



Measuring and Determinants of Inclusive Growth: Evidence from Indonesia

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ARTICLE INFO

ABSTRACT

Article history

Received : 2022-04-07

Revised : 2022-08-28

Accepted : 2022-08-30

Keywords

Inclusive Growth

PEGR

Poverty

Income Distribution

Data Panel

The understanding that high growth does not guarantee an increase in the welfare of society as a whole is the cause of the increasing popularity of the concept of inclusive growth. Inclusive growth is found in Indonesia's National Medium-Term Development Plan (RPJMN) 2015-2019 and RPJMN 2020-2024. This indicates that the Indonesian Government is very concerned with more equitable growth. But there is no measure that is able to describe inclusive growth. In empirical studies also still use a variety of measures. For that we try to promote one measure of inclusive growth with a pro-poor growth measure approach. Our measure has proven to be able to explain growth, poverty reduction and inequality better than other measures. We also analyze the determinants of inclusive growth using panel data. We place greater emphasis on the role of low-income communities in inclusive growth.

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Introduction

Inclusive growth is a relatively new concept, but it is already popular among development policymakers. Because of the understanding that high economic growth does not guarantee the reduction of poverty and inequality. Although rapid growth has reduced poverty in recent decades, it has been accompanied by a widening income gap (Alekhina & Ganelli, 2020). Unequal economic growth only increases inequality and does not solve the problem of poverty.

Inclusive growth is closely related to pro-poor growth. The debate about pro-poor growth has occurred before inclusive growth. Opinions are divided into relative or absolute pro-poor growth. Absolute pro-poor growth means that growth is followed by a decrease in the level of poverty (Grosse et al., 2008; Ravallion & Chen, 2003). This definition only emphasizes poverty reduction, regardless of whether inequality will decrease or increase. Meanwhile, relatively pro-poor growth is understood that the income growth of the poor is higher than the average or compared to the rich (Kakwani & Pernia, 2000; White & Anderson, 2001). In other words, income inequality is reduced. This debate was never resolved until the term inclusive growth became popular.

The concept of pro-poor growth is often discussed in debates on inclusive growth. Some

definitions of inclusive growth tend to be pro-poor growth. The World Bank clearly states that their definition of inclusive growth is in line with the absolute definition of pro-poor growth (see. Ianchovichina & Lundström, 2009). They focus on sustainable growth over the long term and absorbing the workforce, as well as increasing the productivity of those already working. The UNDP definition of inclusive growth also appears to be “very pro-poor” (see. Kjølner-Hansen & Sperling, 2020). They argue that Growth is more inclusive if it occurs in sectors that employ the poor such as agriculture; occurs in areas where the population is poor, such as rural areas and relatively underdeveloped areas; using factors of production such as unskilled labor in large numbers; and a decrease in the prices of commodities consumed by the poor such as food, fuel, clothing and public transportation. UNDP's opinion is in line with the relative definition of pro-poor growth.

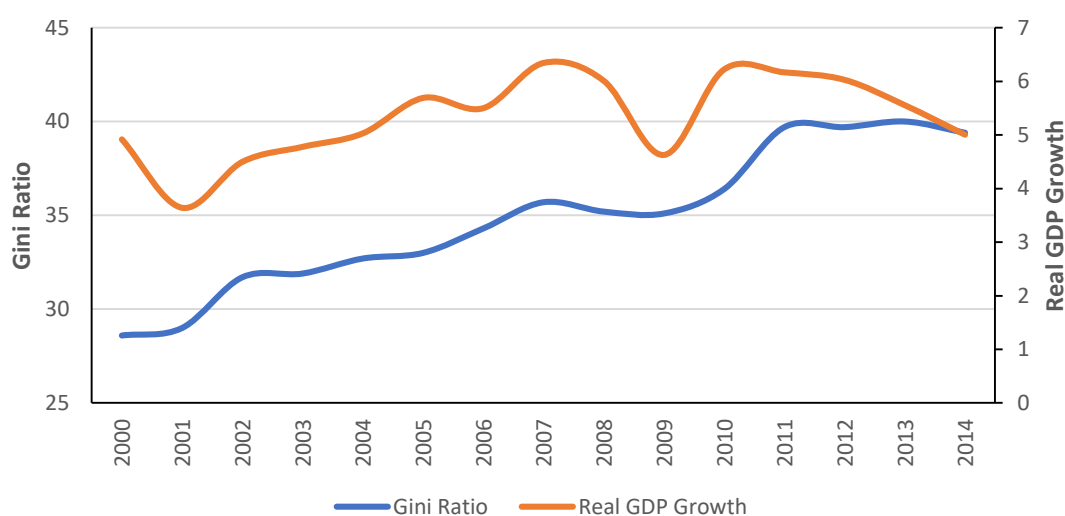
The international institution that consistently contributes to the study of inclusive growth is the Asian Development Bank (ADB). The ADB concept relies more on pro-poor growth that is relatively pro-poor. It represented by Rauniyar & Kanbur (2009), inclusive growth must be pro absolute poor, but pro absolute poor growth is not necessarily inclusive. ADB's contribution to inclusive growth is not just a definition, but also how to measure inclusive growth.

Some other opinions try to get out of the flow of linking inclusive growth with pro-poor growth. For example, OECD (2018) states that growth is inclusive if economic growth creates opportunities for all levels of society and increases welfare equitably and fairly. Meanwhile, Klasen (2010) distinguishes between pro-poor and inclusive growth depending on which group receives the growth impact. According to him, pro-poor growth focuses on people below the poverty line, while inclusive growth is arguably more general. This growth benefits all levels of society, including the poor, near poor, middle, and even rich.

There is currently no agreement on a common definition of inclusive growth. So the proxies used in various studies on inclusive growth are also different. GDP per capita is the most frequently used measure (eg. Adejumo et al., 2020; Adeniyi et al., 2021; Hong et al., 2019; Kolawole, 2016; Matthew & Oluwatoyin, 2017; Raheem et al., 2018; Traoré, 2018). GDP per capita is not sufficient to represent economic growth and welfare (McKinley, 2010). Sometimes an increase in GDP per capita is also accompanied by an increase in inequality. In other words, the increase is not evenly distributed, especially to those who are less fortunate (Ali & Son, 2007; Oluseye & Gabriel, 2017). This shows that GDP per capita is not a good measure of inclusive growth.

The Indonesian economy grew very impressively after the 1998 crisis. In the period 2000 to 2014, the economy grew on average 5.3 percent annually. However, accelerated economic growth has increased inequality as shown in Figure 1. The Gini Index increased from 28.6 in 2000 to 39.4

in 2014 (World Bank, 2022). Perhaps this is the reason why the Government of Indonesia is so concerned with inclusive growth. The term inclusive growth is found in Indonesia's National Medium-Term Development Plan (RPJMN) 2015-2019 and RPJMN 2020-2024. One of the development agendas in the 2020-2024 RPJMN is quality and equitable growth. The Indonesian government targets higher and more inclusive growth. However, the unavailability of indicators capable of assessing the inclusiveness of growth will make the targets in the RPJMN quite difficult to assess. Therefore, it is necessary to have a clear measure of how inclusive growth can be achieved so that the plans made by the government can be better evaluated.



Source: World Bank (2022)

Figure 1. Comparison of Economic Growth and the Gini Index in Indonesia, 2000-2014

The popularity of the concept of inclusive growth has attracted researchers' attention to examine its determinants. However, the role of the poor in promoting inclusive growth has not been seen in previous studies. If inclusive growth is defined as pro-poor growth, then they must also play a role in encouraging growth to be more inclusive. In this paper, we attempt to fill this void on the basis of previous literature. The agricultural sector is considered one of the keys to promoting inclusive growth. Growth will be more inclusive if growth occurs in sectors that employ poor people such as agriculture (Kjøller-Hansen & Sperling, 2020). In developing countries, GDP growth originating from the agricultural sector has proven to have a better impact on increasing the expenditure of vulnerable people than the non-agricultural sector (World Bank, 2008). This means that the poor receive the benefits of growth if it comes from the agricultural sector.

Human resources are recognized as a determinant of growth. Human resources are also believed to be able to promote inclusive growth (eg. Oyinlola & Adedeji, 2019; Raheem et al., 2018). Higher human capital accumulation means more people have the ability and skills to participate in the growth process. However, the gap in the quality of human resources can be an

obstacle to inclusive growth (Oyinlola et al., 2021). For this reason, it is necessary to look at how human capital affects inclusive growth in Indonesia.

Indonesia has implemented regional autonomy since 2000. Delegation of authority and financial management from the central government to the regions can provide space for regions to improve the economy according to their potential (Kharisma, 2013; Siburian, 2020), increasing economic efficiency due to proximity and benefits information between local government and the community (Azizah et al., 2022; Dougherty & Akgun, 2018). Therefore, we want to see if the expenditure allocated in the Local Government Budget (APBD) has been managed effectively and efficiently so that it can encourage inclusive growth in Indonesia.

In the last few decades, economic growth has been driven by the development of information and communication technology (ICT). rapid progress in this sector is able to increase the effectiveness of production and distribution (Andrianaivo & Kpodar, 2011; Chowdhury, 2008). The use of ICT has been proven to be able to make growth more inclusive (Adejumo et al., 2020; Aslam et al., 2020). For that we want to see whether the use of ICT for vulnerable communities can also be one of the determinants of inclusive growth.

Financial inclusion is considered to be able to promote growth, reduce poverty and inequality. If households have access to various financial services then they can make and receive payments easily and can invest in improving the quality of human resources (Abor et al., 2018). In addition, wider access to financial institutions means that capital constraints will be overcome (Erlando et al., 2020). So it is important to analyze how the impact of access to financial institutions, especially access to credit for vulnerable communities on inclusive growth.

Social assistance is an implementation of income redistribution. The government collects taxes from the rich and then distributes them to the vulnerable population through social assistance programs. Social assistance is considered one of the strategies needed to promote inclusive growth (Rauniyar & Kanbur, 2009). However, until now, there are still limited empirical studies that state the effect of social assistance on inclusive growth. Some empirical evidence finds the success of social assistance programs in tackling poverty and inequality (eg. Tekgüç, 2018). For this reason, we try to see how much the coverage of social assistance received by vulnerable communities affects inclusive growth.

Several other determinants such as labour, gender equality and electricity are considered capable of encouraging inclusive growth, but the literature on that is still limited. If the quantity of labor is not accompanied by quality, it will only become an obstacle to inclusive growth (Oyinlola & Adedeji, 2019). For this reason, the gender gap needs to be reduced so that women can contribute to the economy. Gender disparities have been shown to hinder growth to be more inclusive (eg. Matthew et al., 2019). Women need to be given the same access to education and

health as men so that they are able to play their role in the economy. In addition, the absence of electricity is also considered one of the obstacles to inclusive growth. Electricity is one of the most important elements in the modern production process. Okafor (2008) found that poor electricity distribution will weaken the growth of the industrial sector. Meanwhile, Dinkelman (2008) found that adequate electricity services will increase growth so as to reduce unemployment, especially in rural areas.

In this study, a measure of inclusive growth will be developed to explain economic growth, poverty reduction and inequality better than other inclusive growth indicators. We will analyze the dynamics of inclusive growth in the 2015-2019 RPJMN period. In addition, we also analyze the sources of inclusive growth. The analysis was only carried out in the 2017-2019 period due to limited data.

