

Sustainable Development Goal: The East Nusa Tenggara Poverty Analysis

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Abstract

Poverty is the thorny issue that occurs every year in East Nusa Tenggara Province. Poverty alleviation is identified as one of the main goals of the Sustainable Development Goals (SDGs). Various steps have been taken to achieve this goal. One of the factors that trigger the increase in poverty is inadequate access to the fulfillment of the community's basic needs. This study aims to analyze the impact of limited access to basic community needs on poverty in East Nusa Tenggara using an empirical approach. Accessibility to basic needs is measured through variables such as life expectancy at birth, per capita expenditure, average years of schooling, and expected years of schooling. This study uses panel data analysis technique using fixed effect model. The findings of this study show that improvements in these variables, namely life expectancy at birth, per capita expenditure, and expected years of schooling, contribute to poverty alleviation in East Nusa Tenggara. Limited access to health services has an adverse impact on life expectancy at birth. Conversely, high levels of employment are expected to increase per capita expenditure in East Nusa Tenggara, thereby improving welfare and reducing poverty levels.

Keywords: *poverty, life expectancy at birth, per capita expenditure, expected years of schooling, Sustainable Development Goals, fixed effects model.*

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INTRODUCTION

The elimination of poverty (SDG 1) is the primary objective of the Sustainable Development Goals (SDGs), serving as a cornerstone of social development. Consequently, the Indonesian government, at both the national and sub-national levels (provincial and district/city governments), has prioritized the eradication of poverty. This commitment is evidenced by the augmentation of the social aid budget and the broadening of its beneficiaries.

The East Nusa Tenggara region of Indonesia faces significant challenges, particularly in terms of poverty reduction. This is a pressing concern for the government, as evidenced by the inclusion of East Nusa Tenggara in the top five provinces with the highest number of poor Indonesians in 2020. Notably, East Nusa Tenggara is the only province in the Eastern Region of Indonesia to be affected by this issue. According to the 2020 census, the region's population stood at 5,325,566 inhabitants, of whom 1,173,530 were living below the poverty line. The East Nusa Tenggara Provincial Government, in collaboration with the Indonesian Government, has identified the enhancement of population welfare as a pivotal priority. The progression of the number of impoverished individuals in East Nusa Tenggara and Indonesia can be observed in Figure 1.

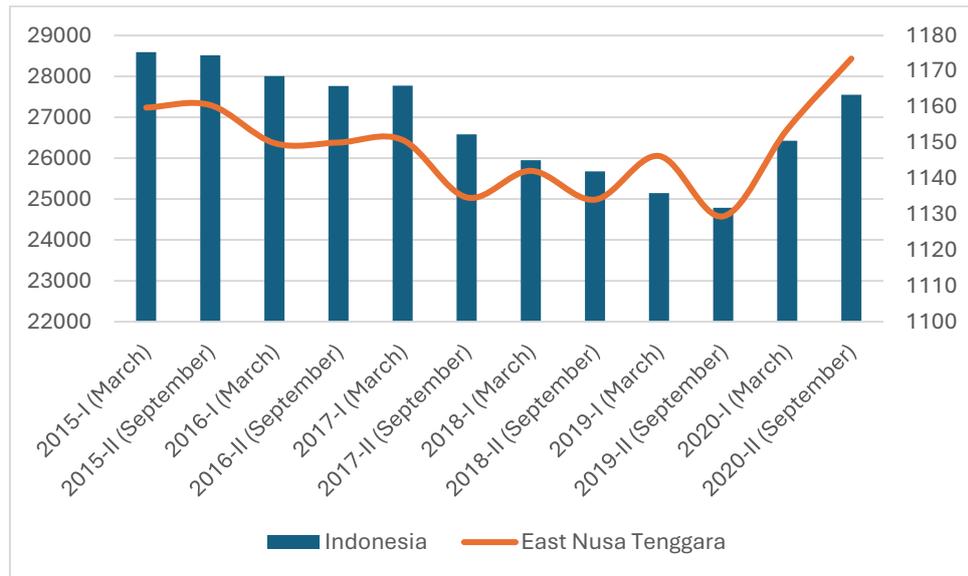


Figure 1. Number of poor people (thousand people)

