Journal of Governance and Accountability Studies (JGAS)
ISSN 2774-6739, Vol 4, No 1, 2024, 31-41 https://doi.org/10.35912/jgas.v4i1.1981

Government size and digital inequality in Indonesia

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Article History
Received on 20 February 2024
1st Revision on 1 March 2024
2nd Revision on 20 June 2024
3rd Revision on 3 June 2024
Accepted on 7 June 2024

Abstract
Purpose: This study analyzed the impact of government size in the field of infrastructure on digital inequality in Indonesia.
Method: This study uses panel data analysis with the CEM, FEM, and REM approaches using research samples from the Central Bureau of Statistics, Ministry of Finance, and International Telecommunication Union in Indonesia.
Results: The results of this study indicate that government-sized infrastructure has a negative and significant effect on the ICT Index, while the square government-sized infrastructure/infrastructure expenditure optimization effect has a positive and significant impact on the ICT Index, and the implementation of the infrastructure budget supports digital equity; therefore, it is necessary to have an equal distribution of infrastructure in all corners in order to proportionally increase the allocation of the infrastructure budget. This means that the size of the government is still too small to equalize the increase in the ICT development index. Based on the government size threshold, the average for each province in Indonesia reached 68 percent.
Limitations: This study was limited to the national level of each region in Indonesia.
Contributions: This study aims to serve as a reference for government considerations in strategic policies related to infrastructure spending and issues of the technology change strategy.
Keywords: *Government Infrastructure, GDP, Digital Inequality*
How to Cite: Yulianita, A., Subardin, S., & Zulfikri, Z. (2024). Government size and digital inequality in Indonesia. *Journal of Governance and Accountability Studies*, 4(1), 31-41.

1. Introduction

Digital technology advancements have enormous potential to improve human well-being, increase economic development and productivity, and create new and better employment to replace outdated ones. Regretfully, institutions and policies have been sluggish in adapting to new difficulties posed by the digital economy. Digitalization in Indonesia is characterized by rising internet usage among Indonesians. In January 2020, there were 175.4 million internet users in Indonesia; from 2019 to 2020, there was a 25 million growth in the number of Internet users in Indonesia (Global Digital, 2020).

In the last five years, Indonesia's information and communication technology (ICT) has developed rapidly. The development of several indicators for the use of ICT in Indonesia shows the most rapid development of ICT indicators in household use of the Internet, reaching 78.18 percent. The growth followed the growth in Internet usage in households among the population using cellular phones in 2020, reaching 62.84 percent. Computer ownership in households in 2020 is expected to increase to 18.83 percent. The population using the Internet also increased during the 2016–2020 period, as shown by the increase in the percentage of Internet access in 2016, from around 25.37 percent in 2016 to 53.73 percent in 2020. The household ownership of fixed wireline telephones has decreased. From year to year, in 2016, the percentage of households owning or operating wired telephones was around 3.49 percent, dropping to 1.65 percent in 2020 (BPS, 2021).

Regarding Internet subscription activity, the number of *active mobile broadband* subscribers per 100 residents has increased from 2020 to 104.00. The number of fixed broadband subscribers per 100 residents has also increased in 2020, to 3.96. The increase in the number of Internet subscribers, both *mobile broadband* and *fixed broadband*, shows the phenomenon of increasing Internet use in society during the COVID-19 pandemic to support online activities. Meanwhile, the number of fixed telephone subscribers has declined. In 2020, there will be three–four fixed-line subscribers per 100 residents. The development of internet penetration in Indonesia has also continued to experience a positive trend, from 25.37 percent in 2016 to 53.73 percent in 2020. This increase in Internet penetration has been further driven by the COVID-19 pandemic, which has changed people's behavior to reduce physical contact with other people but still requires them to carry out daily activities online through various digital platforms (BPS, 2021).