Method

The most difficult thing in research related to inclusive growth is how to measure inclusive growth. The various definitions related to inclusive growth result in different proxies and ways to measure inclusive growth. Klasen (2010) suggests measuring inclusive growth using the Poverty-Equivalent Growth Rate (PEGR) approach developed by Kakwani & Son (2008). PEGR essentially separates changes in poverty levels for two reasons, namely growth and decreasing inequality. Suppose the poverty measure is a function of the poverty line z , the average income μ , and the Lorenz curve $L(p)$, which is written as follows:

$$P = P(z, \mu, L(p)) \tag{1}$$

The change in the percentage of poor people can be written as follows:

$$P_{21} = P_2 - P_1 = Ln(P(z, \mu_2, L_2(p))) - Ln(P(z, \mu_1, L_1(p))) \tag{2}$$

Suppose μ_1 and μ_2 are the average income of the population in first period and second period, then the population's income growth ($\hat{\gamma}$) can be formulated as follows:

$$\hat{\gamma} = Ln(\mu_2) - Ln(\mu_1) \tag{3}$$

Let the change in poverty be denoted by δ . This change occurs for two reasons, namely the impact of growth ($\hat{\eta}$) and the impact of changes in inequality ($\hat{\zeta}$). The effect of growth is the elasticity of poverty to growth. This is interpreted as the proportion of change in poverty for every 1 percent of growth when there is no change in inequality. The poverty elasticity of growth is formulated as follows:

$$\hat{\eta} = \frac{1}{2\gamma} [Ln(P(z, \mu_2, L_1(p))) - Ln(P(z, \mu_1, L_1(p))) + Ln(P(z, \mu_2, L_2(p))) - Ln(P(z, \mu_1, L_2(p)))] \tag{4}$$

While the effect of changes in inequality is the elasticity of poverty to inequality. This is interpreted as a change in poverty due to a change in inequality when there is no growth, which

is formulated as follows:

$$\hat{\zeta} = \frac{1}{2\gamma} [\text{Ln}(P(z, \mu_1, L_2(p))) - \text{Ln}(P(z, \mu_1, L_1(p))) + \text{Ln}(P(z, \mu_2, L_2(p))) - \text{Ln}(P(z, \mu_2, L_1(p)))] \quad 5$$

Since the total elasticity is $\delta = \hat{\eta} + \hat{\zeta}$, then:

$$\delta = \frac{(\text{Ln}[P(z, \mu_2, L_2(p))] - \text{Ln}[P(z, \mu_1, L_1(p))])}{\hat{\gamma}} \quad 6$$

PEGR is the product of the change in income by the ratio of the total elasticity to the growth effect. Mathematically it can be written:

$$\hat{\gamma}^* = \frac{\delta}{\hat{\eta}} \hat{\gamma} \quad 7$$

Growth is pro-poor if the value of $\hat{\gamma}^* > \hat{\gamma}$ is positive for every $\hat{\gamma}$. In other words, growth is pro to the poor if $\frac{\delta}{\hat{\eta}} > 1$. This ratio of the total elasticity to the growth effect is also known as the pro-poor index (see. Kakwani & Pernia, 2000). This index will be bigger if the value of is close to zero or in other words the effect of changes in inequality ($\hat{\zeta}$) dominates changes in poverty. We agree that changes in poverty are caused by growth and changes in inequality. However, because both the pro-poor index and the PEGR ignore the growth effect, we modify the formula. We think growth is more qualified if these two effects have an equal impact on poverty reduction. For this reason, the inclusive growth index that we will use in this study is a proportion of the effects of growth and the effects of changes in inequality. Mathematically it can be written:

$$IGS = \frac{\text{Min}[abs(\hat{\eta}); abs(\hat{\zeta})]}{\text{Max}[abs(\hat{\eta}); abs(\hat{\zeta})]} \quad 8$$

We use absolutes only to control for the negative or positive sign $\hat{\eta}$ of and $\hat{\zeta}$. To eliminate the effect of the absoluteization, normalization is carried out as follows:

$$IG = \begin{cases} -IGs, & \text{if } \hat{\delta} > 0 \text{ and } \hat{\eta} \text{ or } \hat{\zeta} > 0 \\ IGs, & \text{other} \end{cases} \quad 9$$

The value of the inclusive growth index produced by equation 9 is between -1 to 1. Growth will be inclusive if the value of the index is greater than 0 or is positively marked.

The inclusive growth index will be calculated by regency and municipality. Population income (μ) we proxy with real GDP per capita, inequality (Lp) with the share of the population spending the bottom 40 percent of total expenditure, the poverty line (z) is the poverty line of each regency and municipality. The data used in this study is secondary data from the National Socio-Economic Survey (SUSENAS) from 2014 to 2019, macro indicators published by the Central Bureau of Statistics (BPS) and data from the Ministry of Finance.

We use panel data to analyze the determinants of inclusive growth in Indonesia with a sample of 508 regency or municipality with data from 2017-2019. We did not include regency and

municipality from DKI Jakarta Province because they do not have a local government at that level. Meanwhile, the selection of the year of analysis was due to the limited availability of data. Based on the literature that we summarized earlier, the empirical model was determined as follows:

$$IG_{it} = \alpha + \beta X_{it} + v_i + \lambda_t + \varepsilon_{it}$$

where IG_{it} is the index of inclusive growth in district- i and year- t , X_{it} is the set of determinants of inclusive growth, details can be seen in table 1. ε_{it} is error, v_i is the specific effect of the unobserved unit and λ_t is the specific effect of unobserved time. If v_i is correlated with the explanatory variable, the fixed effect method is the most consistent and the intercept is distinguished for each unit of observation. If v_i and λ_t are correlated with the explanatory variable, the random effect method is the most efficient and consistent method. In the random effect method, the intercept is not constant but is considered a random variable with an average value.

Table 1. Operational Definition of Inclusive Growth Determinant Variables

Variable	Defenition	Source
IG	Inclusive Growth index	Author
AGRI	Natural log of GRDP on agriculture sector (constant 2010, Rp)	BPS
MYS	Mean years school (years)	BPS
TPAK	Labor force participation (%)	BPS
GENDER	Gender Empowerment Index	BPS
APBD	Local government spending (% of total GRDP at market price)	BPS; Ministry of Finance
IK	percentage of the bottom four decile households that have ever received credit at financial institution	BPS (SUSENAS)
DIG	percentage of population aged 5 years or older in the bottom fourth decile who have ever accessed the internet	BPS (SUSENAS)
ELTRC	percentage of households in the bottom four deciles that use electricity	BPS (SUSENAS)
PKH	percentage of households in the bottom four deciles receiving conditional cash transfers	BPS (SUSENAS)
BANSOS	Natural logaritma of local government social assistance expenditure per poor people	BPS; Ministry of Finance
PBI	percentage of population in the bottom four deciles who receive health insurance assistance	BPS (SUSENAS)

Discussion

Inclusive Growth Index

The modified inclusive growth index value of PEGR will be in the range of -1 to 1. If the index is positive, it means that growth is inclusive. In other words, an increase in economic volume is accompanied by a decrease in poverty and inequality. Meanwhile, if the index is negative at least

one of growth, poverty and inequality change not as expected. An index with a value of 1 means that growth and change in inequality have the same role in reducing poverty, vice versa.

PEGR modification did not change growth inclusiveness. Table 2 shows the number of regencies or municipalities that experienced the same inclusive growth between the PEGR index and the inclusive growth index (IG). The weakness of the PEGR index is that the maximum and minimum values are very extreme and far from the average. This can cause the variance of this index value to be large. In addition, when the average inclusive growth index increases, the percentage of regencies or municipalities experiencing inclusive growth also increases. In 2018, the average PEGR Index decreased, while the number of regencies or municipalities experiencing inclusive growth actually increased.

Table 2. Comparison of the calculation results of the inclusive growth index with PEGR by regency or municipality in Indonesia in 2015-2019

Item		2015	2016	2017	2018	2019
Minimum	PEGR	-1.2561	-1.5847	-0.6800	-3.3138	-7.3115
	IG	-1.0000	-1.0000	-1.0000	-1.0000	-1.0000
Maximum	PEGR	1.1947	4.7027	0.8361	0.4174	3.5382
	IG	1.0000	1.0000	1.0000	1.0000	1.0000
Average	PEGR	0.0088	0.0097	0.0058	-0.0072	0.0260
	IG	-0.7000	-0.6147	-0.6574	-0.5207	-0.4702
Number of regency or municipality experiencing inclusive growth	PEGR	17	44	44	61	92
	IG	17	44	44	61	92
Percentage of regency or municipality experiencing inclusive growth	PEGR	3.43	8.63	8.61	11.87	17.90
	IG	3.43	8.63	8.61	11.87	17.90

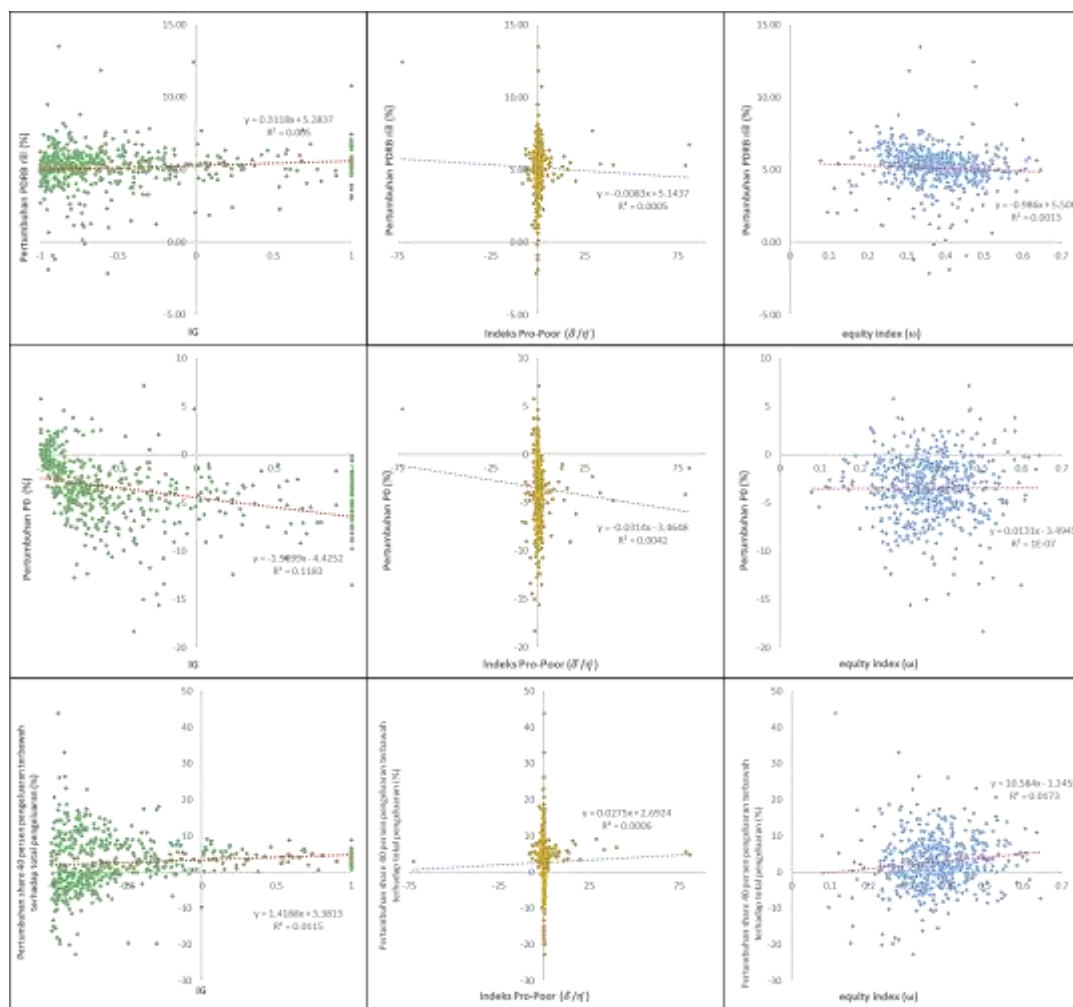
Source: Author's calculation (2022)

The inclusive growth index is able to explain growth, poverty reduction and inequality better than the PEGR index. Figure 2 shows a scatterplot between the three indices used to measure inclusive growth and real GDP growth, headcount ratio (P0) growth and the growth share of the bottom 40 percent of spending to total spending in 2019. We also include another fairly popular inclusive growth index, namely the equity index developed by Ali & Son (2007).

