The Socioeconomic Determinants of Poverty Dynamics in Indonesia

EKA NURJATI

Economic Research Center, National Research and Innovation Agency (BRIN), Indonesia
E-mail: eka.nurjati17@gmail.com

Abstract. The poverty rate is one of the indicators of national development. The poverty rate of Indonesia has not decreased in the period 2015-2020. It indicates that the existing policies that aim to alleviate poverty are not effective. The purpose of this study is to examine the socio-economic determinants that affect poverty levels and to formulate strategies to alleviate them. The study uses secondary data which is panel data and analyzes it using regression. The data is obtained from the Central Bureau Statistic. This research shows there are socioeconomic determinants that significantly affect the poverty level, i.e. the mean years of schooling (average number of completed years of education of a country's population aged more than 15 years old), the percentage of smokers, the formal employees, life expectancy at birth, and Gini ratio. The strategy formulation for alleviating poverty in Indonesia, i.e. enhancement of infrastructure development and sustainable development that takes into account economic, social, cultural and environmental aspects to create a better civilization ecosystem.

Keywords: education, health, economic

Introduction

The definition of poverty is referred to the inability of an individual or a household to fulfill basic needs (Jacobus *et al.,* 2018). Poverty is a phenomenon of lack of basic capacity to reach the food and clothing needs and it has limited access to schools, clinics, and sanitation such as clean water which is caused by insufficient money (Buheji *et al.,* 2020). By economic approach, poverty is viewed as an inability of the economic side to fulfill both food and non-food basic needs which are measured from the expenditure side. Meanwhile, the poor inhabitants are defined as the inhabitants who have an average income per capita below the poverty line (BPS, 2021). The research conducted by Rizky *et al.* (2019) shows the poverty is inherited from one generation to another. It means an individual who was born from a poor family will tend to live below the poverty line. Therefore, poverty alleviation should be prioritized in the economic developments,

both short and long term (Ardi & Isnayanti, 2019).

Although each country aspires to create the societies' welfare, the data of the World Bank Report (2008) shows about 1.4 billion people are living below the poverty line. Therefore, poverty is a crucial issue in establishing a country, specifically a developing country. Poverty does not just relate to the low-income level and the consumption level, but also the low education level, the low health level, the inability to participate in the developments, and many human development cases. Syahyuti (2006) explained the easiness of access to infrastructure, health, and education is the key to alleviating poverty.

The facts show Indonesia is also suffering poverty problems. Since the formulated and implemented efforts are proven ineffective or misdirected, there is a gap between the policy implementation and result (Fitria, 2017). This condition is proven
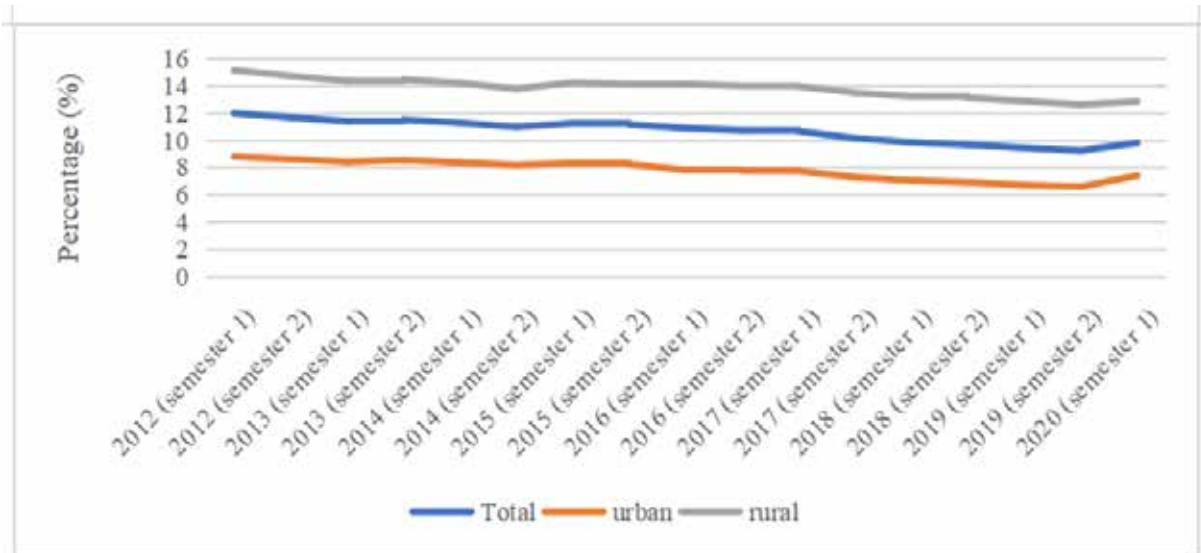
Figure 1. The poverty percentage in Indonesia from 2012 to 2020

by Central Bureau Statistics 2021 which shows the percentage of poverty tends not to decrease in the period from 2012 to 2020. The rural areas donate a higher poverty percentage than urban areas (Figure 1). Rosyadi (2017) explained the imbalance development between urban and rural areas that affect the decrease of job fields. It is proven that the massive poverty in rural areas is caused by low human development, i.e. low education level and motivation (Aziz, 2020).

