INTERNATIONAL JOURNAL OF SOCIAL HEALTH
https://ijsh.ph/index.php/rp
Volume 2 Number 11 November 2023 E-ISSN: 2984-7079

ANALYSIS OF THE ICT INDEX, GRDP PER CAPITA, AND GINI INDEX ON THE PERCENTAGE OF THE POOR POPULATION IN INDONESIA 2020-2022

Halilah Aufa[1], Sudarmo[2], Rutiana Wahyunengseh[3]
Universitas Sebelas Maret, Central Java, Indonesia
halilah@student.uns.ac.id

KEYWORDS	ABSTRACT
poverty, information technology, covid-19	The COVID-19 pandemic that occurred in the period 2020 to 2021 had a very significant impact on the Indonesian economy, including causing a slowdown in Indonesia's economic growth, which fell from 5.02% in 2019 to 2.97% in 2020 and an increase in the poverty rate in Indonesia from 9.41% in 2019 then increasing to 9.78% in 2020 and rising again to 10.14% in 2021. The Information and Communications Technology Development Index (IP-TIK), Gross Regional Domestic Per Capita, and the Gini Index in a region influence the poverty rate of the population in that region. In this research, the author wants to know how much influence these variables have on the percentage of poor people in Indonesia. This research uses panel data regression analysis for 2020, 2021, to 2022. Panel data was processed from 34 provinces in Indonesia in the 2020-2022 time period with the eviews 12 application. A series of model tests found that the Fixed Effect Model was the most suitable. The results of the research show that there is quite a significant influence of those variables on the percentage of poor people in Indonesia in 2020-2022. The results of this research can be a basis for the Government to continue to improve services to the community in terms of developing information and communication technology infrastructure and further reducing inequality in society.
DOI: 10.58860/ijsh.v2i11.125	

Corresponding Author: Halilah Aufa
E-mail: halilah@student.uns.ac.id

INTRODUCTION

The COVID-19 pandemic from 2020 to 2021 has changed the order of life and relationships between people (Birditt et al., 2021). This incident also significantly impacted the Indonesian economy, including causing a slowdown in Indonesia's economic growth, which fell from 5.02% in 2019 to 2.97% in 2020 (Puspitasari et al., 2023). There was a change in the global supply chain, a network between market players worldwide. Due to lockdowns and regional restrictions worldwide (Inoue et al., 2020). This resulted in a decrease in foreign investment in Indonesia. Economic activities in society have also been disrupted, including producing goods, distributing products, and marketing processes for goods and services worldwide. Indonesia's exports also decreased by around 2.6% in 2020 compared to the previous year (Widia et al., 2023).

According to (Pandey Pal, 2020), the COVID-19 pandemic has also caused internet use to increase sharply. Internet use during the pandemic increased because work activities changed to work from home (WFH), learning activities became online or distance education, shopping activities also changed to online shopping and online payments, industrial activities changed towards industrial digitalization, and treatment methods changed to telemedicine (Rachmawati, Choirunnisa, et al., 2021). We all have to adapt to a new life. For the Government, this is used as momentum to accelerate digital transformation.

This global outbreak makes digital transformation happen more quickly. It requires equal information communication technology (ICT) distribution in Indonesia (Rachmawati, Sari, et al., 2021). The Government also runs a digital infrastructure development program in 12,508 underdeveloped villages. The availability of infrastructure, accelerating the expansion of access, and improving digital infrastructure are some of the issues concerning the Government.

The COVID-19 pandemic that occurred at the beginning of 2020 has also prompted changes in communication procedures in communities worldwide (Tambo et al., 2021). CORONA VIRUS DISEASE 2019, abbreviated as COVID-19, is a virus that causes pneumonia or acute shortness of breath. This infectious and deadly disease outbreak first spread in Wuhan, China (Ouassou et al., 2020). In March 2020, the World Health Organization (WHO) stated that COVID-19 had spread widely and caused a global pandemic, so it was necessary to declare a global health emergency (Zanke et al., 2020). On April 13, 2020, the President of the Republic of Indonesia, Joko Widodo, also followed suit by enacting Presidential Decree Number 12 of 2020 concerning the designation of non-natural disasters as the spread of COVID-19 as a national disaster (Satriawan & Seviyana, 2021).