The top part in Figure 2 shows that the inclusive growth index is able to explain economic growth better than the other two indices, even the equity index and PEGR show a trend of negative relationship with growth. The middle figure shows the relationship of the three indices to poverty growth. The inclusive growth index is able to explain poverty reduction much better than PEGR. Meanwhile, the equity index shows a positive relationship trend with poverty growth even though it is very weak. This makes sense because the equity index is essentially a calculation of the impact of growth on changes in inequality. This is evident in the figure below where the equity index is able to show changes in inequality slightly better than the inclusive growth index.

Thus, we can conclude that the inclusive growth index built is able to explain growth, poverty reduction and inequality reduction better than other indices.

Table 2 shows that growth was increasingly inclusive from 2015 to 2019 . The average inclusive growth index increased from -0.7 in 2015 to -0.4702 in 2019 and the percentage of districts or municipalities experiencing inclusive growth also increased from 3.43 percent to 17.9 percent. Sawahlunto is the highest average inclusive growth index with a value of 0.2985. Meanwhile, Berau Regency is the lowest with an average inclusive growth index of -0.9865. The complete results of the calculation of the inclusive growth index can be seen in Appendix A.



Source: Author's calculation

Figure 2. The relationship between the inclusive growth index (IG), PEGR and equity index with economic growth, changes in poverty and inequality in 2019.

Determinants of Inclusive growth

Table 3 shows the estimation results from our empirical model. The results of the F test for the fixed effect method and the chi test for the random effect were statistically significant. This means that statistically all explanatory variables collectively have a significant explanatory impact on the dependent variable in both methods. The statistical value of the Hausman test

obtained is 0.0549 in the first model. 0.2381 in the second model and 0.0718 in the third model. Thus, estimation using the random effect method is more efficient than the fixed effect method.

The development of the agricultural sector has proven to be one of the main determinants of inclusive growth in Indonesia. Estimates using the random effect method show a positive and significant effect at the 1% level. When the output of the agricultural sector grew by 1%, the inclusive growth index rose by 0.042-0.048%. Our findings are in line with the literature found (see, Kjølner-Hansen & Sperling, 2020), that growth in the agricultural sector will benefit the poor, thus growth will be more inclusive. This is quite reasonable in the case of Indonesia, considering that the agricultural sector was able to absorb 27.33 percent of workers in August 2019 (BPS, 2019). The agricultural sector is an alternative employment opportunity for low-skill workers so that they are able to employ more vulnerable people than other sectors.

Table 3. Determinants of Inclusive Growth. Panel Regression Result

Dep. Var: IG	Fixed Effect			Random Effect		
	1	2	3	1	2	3
AGRI	1.2937** (0.6549)	1.3255** (0.6718)	1.0673 (0.6583)	0.0422*** (0.0140)	0.0437*** (0.0139)	0.0484*** (0.0140)
MYS	-0.0941 (0.1623)	-0.0836 (0.1654)	-0.1231 (0.1621)	-0.0123 (0.0122)	-0.0114 (0.0122)	-0.0136 (0.0122)
TPAK	-0.0058 (0.0050)	-0.0057 (0.0050)	-0.0056 (0.0050)	-0.0006 (0.0022)	-0.0006 (0.0022)	-0.0001 (0.0022)
GENDER	0.0022 (0.0041)	0.0022 (0.0041)	0.0017 (0.0041)	0.0014 (0.0016)	0.0013 (0.0016)	0.0013 (0.0016)
APBD	0.0045 (0.0034)	0.0045 (0.0034)	0.0047 (0.0034)	0.0012** (0.0005)	0.0013*** (0.0005)	0.0011** (0.0005)
ELTRC	-0.0022 (0.0035)	-0.0022 (0.0035)	-0.0028 (0.0035)	-0.0004 (0.0009)	-0.0005 (0.0009)	-0.0007 (0.0009)
IK	0.0004 (0.0061)	0.0004 (0.0061)	-0.0007 (0.0061)	0.0049* (0.0027)	0.0045* (0.0027)	0.0034 (0.0028)
DIG	0.0099*** (0.0035)	0.0102*** (0.0036)	0.0083** (0.0035)	0.0074*** (0.0014)	0.0076*** (0.0014)	0.0079*** (0.0015)
BANSOS	0.0032 (0.0056)			-0.0020 (0.0029)		
PKH		-0.0005 (0.0030)			0.0022** (0.0011)	
PBI			0.0054*** (0.0020)			0.0020*** (0.0007)
Constant	-35.858** (17.7502)	-36.804** (18.2894)	-29.3708 (17.8609)	-1.847*** (0.4761)	-1.942*** (0.4728)	-2.103*** (0.4788)
R-Square	0.0409	0.0477	0.0340	0.0340	0.0344	0.0411
Prob > F	0.0000	0.0000	0.0000			
Prob > Chi2				0.0000	0.0000	0.0000

Source: Author's calculation (2022); * denotes statistical significance at 10% level. ** denotes statistical significance at 5% level. *** denotes statistical significance at 1% level

The role of local governments is represented by the ratio of the realization of the local government spending (APBD) to GRDP. Estimates with random effects show that the APBD has a positive and significant impact on the inclusive growth index. When the ratio of the APBD to GRDP increases by 1%, the inclusive growth index will increase by 0.0011-0.0013. This means that the APBD allocation has been executed quite well by the local governments in Indonesia for the welfare of the community. The implementation of effective budget allocations to increase inclusive economic growth needs to be followed by good governance performance by maximizing the performance of government agencies, improving the implementation of local government financial administration, and complying with applicable regulations in budget execution (Kurniawan et al., 2018). For this reason, supervision of the use of the APBD needs to be further improved in order to achieve more inclusive growth.

Digitalization is one of the important actors in inclusive growth. The estimation results using the random effect and fixed effect methods show that the use of the internet for low-income people can be a source of inclusive growth. Our results support previous findings (eg. Mora-Rivera & García-Mora, 2021; Mushtaq & Bruneau, 2019; Ofori & Asongu, 2021) which state that internet use can promote growth, reduce poverty and inequality, thereby making growth more inclusive dissemination of information between companies, distributors and consumers so that the production and distribution processes become more effective (Andrianaivo & Kpodar, 2011; Chowdhury, 2008).

We use three proxies to represent social assistance to the poor. The first is the realization of the social assistance budget in the APBD per poor population, the second is the percentage of the population in the bottom four deciles who receive health insurance assistance and the last is the percentage of the population in the bottom four deciles who receive conditional cash transfer. Health insurance assistance and conditional cash transfers for vulnerable populations have proven to be able to contribute to promoting inclusive growth. This can be seen from the positive and significant estimation results using the random effect method. Meanwhile, social assistance sourced from the APBD has not been able to become one of the factors driving inclusive growth. The estimation results with random effects show a negative, although not significant. This implies that social assistance sourced from the APBD has not been designed properly. Well-designed and implemented social assistance will lead to more inclusive growth (Barrientos & Malerba, 2020). This needs to be an important note, especially for local governments so that in the future they can design better and more effective social assistance schemes and budgets.

Conclusion

Our inclusive growth index is able to explain growth, poverty reduction and inequality better than other inclusive growth measures such as the PEGR index and equity index. Growth in

Indonesia is increasingly inclusive in the 2015-2019 range. However, on average the inclusive growth index still shows a negative value. This means that there are still many districts and cities that have not experienced inclusive growth. For this reason, there is a need for synergy between the central and regional governments to achieve the goals set in the RPJMN. We recommend further studies to analyze the compatibility between the RPJMN and the development plans prepared by local governments.

The development of the agricultural sector, local government spending, conditional cash transfers, health insurance and internet use among vulnerable communities has proven to be able to encourage more inclusive growth. We suggest the government to focus on these things, especially encouraging the use of the internet because the digital economy is growing very rapidly. The government needs to regulate internet tariffs regulation so that they are affordable for low-income people. Social assistance sourced from local government spending has not been able to become a source of inclusive growth. For this reason, local governments need to design more targeted social assistance. For future research we suggest an analysis at the provincial level to include other variables such as trade openness and foreign investment.

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Appendix A. Inclusive Growth Index by Regencies/Municipalities in Indonesia. 2015-2019