The causes of poverty in rural and urban areas are different. The poverty in rural areas is higher than in urban areas due to, according to Awan *et al*. (2015), the high dependence on the climate to cultivate plants. In addition, both demographical factors, i.e. high population growth and large families; and socioeconomic factors, i.e. less of work opportunities, educations, health, caste systems, family systems, social customs, and debts, are the reason for the high poverty level in the rural areas. Different conditions have happened in urban areas. If we track it furthermore, poor urban inhabitants are classified as non-urban societies who are not absorbed in the urban areas.

Based on much evidence, alleviating poverty more comprehensively is needed to reach all lines of societies, from East Indonesia to West Indonesia, and from the urban areas to the rural areas. Yet, poverty is not just a matter of data and numbers, but it is also about how far an individual is able to achieve his or her basic needs. Accordingly, the social aspects have some essential roles

to calculate poverty. Therefore, this research analyzed the effect of social and economic factors on poverty in Indonesia. It needs the panel data to get a comprehensive view of poverty in 34 provinces in Indonesia in the period 2015 to 2020. Accurately, this research aims to analyze the effect of socioeconomic factors on the poverty level in Indonesia and to formulate strategies for alleviating the poverty in Indonesia.

Research Methodology

This research used secondary data, i.e. panel data which consisted of cross-sections from 34 provinces in Indonesia and time series in the period 2015 to 2020. The data used was the percentage of poverty, classified as the dependent and independent variables that cover social and economic aspects. The social aspects used in this research were the mean years of schooling (average number of completed years of education of a country's population aged more than 15 years old), the Gross Participation Rate [GPR] of University or APK PT, the percentage of smokers, the inhabitant numbers, and the life expectancy at birth. Meanwhile, the economic aspects consist of the percentage of the household which uses electricity from State Electricity Enterprise, the percentage of formal employees, GDRP, and Gini ratio. The data used in this research were taken from the Central Bureau of Statistics.

This research aims to analyze the effects of socioeconomic factors on poverty in Indonesia and formulate strategies for alleviating poverty according to the analysis
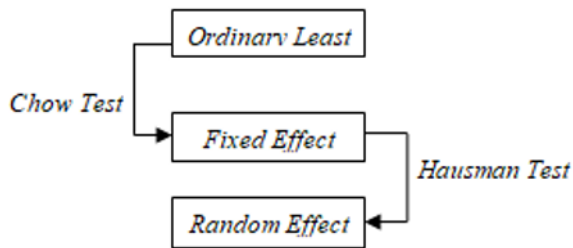
Figure 2. Method for selecting the best model of panel data regression

results and literature studies. For achieving the first aim, this research analyzed the panel data regression by STATA/SE 15.0 software.

This research utilized the panel data which was a combination of cross-section data with time-series data. There were three methods for estimating a panel data regression model, i.e. the Pooled Least Square or the Ordinary Least Square (OLS), the Fixed Effect (FE), and the Random Effect (RE) (Kuncoro, 2011). The best model selection among the Ordinary Least Square, the Fixed Effect, and the Random Effect was conducted by two technical estimation models. For selecting the best model of panel data regression, both tests are shown in Figure 2.

This Chow test aims to determine how a model is used; which one will be used: Ordinary Least Square or Fixed Effects by using these hypotheses:

H_0: the OLS Model

H_1: the FE Model

For determining whether to deny or accept the hypotheses above, the researcher conducted a comparison between the F-table and the F-statistic calculation. If the F-statistical value is higher than the F-table, then H_0 is rejected, which means the best model is the fixed effects model; and on the contrary, if the F-statistic is lower, then the best model is the OLS model.

F-statistic > F-table = H_0 is rejected

F-statistic < F-table = H_0 is accepted

The Hausman Test is a follow-up test for determining the panel data regression model. This test will be conducted when the result of the Chow Test is the Fixed Effect Model, which is a better model. Afterward, in the Hausman Test, the researcher will select the best model between the Fixed Effects and the Random Effects model. The Hausman Test uses some hypotheses as follows:

H_0: Random Effects Model

H_1: Fixed Effects Model

To deny or accept the hypotheses above, this Hausman Test follows the statistical distribution Chi-Square with the degree of freedom at number k, in which k is the independent variable number. If Hausman's statistical value is higher than its critical value, then H_0 is denied, and the best model is the Fixed Effect model. Meanwhile, if the Hausman statistical value is lower than its critical value, then the best model is the Random Effects model (Gujarati & Porter, 2012).