This national and even international health emergency has had a major impact on life in society, both socially and economically. Hence, changes need to be made in patterns of work, study, worship, and many other activities. This is also accompanied by the implementation of social and physical distancing to break the chain of the spread of COVID-19 (Nugroho et al., 2021). The COVID-19 pandemic has pressured the Government and society to innovate in all communication procedures and carry out all activities, including work. Physical distancing and social distancing implemented in social procedures encourage all parties to discover and follow developments in information technology to communicate and fulfil daily life needs (Dwivedi et al., 2020). From this perspective, it is expected that the penetration of information and communication technologies will contribute significantly to the fight against poverty and social exclusion, supporting, on the one hand, production and commercial exchange by providing monetary resources, access to employment, product redistribution and political access (participation) and social rights (health, education, culture, housing). On the other hand, it also avoids communication isolation by obtaining information that produces knowledge about existing policies. Thus, one of their basic needs, such as communication, is fulfilled.

Apart from economic growth and the problem of income inequality, since the industrial revolution in the world, changes in culture and people's way of life cannot be separated from technological developments. This has also become a discussion for many groups about the role of the technology industry in adding value to human life, both economically and socially. Then, what is the role of this technology in alleviating poverty?

Whether we realize it or not, we are now transitioning from the industrial era 4.0 to industry 5.0. The Industrial Revolution 5.0 started when Industry 4.0 was at its peak, and experts believe that the 4.0 era can be completed again. Industry 4.0, launched in 2011, is the modernization of business processes, especially in industry. This era also saw the introduction of many technologies that industry players are still adapting, such as artificial intelligence and IOT, to make their work easier. Then, in 2017, Japan became the first country to adopt the vision of Industrial Revolution 5.0 (Mourtzis et al., 2022) (Ghobakhloo, 2020).

One of the characteristics of the Industrial Revolution 5.0 is the application of advanced technology. This directly impacts social life, ultimately leading to "Society 5.0" or "Society 5.0". Era Society 5.0 is a societal concept that places humans at the centre of solving social problems by focusing on technology. Society 5.0 was inaugurated on January 21 2019, as a resolution for the

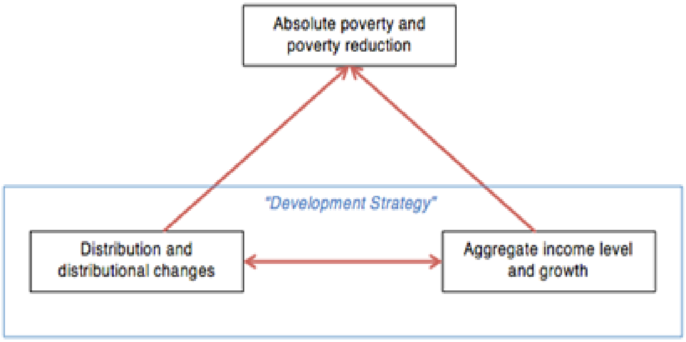
Industrial Revolution 4.0. This concept was first initiated in Japan, where people began interacting with new technology and integrating it into their lives (Gunawan et al., 2022).

Overall, the impact of society 5.0 is expected to provide benefits such as increasing productivity, quality, and production safety, creating new job opportunities and reducing negative environmental impacts. In Indonesia itself, whether Industrial Revolution 5.0 or Society 5.0 is still being debated whether we are in it or not.

According to the theory of technological determinism, which was first created by Thorstein Veblen (1857-1929) in 1920, technology is an independent entity so that technology develops itself which will ultimately have a new influence on society (Butler & Draper, n.d.). Based on the history of the emergence of technological determinism, the meaning of technological determinism is that each generation of humans will have its inventors who then create a technological work, which becomes the basis for human development in each subsequent era. This further clarifies the idea that there has been a close relationship between technological development and society for a long time until finally, it was called technological determinism.