Province	Regency/ Municipality	2015		2016		2017		2018		2019	
		Index	Inklusif?	Index	Inklusif?	Index	Inklusif?	Index	Inklusif?	Index	Inklusif?
Aceh	Simeulue	-0.9548	No	-0.9455	No	-0.9400	No	-0.8961	No	-0.7994	No
	Aceh Singkil	-0.8433	No	-0.9317	No	-0.7732	No	1.0000	Yes	-0.8176	No
	Aceh Selatan	-0.9326	No	-0.8653	No	-0.8605	No	-0.9374	No	-0.3975	No
	Aceh Tenggara	-0.7895	No	-0.7300	No	-0.6931	No	-0.6702	No	0.0520	Yes
	Aceh Timur	-0.9423	No	-0.8643	No	-0.8699	No	-0.7336	No	-0.9861	No
	Aceh Tengah	-0.6864	No	-0.7012	No	-0.9634	No	-0.5938	No	-0.9672	No
	Aceh Barat	-0.7859	No	-0.7830	No	-0.9391	No	-0.6195	No	-0.9024	No
	Aceh Besar	-0.7645	No	-0.3476	No	-0.9317	No	-0.1776	No	-0.1667	No
	Pidie	-0.7063	No	-0.9831	No	-0.9003	No	-0.4994	No	-0.6151	No
	Bireuen	-0.9612	No	-0.7272	No	-0.9420	No	0.4426	Yes	1.0000	Yes
	Aceh Utara	-0.9166	No	-0.3886	No	-0.6976	No	-0.6997	No	-0.5732	No
	Aceh Barat Daya	-0.9254	No	-0.2605	No	-0.2952	No	0.1994	Yes	-0.7106	No
	Gayo Lues	-0.5535	No	-0.9775	No	-0.8907	No	-0.4728	No	-0.6762	No
	Aceh Tamiang	-0.9669	No	-0.9805	No	-0.8050	No	-0.9124	No	-0.8347	No
	Nagan Raya	-0.6407	No	-0.3827	No	-0.9532	No	-0.9376	No	0.7369	Yes
	Aceh Jaya	-0.8582	No	-0.6640	No	-0.9035	No	-0.4593	No	-0.4209	No
	Bener Meriah	-0.7544	No	-0.9672	No	-0.9552	No	-0.8101	No	-0.1973	No
	Pidie Jaya	-0.6194	No	-0.8612	No	-0.4158	No	-0.4941	No	-0.5511	No
	Banda Aceh	-0.9847	No	-0.7017	No	-0.9892	No	-0.6886	No	-0.9550	No
	Sumatera Utara	Sabang	-0.6112	No	-0.9464	No	-0.9262	No	-0.6073	No	-0.8038
Langsa		-0.5057	No	-0.7635	No	-1.0000	No	-0.3901	No	-0.8971	No
Lhokseumawe		-0.9717	No	-0.9493	No	-0.7045	No	-0.8100	No	-0.6725	No
Subulussalam		-0.8952	No	-0.7468	No	-0.9186	No	-0.8180	No	-0.8209	No
Nias		-0.7121	No	-0.7358	No	-0.4617	No	-0.6663	No	-0.7623	No
Mandailing Natal		-0.5087	No	-0.9456	No	-0.9453	No	0.3655	Yes	0.3770	Yes
Tapanuli Selatan		-0.7534	No	-0.9463	No	-0.7989	No	-0.6726	No	0.3020	Yes
Tapanuli Tengah		-0.9004	No	-0.8501	No	-0.9469	No	0.5413	Yes	1.0000	Yes
Tapanuli Utara		-0.9640	No	-0.9271	No	-0.9408	No	-0.1830	No	-0.7241	No
Toba Samosir		-0.6330	No	1.0000	Yes	-0.9600	No	0.0049	Yes	-0.8457	No
Labuhanbatu		-0.5427	No	-0.9791	No	1.0000	Yes	-0.7904	No	-0.8816	No
Asahan		-0.0788	No	-0.8766	No	-0.5470	No	-0.4826	No	1.0000	Yes
Simalungun		-1.0000	No	-0.8482	No	-0.9182	No	-0.2671	No	-0.3519	No
Dairi		-0.6344	No	-0.9390	No	-0.9938	No	-0.6851	No	-0.7122	No
Karo		-0.8777	No	-0.9019	No	-0.8562	No	0.0774	Yes	0.9021	Yes
Deli Serdang		-0.9735	No	-0.9280	No	-0.5411	No	-0.4725	No	-0.5727	No
Langkat		-0.3114	No	-0.9690	No	-0.5781	No	-0.5801	No	-0.4797	No
Nias Selatan		-0.4775	No	-0.7819	No	-0.9821	No	-0.4160	No	-0.6216	No
Humbang Hasundutan		-0.8528	No	-0.9780	No	-0.9341	No	-0.6237	No	-0.1287	No
Pakpak Bharat		-0.7974	No	1.0000	Yes	-0.6393	No	-0.0395	No	-0.7956	No
Samosir	-0.0780	No	-0.7502	No	-0.8932	No	0.2992	Yes	-0.6677	No	
Serdang Bedagai	-0.9059	No	1.0000	Yes	-0.8938	No	-0.4510	No	0.1854	Yes	
Batu Bara	-0.7852	No	-0.0379	No	-1.0000	No	-0.9645	No	-0.8416	No	
Padang Lawas Utara	-0.5547	No	-0.8931	No	-0.9361	No	-0.7920	No	-0.3632	No	
Padang Lawas	-0.7695	No	-0.9856	No	-0.8030	No	-0.7347	No	-0.9407	No	
Labuhanbatu Selatan	-0.9307	No	-0.9150	No	-0.7681	No	-0.5584	No	-0.3590	No	
Labuhanbatu Utara	-0.8441	No	-0.5838	No	-0.9166	No	0.2414	Yes	-0.1837	No	
Nias Utara	-0.4448	No	-0.5880	No	-0.1411	No	1.0000	Yes	-0.7307	No	
Nias Barat	-0.5833	No	-0.7920	No	-0.3133	No	-0.8288	No	-0.3680	No	
Sibolga	-0.8328	No	-0.6569	No	-0.6236	No	0.4252	Yes	-0.9607	No	
Tanjungbalai	-0.9008	No	-0.8017	No	-0.9936	No	-0.9789	No	-0.9036	No	
Pematangsiantar	-0.9887	No	-0.7745	No	-0.9776	No	0.3874	Yes	-0.3161	No	
Tebing Tinggi	-0.8288	No	-0.1477	No	-1.0000	No	-0.2494	No	1.0000	Yes	
Medan	-0.9254	No	-0.9535	No	-0.9462	No	-0.1084	No	-0.9109	No	
Binjai	-0.7817	No	-0.8231	No	-0.9670	No	-0.3186	No	-0.8876	No	
Padangsidempuan	-0.6805	No	-0.7659	No	-0.9577	No	-0.7607	No	-0.6814	No	
Gunungsitoli	-0.5296	No	-0.3538	No	0.0671	Yes	-0.3586	No	-0.7808	No	
Sumatera Barat	Kepulauan Mentawai	-0.6300	No	-0.6952	No	-0.7988	No	-0.9369	No	-0.9929	No
	Pesisir Selatan	-0.6156	No	-0.2894	No	-0.9259	No	0.3535	Yes	-0.7892	No
	Kab. Solok	-0.9238	No	-0.8547	No	-0.2806	No	-0.9114	No	0.5760	Yes
	Sijunjung	1.0000	Yes	-0.8834	No	-0.8395	No	-0.2676	No	-0.7174	No
	Tanah Datar	-0.8937	No	-0.7761	No	-0.7469	No	-0.9205	No	-0.2067	No
	Padang Pariaman	-0.5890	No	-1.0000	No	-0.8279	No	-0.7908	No	0.2356	Yes
	Agam	-0.8873	No	-0.3473	No	-0.6600	No	-0.5426	No	-0.9455	No
	Lima Puluh Kota	-0.9787	No	-0.9610	No	-0.3831	No	-0.9080	No	-0.9918	No
	Pasaman	-0.8118	No	-0.5738	No	-0.9091	No	-0.8549	No	-0.9659	No
	Solok Selatan	-0.8702	No	-0.9127	No	-0.9077	No	-0.6840	No	-1.0000	No
	Dharmasraya	-0.9561	No	-0.9903	No	-0.3054	No	-0.8921	No	-0.5575	No
	Pasaman Barat	-0.6401	No	-0.7198	No	1.0000	Yes	-0.9231	No	0.1002	Yes
	Padang	-0.8376	No	-0.6456	No	-0.9236	No	-0.9609	No	1.0000	Yes
	Solok	-0.6618	No	-0.6597	No	1.0000	Yes	1.0000	Yes	-0.8057	No
	Sawahlunto	1.0000	Yes	-0.9711	No	1.0000	Yes	-0.5364	No	1.0000	Yes
	Padang Panjang	-0.6189	No	-0.9984	No	-0.8817	No	-0.5913	No	-0.8161	No
	Bukittinggi	-0.5746	No	-1.0000	No	-0.9016	No	-0.7008	No	-0.7443	No
	Payakumbuh	-0.9611	No	-0.0826	No	-0.0988	No	-0.5684	No	-0.9478	No
	Pariaman	-0.7509	No	-0.8732	No	-0.5007	No	-0.7704	No	0.2820	Yes
	Riau	Kuantan Singingi	-0.7625	No	0.6009	Yes	-0.4546	No	-0.9697	No	1.0000
Indragiri Hulu		-0.0445	No	-0.4851	No	-0.7034	No	-0.4044	No	-0.4037	No
Indragiri Hilir		-0.2667	No	-0.6523	No	-0.7479	No	-0.3916	No	-0.5140	No
Pelalawan		-0.7683	No	-0.0045	No	-0.6754	No	-0.7315	No	-0.8728	No
Siak		-0.0525	No	-0.4040	No	-0.8619	No	-1.0000	No	-0.4180	No
Kampar		-0.0686	No	-0.7382	No	-0.8406	No	-0.8936	No	1.0000	Yes
Rokan Hulu		-1.0000	No	-0.9545	No	-0.9132	No	-0.9373	No	-0.6140	No