The rapid development of technology in Indonesia has become an interesting phenomenon in this decade; however, this condition has become a dilemma because there is no infrastructure support where Indonesia cannot face technological progress, which has become a dilemma of increasing or slowing down where these technological changes have not been supported by proper digitalization infrastructure (Lutz, 2019). This has led to inclusive technological growth, resulting in a widening digital divide. They calculated digital inequality based on the Information and Communication Technology Development Index (DI-ICT) developed by the International Telecommunication Union (ITU) under the ICT Development Index (ICT DI). DI-ICT is very important as a standard measure of the level of ICT development in a region that can be compared between time periods and regions (Hargittai & Hinnant, 2008). In addition, DI-ICT can also measure the growth of ICT development, digital gaps between regions, and the potential for ICT development (Indonesian Central Bureau of Statistics, 2020). The technological gap in Indonesia is relatively large compared to other countries in the world. They ranked Indonesia 72nd among the 110 countries. Figure 1. Development of government spending on infrastructure in Indonesia in 2016–2020.

Despite experiencing improvements, infrastructure support remains a problem because it has not been supported by adequate technological infrastructure. One example of beneficial Internet use is related to e-government as the use of technology to improve access to and provision of government services that benefit citizens (Silcock, 2001). So the increase in technological infrastructure is inseparable from the allocation of government funds specifically for government spending on infrastructure infrastructure

The Indonesian government should concentrate its efforts on a few areas in the upcoming years to address various issues and enhance the welfare of its people.

1) Infrastructure Development: By continuing to invest in energy, digital, and transportation networks, the archipelago may become more connected and experience economic growth.
2) Education Reform: Improving the standard of education and making it more accessible, particularly in isolated and underprivileged areas, can contribute to the creation of a skilled labor force and the reduction of inequality.
3) Stronger steps to safeguard the environment, stop deforestation, and encourage sustainable activities are essential, given Indonesia's rich biodiversity and susceptibility to climate change.
4) Healthcare Access: Investing in public health infrastructure and enhancing access to healthcare services, especially in rural regions, can boost the system's overall resilience and assist in resolving health inequities.
5) Eradication of Corruption: In accountable and transparent government that can draw on investment and advance economic growth, measures to eliminate corruption and enhance governance are crucial.
6) Economic Diversification: Increasing economic diversity outside natural resources can help lessen reliance on commodities and foster inclusive, resilient growth in the economy.
7) Digital Economy Promotion: New avenues for innovation, entrepreneurship, and job creation can be opened by promoting the expansion of the digital economy through infrastructure development, supportive legislation, and digital literacy initiatives.

8) Social Welfare Programs: Improving the effectiveness of social welfare initiatives can help reduce poverty and enhance the well-being of disadvantaged groups. Examples of such initiatives include targeted subsidies and cash transfer programs.

Based on the figure above, government spending on infrastructure during the 2016-2020 period experienced fluctuating movements, but overall, it experienced an increase in infrastructure expenditure of IDR 463 trillion, with the lowest being in 2017, which amounted to IDR 406 trillion. This increase was due to the government's priority to focus on improving the infrastructure in every region of Indonesia. This infrastructure improvement has not yet focused on improving the technology. Overall, the government prioritized infrastructure in the transportation sector.

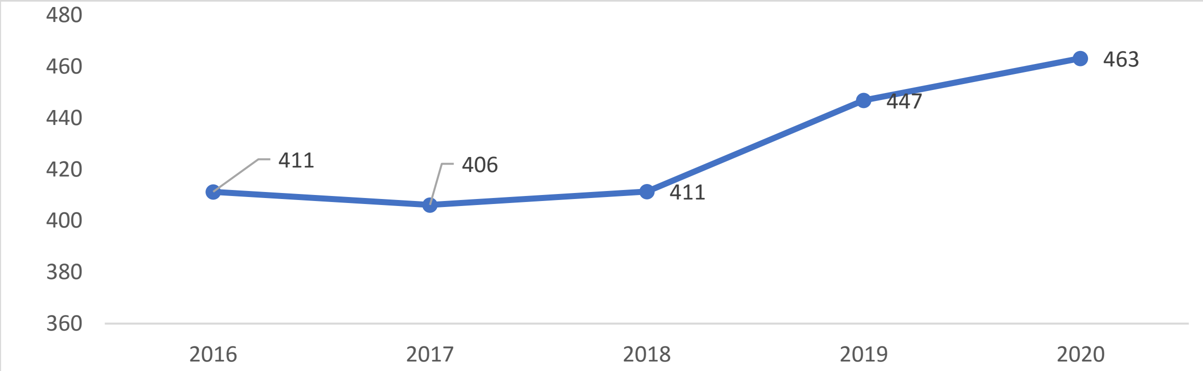

Figure 1. The development of government spending on infrastructure in Indonesia in 2016-2020