Digital transformation is a program that the Government relies on to face the new normal way of life after the COVID-19 pandemic. The Government has rolled out policies to accelerate digital transformation (Yu et al., 2023), including the Electronic-Based Government System program initiated by the Ministry of PAN-RB. Meanwhile, the Director General of Information Applications at the Ministry of Communication and Information in 2020 will focus on accelerating national digital transformation within a comprehensive and sustainable human resource development framework in the digital sector, which prioritizes increasing digital literacy, meeting digital talent needs, and advancing digital skills for chief level. Another challenge in digital transformation is changing mindsets, creating innovative services, finding the right service model, and doing it at high speed (Volberda et al., 2021). All the efforts made by the Government are simultaneously to reduce the poverty rate due to the economic slowdown and widening income gap since the COVID-19 outbreak in early 2020 to 2021.

François Bourguignon, Senior Vice President and Chief Economist of the World Bank, 2003, a paper presented at a conference in Paris on November 13 2003, coined the Poverty Growth Inequality (PGI) Triangle model translated as the Poverty Triangle. The poverty triangle refers to the idea that changes in income growth and income inequality can completely determine changes in a country's poverty. According to the model, development strategies must also be based on income growth and inequality. In the Poverty-Growth-Inequality Triangle model, it can be explained that reducing poverty requires adopting policy strategies that can increase economic growth and national policies that can also reduce inequality. A development strategy that focuses on only one thing will reduce the opportunity to reduce absolute poverty levels. Based on this model, in the development process of poverty alleviation in a country, two approaches can be taken: encouraging economic growth or seeking a more even distribution of income (eliminating or reducing gaps/inequality). Economic growth can cause inequality and inequality so that there is a fairly close relationship between rising and falling levels, increasing and decreasing levels of economic growth, and income distribution.



Picture 1 Poverty-Growth-Inequality Triangle Model

The Poverty Growth Inequality Triangle Model explains that changes in inequality affect absolute poverty in two ways. First, changes in relative poverty affect absolute poverty. Second, changes in relative poverty change the elasticity of poverty growth. Redistribution of income means there will be poverty alleviation for certain levels of growth. Consequently, policies that only focus on growth with consideration of equality will result in adequate efforts to control poverty alleviation.

CT has the potential to help poor people to acquire literacy skills, marketable skills, and so on. According to (Widiastuti, 2014), the presence of information will enable someone to develop ideas, get new opportunities, and learn from others. Equal development will be effective only if carried out in tandem with equal distribution of information and communication. Meanwhile, according to Subhan and Mujer, government assistance programs for poor people, including capital assistance and assistance for basic needs, are often off-target due to limited information (Yusup et al., 2017).

The results of research (Rodríguez & Sánchez-Riofrío, 2017) and (Murolo, 2010) in the city of Bolivar and the city of Villa del Rosario, namely in cities on the border of Colombia and Venezuela, information and communication technology can bridge the digital divide, empower society and become a means of public policy for reducing poverty.

From this perspective, it is expected that the penetration of information and communication technologies will contribute significantly to the fight against poverty and social exclusion, supporting, on the one hand, production and commercial exchange by providing monetary resources, access to work on equal terms, redistribution of acquired products in both cities and political access (participation) and social rights (health, education, culture, housing).

This research wants to find the relationship between the influence of Information and Communication Technology development, economic growth, and economic inequality in the Indonesian region in 2020-2022, which is crucial for the COVID-19 pandemic. This period is a time of change in the way of communicating and interacting in society with the massive use of information and communication technology, so the author feels interested in researching the influence of information and communication technology while linking it to economic growth, income inequality, and poverty levels in Indonesia.

From this research, the public will understand the influence of information and communication technology as well as per capita income and inequality in income distribution and which variables have more influence so that this will become the basis for the public and Government to take follow-up action in the future.

METHOD

The research method uses quantitative methods. This research uses Eviews 12 using panel data regression analysis test tools. Data sources from data secunder by the Central Bureau of Statistics Republic Indonesia on the website and publication by time 2020,2021 and 2022. Data is collected by the Central Bureau of Statistics Republic Indonesia annually. The independent variable in this research is the percentage of poverty rate in 2020-2022, while the dependent variable, namely X_1, is Information and Communication Technology Index in 2020-2022, X_2 is Gini Ratio Picture/Index for 2020-2022, while X_3 is GRDP per capita in 2020-2022 and. time research is in 2020, 2021 and 2022 period.