Province	Regency/ Municipality	2015		2016		2017		2018		2019	
		Index	Inclusif?	Index	Inclusif?	Index	Inclusif?	Index	Inclusif?	Index	Inclusif?
Jambi	Bengkalis	-0.9994	No	-0.6864	No	-1.0000	No	-0.6257	No	-0.9496	No
	Rokan Hilir	-0.9293	No	-0.9084	No	-0.9636	No	-0.3028	No	-0.9438	No
	Kepulauan Meranti	-0.9518	No	-0.5168	No	0.1094	Yes	-0.0772	No	-0.7489	No
	Pekanbaru	-1.0000	No	0.6747	Yes	-0.9692	No	0.4683	Yes	-0.6990	No
	Dumai	-0.7883	No	-0.4779	No	-0.8643	No	-0.3349	No	-0.9149	No
	Kerinci	-0.7943	No	1.0000	Yes	-0.8288	No	-0.8649	No	-0.8825	No
	Merangin	-0.7839	No	-0.8179	No	1.0000	Yes	-0.8079	No	0.1400	Yes
	Sarolangun	-0.9630	No	-0.5147	No	-0.6005	No	-0.6085	No	-0.1637	No
	Batang Hari	-0.9801	No	-0.9127	No	-0.8163	No	-0.9733	No	-0.7973	No
	Muaro Jambi	-0.9369	No	-0.7207	No	-0.8696	No	-0.3806	No	-0.5252	No
Sumatera Selatan	Tanjung Jabung Timur	-0.8575	No	-0.2016	No	-0.9088	No	-0.9396	No	0.8055	Yes
	Tanjung Jabung Barat	-0.3019	No	-0.3605	No	-0.8456	No	-0.9362	No	-0.7882	No
	Tebo	-0.9314	No	1.0000	Yes	-0.8148	No	-0.8008	No	-0.7985	No
	Bungo	-0.5276	No	-0.6499	No	-0.7161	No	1.0000	Yes	-0.6112	No
	Jambi	-0.8737	No	-0.6426	No	-0.9647	No	-0.8259	No	-0.4972	No
	Sungai Penuh	-0.9740	No	0.0480	Yes	-0.6750	No	-0.9450	No	-0.8895	No
	Ogan Komering Ulu	-0.4119	No	-0.9325	No	-0.8402	No	1.0000	Yes	-0.9104	No
	Ogan Komering Ilir	-0.5039	No	-0.2725	No	-0.8802	No	-0.7035	No	-0.8393	No
	Muara Enim	-0.0655	No	-0.6647	No	-0.9103	No	-0.7213	No	-0.9094	No
	Lahat	-0.9787	No	-0.5374	No	-0.9023	No	-0.8305	No	-0.9407	No
Bengkulu	Musi Rawas	-0.3908	No	-0.6673	No	-0.9818	No	1.0000	Yes	1.0000	Yes
	Musi Banyuasin	-0.1017	No	-0.5418	No	-0.6464	No	-0.9665	No	-0.7377	No
	Banyuasin	-0.8306	No	-0.1993	No	-0.9085	No	-0.9432	No	-0.8687	No
	Ogan Komering Ulu Selatan	-0.7439	No	-0.5933	No	-0.9921	No	-0.8819	No	-0.9325	No
	Ogan Komering Ulu Timur	-0.2707	No	-0.9737	No	-0.5356	No	-0.8998	No	-0.3655	No
	Ogan Ilir	-0.6755	No	-0.4385	No	-0.4765	No	1.0000	Yes	-0.9613	No
	Empat Lawang	-0.7339	No	-0.7342	No	-0.9499	No	-0.9368	No	-0.8469	No
	Penakal Abab Lematang Ilir	N/A	-	-0.1362	No	-0.9644	No	-0.7266	No	-0.8916	No
	Musi Rawas Utara	N/A	-	-0.9525	No	-0.5692	No	-0.8402	No	-0.9952	No
	Palembang	-0.8328	No	1.0000	Yes	-0.5829	No	-0.7015	No	-0.9576	No
Lampung	Prabumulih	-0.5772	No	-0.7954	No	-0.9943	No	-0.8992	No	-0.9369	No
	Pagar Alam	-0.6506	No	-0.8009	No	-0.9060	No	-0.9641	No	-0.9261	No
	Lubuk Linggau	-0.5961	No	-0.5934	No	-0.7243	No	-0.9663	No	-0.9779	No
	Bengkulu Selatan	-0.7413	No	-0.8260	No	-0.2078	No	-0.2813	No	-0.9818	No
	Rejang Lebong	-0.9957	No	-0.9428	No	-0.5438	No	-0.4215	No	0.9007	Yes
	Bengkulu Utara	-0.7384	No	-0.6141	No	0.1144	Yes	-0.5464	No	-0.8553	No
	Kaur	-0.4361	No	-0.5933	No	-0.5674	No	-0.3469	No	-0.7459	No
	Seluma	-0.6272	No	1.0000	Yes	-0.7691	No	-0.2555	No	0.6517	Yes
	Mukomuko	-0.2230	No	0.2431	Yes	-0.7011	No	-0.3375	No	-1.0000	No
	Lebong	-0.6350	No	-0.8508	No	-0.8498	No	-0.6908	No	-0.9379	No
Kepulauan Bangka Belitung	Kepahiang	-0.8522	No	-0.6138	No	-0.8519	No	-0.3980	No	-0.9086	No
	Bengkulu Tengah	-0.9745	No	-0.7156	No	-0.8000	No	-0.8773	No	-0.3368	No
	Bengkulu	-0.8109	No	1.0000	Yes	0.1456	Yes	-0.8612	No	0.0308	Yes
	Lampung Barat	-0.9133	No	-0.0468	No	1.0000	Yes	-0.3714	No	-0.2898	No
	Tanggamus	-0.4455	No	-0.8805	No	-0.4041	No	-0.5329	No	-0.6846	No
	Lampung Selatan	-0.9215	No	-0.9580	No	-0.7291	No	-0.9255	No	-0.2870	No
	Lampung Timur	-0.9763	No	-0.9627	No	-0.6744	No	-0.8207	No	0.5353	Yes
	Lampung Tengah	-0.9674	No	-0.9658	No	0.4422	Yes	-0.8220	No	0.0255	Yes
	Lampung Utara	-0.9518	No	-0.9642	No	-0.6286	No	-0.2864	No	-0.5871	No
	Way Kanan	-0.9370	No	-0.9735	No	-0.2136	No	-0.6888	No	-0.7416	No
Kepulauan Riau	Tulang Bawang	-0.5463	No	-0.9142	No	-0.9560	No	-0.7768	No	-0.6933	No
	Pesawaran	-0.9932	No	-0.8830	No	0.0423	Yes	-0.7835	No	-0.1670	No
	Pringsewu	-0.5084	No	-0.9862	No	-0.8921	No	-0.5860	No	0.3120	Yes
	Mesuji	-0.5811	No	-0.9227	No	0.2776	Yes	-0.9058	No	-0.9404	No
	Tulang Bawang Barat	-0.8016	No	-0.5369	No	-0.6369	No	-0.9986	No	-0.6092	No
	Pesisir Barat	N/A	-	-0.9871	No	-0.7021	No	-0.7424	No	-0.0546	No
	Bandar Lampung	-0.6829	No	-0.7363	No	-0.1353	No	1.0000	Yes	-0.7263	No
	Metro	-0.8021	No	-0.2104	No	-0.8655	No	0.7888	Yes	-0.5397	No
	Bangka	-0.2808	No	-0.9190	No	0.2801	Yes	-0.7749	No	-0.5411	No
	Bangka Belitung	-0.6737	No	0.7080	Yes	1.0000	Yes	-0.7705	No	-0.4011	No
DKI Jakarta	Bangka Barat	-0.8501	No	1.0000	Yes	-1.0000	No	-0.9308	No	1.0000	Yes
	Bangka Tengah	-0.6832	No	-0.9392	No	-0.4498	No	-0.8228	No	-0.2544	No
	Bangka Selatan	-0.4870	No	-0.7881	No	-0.2148	No	-0.8890	No	-0.7138	No
	Beliitung Timur	-1.0000	No	-0.8516	No	-0.9197	No	-0.5888	No	-0.3057	No
	Pangkalpinang	-0.6954	No	-0.9188	No	-0.8259	No	-0.5662	No	-0.3391	No
	Karimun	-0.7042	No	-0.9155	No	-0.8139	No	-0.4588	No	-0.8432	No
	Bintan	-0.8720	No	-0.5807	No	-0.1724	No	-0.7151	No	0.1312	Yes
	Natuna	-0.3845	No	-0.9886	No	-0.8636	No	-1.0000	No	-0.8253	No
	Lingga	-0.9472	No	-0.9231	No	-0.9072	No	-0.9148	No	1.0000	Yes
	Kepulauan Anambas	-0.0836	No	-0.8576	No	-0.9601	No	-0.5760	No	-0.7152	No
Jawa Barat	Batam	-0.9463	No	-0.1222	No	-0.8668	No	-0.6159	No	-0.7505	No
	Tanjungpinang	-0.5156	No	-0.8722	No	-0.9404	No	-0.8736	No	-0.3102	No
	Kepulauan Seribu	-0.9362	No	-0.3215	No	-0.8900	No	-0.5414	No	-0.9216	No
	Jakarta Selatan	-0.1069	No	-0.8274	No	-0.8091	No	-0.5059	No	-0.9214	No
	Jakarta Timur	-0.7900	No	-0.9130	No	-0.5535	No	-0.7811	No	-0.8107	No
	Jakarta Pusat	-0.9774	No	-0.9211	No	-0.8959	No	-0.7447	No	-0.8904	No
	Jakarta Barat	-0.6822	No	-0.8272	No	-0.9672	No	-0.9606	No	-0.8945	No
	Jakarta Utara	-0.9594	No	-0.8633	No	-0.9945	No	-0.4138	No	-0.9113	No
	Kab. Bogor	-0.9894	No	-0.8018	No	-0.7148	No	-0.2267	No	-0.5618	No
	Kab. Sukabumi	-0.9920	No	-0.1688	No	-0.9528	No	0.9400	Yes	-0.6702	No
Sumedang	Cianjur	-0.6143	No	-0.9013	No	-0.9146	No	-0.5510	No	-0.2060	No
	Kab. Bandung	-0.9091	No	-0.6695	No	-0.6089	No	-0.7017	No	-0.7678	No
	Garut	-0.8548	No	-0.6470	No	-0.8872	No	0.2310	Yes	0.3011	Yes
	Kab. Tasikmalaya	-0.8062	No	-0.4999	No	-0.8873	No	-0.7064	No	-0.4212	No
	Ciamis	-0.6328	No	-0.6123	No	-0.9057	No	0.3094	Yes	-0.0603	No
	Kuningan	-0.1025	No	-0.7804	No	-0.8827	No	-0.7713	No	-0.6087	No
	Kab. Cirebon	-0.8846	No	-0.6698	No	-0.5615	No	0.2758	Yes	1.0000	Yes
	Majalengka	-0.7324	No	-0.4330	No	-0.8504	No	-0.4616	No	0.6880	Yes
	Sumedang	-0.8130	No	-0.6101	No	-0.9893	No	-0.5774	No	-0.7668	No

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	Indramayu	-0.5999	No	-0.6018	No	-0.9094	No	0.1876	Yes	1.0000	Yes
	Subang	-0.8795	No	-0.3404	No	-0.8941	No	0.8756	Yes	0.0180	Yes
	Purwakarta	-0.0517	No	-0.7874	No	-0.9772	No	-0.5730	No	-0.6001	No
	Karawang	-0.9461	No	-0.5830	No	-0.8925	No	-0.0566	No	-0.3973	No
	Kab. Bekasi	-0.9082	No	-0.5152	No	-0.7197	No	-0.7305	No	1.0000	Yes
	Bandung Barat	-0.9283	No	-0.7446	No	-0.9416	No	-0.2056	No	-0.7177	No
	Pangandaran	N/A	-	1.0000	Yes	-0.9004	No	-0.4872	No	-0.6826	No
	Bogor	-0.9544	No	-0.6177	No	1.0000	Yes	0.7686	Yes	-0.6346	No
	Sukabumi	-0.7650	No	-0.8202	No	-0.5599	No	0.5612	Yes	-0.8290	No
	Bandung	-0.6533	No	-0.8760	No	-0.8339	No	-0.3341	No	-0.5781	No
	Cirebon	-0.9580	No	-0.7696	No	1.0000	Yes	-0.7183	No	-0.8203	No
	Bekasi	-0.9648	No	-0.3227	No	-0.7792	No	0.6515	Yes	-0.6300	No
	Depok	-0.9372	No	-0.9521	No	-0.9666	No	-0.3213	No	-0.5775	No
	Cimahi	-0.5441	No	-0.9152	No	-0.3592	No	-0.2564	No	-0.2987	No
	Tasikmalaya	-0.9863	No	-0.9061	No	-0.5883	No	-0.3025	No	0.6699	Yes
	Banjar	-0.8864	No	-0.4992	No	-1.0000	No	-0.1751	No	0.0669	Yes
Jawa tengah	Cilacap	-0.9388	No	0.1969	Yes	-0.8451	No	0.0215	Yes	0.5400	Yes
	Banyumas	-0.9964	No	-0.8208	No	-0.9372	No	0.3211	Yes	0.4611	Yes
	Purbalingga	-0.9984	No	0.4711	Yes	-0.9626	No	-0.0255	No	-0.7539	No
	Banjarnegara	-0.7542	No	-0.5741	No	-0.9509	No	-0.2306	No	-0.8216	No
	Kebumen	-0.9834	No	-0.8017	No	-0.9560	No	0.1530	Yes	1.0000	Yes
	Purworejo	-0.9453	No	-0.8939	No	-0.8613	No	-0.5431	No	-0.8536	No
	Wonosobo	-0.9965	No	-0.3078	No	-0.8975	No	-0.3091	No	0.6810	Yes
	Kab. Magelang	-0.9289	No	-0.8565	No	-0.8745	No	-0.0233	No	-0.7680	No
	Boyolali	-0.9703	No	-0.5899	No	-0.8733	No	-0.3728	No	-0.4939	No
	Klaten	-0.4974	No	-0.7402	No	-0.4154	No	-0.3316	No	-0.5940	No
	Sukoharjo	-0.9742	No	-0.7731	No	-0.7127	No	-0.4828	No	-0.7346	No
	Wonogiri	-0.7528	No	-0.9269	No	-0.6286	No	-0.6058	No	-0.7681	No
	Karanganyar	-0.3893	No	-0.9945	No	0.2933	Yes	1.0000	Yes	0.0773	Yes
	Sragen	-0.9883	No	-0.7835	No	-0.8993	No	-0.1966	No	-0.4799	No
	Grobogan	-0.8600	No	-0.9730	No	-0.8738	No	1.0000	Yes	-0.4332	No
	Blora	-0.7750	No	-0.9477	No	-0.5506	No	-0.6401	No	-0.7693	No
	Rembang	-0.8883	No	-0.7585	No	-0.8239	No	-0.3147	No	-0.7937	No
	Pati	-0.9694	No	-0.7755	No	-0.8552	No	-0.6268	No	-0.8044	No
	Kudus	-0.9326	No	-0.9586	No	-0.9073	No	-0.0061	No	-0.8223	No
	Jepara	-0.9693	No	-0.6906	No	-0.8621	No	-0.5351	No	-0.4729	No
	Demak	-0.8544	No	-0.4929	No	-0.6283	No	-0.7598	No	-0.0352	No
	Kab. Semarang	-0.9239	No	-0.8790	No	-0.6552	No	-0.1212	No	-0.4620	No
	Temanggung	-0.9619	No	0.2027	Yes	-0.9417	No	-0.1234	No	0.2314	Yes
	Kendal	-0.8332	No	-0.4932	No	-0.6388	No	-0.3582	No	-0.6745	No
	Batang	-0.9470	No	-0.8322	No	-0.8638	No	-0.3109	No	0.0921	Yes
	Kab. Pekalongan	-0.9336	No	-0.9576	No	-0.2953	No	-0.4104	No	-0.6363	No
	Pemalang	-0.9683	No	-0.8109	No	-0.8147	No	-0.5887	No	0.2708	Yes
	Kab. Tegal	-0.8913	No	-0.9977	No	-0.8055	No	-0.3821	No	-0.3193	No
	Brebes	0.0799	Yes	-0.9312	No	-0.8361	No	-0.4842	No	-0.2919	No
	Magelang	-0.6047	No	-0.8614	No	-0.9870	No	-0.7011	No	-0.7315	No
	Surakarta	-0.9706	No	-0.9816	No	-0.6997	No	-0.5479	No	-0.2849	No
	Salatiga	-0.8976	No	-0.6624	No	-0.9135	No	-0.5669	No	-0.4612	No
	Semarang	-0.9599	No	-0.9629	No	-0.8480	No	-0.6886	No	1.0000	Yes
	Pekalongan	-0.8129	No	-0.9388	No	-0.6179	No	-0.5073	No	1.0000	Yes
	Tegal	-0.8159	No	-0.9692	No	-0.9477	No	-0.8192	No	-0.2354	No
DI Yogyakarta	Kulonprogo	-0.6598	No	-0.6733	No	-0.7652	No	-0.5433	No	-0.8812	No
	Bantul	-0.9268	No	-0.5363	No	0.2290	Yes	-0.8316	No	0.1802	Yes
	Gunungkidul	-0.8529	No	-0.1304	No	-0.6367	No	0.1581	Yes	0.2002	Yes
	Sleman	-0.9386	No	0.1108	Yes	-0.8643	No	-0.3788	No	-0.6737	No
	Yogyakarta	-0.9691	No	-0.5680	No	-0.9604	No	-0.2353	No	-0.3854	No
Jawa Timur	Pacitan	-0.9610	No	-0.5816	No	-0.7019	No	-0.7284	No	-0.7932	No
	Ponorogo	-0.9106	No	-0.5091	No	-0.7513	No	-0.5529	No	0.2970	Yes
	Trenggalek	-0.9805	No	1.0000	Yes	-0.9019	No	-0.7584	No	-0.1423	No
	Tulungagung	-0.9565	No	0.1920	Yes	1.0000	Yes	-0.6903	No	-0.7752	No
	Kab. Blitar	-0.9273	No	-0.8852	No	-0.9313	No	-0.9627	No	-0.4981	No
	Kab. Kediri	-0.9735	No	-0.9460	No	-0.8303	No	0.4605	Yes	1.0000	Yes
	Kab. Malang	-0.9203	No	-0.9808	No	-0.8237	No	-0.7431	No	0.0614	Yes
	Lumajang	-0.9515	No	-0.8632	No	-0.5621	No	-0.3930	No	0.2307	Yes
	Jember	-0.9840	No	-0.8108	No	-0.9943	No	-0.3150	No	-0.6936	No
	Banyuwangi	-0.9587	No	1.0000	Yes	-0.7198	No	-0.4165	No	-0.5427	No
	Bondowoso	-0.9810	No	-0.9821	No	-0.6992	No	-0.9689	No	-0.7704	No
	Situbondo	-0.9127	No	-0.8676	No	-0.7519	No	-0.6620	No	-0.6672	No
	Kab. Probolinggo	-0.9126	No	-0.7043	No	-0.9039	No	-0.3715	No	0.5849	Yes
	Kab. Pasuruan	-0.9294	No	1.0000	Yes	-0.8799	No	-0.2380	No	0.1604	Yes
	Sidoarjo	-0.9682	No	-0.9489	No	1.0000	Yes	-0.1403	No	-0.6246	No
	Kab. Mojokerto	-0.9088	No	-0.8669	No	-0.6819	No	-0.8181	No	-0.7880	No
	Jombang	-0.9526	No	-0.9271	No	-0.9175	No	0.4207	Yes	-0.7096	No
	Nganjuk	-0.9121	No	0.1475	Yes	-0.7476	No	-0.9354	No	-0.8047	No
	Kab. Madiun	-0.9073	No	-0.8620	No	0.4318	Yes	-0.0003	No	-0.2011	No
	Magetan	-0.8521	No	-0.8116	No	-0.8416	No	-0.7996	No	0.6081	Yes
	Ngawi	-0.8379	No	-0.7437	No	-0.8349	No	-0.9537	No	-0.7632	No
	Bojonegoro	-0.9804	No	-0.8356	No	0.1367	Yes	-0.7348	No	0.1877	Yes
	Tuban	-0.9339	No	-0.9754	No	-0.1149	No	-0.6492	No	-0.8202	No
	Lamongan	-0.8798	No	-0.8070	No	-0.7407	No	-0.7600	No	-0.2961	No
	Gresik	-0.9334	No	-0.6553	No	-0.8298	No	0.8141	Yes	-0.7912	No
	Bangkalan	-0.9970	No	-0.0274	No	-0.9376	No	-0.3667	No	-0.7187	No
	Sampang	-0.9247	No	-0.3207	No	-0.7724	No	-0.7138	No	0.0858	Yes
	Pamekasan	-0.9452	No	-0.5743	No	0.3683	Yes	-0.1102	No	-0.8744	No
	Sumenep	0.4782	Yes	-0.9683	No	-0.9352	No	-0.8933	No	-0.7306	No
	Kediri	-0.9436	No	-0.8925	No	-1.0000	No	-0.8492	No	-0.8283	No
	Blitar	-0.9538	No	-0.9517	No	-1.0000	No	-0.8075	No	-0.6253	No
	Malang	-0.6711	No	-0.8097	No	-0.6891	No	-0.7837	No	-0.2988	No
	Probolinggo	-0.8872	No	-0.8847	No	-0.9589	No	-0.7907	No	-0.8106	No