According to Ghozali (2001), this test aims to identify a correlation among independent variables in the regression model. There should be no correlation among independent variables in a good regression model. To detect multicollinearity in the regression model, the tolerance value or variance inflation factor (VIF) is evaluated.

The heteroscedasticity appears if the residual value of a model has no constant variance. It means each observation has different reliability because the background condition change is not represented in the model (Kuncoro, 2011). The autocorrelation appears because of the dependent residual between one observation to the other (Kuncoro, 2011).

For achieving the second aim of the research, i.e. to formulate the strategies for alleviating poverty, the researcher used the result of research, the discussion of socioeconomic aspect effects on the poverty level in Indonesia, and the literature studies. Afterward, the strategies for alleviating poverty in Indonesia for related stakeholders are formulated.

Results and Discussions
The Socioeconomic determinants

Table 1 shows the regression test result by the OLS method. In this model, the data is treated similarly, or the data ignores the difference of individual and time dimensions. The probability value is less than t-α %5, which means this model has the ability to explain the variance effect from the independent variables on the dependent variables significantly. The OLS test result shows the variables X_1, X_3, X_8, and X_9 do not affect significantly the poverty rate. Meanwhile, the variables which consist

Table 1
The Regression Test Analysis by the OLS Method

Independent variables	Coefficient	Standard error	T	P>|t|
The Mean Years of Schooling [MYS] of inhabitants aged more than 15 years old (X_1)	0,5911	0,6138	0,96	0,337
The Gross Participation Rate [GPR] of University or APK PT (X_2)	0,12	0,0395	3,03	0,003
The percentage of smoking (X_3)	0,1335	0,0941	1,42	0,157
The source of National Electricity Enterprise [PLN] (X_4)	-0,2327	0,0321	-7,25	0
The formal employees (X_5)	-0,178	0,0445	-4	0
The inhabitant numbers (X_6)	0,0001	0,00003	3,47	0,001
The life expectancy at birth (X_7)	-0,5735	0,154	-3,72	0
Gross Domestic Product [GDP] (X_8)	-0,071	0,0752	-0,94	0,347
Gini ratio (X_9)	8,3529	8,2138	1,02	0,31
Prob>F	0,0000			
R-squared	0,6083			

of X_2, X_4, X_5, X_6, and X_7 affect significantly the poverty rate. Variables X_4, X_5, and X_7 affect negatively, while the X_2 and X_6 affect positively to the poverty rate. The R-squared which value is 60.83% means the model explains the variances by 60.83% to the poverty rate.

After carried out the OLS test, the FE test was conducted to determine the best model. Table 2 shows the regression analysis result by FE method which assumes the intercept from each individual is different, while it is fixed among individuals. That analysis shows the X_1, X_2, X_4, and X_8 do not significantly affect the poverty rate, while the X_3, X_5, X_6, X_7, and X_9 significantly affect the poverty rate. The X_3, X_5, X_6, and X_7 negatively affect the poverty rate, while the X_9 positively affects the poverty rate. Because the probability value in the FE model is less than t-α, the FE model is better than the OLS model. Therefore, the Hausman test was conducted to determine the best model between FE and R.

Table 2
The Regression Test Analysis Result by the FE Method

Independent variables	Coefficient	Standard error	T	P>|t|
The Mean Years of Schooling [MYS] of inhabitants aged more than 15 years old (X_1)	-0,0812	0,6487	-0,13	0,901
The Gross Participation Rate [GPR] of University or APK PT (X_2)	0,001	0,0201	0,04	0,971
The percentage of smoking (X_3)	-0,0502	0,0247	-2,03	0,044
The source of National Electricity Enterprise [PLN] (X_4)	-0,0359	0,2347	-1,53	0,128
The formal employees (X_5)	-0,0907	0,0161	-5,64	0
The inhabitant numbers (X_6)	-0,0007	0,0002	-3,39	0,001
The life expectancy at birth (X_7)	-0,08516	0,3104	-2,74	0,007
Gross Domestic Product [GDP] (X_8)	0,0051	0,0127	0,4	0,687
Gini ratio (X_9)	4,9394	2,5854	1,91	0,058
Prob>F	0,0000			

Table 3
The Regression Test Analysis Result by the RE Method

Independent variables	Coefficient	Standard error	t	P>|t|
The Mean Years of Schooling [MYS] of inhabitants aged more than 15 years old (X_1)	-0,8382	0,4687	-1,79	0,074
The Gross Participation Rate [GPR] of University or APK PT (X_2)	0,0034	0,2005	0,17	0,865
The percentage of smoking (X_3)	-0,0649	0,0248	-2,61	0,009
The source of National Electricity Enterprise [PLN] (X_4)	-0,02036	0,02141	-0,95	0,342
The formal employees (X_5)	-0,0856	0,0162	-5,28	0
The inhabitant numbers (X_6)	-0,0005	0	-0,76	0,445
The life expectancy at birth (X_7)	-0,7805	0,2313	-3,37	0,001
Gross Domestic Product [GDP] (X_8)	0,0023	0,01308	0,17	0,861
Gini ratio (X_9)	5,9084	2,6275	2,25	0,025
Prob>F	0,0000			