RESULTS AND DISCUSSION

After entering the data, we must conduct a multicollinearity test to ensure no correlation between the independent variables. Meanwhile, the normality test may or may not be carried out for population data of more than 30. However, the author carried out a normality test on this data and found that the data was normally distributed. At the beginning of the process, we also have to form the data into three models, namely the common effect model, fixed effect model and random effect model. Then, we choose which model is most suitable through the Haussman, Chow, and Lagrange Multiplier Test.

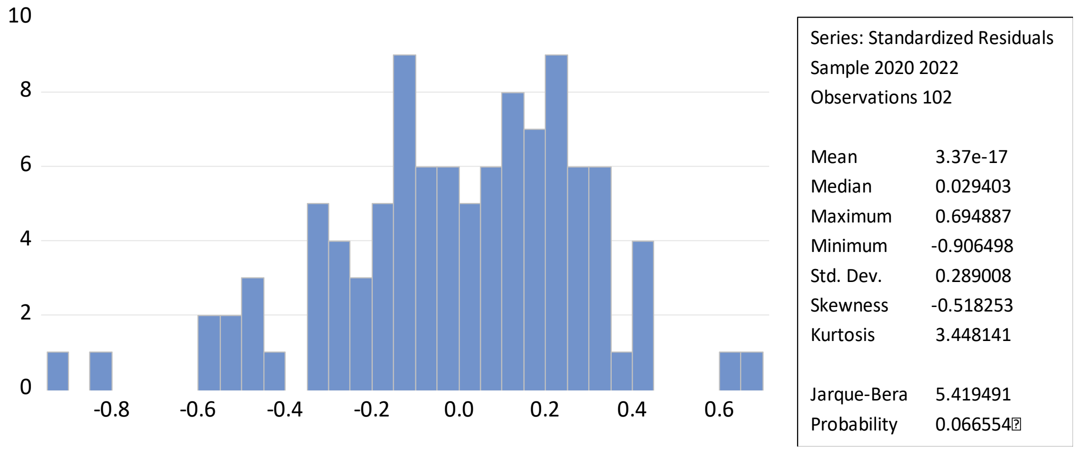
Multicollinearity Test Results

	X1	X2	X3
X1	1.000000	0.552415	0.161596
X2	0.552415	1.000000	0.062720
X3	0.161596	0.062720	1.000000

Picture 2 Multicollinearity Test Results

The multicollinearity test showed that all variables had values below 0.80, so they were free from multicollinearity.

Jarque Berra Test Results



Picture 3 Jarque Berra Test Results

In testing the data's normality, the Jarque Berra test results showed a P value of 0.06654, more than 0.05, so the data was normally distributed.

The results of the model formed before testing are as follows:

Table 1 Common Effect Model Results

Dependent Variable: Y
Method: Panel Least Squares
Date: 10/12/23 Time: 11:04
Sample: 2020 2022
Periods included: 3
Cross-sections included: 34
Total panel (balanced) observations: 102

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	22.25178	4.093288	5.436162	0.0000
X1	-5.194294	0.616609	-8.423970	0.0000
X2	5.43E-07	1.32E-05	0.041193	0.9672
X3	52.04008	8.738524	5.955248	0.0000

R-squared	0.551581	Mean dependent var	10.47745
Adjusted R-squared	0.537854	S.D. dependent var	5.314542
S.E. of regression	3.612897	Akaike info criterion	5.445323
Sum squared resid	1279.196	Schwarz criterion	5.548263
Log likelihood	-273.7115	Hannan-Quinn criter.	5.487007
F-statistic	40.18186	Durbin-Watson stat	0.146706
Prob(F-statistic)	0.000000		

In the common effect model, the results obtained are as above. Then, we continue with the results from the Fixed effect model.