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Banten	Pasuruan	-0.9937	No	-0.3308	No	-0.7991	No	-0.6956	No	-0.6607	No
	Mojokerto	-0.9014	No	-0.1124	No	-0.9990	No	-0.9226	No	1.0000	Yes
	Madiun	-0.9794	No	-0.8290	No	-0.8451	No	-0.4777	No	0.3636	Yes
	Surabaya	-0.9708	No	-0.9448	No	-0.8231	No	-0.3045	No	-0.5803	No
	Batu	-0.9885	No	-0.8882	No	-0.7213	No	1.0000	Yes	-0.1962	No
	Pandeglang	-0.3782	No	-0.0546	No	-0.9707	No	-0.9527	No	-0.5578	No
	Lebak	-0.7793	No	-0.4953	No	-0.8437	No	-0.9323	No	-0.6612	No
	Kab. Tangerang	-1.0000	No	-0.5236	No	-0.4815	No	-0.8917	No	-0.9180	No
	Kab. Serang	-0.9199	No	1.0000	Yes	-0.8551	No	-0.3807	No	-0.1704	No
	Tangerang	-0.5602	No	-0.8950	No	-0.9946	No	-0.6322	No	-0.1079	No
Bali	Cilegon	-0.2577	No	-0.1773	No	-0.9496	No	-0.7408	No	-0.6110	No
	Serang	-0.6171	No	-0.5924	No	-0.9894	No	-0.7898	No	-0.3010	No
	Tangerang Selatan	-0.9797	No	1.0000	Yes	-0.7633	No	-0.4577	No	-0.9783	No
	Jembrana	-0.9807	No	-0.7565	No	-0.7333	No	-0.6905	No	1.0000	Yes
	Tabanan	-0.8209	No	-0.7156	No	-0.8693	No	-0.4957	No	-0.3384	No
	Badung	-0.4461	No	-0.0801	No	-0.9944	No	-0.9250	No	-0.2090	No
	Gianyar	-0.9847	No	-0.5264	No	-0.9175	No	-0.7928	No	1.0000	Yes
	Klungkung	-0.6635	No	-0.7634	No	-0.9368	No	-0.9067	No	1.0000	Yes
	Bangli	-0.8842	No	1.0000	Yes	-0.9807	No	-0.8581	No	-0.6536	No
	Karangasem	-0.8800	No	-0.4713	No	-0.9794	No	-0.8372	No	-0.6811	No
Nusa Tenggara Barat	Buleleng	-0.9876	No	-0.2846	No	-0.9646	No	-0.8533	No	-0.8988	No
	Denpasar	-0.9133	No	-0.1252	No	-0.8745	No	-0.7070	No	-0.3412	No
	Lombok Barat	-0.9729	No	-0.8734	No	-0.7060	No	-0.6053	No	-0.9982	No
	Lombok Tengah	-0.9551	No	-0.6391	No	-0.5175	No	0.6677	Yes	-0.8485	No
	Lombok Timur	-0.9695	No	-0.5423	No	-0.9710	No	-0.2602	No	-0.7380	No
	Sumbawa	-0.8873	No	-0.8024	No	-0.3794	No	-0.5841	No	-0.5312	No
	Dompu	-0.7491	No	-0.6759	No	-0.7786	No	-0.6948	No	-0.9776	No
	Kab. Bima	-0.7861	No	-0.1082	No	-0.9399	No	-0.5771	No	-0.9504	No
	Sumbawa Barat	-0.9995	No	-0.8991	No	-0.8374	No	-0.7754	No	-0.9063	No
	Lombok Utara	-0.8199	No	-0.8331	No	0.0510	Yes	-0.1446	No	-0.9691	No
Nusa Tenggara Timur	Mataram	-0.9718	No	1.0000	Yes	-0.9345	No	-0.2800	No	-0.9817	No
	Bima	-0.9878	No	-0.7768	No	-0.9083	No	-0.6924	No	-0.9499	No
	Sumba Barat	-0.6774	No	0.0219	Yes	-0.9504	No	-0.6912	No	-0.9349	No
	Sumba Timur	-0.5541	No	-0.8573	No	-0.9332	No	-0.2532	No	-0.9784	No
	Kab. Kupang	-0.2158	No	-0.8442	No	-0.7672	No	-0.0220	No	-0.9723	No
	Timor Tengah Selatan	-0.3701	No	-0.7986	No	-0.9055	No	-0.6223	No	-0.9638	No
	Timor Tengah Utara	-0.0287	No	-0.6876	No	-0.8160	No	-0.4793	No	-0.9527	No
	Belu	-0.6140	No	-0.1580	No	-0.9809	No	-0.8534	No	-0.7219	No
	Alor	-0.0656	No	-0.3540	No	-0.8829	No	-0.6363	No	-0.9910	No
	Lembata	-0.5706	No	0.3573	Yes	-1.0000	No	-0.9898	No	-0.9292	No
Kalimantan Barat	Flores Timur	-0.2627	No	-0.7120	No	-0.8395	No	-0.9371	No	-0.8823	No
	Sikka	-0.1615	No	-0.9747	No	-0.9414	No	-0.8974	No	-0.9030	No
	Ende	-0.0065	No	-0.8955	No	-0.9914	No	-0.7924	No	-0.4325	No
	Ngada	-0.6692	No	-0.9548	No	-0.9821	No	-0.9250	No	-0.6964	No
	Manggarai	-0.2092	No	-0.7078	No	-0.4884	No	-0.6501	No	-0.6269	No
	Rote Ndao	-0.5715	No	0.0722	Yes	-0.7208	No	-0.4900	No	-0.9670	No
	Manggarai Barat	-0.5866	No	-0.7296	No	-0.9422	No	-0.7254	No	-0.9800	No
	Sumba Tengah	-0.2656	No	-0.4066	No	-0.7850	No	0.6806	Yes	-0.9511	No
	Sumba Barat Daya	-0.5852	No	-0.7757	No	-0.8601	No	-0.7649	No	-0.2431	No
	Nagekeo	-0.3447	No	1.0000	Yes	-0.9768	No	-0.4747	No	-0.9726	No
Kalimantan Tengah	Manggarai Timur	-0.0900	No	0.5660	Yes	-0.7036	No	-0.9180	No	-0.9959	No
	Sabu Raijua	-0.5184	No	-0.8889	No	-0.2069	No	-0.9505	No	0.0816	Yes
	Malaka	N/A	-	-0.8457	No	-0.9147	No	-0.8493	No	-0.9186	No
	Kupang	-1.0000	No	-0.9199	No	-0.9180	No	-0.9290	No	-0.1340	No
	Sambas	-0.9800	No	-0.8105	No	-0.9256	No	-0.8675	No	-0.7631	No
	Bengkayang	-0.4032	No	-0.3034	No	-0.9471	No	-0.1500	No	-0.3676	No
	Landak	-0.2839	No	-0.5984	No	1.0000	Yes	-0.1652	No	-0.7526	No
	Mempawah	0.1551	Yes	-0.8912	No	-1.0000	No	-0.8569	No	-0.8225	No
	Sanggau	1.0000	Yes	-0.7987	No	-0.9730	No	-0.9127	No	-0.8875	No
	Ketapang	-0.8749	No	-0.3661	No	-0.6904	No	-0.9677	No	1.0000	Yes
Kalimantan Selatan	Sintang	-0.8643	No	-0.7523	No	-0.9342	No	-1.0000	No	0.7797	Yes
	Kapuas Hulu	-0.8810	No	-0.8848	No	-0.8723	No	-0.9278	No	-1.0000	No
	Sekadau	-0.9955	No	-0.2803	No	-0.2592	No	-0.5588	No	-0.9426	No
	Melawi	-0.9474	No	-0.9352	No	-0.9512	No	-0.8992	No	-0.1291	No
	Kayong Utara	-0.3589	No	-0.9300	No	-0.5861	No	-0.8450	No	-0.9380	No
	Kubu Raya	-0.9154	No	0.4414	Yes	-0.7785	No	-0.7148	No	-0.7618	No
	Pontianak	-0.9996	No	-0.8383	No	1.0000	Yes	-0.7561	No	-0.8735	No
	Singkawang	-0.8882	No	-0.7631	No	-0.8469	No	-0.1051	No	-0.8402	No
	Kotawaringin Barat	-0.7054	No	-0.9303	No	-0.2744	No	0.1452	Yes	-0.7300	No
	Kotawaringin Timur	-0.7976	No	-0.9165	No	-0.9487	No	-0.9784	No	-0.5305	No
Kalimantan Selatan	Kapuas	-0.7504	No	-0.9100	No	1.0000	Yes	-0.9015	No	-0.9192	No
	Barito Selatan	1.0000	Yes	-0.7610	No	-0.8476	No	-0.9085	No	-0.6350	No
	Barito Utara	-0.6441	No	-0.3620	No	-0.8745	No	-0.8153	No	-0.8918	No
	Sukamara	-0.8201	No	1.0000	Yes	-0.8628	No	-0.8281	No	-0.8500	No
	Lamandau	1.0000	Yes	-0.4178	No	-0.3247	No	-0.2446	No	-0.9128	No
	Seruyan	-0.9670	No	-0.7229	No	-0.5284	No	-0.9511	No	-0.6825	No
	Katingan	-0.9950	No	-0.7889	No	0.4671	Yes	-0.6991	No	1.0000	Yes
	Pulang Pisau	-0.9331	No	-0.8751	No	-0.7144	No	-0.3522	No	-0.8673	No
	Gunung Mas	-0.7700	No	-0.8424	No	-0.9905	No	1.0000	Yes	-0.8131	No
	Barito Timur	-0.9138	No	-0.8129	No	-0.6207	No	0.0686	Yes	-0.9129	No
Kalimantan Selatan	Murung Raya	-0.5125	No	-0.8605	No	-0.5150	No	-0.7976	No	0.1397	Yes
	Palangka Raya	-0.9484	No	-0.8105	No	-0.9070	No	-0.8087	No	-0.7961	No
	Tanah Laut	-0.8839	No	-1.0000	No	-0.8655	No	1.0000	Yes	-0.8620	No
	Kotabaru	1.0000	Yes	-0.6989	No	1.0000	Yes	-0.8272	No	-0.9535	No
	Banjarnegara	-0.3635	No	0.3691	Yes	-0.8790	No	-0.5108	No	-0.9046	No
	Barito Kuala	-0.9317	No	-0.7168	No	-0.8438	No	-0.5775	No	-0.9147	No
	Tapin	-0.9506	No	1.0000	Yes	-0.9119	No	-0.7755	No	-0.7074	No
	Hulu Sungai Selatan	-0.8254	No	-0.9301	No	1.0000	Yes	-0.0367	No	-1.0000	No
	Hulu Sungai Tengah	-0.9929	No	-1.0000	No	-0.8857	No	-0.6445	No	-0.7309	No