Table 3 shows the regression result using Random Effect (RE) model which assumes each research object has a different intercept. That intercept is a random and stochastic variable. To get the best model between FE and RE, the p-value in the RE model is analyzed. By the Hausman Test which shows the p-value is higher than t-α percentage, the best model for this analysis is the RE model. Satria (2018) stated if the selected model is OLS or FE, it should be continued by the classical assumption test for identifying the autocorrelation and heteroscedasticity in the panel data. Yet, if the selected model is the RE model, then it is no need to conduct the classical assumption test because the researcher has used the GLS method.

Table 3 below shows the probability value in chi-square is 0.0000, which means the model is able to explain the variances significantly. According to the panel data regression result by using the RE model, the dominant determinants which affect the poverty rate are X_1, X_3, X_5, X_7, and X_9. Those variables affect the poverty rate significantly by the 95%-confidence interval. Based on the analysis result, the variables X_2, X_4, X_6, and X_8 do not affect significantly the poverty rate by the 95%-confidence interval.

According to the analysis result, it can be concluded that the poverty level in Indonesia is influenced by social aspects, i.e. education, the percentage of smokers, and the life expectancy at birth; and economic aspects, i.e. formal employee numbers and Gini ratio. If the mean years of schooling of inhabitants aged more than 15 years old increases by 10%, then the poverty level will decrease 8.38% by 90% confidence interval. This result is appropriate with the economic growth theory by Solow (1956) who stated the education is human resource development that holds an essential role, although the benefits are felt in the long-term. If the human resource quality is higher, then it will accelerate the productivity increase in the economic activities.

Similar results of the research are founded by Almas (2001), Sari & Indrajaya (2014), Awan et al. (2015), Sunusi et al. (2014), Wardhany (2017), and Ardi & Isnayanti (2019) which show the education sector influences significantly to the poverty level. Therefore, the investment in the education sector should be prioritized as the part of poverty alleviation program in Indonesia. The problem of poverty alleviation is the inhabitants' low motivation to continue the study. In addition, the education quality should be enhanced to achieve a skillful and competitive generation.

The results of this study indicate that an increase in the number of smokers will actually reduce poverty. This study is in line with research conducted by Moviyanti and Suparta (2016) which explains that increased income does not reduce cigarette consumption, but tends to increase cigarette consumption in Lampung Province.

Woyanti (2011) confirms that based on the consumption function, Keynes' theory shows that the increase in consumption expenditure is strongly influenced by the level of income. It indicates that a higher a person's real income will encourage that person to smoke more. It is known that government policies that increase the selling price and import duties of cigarettes do not significantly affect the demand for cigarettes, meaning that people living below the poverty line still consume cigarettes (Arisna and Gunawan 2016). In fact, spending on smoking is included in the list of daily expenses. This is because most people tend to smoke even though they skip meals. The government should issue a selling price policy and provide some training to increase public awareness of the dangers of smoking and to ensure that to the public.

The number of formal employees is proven effective to decrease the poverty level. If the number of formal workers increases by 10%, then the poverty level will decrease by 0.86% at 95% confidence interval. With the employment increase, many economic activities are able to produce income resources and increase the societies' welfare. Yet, the most essential factor in alleviating poverty is not the employee increase, but the technology development and human resources quality. Therefore, the employees should be prepared to be skillful and professional (Sunusi *et al.,* 2014; Fortunika *et al*., 2017).

The preparation of skillful employees should be followed by the preparation of entrepreneurs who are able to produce new employment fields for employees. This condition is expected to absorb unemployment. Since various policy schemes are directed to innovative entrepreneurship cultural development, they will support the national economy. Furthermore, entrepreneurship development should be directed to the use of local resources which have economic potential. Frinces (2010) and Satyarini (2016) stated that entrepreneurship is not just a tool, but it also significantly plays a role to develop the individual's and country's quality. It is evident that developed countries have many entrepreneurs. The entrepreneurship role in developing the national economy is evident by the growth of new business activities, the high passion of business competitiveness civilization, the growth of innovation and creativity, and the fulfillment of market needs.

Since the life expectancy at birth is one of the determinants that significantly decreases the poverty level, it includes one of the human development index indicators. Therefore, if the life expectancy at birth is higher, then the poverty level will be lower. Tjibtoherijanto (1999) stated the health will have a positive correlation with the productivity level of inhabitants and employees. That theory has been appropriate with this research result.