Table 2 Fixed Effect Model Results

Dependent Variable: Y
Method: Panel Least Squares
Date: 10/12/23 Time: 11:06
Sample: 2020 2022
Periods included: 3
Cross-sections included: 34
Total panel (balanced) observations: 102

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3.364938	3.573997	0.941506	0.3499
X1	0.298450	0.299458	0.996636	0.3226
X2	-4.73E-05	2.43E-05	-1.944217	0.0562
X3	21.56369	7.589508	2.841250	0.0060

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.997043	Mean dependent var	10.47745
Adjusted R-squared	0.995405	S.D. dependent var	5.314542
S.E. of regression	0.360258	Akaike info criterion	1.070913
Sum squared resid	8.436090	Schwarz criterion	2.023109
Log likelihood	-17.61658	Hannan-Quinn criter.	1.456490
F-statistic	608.7466	Durbin-Watson stat	2.987209
Prob(F-statistic)	0.000000		

The following are the results of the Fixed Effect Model. We will test the results of the Fixed Effect Model and the Common Effect Model using the Chow Test to determine which model is the best.

Table 3 Random Effect Model Results

Dependent Variable: Y
Method: Panel EGLS (Cross-section random effects)
Date: 10/12/23 Time: 11:09
Sample: 2020 2022
Periods included: 3
Cross-sections included: 34
Total panel (balanced) observations: 102
Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	4.714989	3.206500	1.470447	0.1446
X1	0.063086	0.270004	0.233648	0.8157
X2	-4.93E-05	1.57E-05	-3.136690	0.0023
X3	21.82474	6.683770	3.265335	0.0015

Effects Specification

	S.D.	Rho
Cross-section random	3.614387	0.9902
Idiosyncratic random	0.360258	0.0098

Weighted Statistics

R-squared	0.168435	Mean dependent var	0.601944
Adjusted R-squared	0.142979	S.D. dependent var	0.438683
S.E. of regression	0.406113	Sum squared resid	16.16292
F-statistic	6.616712	Durbin-Watson stat	1.618072
Prob(F-statistic)	0.000406		

Unweighted Statistics

R-squared	0.192944	Mean dependent var	10.47745
Sum squared resid	2302.274	Durbin-Watson stat	0.011360

After obtaining the random effect model as above, we carry out the Hausman test to choose between the fixed effect model and the random effect model, which is most suitable. Meanwhile, the Lagrange Multiplier test determines the best between the Common Effect and Random Effect models. Test results with Eviews 12 are as follows:

Table 4 Chow Test Results

Redundant Fixed Effects Tests
Equation: Untitled
Test cross-section fixed effects

Effects Test	Statistic	d.f.	Prob.
Cross-section F	296.702908	(33,65)	0.0000
Cross-section Chi-square	512.189767	33	0.0000

Cross-section fixed effects test equation:
Dependent Variable: Y
Method: Panel Least Squares
Date: 10/12/23 Time: 11:19
Sample: 2020 2022
Periods included: 3
Cross-sections included: 34
Total panel (balanced) observations: 102

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	22.25178	4.093288	5.436162	0.0000
X1	-5.194294	0.616609	-8.423970	0.0000
X2	5.43E-07	1.32E-05	0.041193	0.9672
X3	52.04008	8.738524	5.955248	0.0000

R-squared	0.551581	Mean dependent var	10.47745
Adjusted R-squared	0.537854	S.D. dependent var	5.314542
S.E. of regression	3.612897	Akaike info criterion	5.445323
Sum squared resid	1279.196	Schwarz criterion	5.548263
Log likelihood	-273.7115	Hannan-Quinn criter.	5.487007
F-statistic	40.18186	Durbin-Watson stat	0.146706
Prob(F-statistic)	0.000000		

The way to interpret the Chow Test is if the value of Prob. Cross-section Chi-square < 0.05, we will choose fixed effects over common ones. Moreover, conversely, if the value is > 0.05, we will choose the common effect over the fixed effect. From the test results, the Probability value was obtained that Cross-section Chi-square < 0.05 then the Fixed Effect Model is better than the Common Effect Model on this data.