Based on various previous studies related to the relationship between government size in infrastructure and digital tensions reviewed by the latest study researched by Islam and Inan (2021), which found that there was a positive and significant relationship to the decline in digital interest, Leguina and Downey (2021) found that infrastructure improvements will reduce digital inequality in low-income countries. De Marco (2021) finds the importance of educational and online resources, as well as higher levels of digital skills, in increasing the possibilities for using the Internet for analysis with public administrations and government agencies. Ebbers, Jansen, and van Deursen (2016) found that digital skills do not predict or relate to satisfaction levels. The more digitally skilled citizens are, the more satisfied they are with the online services. Digital skills have become less relevant. This may mean that, in the long run, many citizens will continue to use e-government.

Based on the arguments above, this study related to government size and digital inequality at the national level shows that each region has different characteristics that require development policies. Thus, by looking to hide the factors that influence the relationship between government infrastructure, gross domestic product, and digital inequality, the results are expected to assist the government and related parties in making policies and creating improvements in developing ICTs, and are also expected to be a reference for government considerations in strategic policies relating to infrastructure spending and issues of the technology change strategy.

2. Literature review

2.1 Government Size

A government's scope and scale of operations are referred to as its size, and they can be quantified in several ways. The following are some typical measures for determining the size of a government:

1) The total amount of money that a government spends on commodities, services, infrastructure, social programs, etc. is referred to as government expenditure or government spending. The percentage of Gross Domestic Product (GDP) is frequently used to express this. Generally, larger governments spend more money.

2) Government Employment: This indicates the total number of individuals who work directly for the government, including public sector workers, military personnel, and civil servants. A larger government size is typically indicated by a higher number of personnel.
3) The amount of rules that the government imposes on both persons and corporations is known as the "burden of regulations." More rules from a larger government may impact several facets of social and economic life.
4) Taxes: The amount of taxes levied by the government can be used to calculate their size. A higher tax rate is typically associated with increased government participation in both the economy and society.
5) Public Ownership: Another indicator of government size is the degree to which the government owns or controls businesses and assets in the economy. Greater government participation in an economy is typically indicated by the number of state-owned businesses.

2.2 Wagner Law

The general definition of Wagner's law shows that industrialization, urbanization, and increasing population density will lead to an increase in public spending as a share of GDP because of the increasing need for public facilities such as housing, hospitals, and other infrastructure (Buracom, 2016). The public expenditure growth model introduced by Wagner (1958) offers three reasons to support this hypothesis. First, as countries developed, their legal and communication relations grew more complex, resulting in a very large division of labor, which increased with industrialization. Therefore, the state needs to increase its role in public, regulatory, and protective activities. In addition, increased urbanization and population density will lead to more public spending on law, order, and economic regulation because of the associated risk of more conflict in densely populated urban communities (Lamartina & Zaghini, 2011). According to Henrekson (1988), Wagner's contribution to theories significantly contributed to the prevailing view that when a country gets richer, government activities would decrease. Wagner's approach can be considered very important because it provides an opportunity to examine the interrelationships between economic and demographic factors that influence public policies, particularly health policies, both from time to time and between provinces.

H_1 **:** Government Size Infrastucture to Inequality Digital
H_2 **:** Optimizing Infrastructure Expenditure Inequality Digital

2.3 The Digital Gap

The definition of the digital divide and research strategies have evolved over time in an attempt to explain the root causes behind digital inequality. The first approach measures policymakers' level of convenient access. Once the level of access across age groups is considered to be causing divisions in digital "advantages," expanding broadband coverage will be sufficient to close the gap (Cigna, 2018).