Astri et al. (2013) stated that the substance of national development is human development; it needs to prioritize the human resources' quality enhancement in the national development of policy strategy. Furthermore, Mubyarto (2000) and Todaro (1998) stated the human resource is a determinant for determining the social and economic velocity development of a country.

This research shows if the life expectancy at birth increases by 10%, then the poverty level will decrease by 7.8% at 95% confidence interval. This research is similar to the research by Dores & Jolianis (2014) which revealed that the health quality repair of inhabitants is able to increase the life expectancy at birth which finally impacts productivity increase. This condition is also impacting the societies' welfare repairment reflected in the decrease of poor inhabitant numbers.

Afterward, the variable which significantly affects the poverty decrease is the Gini ratio. The analysis result shows the Gini ratio positively affects the poverty level, which means if the income imbalance increases, then the poverty will increase by 59.08% at 95% confidence interval. This result is appropriate with the research by Wijayanto (2016) who proved there is a positive correlation between the income imbalance and the poverty level in the North Sulawesi Province. Furthermore, Alesina & Rodrik (1994) stated the income imbalance is one of the factors that cause the problem of humanity social aspects, i.e. famine, low health level, and bad nutrition. Todaro (2000) stated that the poverty alleviation strategy formulation should be finished comprehensively from upstream to downstream by considering various aspects.

The strategy formulation

Enhancing the welfare for all societies is an aspiration of each country which is always reflected on the yearly national

development agenda. For achieving that aim, an approach is needed through all lines of life to achieve sustainable development in all aspects, i.e. economic, social, environmental, cultural, and other aspects (Sriyadi, 2016). It is appropriate with the development theory stated by Emil Salim as the Indonesian Minister of Environment and Development Monitoring in the period 1978 to 1983, i.e. the sustainable development is an alteration process which inner consists of resources exploitation, direction, investment, technology development orientation, and institution alteration, where all aspects are in a balanced situation and they enhance the potential of current time and future for fulfilling the human's needs and aspiration (Alisjahbana & Murniningtyas, 2018).

The data of BPS (2021) shows that the poverty rate in Indonesia has not decreased significantly. This indicates that the formulation policies have not been effective. Therefore, some efforts and innovative strategies are needed to alleviate poverty in order to improve people's welfare.

Based on the analysis result and discussion, it needs some innovative solutions to enhance the societies' welfare. There are various factors that affect poverty significantly, i.e. social aspects consisting of education, health, and life expectancy at birth; and economic aspects consisting of the formal employee numbers and the Gini ratio. The education investment is a crucial factor that should be considered more by stakeholders. Because education produces human resources who are competitive and skillful, it creates economic independence which finally impacts positively on welfare. Azahari (2000) explained that to fasten Indonesia's progress by massive employee absorption, education should be developed not just to create skillful employees in a specific skill, but also to produce a generation who has an entrepreneurship passion. Currently, education is focused on the employees for absorbing the job fields. Therefore, entrepreneurship-based education is an innovative strategy for alleviating poverty. In addition, innovation-based education is a solution for developing education in higher quality.

According to the analysis result, the determinant which affects the poverty level is the social aspect which states the importance of human resources for achieving a sustainable development aim.

The human resources' quality is imperative in the national development because basically, a human is an actor who adapts to the life alteration. Since the BPS (2021) shows there is no significant increase in the growth of education dynamics in Indonesia, it becomes an essential task. Education is essential as the societies' base of behaving and determining a decision.

The enhancement of infrastructures' quality and quantity is an economic indicator of a country. One of the regional development indicators is the existence of electricity resources facilitated by the National Electricity Enterprise or PLN (*Perusahaan Listrik Negara*). If the number of the population who has access to electricity is higher, then it will reflect on better economic growth. The electricity access addition also fastens the dissemination of sciences and technologies because it means the societies are ready to face the era of development. Since most areas in Indonesia have not had sufficient electricity access yet, the electricity problem still becomes a big task for the government.

The BPS (2021) mentioned that most households in Papua and East Nusa Tenggara have not been facilitated electricity access yet by PLN. This condition indicates the infrastructure development has not been prevalent. Sukwika (2018) emphasized that the poverty gap in Indonesia is caused by the infrastructure gap between provinces. The development should not just focus on the economic indicator achievement aspects, but it should also focus on the sustainable developments which consider the environmental aspects.

Based on the analysis result, the other variable which affects the poverty level in Indonesia is the Gini ratio. The income imbalance problems do not just happen in Indonesia, but also in the developed countries, i.e. Hongkong, which also has a similar problem (Chan & Wong, 2020). The results of this study are in line with research conducted by Situmorang & Susanti (2020) which showed that the Gini ratio has a significant effect on the poverty severity index in Indonesia. The higher the poverty severity index, the higher the expenditure inequality. One of the solutions to income inequality for developing countries is development equalization in many sectors, such as infrastructure and human development. Nurcholis *et al.* (2016) stated the main

problems of a developing country such as Indonesia are the economic discrepancy, the income distribution imbalance, the poverty level, or the inhabitant numbers who live below the poverty line.

