken, B.S. 2007. Principles of Microeconomics (3rd.ed). New York: McGraw-Hill/Irwin
10. Haughton, J. & Khandker S.R., 2009). Handbook on Poverty and Inequality. The
11. International Bank for Reconstruction and Development/The World Bank1818 H Street, NW.
12. Jhingan, M.L., 1997. The Economics of Development and Planning. Vrinda Publications (P) LTD. B-5, Ashish Complex (opp. Ahlcon Public School), Mayur Vihar, Phase-I, Delhi-110091
13. Jones, T.H. (1985). Introduction to School Finance: Technique and Social Policy. New York: Macmillan Publishing Company Jones.
14. Nizam, 2024. Laporan Kinerja Direktorat Jenderal Pendidikan Tinggi, Riset, dan Teknologi Tahun 2023. Retrieved from https://dikti.kemdikbud.go.id/laporan-kinerja/
15. Moore, J. D., & Donaldson, J. A. (2016). Human-Scale Economics: Economic Growth and Poverty Reduction in Northeastern Thailand. World Development.
16. Rastogi, P. N. (2002). Knowledge Management and Intellectual Capital as a Paradigm of Value Creation. Human Systems Management , 229-240.
17. Romer, P. M. (1990). Endogenous Technological Change. Journal of Political Economy, 98(5), 71-102.
18. Rosen, H.S. and Gayer, T., 2020. Public Finance. New York: McGraw-Hill.
19. Schultz, T. W. (1971). Investment in Human Capital; The Role of Education and of Research, New York, The Free Press.
20. Sida, 2024. Multidimensional Poverty Analysis. How to analyses poverty, a methodological guide for using Sida's analytical framework for poverty analysis. Retrieved from https://cdn.sida.se/app/uploads/2024/06/13135253/62693_MDPA-How-to-analyse-poverty_WEB.pdf
21. Son, Hyun H. and Kakwani Nanak, 2004. Economic Growth and Poverty Reduction. Initial Conditions Matter. United Nations Development Programmed, International Poverty Centre\ International Poverty Centre SBS – Ed. BNDES,10º Andar 70076 900 Brasilia DF Brazil
22. Todaro, Michael P. and Smith, Stephen C. 2020. Economic Development. Pearson, Addison-Wesley Boston Columbus Indianapolis New York San Francisco.
23. UNDP, 1990. Human Development Report, 1990, Concept and Measurement of Human Development. Retrieved from https://hdr.undp.org/content/human-development-report-1990
24. Wan, T. T. H. (2002). Evidence-based health care management: Multivariate modeling approaches (1st ed.). Norwell, MA: Kluwer Academic Publishers.
25. Weiss, John, 2005. Poverty Targeting in Asia: Experiences from India, Indonesia, the Philippines, People's Republic of China and Thailand. Asian Development Bank Institute, Tokyo. Future Business Journal volume 7, Article number: 42 (2021), Published: 26 December 2021.