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Kalimantan Timur	Hulu Sungai Utara	-0.9887	No	0.6391	Yes	-0.9186	No	0.7978	Yes	-0.4566	No
	Tabalong	-0.8545	No	-0.8732	No	-0.2158	No	-0.8132	No	-0.9429	No
	Tanah Bumbu	-0.7280	No	-0.6395	No	-0.4129	No	-0.8629	No	1.0000	Yes
	Balangan	-0.8193	No	1.0000	Yes	-1.0000	No	-0.7195	No	-0.7847	No
	Banjarmasin	-0.9468	No	1.0000	Yes	1.0000	Yes	-0.9958	No	-0.9652	No
	Banjarmasin	-1.0000	No	-0.6223	No	-0.9208	No	-0.4470	No	-0.7754	No
	Paser	-0.5243	No	-0.9365	No	-0.5236	No	-0.8309	No	-0.9506	No
	Kutai Barat	-0.2878	No	-0.9712	No	-0.7815	No	-0.8741	No	-0.9805	No
	Kutai Kartanegara	-0.8037	No	-0.5992	No	-0.9175	No	-0.6187	No	-0.3549	No
	Kutai Timur	-0.8808	No	-1.0000	No	-0.7492	No	-0.8531	No	-0.8385	No
	Berau	-1.0000	No	-1.0000	No	-0.9360	No	-1.0000	No	-0.9963	No
	Penajam Paser Utara	-0.9290	No	-0.4257	No	-0.9132	No	-0.7074	No	-0.8080	No
	Mahakam Ulu	N/A	-	-0.6687	No	-0.3514	No	-0.9435	No	-0.9547	No
	Balikpapan	-0.4220	No	-0.6690	No	-0.9958	No	-0.8199	No	-0.4011	No
Samarinda	-0.7264	No	-1.0000	No	-0.9697	No	1.0000	Yes	-0.9923	No	
Bontang	-0.7290	No	-0.8303	No	-0.8486	No	-0.1553	No	-0.5665	No	
Kalimantan Utara	Malinau	-0.4187	No	-0.6292	No	-0.3621	No	-0.6215	No	-0.4667	No
	Bulungan	-0.3053	No	-0.8200	No	-0.4284	No	0.0273	Yes	-0.6411	No
	Tana Tidung	-0.1995	No	-0.3072	No	-0.6001	No	-0.4344	No	-0.8400	No
	Nunukan	-0.0984	No	-1.0000	No	-0.5705	No	-0.1591	No	-0.3879	No
	Tarakan	-0.5525	No	-0.8894	No	-0.0642	No	-0.5283	No	-0.4508	No
Sulawesi Utara	Bolaang Mongondow	1.0000	Yes	1.0000	Yes	-0.8926	No	-0.4938	No	-0.3745	No
	Minahasa	-0.8859	No	-0.8738	No	0.3783	Yes	-0.7520	No	-0.9159	No
	Kepulauan Sangihe	-0.9894	No	-0.9993	No	1.0000	Yes	-0.9911	No	0.1532	Yes
	Kepulauan Talaud	-0.9918	No	-0.9659	No	-0.7822	No	-0.9157	No	-0.7949	No
	Minahasa Selatan	-0.5298	No	-0.4209	No	-0.9616	No	-0.6123	No	-0.9216	No
	Minahasa Utara	-0.8472	No	-0.9412	No	-0.3524	No	-0.3408	No	-0.9666	No
	Bolaang Mongondow Utara	-0.8128	No	-0.9061	No	-0.7719	No	-0.6522	No	-0.7369	No
	Kep. Siau Tagulandang Biaro	-0.8583	No	-0.9456	No	-0.8581	No	0.1772	Yes	1.0000	Yes
	Minahasa Tenggara	-0.2973	No	-0.8195	No	0.1375	Yes	-0.2870	No	-0.7577	No
	Bolaang Mongondow Selatan	-0.8011	No	-0.6382	No	-0.5800	No	-0.8440	No	-0.8975	No
	Bolaang Mongondow Timur	-0.8847	No	-0.9253	No	-0.8117	No	-0.8657	No	-0.9542	No
	Manado	-0.7541	No	-0.4901	No	-0.9217	No	-0.9481	No	-0.8934	No
	Bitung	-0.9904	No	-0.9222	No	-1.0000	No	-0.8993	No	-0.6417	No
	Tomohon	-0.9473	No	-0.9127	No	-0.9462	No	-0.1518	No	-0.8246	No
Kotamobagu	-0.9830	No	-0.9604	No	-0.9263	No	-1.0000	No	-0.9007	No	
Sulawesi Tengah	Banggai Kepulauan	-0.7637	No	-0.5206	No	-0.9256	No	0.4420	Yes	-0.5020	No
	Banggai	-0.9258	No	-0.9536	No	-0.7159	No	-0.9247	No	-0.2403	No
	Morowali	-0.9493	No	-0.3551	No	-0.5541	No	-0.9905	No	-0.7180	No
	Poso	-0.8240	No	0.3765	Yes	-0.6076	No	-0.3010	No	-0.4522	No
	Donggala	-0.4492	No	-0.8294	No	-0.9234	No	-0.9668	No	-0.7241	No
	Tolitoli	-0.7261	No	-0.9615	No	-0.9124	No	-0.2100	No	1.0000	Yes
	Buol	-0.0620	No	-0.8381	No	-0.9768	No	-0.5935	No	-0.8015	No
	Parigi Moutong	-0.7069	No	-0.9145	No	-0.8566	No	-0.8602	No	-0.5716	No
	Tojo Una-una	-0.9645	No	-0.9635	No	0.0555	Yes	-0.9611	No	-0.3394	No
	Sigi	-0.2211	No	-0.9867	No	-0.9564	No	-0.9546	No	-0.7590	No
	Banggai Laut	N/A	-	-0.3830	No	-0.8281	No	-0.9662	No	-0.7164	No
	Morowali Utara	N/A	-	-0.5611	No	-0.7370	No	-0.9537	No	-0.8084	No
	Kota Palu	-0.8242	No	-0.8462	No	-0.1632	No	-0.7893	No	-0.6703	No
	Sulawesi Selatan	Kepulauan Selayar	-0.7828	No	-0.9224	No	-0.8213	No	-0.8606	No	0.0355
Bulukumba		-0.3447	No	-0.9482	No	1.0000	Yes	-0.6075	No	-0.8305	No
Bantaeng		-0.6171	No	-0.9925	No	-0.9593	No	-0.8208	No	1.0000	Yes
Jeneponto		0.0028	Yes	-0.9102	No	-0.8920	No	-0.9043	No	-0.7123	No
Takalar		-0.7412	No	-0.9767	No	-0.8512	No	-0.4001	No	-0.8809	No
Gowa		-0.7304	No	-0.0338	No	-1.0000	No	-0.4535	No	-0.8154	No
Sinjai		-0.8088	No	-0.9085	No	-0.8639	No	-0.8166	No	-0.3758	No
Maros		-0.9327	No	-0.5656	No	-0.6537	No	-0.0771	No	-0.7277	No
Pangkajene dan Kepulauan		-0.9249	No	-0.8088	No	-0.9975	No	0.3979	Yes	-0.1385	No
Barru		-0.5908	No	-0.9850	No	-0.9288	No	0.3875	Yes	-0.5850	No
Bone		-0.4755	No	-0.9773	No	-0.9164	No	-0.8449	No	-0.8024	No
Soppeng		-0.8405	No	-0.9619	No	-0.4500	No	-0.5221	No	-0.8961	No
Wajo		-0.9516	No	-0.9026	No	-0.9633	No	-1.0000	No	0.7116	Yes
Sidenreng Rappang		-0.6531	No	-0.9525	No	1.0000	Yes	-0.7228	No	-0.6467	No
Pinrang		-0.9359	No	-0.8310	No	-0.9885	No	-0.9099	No	-0.9108	No
Enrekang		-0.9479	No	-0.6399	No	-0.9022	No	-0.7945	No	-0.7379	No
Luwu		-0.9392	No	-0.8270	No	-0.9184	No	-0.5741	No	-0.6152	No
Tana Toraja		-0.8292	No	-0.9090	No	-0.8986	No	-0.9594	No	-0.7065	No
Luwu Utara		-0.9794	No	-0.8743	No	-0.9842	No	-0.8111	No	-0.9444	No
Luwu Timur		-0.5179	No	-0.5936	No	-0.9344	No	-0.0626	No	-0.7824	No
Toraja Utara		-0.9075	No	-0.6625	No	-0.9659	No	-0.6382	No	-0.5786	No
Makassar		-0.7531	No	-0.9146	No	-0.9438	No	-0.7097	No	-0.7430	No
Pare Pare	-0.9043	No	-0.3174	No	-0.6550	No	-0.9526	No	-0.4672	No	
Palopo	-0.7377	No	-0.6958	No	-0.9894	No	-0.6195	No	0.0125	Yes	
Sulawesi Tenggara	Buton	-0.8558	No	-0.8066	No	-0.7968	No	-0.9385	No	-0.9654	No
	Muna	-0.7640	No	-0.9417	No	-0.3481	No	-0.4120	No	-0.8626	No
	Konawe	-0.9104	No	-0.9987	No	1.0000	Yes	-0.2014	No	-0.6119	No
	Kolaka	-0.8273	No	-0.8552	No	-0.2610	No	-0.6304	No	-0.1960	No
	Konawe Selatan	-0.9986	No	-0.9346	No	1.0000	Yes	-0.8097	No	-0.9492	No
	Bombana	-0.8421	No	-0.8824	No	-0.7167	No	-0.6037	No	-0.6761	No
	Wakatobi	-0.9368	No	-0.8101	No	-0.8621	No	-0.5662	No	1.0000	Yes
	Kolaka Utara	-1.0000	No	-0.8851	No	-0.6864	No	-0.3625	No	0.5784	Yes
	Buton Utara	-0.8895	No	-0.9855	No	-0.4479	No	-0.7424	No	-0.6016	No
	Konawe Utara	-0.9228	No	-0.9147	No	-0.2339	No	-0.9354	No	1.0000	Yes
	Kolaka Timur	N/A	-	-0.9708	No	-0.9658	No	1.0000	Yes	-0.8838	No
	Konawe Kepulauan	N/A	-	-0.8842	No	-0.7867	No	-0.7700	No	1.0000	Yes
	Muna Barat	N/A	-	N/A	-	N/A	-	1.0000	Yes	-0.9046	No
	Buton Tengah	N/A	-	N/A	-	N/A	-	-0.7351	No	-1.0000	No
Buton Selatan	N/A	-	N/A	-	N/A	-	-0.8331	No	0.5284	Yes	
Kota Kendari	-0.3829	No	-0.9567	No	-0.6493	No	-0.5817	No	-0.8432	No	