Table 5 Haussman Test Results

Correlated Random Effects - Hausman Test
Equation: Untitled
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	29.535132	3	0.0000

Cross-section random effects test comparisons:

Variable	Fixed	Random	Var(Diff.)	Prob.
X1	0.298450	0.063086	0.016773	0.0692
X2	-0.000047	-0.000049	0.000000	0.9130
X3	21.563692	21.824744	12.927851	0.9421

Cross-section random effects test equation:
Dependent Variable: Y
Method: Panel Least Squares
Date: 10/12/23 Time: 11:16
Sample: 2020 2022
Periods included: 3
Cross-sections included: 34
Total panel (balanced) observations: 102

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3.364938	3.573997	0.941506	0.3499
X1	0.298450	0.299458	0.996636	0.3226
X2	-4.73E-05	2.43E-05	-1.944217	0.0562
X3	21.56369	7.589508	2.841250	0.0060

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.997043	Mean dependent var	10.47745
Adjusted R-squared	0.995405	S.D. dependent var	5.314542
S.E. of regression	0.360258	Akaike info criterion	1.070913
Sum squared resid	8.436090	Schwarz criterion	2.023109
Log likelihood	-17.61658	Hannan-Quinn criter.	1.456490
F-statistic	608.7466	Durbin-Watson stat	2.987209
Prob(F-statistic)	0.000000		

From the Chow Test results, the F table was 0.0000 < 0.05, so it could be concluded that the Chow test results accepted H1 or the fixed effect model was better than the common effect model. Meanwhile, from the Haussman Test results, the random cross-section probability results were smaller than the 0.05 significance level (0.0000 < 0.05). So, the results of the Hausman test accept H1 or the fixed effect model is more appropriate to use in this research. Because the Chow and Haussman Test have been decided to use the Fixed Effect Model, we no longer carry out the Lagrange Multiplier Test.

The results of the Fixed Effect Model, which is the most suitable model, can be described as follows:

Table 6 Fixed Effect Model Results

Dependent Variable: Y
Method: Panel Least Squares
Date: 10/12/23 Time: 11:06
Sample: 2020 2022
Periods included: 3
Cross-sections included: 34
Total panel (balanced) observations: 102

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3.364938	3.573997	0.941506	0.3499
X1	0.298450	0.299458	0.996636	0.3226
X2	-4.73E-05	2.43E-05	-1.944217	0.0562
X3	21.56369	7.589508	2.841250	0.0060

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.997043	Mean dependent var	10.47745
Adjusted R-squared	0.995405	S.D. dependent var	5.314542
S.E. of regression	0.360258	Akaike info criterion	1.070913
Sum squared resid	8.436090	Schwarz criterion	2.023109
Log likelihood	-17.61658	Hannan-Quinn criter.	1.456490
F-statistic	608.7466	Durbin-Watson stat	2.987209
Prob(F-statistic)	0.000000		

It can be concluded that the Information and Communication Technology Development Index partially has no significant effect because the probability value of 0.3226 is greater than the t-table value of 0.05, for the Gini Ratio Index, which has no significant effect with a probability value of 0.0562 which is greater from the t-table 0.05. Meanwhile, the GRDP per Capita variable (2020-2022) has a significant effect with a probability value of 0.0060, smaller than the t-table of 0.05. Meanwhile, simultaneously or together, these three variables significantly affect the value of variable Y (Percentage of Poor Population 2020-2022) because the probability value of 0.0000 is smaller than the F table of 0.05. So H1 is proven that the Information and Communication Technology Development Index (IP-TIK), Gross Regional Domestic Product Per Capita (GRDP Per Capita), and the Gini Index ***significant***ly affect Indonesia's Percentage of the Poor Population in 2020-2022.

Panel Data Regression Results according to the Fixed Effect Model (FEM):

Yit = α+β1X1it+β2X2it+..+βpXpit+εit

Yit = α+β1X1it+β2X2it+..+βpXpit+μi ++νit

i=1,2,…,N; t=1,2,..,T; with μi being fixed, then

Yit = (α+ μi)+β1X1it+β2X2it+..+βpXpit+νit

Yit = αi +β1X1it+β2X2it+..+βpXpit+νit

Information:

a) There is a correlation between μi and the regressor (X), so E(μi|X)≠0, E(vi|X)≠0, εit=μi+vit
b) μi is the residual cross-section or unobservable individual-specific effect for the ^{first} individual and is constant over time.
c) Differences between individuals can be accommodated through differences in "intercept".