Since the BPS (2021) states there is no significant Gini ratio decreased in the period 2015 to 2020, it indicates the development equalization, both physics and human resources, have been just relished by a certain group, mainly the inhabitants living in the urban and remote areas. Syafrizal (2014) stated the development schemes in rural areas are different from urban areas. The developments in the rural areas have multidisciplinary scientific characteristics which cover some aspects, i.e. geographical, economic, social, cultural, political, governmental, and physical. Therefore, the regional development scheming arrangement needs a planning team who has some skills in related science, i.e. Planology, Engineering, Economy, Agricultural Science, Law, Public Administration, and Social Cultural. It is conducted to create sustainable development and finally, to achieve social justice for all Indonesian people.

According to that analysis result, the strategy formulation for alleviating poverty in Indonesia should not just focus on the economic aspects, but also social aspects which include a micro approach. As part of societies' welfare increase program, the national development policies should not just prioritize the physical developments, i.e. infrastructures, but also the human resources' quality enhancement. The equitable distribution of infrastructure between provinces in Indonesia should be conducted to minimize the economic disparities.

Therefore, the strategies for decreasing the poverty level in Indonesia are as follows: equitable distribution of infrastructure development between provinces in Indonesia; the human resources' quality enhancement by repairing the entrepreneurship-based education curricula; the education facility enhancement for societies; the school infrastructure enhancement; the human resources and physical developments based on sustainable aspects which prioritize economic, social, cultural, and environmental aspects; the research result dissemination acceleration, i.e. the sciences and technologies for societies; the infrastructure development accelerations, i.e. streets, bridges, electricity (PLN); and internet, mainly in the remote area.

Conclusions

According to the analysis result, the determinants of social and economic aspects which affect poverty are the mean year schooling of inhabitants aged more than 15 years old, the percentage of smoking, the life expectancy at birth, and the Gini ratio. Those five variables significantly affect the poverty level in Indonesia. As reflected on the analysis result, education decreases the poverty level, i.e. if the mean year schooling of inhabitants aged more than 15 years old is higher, then the poverty level will be lower. That conclusion is similar to the formal employee variable, i.e. if the formal employee numbers are higher, then the poverty level will be lower. Because the life expectancy at birth reflects the human development index, the life expectancy at birth also determines the poverty numbers, i.e. if the life expectancy at birth is higher, then the poverty level will be lower. The high imbalance of income between the societies affects the poverty level significantly. In this research, the percentage of inhabitants who smoke affects significantly the decrease of poverty level because the high selling price of cigarettes is affordable for all lines of society.

According to the analysis result and discussion, the strategies for decreasing the poverty level in Indonesia are as follows: the enhancement of infrastructure development; the human resources' quality enhancement by repairing the entrepreneurship-based education curricula; the education facility enhancement for societies; the school infrastructure enhancement; the human resources and physical developments based on the sustainable aspects which prioritize economic, social, cultural and environmental aspects; the research result dissemination acceleration, i.e. the sciences and technologies for societies; the infrastructure development acceleration, i.e. streets, bridges, electricity (PLN); and internet, mainly in the remote areas.

Acknowledgments

Hopefully, the paper will be one of the references to arrange the policy of poverty alleviation by stakeholders. Also, it will be useful for Indonesian people.

References

Alesina, A., & Rodrik, D. (1994). Distributive Politics and Economic Growth. Quarterly Journal of Economics, 109, 465–90.

Alisjahbana, A.S., & Murniningtyas, E. (2018). "Tujuan Pembangunan Berkelanjutan di Indonesia: Konsep, Target, dan Strategi Implementasi". Bandung: Unpad Press.

Almas, H. (2001). On the causality between GDP and health care expenditure in augmented Solow growth model. SSE/EFI Working Paper Series in Economics and Finance, No. 423, Stockholm School of Economics, The Economic Research Institute (EFI).

Ardi, N., & Isnayanti. (2019). Structural Equation Modelling-Partial Least Square to Determine the Correlation of Factors Affecting Poverty in Indonesian Provinces Proceedings: IOP Conference Series Materials Science and Engineering International Conference on Applied Sciences 240th ECS Meeting, 10-14 Oct, p.1-13.

Arisna, P., & Gunawan, E. (2016). Pengaruh Tarif Cukai Tembakau dan Pesan Bergambar Bahaya Rokok terhadap Konsumsi Rokok di Banda Aceh. *Jurnal Ekonomi dan Kebijakan Publik*, 3(2): 116-130.