Source: (Statistics Indonesia, 2021)

As demonstrated in Figure 1, the number of impoverished individuals in East Nusa Tenggara exhibits a trend analogous to that of Indonesia, characterized by a gradual decline until 2018 and a subsequent substantial increase from the second semester of 2019 to 2020. This increase can be attributed to several factors, including global economic uncertainty, the deepening of Indonesia's current account deficit, and the impact of the ongoing pandemic, which first reached Indonesia in March 2020. The rise in poverty can be linked to the decline in the fulfilment of basic needs, both food and non-food items, among the impoverished population.

The East Nusa Tenggara Provincial Government is comprised of 21 districts and one city. The following table (Table 1) presents data on the progress of the poor, life expectancy at birth, per capita expenditure, mean and expected years of schooling in East Nusa Tenggara during the 2015-2020 period.

Table 1. Poor people (%), life expectancy at birth (year), per capita expenditure (thousand Rupiahs), mean and expected years of schooling (year) in East Nusa Tenggara, 2015-2020

| Period | Poor People (%) | Life Expectancy at Birth (Year) | Per Capita Expenditure (Thousand Rupiahs) | Mean Years Schooling (Year) | Expected Years of Schooling (Year) |
|--------|-----------------|---------------------------------|---|-----------------------------|------------------------------------|
| 2015 | 22.61 | 65.96 | 7003.00 | 6.93 | 12.84 |
| 2016 | 22.19 | 66.04 | 7122.00 | 7.02 | 12.97 |
| 2017 | 21.85 | 66.07 | 7350.00 | 7.15 | 13.07 |
| 2018 | 21.35 | 66.38 | 7566.00 | 7.30 | 13.10 |
| 2019 | 21.09 | 66.85 | 7769.00 | 7.55 | 13.15 |
| 2020 | 20.90 | 67.01 | 7598.00 | 7.63 | 13.18 |

Source: (Statistics of Nusa Tenggara Timur Province, 2020, 2021b, 2021d, 2021c, 2021a)

As demonstrated in Table 1, the percentage of impoverished individuals exhibited a downward trend during the 2015-2020 period. Despite the ongoing decline in the impoverished population, a contrary trend was observed in East Nusa Tenggara, where the number of impoverished individuals increased from Semester II of 2019 to the end of 2020, as illustrated in Figure 1. The decrease in the percentage of poor people is inversely proportional to life expectancy at birth, mean and expected years of schooling, which has increased. The

increase in life expectancy at birth, mean and expected years of schooling reflects the better quality of human resources in East Nusa Tenggara. Conversely, the per capita expenditure of East Nusa Tenggara exhibited an upward trend from 2015 to 2019 and is projected to decline in 2020. This decline can be attributed to the impact of the Coronavirus pandemic on individuals' income levels, particularly those in the upper-middle income bracket, who are exhibiting a tendency to curtail their expenditure.

To reduce the number of impoverished individuals within a given region, it is imperative to engage in meticulous policymaking aimed at mitigating poverty. The pivotal solution to break free from the cycle of poverty lies in the concerted efforts of the Penta helix element, comprising academia, business, community, government, and media. By fostering collaboration, these entities can collectively enhance the well-being of economically disadvantaged individuals. By focusing on the factors that affect poverty in East Nusa Tenggara, appropriate policies can be formulated so that the number of poor people can continue to be suppressed to achieve the Sustainable Development Goals. This paper attempts to answer the poverty analysis in East Nusa Tenggara in 2015-2020 by using a panel data regression approach

METHODS

This study utilizes panel data, which is obtained from the internet and extant literature. The panel data employed in this study is quantitative in nature and has been obtained from the Statistics of Nusa Tenggara Timur Province and Statistics Indonesia. The data collected on an annual basis from 2015 to 2020 consists of 22 districts/cities in East Nusa Tenggara.