2.4 Keynesian theory

According to the Keynesian perspective, the rate of economic growth varies with aggregate demand as a prerequisite for growth, and their analysis concludes that aggregate demand policies can improve economic performance. Keynes categorizes government spending as an exogenous variable that can generate economic growth rather than an endogenous phenomenon. The government's role is very important because it can avoid depression by increasing aggregate demand and reviving the economy with a multiplier effect. According to Badulescu, Simut, Badulescu, and Badulescu (2019), Keynes categorizes government spending as an exogenous variable that can generate economic growth, not an endogenous phenomenon. The government's role is very important because it can avoid depression by increasing aggregate demand and reviving the economy with a multiplier effect. According to Badulescu et al. (2019), government spending can help increase the level of productive investment to guarantee economic growth and development. Thus, spending has a positive effect on economic growth.

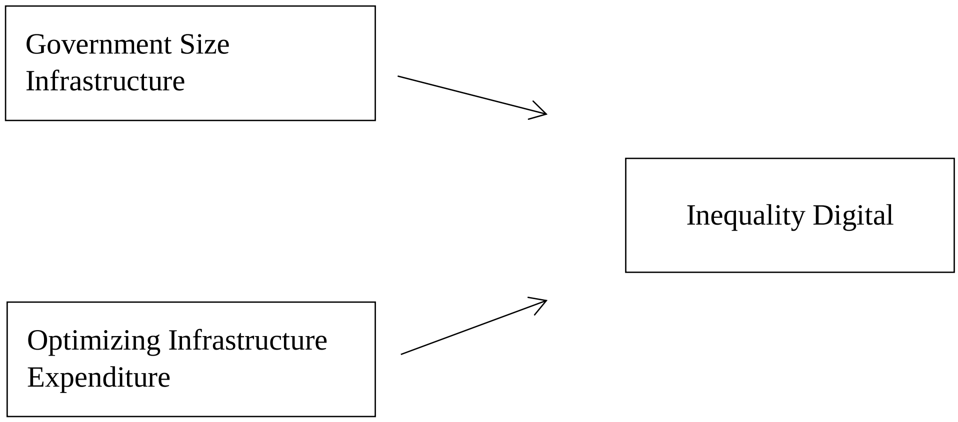

Figure 2. Conseptual Model

3. Research Method

This study examines the relationship between sector government expenditures, infrastructure, gross domestic product, and the Technology and Communication Development Index (IP-TIK). The type of data used is quantitative data, namely data as numbers and symbols or statistics, either extracted directly or obtained through the processing of qualitative data into quantitative data (Arifianto, 2011). The data collection method used in this study was to collect and study secondary data (Arifianto, 2011). In this research, they collected observed data, including government spending on infrastructure, gross domestic product, and the Information and Communication Technology Development Index (IP-TIK) during the 2016–2020 period in 34 provinces in Indonesia.

Table 1. Data and Sources

Variable	Description	Size	Source
Government Infrastructure	Expenditure allocated to percent infrastructure	Percent	Ministry of Finance
PDB	Gross Domestic Product per percent capita	Percent	Indonesia Central Bureau of Statistic
Digital Inequality	Information Technology percent Development Index.	Percent	International Telecommunication Union

The data analysis in this study used two analytical methods: descriptive analysis and quantitative analysis. Descriptive analysis was used to examine the development of infrastructure, gross domestic product, and Information and Communication Technology Development Index (IP-TIK). They used descriptive analysis to explain the existing data in graphs and tables. The government size calculation compares infrastructure spending with the digital divide using mapping and a typology based on the area analyzed. The analysis used to analyze the influence of government size on the digital divide was conducted quantitatively. The analytical tool used was panel data regression using the Ordinary Least Squares (OLS) method.