Astri, M., Nikensari, S.II., & Kuncara, H. (2013). Pengaruh Pengeluaran Pemerintah Daerah pada Sektor Pendidikan dan Kesehatan terhadap Indeks Pembangunan Manusia di Indonesia. *Jurnal Pendidikan Ekonomi dan Bisnis*, 1(1): 77-102

Awan, A.G., Nadeem, N., & Sheikh, N. (2015). The Enigma of Wealth and Education as Determinant of Rural Poverty: A case study of Distric Rahim Yar Khan-Pakistan. *Journal of Literature, Language and Linguistics*, 12(2): 40-47.

Azahari, A. (2000). Pembangunan Sumberdaya Manusia dan Indeks Pembangunan Manusia Sektor Pertanian. *Jurnal Ekonomi dan Bisnis Indonesia*, 15(1):56-69.

Aziz, H.A. (2020). Analisis Penyebab Kemiskinan dan Tingkat Kemiskinan di Pedesaan [skripsi]. Institut Pertanian Bogor (IPB): Bogor (ID)

Badan Pusat Statistik [BPS]. (2021). Angka partisipasi kasar perguruan tinggi menurut provinsi. Jakarta (ID): BPS

Badan Pusat Statistik [BPS]. (2021). Data rata-rata penduduk berusia lebih dari 15 tahun yang melanjutkan sekolah. Jakarta (ID): BPS

Badan Pusat Statistik [BPS]. (2021). GDRP menurut provinsi. Jakarta (ID): BPS

Badan Pusat Statistik [BPS]. (2021). Gini ratio menurut provinsi. Jakarta (ID): BPS

Badan Pusat Statistik [BPS]. (2021). Jumlah penduduk menurut provinsi. Jakarta (ID): BPS

Badan Pusat Statistik [BPS]. (2021). Persentase penduduk yang merokok menurut provinsi. Jakarta (ID): BPS

Badan Pusat Statistik [BPS]. (2021). Persentase rumah tangga dengan sumber penerangan PLN menurut provinsi. Jakarta (ID): BPS

Badan Pusat Statistik [BPS]. (2021). Persentase tenaga kerja formal menurut provinsi. Jakarta (ID): BPS

Badan Pusat Statistik [BPS]. (2021). Tingkat Kedalaman Kemiskinan menurut Provinsi di Indonesia. Jakarta (ID): BPS

Badan Pusat Statistik [BPS]. (2021). Tingkat Keparahan Kemiskinan menurut Provinsi di Indonesia. Jakarta (ID): BPS

Badan Pusat Statistik [BPS]. (2021). Umur harapan hidup saat lahir menurut provinsi. Jakarta (ID): BPS

Buheji, M., Cunha, K.D.C., Beka, G., Mavric, B., Souza, Y.L.D.C, Silva, S.S.D.C., Hanafi, M., & Yein, T.C. (2020). The Extend of COVID-19 Pandemic Socio-Economic Impact on Global Poverty: A Global Integrative Multidisciplinary Review. *American Journal of Economics*, 10 (4): 213-224.

Chan, S.M., & Wong, H. (2020). Impact of Income, Deprivation, and Social Exclution on Subjective Poverty: A Structural Equation Model of Multidimensional Poverty in Hong Kong. *Social Indicators Research*, 152: 971-990.

Dores, E., & Jolianis. (2014). Pengaruh Angka Melek Huruf dan Angka Harapan Hidup terhadap Jumlah Penduduk Miskin di Propinsi Sumatera Barat. *Journal of Economic and Economic Education*, 2 (2): 126-133.

Fitria, F.R.A. (2017). Analisis Pengaruh Pertumbuhan Ekonomi, Indeks Pembangunan Manusia, dan Tingkat Pengangguran terhadap Tingkat Kemiskinan di Pulau Jawa Tahun 2011-2017 (Studi Kasus pada 118 Kabupaten/Kota). *Jurnal Ilmiah Mahasiswa FEB,* 7

(1): 1-14.

Fortunika, S.O., Istiyani, E., & Sriyadi. (2017). Kontribusi Sektor Pertanian terhadap Perekonomian Kabupaten Banjarnegara. *Agraris*, 3(2): 121-127.

Frinces, H. (2010). Pentingnya Profesi Wirausaha di Indonesia. *Jurnal Ekonomi dan Pendidikan,* 7 (1): 34-57.

Ghozali, I. (2001). "Aplikasi Analisis Multivariate dengan Program SPSS". Semarang : Badan Penerbit Universitas Diponegoro.

Gujarati, D.N., & Porter, D.C. (2012). "Dasar-Dasar Ekonometrika Buku 1, Edisi 5". Jakarta: Salemba Empat.

Jacobus, E.H., Kindangen, P., & Walewangko, E.N. (2018). Analisis Faktor-faktor yang Mempengaruhi Kemiskinan Rumah Tangga di Sulawesi Utara. *Jurnal Pembangunan Ekonomi dan Keungan Daerah*, 19 (3): 86-`103.