- a. Poverty in East Nusa Tenggara is approached by poor people, encompassing a total of 22 districts/cities, with the unit of measurement employed for this analysis is the percent, PVT.
- b. Life expectancy at birth in East Nusa Tenggara is defined as the average number of years that a newborn may well expect to live if she or he were to pass through life exposed to the sex- and age-specific death rates prevailing at the time of her or his birth, encompassing a total of 22 districts/cities, and the unit of measurement is the year, LEB.
- c. Per Capita Expenditure in East Nusa Tenggara is calculated by dividing the real costs incurred for the consumption of all household members for a month by the number of household members, with the calculation adjusted for Purchasing Power Parity, encompassing a total of 22 districts/cities. The unit of measurement is in thousand rupiahs, PCE.
- d. Mean Years Schooling in East Nusa Tenggara is the number of years used by the population in undergoing formal education, encompassing a total of 22 districts/cities, with the unit of measurement being the year, MYS.
- e. Expected Years of Schooling in East Nusa Tenggara is defined as the length of school that is expected to be felt by children at a certain age in the future, encompassing a total of 22 districts/cities, with the unit of measurement being the year, EYS.

To achieve the research objective, this study utilizes the Fixed Effect Model (FEM). The term "fixed effects" indicates that while the intercept may differ among the 22 districts/cities, it remains constant over time for each individual district/city – meaning it does not change with time. As outlined in equation (1), the FEM assumes that the slope coefficients of the explanatory variables are consistent across both districts/cities and time (Gujarati & Porter, 2009).

$$POVit = \varphi_1i + \varphi_2LEBit + \varphi_3PCEit + \varphi_4MYSit + \varphi_5EYSit + uit \quad (1)$$

$$i = 1, 2, \dots, 22$$

$$t = 1, 2, \dots, 6$$

The subscript i of the intercept indicates that the intercepts for 22 districts/cities are different. This difference may be attributed to the policy direction or philosophy of each district/city. It is evident that the intercept of each district/city is time-variant, as suggested by the parameterization of the form of the model, namely, ϕ_{1it} .

RESULT AND DISCUSSION

The Provincial Government of East Nusa Tenggara has set itself the target of reducing poverty levels in the mid-term regional development plan (RPJMD) of East Nusa Tenggara Province for 2018-2023. The objective of this focus on poverty reduction is to achieve a decrease in the poverty rate from 21.35% in 2018 to 12% in 2023.

As demonstrated in Table 2, a summary of FEM estimation, LEB and PCE are both significant at a 1 percent level of confidence, *ceteris paribus*. Conversely, EYS is significant at a 10 percent level of confidence, *ceteris paribus*. The influence of LEB, PCE, and EYS on PVT can be explained based on the findings presented in Table 3. An increase of one year in LEB results in a reduction of 0.569 percent in PVT, and vice versa. An increase in PCE by Rp1,000.00 results in a reduction of PVT by 0.001 percent, and vice versa; and an increase in EYS by a year leads to a reduction of PVT by 0.362 percent, and vice versa.

Table 2. Estimation results of FEM: the dependent variable is PVT.

| Variable | Coefficient | t-statistic |
|----------|-------------|-------------|
| LEB | -0.569 | -2.720* |
| PCE | -0.001 | -2.981* |
| MYS | -0.066 | -0.207 |
| EYS | -0.362 | -1.931*** |

Note: *) significant at 1%, **) significant at 5%, ***) significant at 10% level of confidence.