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Gorontalo	Kota Baubau	-0.8178	No	-0.8544	No	-0.6976	No	-0.7091	No	-0.6966	No
	Boalemo	-0.4047	No	-0.7449	No	-0.2536	No	-0.5012	No	-0.3427	No
	Kab. Gorontalo	-1.0000	No	-0.7602	No	-0.4265	No	-0.7168	No	-0.5779	No
	Pohuwato	-0.8089	No	-0.8218	No	-0.9657	No	-0.7723	No	-0.5985	No
	Bone Bolango	-0.5208	No	-0.8322	No	-0.6765	No	0.3173	Yes	-0.4991	No
	Gorontalo Utara	-0.8442	No	-0.8591	No	-0.8883	No	-0.7764	No	1.0000	Yes
Sulawesi Barat	Kota Gorontalo	-0.7676	No	-0.9992	No	-0.8639	No	-0.8465	No	1.0000	Yes
	Majene	-0.9301	No	-0.8506	No	-0.7204	No	-0.9662	No	-0.9130	No
	Polewali Mandar	-0.2924	No	-0.8408	No	-0.5538	No	-0.9857	No	-0.7785	No
	Mamasana	-0.8029	No	-0.5845	No	-0.9443	No	-0.9177	No	-0.9754	No
	Mamuju	-0.9804	No	-0.4438	No	-0.7412	No	-0.3193	No	-0.8750	No
	Pasangkayu/ Mamuju Utara	-1.0000	No	-0.7487	No	-0.9566	No	-0.6349	No	-0.2541	No
Maluku	Mamuju Tengah	N/A	-	-0.9589	No	-0.9814	No	-0.9335	No	-0.6514	No
	Maluku Tenggara Barat	-0.9019	No	-0.9054	No	0.6248	Yes	-0.8632	No	-0.7694	No
	Maluku Tenggara	-0.4013	No	-0.9154	No	-0.6786	No	-0.9131	No	-0.8873	No
	Maluku Tengah	-0.8050	No	-0.8384	No	-0.8435	No	-0.6796	No	-0.9840	No
	Buru	-0.8368	No	-0.6362	No	-0.0190	No	-0.8641	No	0.4206	Yes
	Kepulauan Aru	-0.5378	No	-0.9832	No	1.0000	Yes	-0.9977	No	-0.9492	No
	Seram Bagian Barat	-0.0543	No	-0.9723	No	-0.8160	No	-1.0000	No	-0.8606	No
	Seram Bagian Timur	-0.4977	No	-0.8199	No	-0.8032	No	-0.9930	No	-0.5605	No
	Maluku Barat Daya	-0.0303	No	-0.6544	No	-0.8117	No	-0.9206	No	-0.7423	No
	Buru Selatan	-0.7159	No	-0.8503	No	-0.9898	No	-0.7799	No	-0.9764	No
	Ambon	0.3632	Yes	-0.4487	No	-0.3152	No	-0.4768	No	1.0000	Yes
	Tual	-0.6093	No	-0.9863	No	-0.8253	No	0.0186	Yes	-0.6348	No
	Maluku Utara	Halmahera Barat	-1.0000	No	-0.5779	No	1.0000	Yes	-0.9988	No	-0.6178
Halmahera Tengah		-0.2199	No	-0.3802	No	-0.9439	No	-0.9665	No	-0.9457	No
Kepulauan Sula		-0.7281	No	-0.9479	No	-0.8988	No	-0.9185	No	-1.0000	No
Halmahera Selatan		0.6843	Yes	-0.6130	No	-0.9993	No	-0.5868	No	-0.0136	No
Halmahera Utara		-0.5927	No	-0.3021	No	-0.9032	No	-0.8584	No	-0.9731	No
Halmahera Timur		-0.8234	No	-0.8058	No	-0.9403	No	-0.7813	No	-0.6639	No
Pulau Morotai		-0.8729	No	-0.6698	No	-0.9994	No	-0.8107	No	-0.9577	No
Pulau Taliabu		N/A	-	-0.9062	No	-0.7329	No	-0.4580	No	-0.9527	No
Ternate		-0.4375	No	-0.7951	No	-0.9023	No	-0.7566	No	-0.8500	No
Tidore Kepulauan		-0.3523	No	-0.7342	No	-0.5416	No	-0.8886	No	-0.6134	No
Papua Barat		Fakfak	-0.2896	No	-0.7849	No	-0.2930	No	-0.8239	No	0.0128
	Kaimana	-0.8683	No	-0.8728	No	-0.9481	No	-0.9191	No	-0.9565	No
	Teluk Wondama	0.6871	Yes	-0.5148	No	-0.9959	No	-0.6149	No	-0.4894	No
	Teluk Bintuni	0.5961	Yes	-0.1866	No	-0.8032	No	0.4606	Yes	-0.6919	No
	Manokwari	-0.5171	No	-0.9587	No	-0.8518	No	0.3585	Yes	-0.1156	No
	Sorong Selatan	-0.8276	No	-0.9158	No	-0.3508	No	-0.9958	No	-0.8688	No
	Sorong	-0.6756	No	-0.9483	No	-0.8714	No	0.5765	Yes	-0.0029	No
	Raja Ampat	-0.9542	No	-0.2075	No	-0.7098	No	1.0000	Yes	-0.8191	No
	Tambrauw	-0.8624	No	-0.0126	No	-0.7208	No	-0.8672	No	0.5856	Yes
	Maybrat	-0.9656	No	-0.8392	No	-0.9405	No	-0.3124	No	-0.6461	No
	Manokwari Selatan	N/A	-	-0.1365	No	-0.9496	No	-0.5287	No	-0.4311	No
	Pegunungan Arfak	N/A	-	-0.1689	No	-0.2507	No	-0.5140	No	-0.1570	No
	Kota Sorong	1.0000	Yes	-0.4281	No	-0.9612	No	-0.3686	No	1.0000	Yes
Papua	Merauke	-0.2796	No	-0.9948	No	-0.8601	No	-0.7194	No	-0.8086	No
	Jayawijaya	1.0000	Yes	-0.9845	No	-0.8660	No	-0.9741	No	-0.3021	No
	Kab. Jayapura	-0.6309	No	0.5658	Yes	-0.7413	No	-0.5784	No	-0.9449	No
	Nabire	-0.7888	No	-0.5467	No	-0.8214	No	-0.2735	No	0.0856	Yes
	Kepulauan Yapen	-0.6790	No	-0.8255	No	-0.4793	No	-0.5198	No	1.0000	Yes
	Biak Numfor	-0.7732	No	-0.8456	No	-0.5513	No	-0.7487	No	-0.9566	No
	Paniai	-0.8305	No	-0.0633	No	-0.3695	No	-0.9943	No	-0.9165	No
	Puncak Jaya	-0.6730	No	-0.9846	No	-0.0442	No	-0.9571	No	-0.8828	No
	Mimika	-1.0000	No	0.3721	Yes	-0.9616	No	-0.5218	No	-0.9987	No
	Boven Digoel	-0.4742	No	-0.5503	No	-0.7586	No	-0.8564	No	-0.7346	No
	Mappi	-0.8797	No	-0.9612	No	-0.8854	No	-0.9752	No	-0.7626	No
	Asmat	-0.9072	No	-0.4037	No	-0.9213	No	-0.9504	No	-0.7753	No
	Yahukimo	-0.6898	No	-0.6436	No	-0.7168	No	-0.8875	No	-0.8823	No
	Pegunungan Bintang	-0.7851	No	-0.9799	No	-0.9004	No	-0.9579	No	-0.4764	No
	Tolikara	-0.8559	No	-0.4041	No	-0.8811	No	-0.9226	No	-0.9553	No
	Sarmi	-0.9017	No	-0.9818	No	-0.9981	No	-0.2017	No	1.0000	Yes
	Keerom	-0.3516	No	-0.8399	No	-0.8565	No	-0.9011	No	-0.9858	No
	Waropen	-0.8385	No	-0.9268	No	-0.4999	No	-0.9421	No	-0.8317	No
	Supiori	-0.0421	No	-0.0371	No	-0.7890	No	-0.0149	No	-0.9107	No
	Mamberamo Raya	-0.8391	No	-0.9641	No	-0.8710	No	-0.9808	No	-0.8366	No
	Nduga	N/A	-	N/A	-	-0.4125	No	-0.8257	No	-0.9413	No
	Lanny Jaya	-0.0618	No	-0.5443	No	-0.6604	No	-0.7093	No	-0.8436	No
	Mamberamo Tengah	-0.9790	No	-0.8216	No	-0.7172	No	-0.8839	No	-0.8481	No
	Yalimo	-0.9821	No	-0.9825	No	-0.8755	No	-0.7072	No	-0.6234	No
	Puncak	-0.6729	No	-0.8348	No	-0.8597	No	-0.9215	No	-0.9656	No
	Dogiyai	-0.9431	No	-0.7158	No	-0.8745	No	-0.9760	No	-0.2442	No
	Intan Jaya	-0.2597	No	-1.0000	No	0.7188	Yes	-0.7369	No	-1.0000	No
Deiyai	-0.7518	No	-0.7909	No	-0.3308	No	-0.9568	No	-0.8587	No	
Kota Jayapura	-0.9079	No	-0.9026	No	-0.8719	No	-0.8398	No	-0.8586	No	