Kuncoro, M. (2011). "Metode Riset Untuk Bisnis & Ekonomi". Jakarta: PT Gelora Aksara Pratama.

Moviyanti, & Suparta, I.W. (2016). Analisis Konsumsi Rokok pada Rumah Tangga Miskin di Daerah Lampung Tahun 2011-2013. *Jurnal Ekonomi Pembangunan,* 5 (1): 1-28.

Mubyarto. (2000). "Membangun Sistem Ekonomi". Yogyakarta: BPFE-Yogyakarta,

Nurcholis, H., Kartono, D.T., & Aisyah, S. (2016). "Pembangunan masyarakat desa dan kota". Tangerang Selatan: Universitas Terbuka Press.

Rizky, M., Suryadarma, D., & Suryahadi, A. (2019). *Effect of Growing Up Poor on Labor Market Outcomes: Evidence from Indonesia.* Asian Development Bank Institute Working Paper Series.

Rosyadi, I. (2017). *Identifikasi Faktor Penyebab Kemiskinan di Pedesaan Dalam Persektif Struktural.* The 6th University Research Colloqium 2017. Universitas Muhammadiyah Magelang

Sari, R.P., & Indrajaya, I.G.B. (2014). Pengaruh Dana Perimbangan dan Pendapatan Asli Daerah terhadap Belanja Daerah Kabupaten Badung. *E-Jurnal EP Unud,* 3(9): 420-427.

Satria, D. (2018). Analisis Regresi: Model Data Panel. (http://www.diassatria.com/wp-content/uploads/2018/0   5/Modul-PanelData-Eviews.pdf) diunduh pada Jan 16th 2021.

Satyarini, T.B. (2016). Karakter Wirausaha pada Industri Mikro Pangan Olahan di DIY dan Faktor-faktor yang Mempengaruhi. *Agraris*, 2(1): 28-35.

Situmorang, M.H.S., & Susanti, Y. (2020). Pemodelan Indeks Keparahan Kemiskinan di Indonesia Menggunakan Analisis Regeresi Robust. *Indonesian Journal of Applied Statistics,* 3 (1): 51-63

Solow, R.M. (1956). A contribution to the Theory of Economic Growth. *The Quarterly Journal of Economics*, 70 (1): 65-94.

Sriyadi. (2016). Model Pengembangan Agrowisata Berbasis Kearifan Lokal (Studi Kasus di Desa Kebon Agung Kecamatan Imogiri Kabupaten Bantul DIY). *Agraris*, 2(2): 152-160.

Sukwika, T. (2018). Peran Pembangunan Infrastruktur terhadap Ketimpangan Ekonomi antarwilayah di Indonesia. *Jurnal Wilayah dan Lingkungan*, 6 (2): 115-130.

Sunusi, D.K., Kumenaung, A., & Rotinsulu, D. (2014). Analisis Pengaruh Jumlah Tenaga Kerja, Tingkat Pendidikan, Pengeluaran Pemerintah pada Pertumbuhan Ekonomi dan Dampaknya terhadap Kemiskinan di Sulawesi Utara tahun 2001-2010*. Jurnal Berkala Ilmiah Efisiensi*, 14 (2): 120-137.

Syafrizal. (2014). Perencanaan Pembangunan Daerah dalam Era Otonomi. Jakarta : Rajawali Press

Syahyuti. (2006). Konsep Penting dalam Pembangunan Pedesaan dan Pertanian, Penjelasan konsep, istilah, teori, dan indikator serta variable. Jakarta: Bina Rena Pariwara.

Tjibtoherijanto, P. (1999). Urbanisasi dan Pengembangan Kota di Indonesia. *Populasi*, 10(2): 57-72.

Todaro, M.P. (1998). Pembangunan Ekonomi di Dunia Ketiga. Jakarta: Erlangga.

Todaro. (2000). Pembangunan Ekonomi di dunia Ketiga. Jakarta: Penerbit Erlangga.

Wardhany, M. (2017). Unemployment and Poverty Determinants in Central Jawa. *Economics Development Analysis Journal,* 6 (3): 352-365.

Wijayanto, A.T. (2016). Analisis Keterkaitan Pertumbuhan Ekonomi, Ketimpangan Pendapatan dan Pengentasan Kemiskinan di Provinsi Sulawesi Utara Tahun 2000-2010. *Jurnal Berkala Ilmiah Efisiensi*, 16 (2): 418-428.

World Bank Report. (2008). Era Baru dalam Pengentasan Kemiskinan di Indonesia. Jakarta: The World Bank Office.

Woyanti, N. (2011). Pengaruh Kenaikan Tarif Cukai dan Fatwa Haram Mekokok terhadap Perilaku Konsumsi Rokok di Kota Semarang. *Media Ekonomi dan Manajamen*, 23(1): 91-101.