The panel data regression equation formed can be formulated as follows:

$Y = (3.365+ \mu i)+ 0.298X_1 - 4.73X_2 + 21.564X_3$

For value, μi or considerations obtained from the Eviews results for each province in this Fixed Effect Model are as follows:

No	PROVINSI	Effect	No	PROVINSI	Effect
1	Aceh	4.326771	18	West Nusa Tenggara	1.649018
2	North Sumatra	-1.351360	19	East Nusa Tenggara	9.033633
3	West Sumatra	-3.847102	20	West Kalimantan	-3.550295
4	Riau	-1.535911	21	Central Kalimantan	-5.094016
5	Jambi	-2.125615	22	South Kalimantan	-6.054619
6	South Sumatra	1.939584	23	East Kalimantan	-0.039631
7	Bengkulu	4.037809	24	North Kalimantan	-0.174862
8	Lampung	1.605879	25	North Sulawesi	-3.772593
9	Kep. Bangka Belitung	-4.030478	26	Central Sulawesi	3.288446
10	Kep. Riau	-2.498404	27	South Sulawesi	-2.804371
11	DKI Jakarta	-1.514784	28	Southeast Sulawesi	-0.440842
12	West Java	-4.411082	29	Gorontalo	2.706763
13	Central Java	-0.364176	30	West Sulawesi	-0.310762
14	In Yogyakarta	-1.432430	31	Maluku	6.136707
15	East Java	-0.147309	32	North Maluku	-3.239611
16	Banten	-4.979597	33	West Papua	10.95952
17	Bali	-7.400593	34	Papua	15.43631

Table 7 Results of Cross-Section Effects

This μi is the weighting value for each province in the panel data equation. So, an intercept value varies between cross-section units but is constant, assuming that the slope coefficient is constant between cross-section units. The presence of index μi in the equation's intercept indicates that the unit cross-section's intercept differs. These differences are due to the special features of each cross-section unit. In estimation, this equation is carried out using dummy variable techniques so that a new equation is created by entering the value of each intercept.

CONCLUSION

The results of this research show that the Information and Communication Technology Development Index (IP-TIK), Gross Regional Domestic Product Per Capita (GRDP Per Capita), and the Gini Index have a significant effect on the percentage of the Poor Population in Indonesia in 2020-2022 simultaneously. This can be a basis for the Government in the future to continue to pay attention to and prioritize the improvement and distribution of infrastructure and services to ensure the availability and continuity of technology, information, and communication facilities for the Indonesian population. However, in the meantime, the Government must continue to pay attention to aspects of economic growth and income distribution for all Indonesian people so that the growth of poverty rates in Indonesia can be reduced. A balance must always be maintained between economic growth and per capita income in society so that inequality is not too far.

REFERENCES

Birditt, K. S., Turkelson, A., Fingerman, K. L., Polenick, C. A., & Oya, A. (2021). Age differences in stress, life changes, and social ties during the COVID-19 pandemic: Implications for psychological well-being. The Gerontologist, 61(2), 205–216.

Butler, R. P., & Draper, D. (n.d.). ATINER's Conference Paper Series EDU2012-0042.

Dwivedi, Y. K., Hughes, D. L., Coombs, C., Constantiou, I., Duan, Y., Edwards, J. S., Gupta, B., Lal, B., Misra, S., & Prashant, P. (2020). Impact of COVID-19 pandemic on information management research and practice: Transforming education, work and life. International Journal of Information Management, 55, 102211.

Ghobakhloo, M. (2020). Industry 4.0, digitization, and opportunities for sustainability. Journal of Cleaner Production, 252, 119869.

Gunawan, A., Thamrin, S., Kuntjoro, Y. D., & Idris, A. M. (2022). Backpropagation Neural Network (BPNN) Algorithm for Predicting Wind Speed Patterns in East Nusa Tenggara. Trends in Renewable Energy, 8(2), 107–118.

Inoue, H., Murase, Y., & Todo, Y. (2020). The impact of supply-chain networks on interactions between the anti-COVID-19 lockdowns in different regions. Covid Economics, 56, 157–194.

Mourtzis, D., Angelopoulos, J., & Panopoulos, N. (2022). A Literature Review of the Challenges and Opportunities of the Transition from Industry 4.0 to Society 5.0. Energies, 15(17), 6276.

Murolo, N. (2010). Políticas públicas para la inclusión a la sociedad de la información. Congreso Iberoamericano de Educación.