In general, an analytical model is formulated using the following mathematical equations:
Information:

$$TI_{iT} = \beta_0 + \beta_1 GI/PDB_{it} + \beta_2 GI/PDB^2{}_{it} + e_{it}$$

TI_{iT} = Digital Divide β_0 = Intercept GI/PDB_{it} = Infrastructure spending to GDP ratio
GI/PDB^2 = Optimization Effect $\beta_1 - \beta_2$ = Independent variable regression coefficient
e_{it} = *Error term*

4. Conclusion

4.1 Result Analysis

Research findings in the field show that the impact of the COVID-19 pandemic on the world in 2020 has changed various aspects of life, especially in terms of the use of information and communication technology (ICT) facilities. Previously, people engaged in activities and socialized with each other. However, the pandemic requires people to reduce their physical contact and divert their activities through digital platforms. According to related estimation results for Internet activity, the number of active mobile broadband subscribers per 100 residents increased from 2020 to 104.00. The number of fixed broadband subscribers per 100 residents has also increased in 2020, to 3.96.

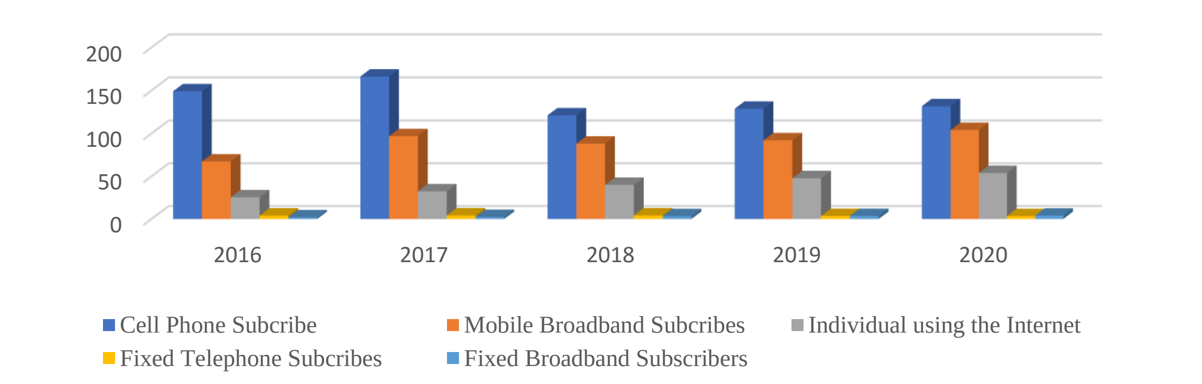

Figure 3. ICT Development in Indonesia 2016-2020

The increase in the number of Internet subscribers, both mobile broadband and fixed broadband, shows the phenomenon of increasing Internet use in society during the COVID-19 pandemic to support online activities. The development of internet penetration in Indonesia has also continued to experience a positive trend, from 25.37 percent in 2016 to 53.73 percent in 2020. This increase in internet penetration has been further driven by the COVID-19 pandemic, which has changed people's behavior to reduce physical contact with other people, but they still have to carry out daily activities online through various digital platforms.

We can see the wider provision of Internet services from the increase in active mobile broadband subscribers per 100 residents, namely 75.00. The number of fixed broadband subscribers per 100 residents also increased. The development of broadband provision has made it possible for wider and more effective Internet access at all levels of society. The 2020 ICT Development Index will determine whether the decline results from the COVID-19 pandemic and will examine the phenomenon after world conditions return to normal. The COVID-19 pandemic is the main challenge to accelerating digital adoption in developing countries such as Indonesia. The problem of digital inequality, commonly known as the "*Digital Divide,"* refers to the gap in using digital technology because of uneven access to internet connectivity. In relation to digital literacy and skills, Indonesia is facing minimal digital literacy because of gaps in access to information through digital technology, especially for people who live below the poverty line, in rural areas, are elderly, and have disabilities. Indonesia currently faces challenges in terms of digital skills and low *digital soft skills.*

The digital divide has a broad impact, especially the problem of digital transformation in the health sector: (1) primary and secondary health services as well as health data that are difficult for health workers to access; (2) the completeness, consistency, and accuracy of health data do not meet the standards for making *evidence-based policies;* (3) health data interoperability; and (4) overlapping data due to too many applications, resulting in the inefficient and ineffective recording of health data. Digital infrastructure problems in the economic sector, especially the reach of Internet connectivity and the level of digitization of MSMEs included in e-commerce applications in Indonesia, are still low. In addition, there are challenges related to cybersecurity guarantees, especially low digital trust and slow digital economic growth.