It is evident that all the variables, i.e. LEB, PCE, MYS, and EYS, demonstrate a negative correlation with poverty in East Nusa Tenggara, underscoring the significance of access to healthcare in enhancing life expectancy at birth in this region. However, it is crucial to note that access to healthcare is inherently vulnerable, with the potential to adversely impact life expectancy at birth. Conversely, the high rate of employment is expected to increase per capita expenditure in East Nusa Tenggara, thereby enhancing welfare and reducing the poverty level.

The limited educational facilities and infrastructure in East Nusa Tenggara, in addition to the prevailing levels of poverty, contribute to the challenges faced in accessing education. Not all individuals have equal access to adequate educational facilities and infrastructure. The condition of infrastructure, including internet and electrical networks, remains unsatisfactory.

Poverty is a problem that is feared by both developing and developed countries alike. It is a condition that prevents individuals from fulfilling basic needs, such as health, education, adequate housing and clothing. The effect of poverty is evident in the deterioration in quality of life, which hinders the development of superior human resources and leads to an increase in social problems, including disorder and criminality. Despite the numerous successful developments in terms of income and national production in developing countries, poverty remains a complex problem (Effendi et al., 2020).

The first Sustainable Development Goal (SDG) seeks to "eliminate poverty in all its forms everywhere." Today, poverty is increasingly understood as a multidimensional issue. The United Nations (UN) Multidimensional Poverty Index reflects various aspects of

deprivation that people may face, including in health, education, and living standards. A widely used multidimensional approach to poverty, proposed by the World Bank, is the 'attacking poverty' framework. This model highlights the interconnected roles of opportunity, security, and empowerment in promoting well-being. Despite the complexities of measuring these factors, the World Bank has introduced multidimensional poverty indices that align with several SDGs. These indicators include educational outcomes (SDG 4), access to clean water and sanitation (SDG 6), electricity (SDG 7), and income sufficient to meet basic needs (SDG 1). As a result, the SDGs reflect a comprehensive, multidimensional strategy for addressing poverty and promoting human development (Lawlor et al., 2019).

SDG 1 is based on the premise that poverty can be universally measured, commonly through a poverty headcount ratio relative to an international poverty line. The UN's objective is to bring this ratio to zero in all countries by 2030. However, differing priorities and definitions between economic, social, and environmental systems result in varying goals and indicators. Although simultaneous progress across all SDGs is theoretically possible, it's more likely that advancements in one area may hinder another. For example, recent gains in poverty alleviation might have compromised goals related to environmental sustainability or social equality, such as climate action or reducing inequality (Barbier & Burgess, 2017).

Like previous global development agendas, the 2030 Agenda reflects the prevailing geopolitical landscape. It expands the conversation around poverty and inequality and incorporates input from civil society into policy design, partly due to rising concerns over climate change and global conflicts. However, the agenda's main shortcoming is its hesitation to address imbalances of power – particularly the growing influence of the private sector in shaping global priorities. As a result, despite its ambitious goals, the eradication of poverty may remain out of reach even beyond 2030 (Koehler, 2017).

Before incorporating the SDGs into its national development agenda, Indonesia had already launched its own initiative under President Joko Widodo. Known as Nawa Cita, this program outlined nine core development priorities and was integrated into the 2015–2019 National Medium-Term Development Plan (RPJMN), which began on January 8, 2015. This demonstrates that Indonesia had its own strategic framework in place prior to adopting the SDGs. A comparative analysis of the RPJMN and the SDGs shows many areas of alignment, not only in technical aspects like goals and indicators but also in overarching objectives. Table 2 presents the extent to which these two frameworks converge (Rassanjani, 2018).