Nugroho, E., Ningrum, D. N. A., Kinanti, A., Listianingrum, D., Adeliani, M., Ulfah, N., & Yuswantoro, R. N. (2021). Urban Community Perceptions and Experiences about Social Distancing During the Covid-19 Pandemic. KEMAS: Jurnal Kesehatan Masyarakat, 17(1), 139–144.

Ouassou, H., Kharchoufa, L., Bouhrim, M., Daoudi, N. E., Imtara, H., Bencheikh, N., ELbouzidi, A., & Bnouham, M. (2020). The Pathogenesis of coronavirus disease 2019 (COVID-19): evaluation and prevention. Journal of Immunology Research, 2020.

Pandey, N., & Pal, A. (2020). Impact of digital surge during Covid-19 pandemic: A viewpoint on research and practice. International Journal of Information Management, 55, 102171.

Puspitasari, R. D., Nur, I., & Ilmas, D. N. A. N. (2023). Business Resilience and Creative Economy Post COVID-19: Re-energizing MSMEs through Islamic Economy in the Perspective of Maqāṣid Sharī'ah. European Journal of Business and Management Research, 8(4), 267–275.

Rachmawati, R., Choirunnisa, U., Pambagyo, Z. A., Syarafina, Y. A., & Ghiffari, R. A. (2021). Work from Home and the Use of ICT during the COVID-19 Pandemic in Indonesia and Its Impact on Cities in the Future. Sustainability, 13(12), 6760.

Rachmawati, R., Sari, A. D., Sukawan, H. A. R., Widhyastana, I. M. A., & Ghiffari, R. A. (2021). The use of ICT-based applications to support the implementation of smart cities during the COVID-19 pandemic in Indonesia. Infrastructures, 6(9), 119.

Rodríguez, J. G., & Sánchez-Riofrío, A. (2017). ICTs and poverty in Latin America. Íconos-Revista de Ciencias Sociales, 57, 141–160.

Satriawan, I., & Seviyana, D. (2021). Powers and Limits of State during COVID-19 Pandemic: a Critical Appraisal. Yuridika, 36(3), 663–692.

Tambo, E., Djuikoue, I. C., Tazemda, G. K., Fotsing, M. F., & Zhou, X.-N. (2021). Early stage risk communication and community engagement (RCCE) strategies and measures against the coronavirus disease 2019 (COVID-19) pandemic crisis. Global Health Journal, 5(1), 44–50.

Volberda, H. W., Khanagha, S., Baden-Fuller, C., Mihalache, O. R., & Birkinshaw, J. (2021). Strategizing in a digital world: Overcoming cognitive barriers, reconfiguring routines and introducing new organizational forms. Long Range Planning, 54(5), 102110.

Widia, A., Muttaqin, R., & Saputera, D. (2023). Marketing Strategy for Cibaduyut SME'S Craftsmen Post Covid 19 Pandemics. International Journal of Economics (IJEC), 2(2), 423–430.

Widiastuti, T. (2014). Kemiskinan struktural informasi. Jurnal Ilmu Komunikasi, 8(3), 314–329.

Yu, P., Zhang, Y., Sampat, M., & Chen, Y. (2023). Research on Cross-Industry Digital

Transformation Under the New Normal: A Case Study of China. In Corporate Sustainability as a Tool for Improving Economic, Social, and Environmental Performance (pp. 246–277). IGI Global.

Yusup, P. M., Khadijah, U. L. S., Kurniasih, N., & Kuswarno, E. (2017). Desa Tani, Penduduk Miskin, Lumbung Padi, dan Layanan Implementatif Perpustakaan Desa di Kecamatan Pamarican Kabupaten Ciamis. Berkala Ilmu Perpustakaan Dan Informasi, 13(2), 191–204.

Zanke, A. A., Thenge, R. R., & Adhao, V. S. (2020). COVID-19: A pandemic declare by world health organization. IP International Journal of Comprehensive and Advanced Pharmacology, 5(2), 49–57.

© 2023 by the authors. It was submitted for possible open-access publication under the terms and conditions of the Creative Commons Attribution (CC BY SA) license (https://creativecommons.org/licenses/by-sa/4.0/).