The development of economic growth, as seen from income per capita (purchasing power parity) from 2015 to 2020, shows a yearly trend of fluctuations. The per capita income growth during the study period reached an average of 5.1 percent. The main factor driving Indonesia's economic growth is domestic demand, particularly household consumption, investment, and government consumption. However, in the last five years, economic growth has been seen to have slowed and is in a relatively low category.

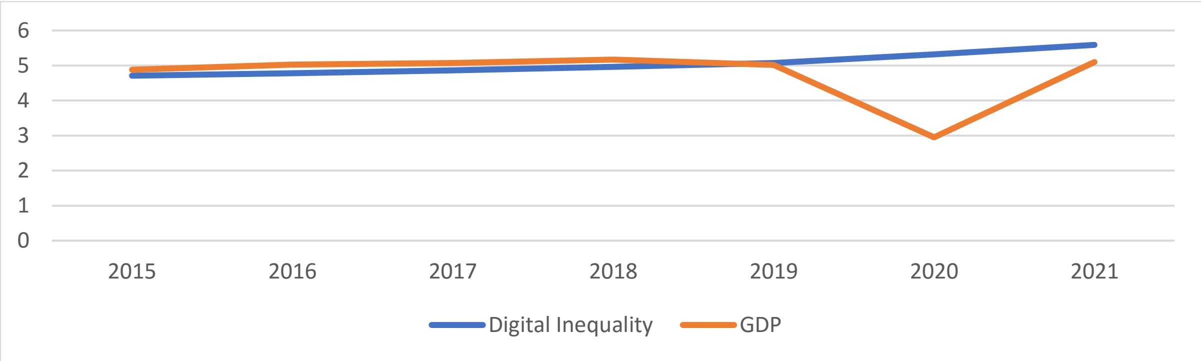

Figure 4. Digital Inequality and Economic Growth in Indonesia

The table shows that during 2015–2020, there was an increase in the ICT index, with the highest index of 5.59% in 2020. An increase in all digital inequality sub-indices with the largest contribution of the sub-index, namely, the sub-index skill, supported this increase in 2020 of 5.59. Digital inequality in Indonesia during 2015–2020 has shown an increasing trend over the last five years. During the study period, digital inequality reached an average of 5.31 percent. The increase in the digital inequality index shows that this is happening in transformation digits in all sectors, including public services, health, education, and the economy. Even though there has been an increase in the index, it is still categorized as low, meaning that, nationally, digital inequality in Indonesia appears quite high. They relate this to the ratio of infrastructure spending to total Indonesian government spending categorized from 2015 to 2020, which only reached 23 percent.

This is because the archipelago areas, which have a ratio of infrastructure spending below the national level, are concentrated on the islands in the Eastern Indonesia Region. This reflects the disparity between the construction of housing and public facilities. As a whole, many areas in eastern Indonesia still do not have complete housing and public facilities, which has an unequal impact on the infrastructure in these areas. The interesting condition here is that the ratio of the infrastructure budget in Java is low at 19.45 percent. This low ratio is due to the absorption of the budget for housing and public facilities, which has not been fully realized, causing a low budget ratio because it is not accompanied by accelerated spending. The highest ratio of infrastructure spending occurred on Sumatra. This high ratio was caused by policies in each province on the island of Sumatra, which prioritized increasing the budget for all infrastructure sectors.