Table 3. Convergence of SDGs (2015-2030) and RPJMN (2015-2019)

| No. | RPJMN | SDGs |
|-----|--|--------------------------|
| 1. | Ensuring the country can protect the people and provide security to all citizens. (10 actions) | Goals 9-10, 13 and 16-17 |
| 2. | Establishing clean, efficient, democratic, and reliable governance. (5 actions) | Goals 5, 10 and 16-17 |
| 3. | Indonesia builds from the periphery to strengthen the localities and villages within the framework of a unitary state. (3 actions) | Goals 1-12 |
| 4. | Strengthening the country's presence by reforming the law enforcement system and ensuring it is corruption-free, dignified and reliable. (6 actions) | Goals 5, 10 and 14-16 |
| 5. | Improving the quality of human life and society in Indonesia. (5 actions) | Goals 1-4, 6, 8 and 10 |
| 6. | Improving productivity and competitiveness in the international market. (11 actions) | Goals 8-11 and 17 |
| 7. | Realizing economic independence by moving strategic sectors of the domestic economy. (9 actions) | Goals 2, 6-9 and 12-15 |

| No. | RPJMN | SDGs |
|-----|---|-----------------------|
| 8. | A revolution in national character. (1 action) | Goal 4 |
| 9. | Strengthening diversity and cultural restoration in Indonesia. (1 action) | Goals 5, 10 and 16-17 |

Source: (Rassanjani, 2018)

In addition to financial constraints, individuals from low-income backgrounds in developed economies frequently exhibit substandard literacy levels and exhibit school drop-out rates that are approximately 16% higher than the mean. They demonstrate higher birth rates among adolescents, experience a higher incidence of crime, and frequently originate from single-parent households. They face limited employment opportunities or are often underemployed in labor-intensive and frequently part-time roles that offer low compensation and no benefits. The prevalence of these issues is further compounded by a multitude of other factors, including but not limited to a dietary pattern characterized by insufficient nutrition, unaffordable healthcare, inadequate housing, and the presence of chronic medical conditions. These individuals frequently experience persistent fatigue, limited access to adequate transportation, and a short-term orientation driven by scarcity. Moreover, many of the economically disadvantaged find themselves isolated from significant segments of society and possess limited social networks (Morris & Tucker, 2020).

CONCLUSION

The present study utilized annual data from 22 districts/cities observed from 2015 to 2020 in East Nusa Tenggara, thereby empirically substantiating the hypothesis that the effect of life expectancy at birth, per capita expenditure, and expected years of schooling to poverty in East Nusa Tenggara is real. It is imperative that the government and policymakers acknowledge the availability of access to the variables.

It is imperative that improvements are made to life expectancy at birth, per capita expenditure, and expected years of schooling in East Nusa Tenggara. The following policy recommendations are made based on the empirical findings of our study:

- a. It is recommended that the Provincial Government of East Nusa Tenggara be encouraged to accelerate the development of facilities that will support life expectancy at birth in the region. Such facilities should include those that provide good hospital governance, livable homes, sanitation, and clean water.
- b. It is recommended that the Ministry of Energy and Mineral Resources of the Republic of Indonesia and Indonesia's primary electricity provider, PLN, expedite the electrification process in the province of East Nusa Tenggara.
- c. It is recommended that the Ministry of Investment and Downstream Industry of the Republic of Indonesia (BKPM) be encouraged to increase investment in the East Nusa Tenggara real sector with a view to improving the standard of living.
- d. It is recommended that the Provincial Government of East Nusa Tenggara instigate a program of training and mentoring for the community, including those experiencing financial hardship.
- e. It is recommended that the Ministry of Primary and Secondary Education and the Ministry of Higher Education, Science and Technology of the Republic of Indonesia be encouraged to increase international cooperation between educational institutions. Such cooperation may take the form of educational scholarships to world-ranked schools or universities, as well as the conducting of a scholarship program for underprivileged students and persons with disabilities at all levels of education in East Nusa Tenggara.

To produce more comprehensive research in the future, it is necessary to consider the limitations of the method and the data available in this study. One potential way to improve the data and variables is to extend the data coverage and consider other independent variables that are thought to affect poverty. These could include social and economic variables, such as unemployment, economic growth, inflation, etc.

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