4.2 Model Estimation Results

Based on the estimation results from the Government Size Infrastructure and Digital Inequality model through CEM, FEM, and REM, which are presented in the table below, regarding the use of these methods, the *Common Effect Model* variable's Government Infrastructure Size (GI) and Government Infrastructure Size (GI2) show that they do not have significance in the ICT Index. Using the Fixed Effect Model, the estimation results show that the Government Size Infrastructure (GI) variable has a significant impact on ICT index. Infrastructure Government Size (GI2). The probability value of this variable was less than the significance level of = 5% (0.05) for national competitiveness. Using the Random Effect Model, the Government Size Infrastructure (GI) variable does not have a significant impact on the ICT Index, while government size infrastructure (GI2) shows that it has a significant impact on the ICT Index.

Table 2. Estimation Results *Common Effect Model (CEM), Fixed Effect Model (FEM)* and *Random Effect Model (REM)*

Variable	Common		Fixed		Random	
	Coefficient	**Probe.**	**Coefficient**	**Probe.**	**Coefficient**	**Probe.**
C	0.0000	0.0000	4.170427	0.0000	4.090734	0.0000
GI	0.9133	0.9133	-0.729935	0.0016	-0.674670	0.0610
GI2	0.7640	0.7640	0.527610	0.0000	0.512431	0.0075

The final model selection effort is used to determine the regression model to be used in the evaluation of the best model among the common effect model, fixed effect model, and random effect. Model using three estimation techniques. They used these three techniques in panel data regression to obtain the correct model for estimating panel data regression. The first three tests are the tes chow, tes hausman, and Lagrange multiplier, te.

Table 3. Model Testing Results

No	Testing	Statistic	Probabilities
1	**Uji Chow**	37.62	0,0000
2	**Uji Hausman**	10,0000	0,0000
3	**UJI LM**	163,6	0,0000

Based on the table above, the results of the Chow test show that the probability value *cross-section chi-square* = 0.0000 > 0.05 This shows that Ha is accepted because the probability value is less than 0.05. Based on the Chow Test, the best model for use is *the fixed-effect model*.

The Hausman test results showed a random cross-section value of 0.000 < 0.05. This shows that H_0 was rejected and H_a was accepted because the probability value was less than 0.05. Based on the results obtained with the Hausman test, it can be stated that the best model is the *Fixed Effect Model.*

After testing the suitability of the model for panel data regression using the *Common Effect Model, Fixed Effect Model,* and *Random Effect*, the method that is best used according to the testing of the three models is the *Fixed Effect Model. Because of testing* using the *Chow Test* and *Hausman Test, which* both obtained the best model results for the *Fixed Effect Model*, the LM test was no longer used. In this model, all variables are declared significant; therefore, based on statistical testing, the model uses a *fixed-effect model.*

Table 4. Panel Data Regression Estimation Results

Variable	Coefficient	Std. Error	t-Statistic	Probe.
C	4.170427	0.131922	31.61292	0.0000
GI	-0.729935	0.225263	-3.240375	0.0016
GI2	0.527610	0.097887	5.389988	0.0000
R-squared	0.959373			
Adjusted R-squared	0.945153			
S.E. of regression	0.246879			
F-statistic	67.46879			
Probe (F-statistic)	0.0000			

Based on the results obtained using the *fixed effects model* in Table 3, we can state the following:
TIK = 4.170427 - 0.729935GI + 0.527610 GI2

This regression equation shows a constant value of 4.170427, which is positive. That is, if the variables government size infrastructure and optimization of infrastructure spending are considered zero, then the

ICT Index is 4.17. That is, the ICT Index without government-sized infrastructure and the Effect of Optimizing Infrastructure Spending are 4.17. The coefficient value (β1) = -0.72993 can be interpreted as the variable Effect of Optimizing Infrastructure Expenditure having a negative effect on the ICT Index. If there is a 1% increase in government-sized infrastructure expenditure, then the index will decrease by 0.7293. Furthermore, the coefficient value (β2) = 0.527.610 can be interpreted as indicating that the variable Effect of Optimizing Infrastructure Spending has a positive effect on the ICT Index, if there is a government-sized infrastructure of 1%, it will increase the ICT Index by 0.527610 percent.

4.3 Statistical Test Results

4.3.1 F-test

The results of the F statistic test show that the probability value of the F statistic is smaller than the significance level of 5% (0.0002 < 0.05); therefore, the variable government infrastructure size and the effect of optimizing infrastructure spending have a significant effect on the ICT Index.

4.3.2 t-test

The probability value of the Government Size Infrastructure variable is smaller than the significance level of 5% (0.0000 < 0.05), so partial Government Infrastructure Size has a significant effect on the ICT Index. The variable probability of government infrastructure size is smaller than the 5% significance level (0.0016 < 0.05), so it partially has a significant effect on the ICT Index. The variable in the Effect of Optimizing Infrastructure Expenditure has a probability value smaller than the 5% significance level (0.0000 < 0.05); thus, the sector in the Effect of Optimizing Infrastructure Expenditure has a significant effect on the ICT Index.

4.3.3 R^2 Determination Test

The next test tests the coefficient of determination to determine how much variation the variable has in government infrastructure size and the effect of optimizing infrastructure spending. In determining the variation of the ICT Index variable with the results of R^2 equal to 0959 or 95.9%, the variation of these variables determines the variation of the ICT Index. The remaining 14.1 percent were influenced by variables outside the research model.

4.4 Discussion

Based on the estimation results, the threshold calculation can be performed for government size by
The value of the first difference in government size is calculated from the model equation, according to the following formula:

$$\frac{\partial TIK}{\partial GOVERMENT\ SIZE} = \beta_1 + 2\beta_2\ Goverment\ Size \quad = 0$$

$$Goverment\ Size = \frac{-\beta_1}{2\beta_2}$$

Based on the above model, the average government size threshold for Indonesian provinces was 68%. This value is far greater than the government size threshold, which is calculated using data per province in the United States (Vedder & Gallaway, 1998) at 11.42% and Italy at 52% (Di Liddo, Magazzino, & Porcelli, 2018).

*L*ocal government spending sources in Indonesia could cause the threshold government size to reach 68%, most of which transferred funds to the regions. Barro (1990) states that increased spending with a source of funding from tax revenues will initially increase economic growth. However, when taxes are too high, additional spending will reduce economic growth (Buhtz, Reinartz, König, Graf-Vlachy, & Mammen, 2016). Because most local governments do not use taxes from their own regions to finance spending in these regions, the negative effect of taxes on economic growth is smaller; thus, the threshold for government size resulting from the model is higher.

Based on the statistical results show that the potential for government spending in the field infrastructure in increasing the ICT index can be seen from the direction coefficient positive from the optimizing effect of infrastructure spending, while the results of government size infrastructure spending have a negative effect resulting in a decrease in the ICT index, but the results illustrate an increase in the ICT index based on the multiplier effect of government spending in infrastructure, this condition shows that even distribution digital can be implemented by increasing the infrastructure budget allocation that focuses on providing technology, servers and increasing digital competence.

These results also consider how the implementation of the infrastructure budget supports digital equity (Lissitsa, 2015). In particular, if the government focuses on strengthening the digital infrastructure from a budgetary perspective, there will be a multiplier effect in the technology development sector. Currently, the demand for technology is very high but not evenly distributed, so it is necessary to have an equal distribution of infrastructure in all corners to proportionally increase the allocation of the infrastructure budget.

5. Conclusion

This study estimates the impact of government size on field infrastructure for digital inequality in Indonesia at the regional level using data for the period 2016–2020. In this study, government size is measured by the percentage of total spending by ministries and agencies allocated through work units in each province, the realization of APBD spending in each province, and the realization of district or city APBD spending in each province against the GRDP. The estimation results show that government size has a negative and significant impact on the ICT index, while the squared/multiplier effect of infrastructure spending has a positive and significant impact on the ICT index. It can be concluded that when government size is still relatively small, the influence of government size on regional ICT indices in Indonesia is positive. However, when the government is too large, the effect becomes negative or nonlinear.

The estimation results show that the average threshold government size for provinces in Indonesia was 68%. This value is far greater than the government size threshold, which is calculated using data per province (Vedder & Gallaway, 1998) and the results of research by Di Liddo et al. (2018), namely 52%.

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