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Balancing Funds, Investment, Length of Schooling, Unemployment Rate and Income Inequality in Indonesia

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ABSTRACT: The goal of a country's economic development is an equal distribution of income. This study aimed to analyze the direct and indirect effects of balancing funds, domestic investment (PMDN), foreign investment (PMLN), the average length of schooling (RLS), and the open unemployment rate (TPT) on income inequality in Indonesia in 2015-2021. GRDP per capita is an intervening variable, while income inequality is the dependent variable with the Gini Ratio as an indicator. This study uses secondary data in the form of panel data. The method used is Random Effect Model (REM) and Fixed Effect Model (FEM). The results of the panel data regression show that the variable balance funds and RLS have a negative and significant effect, and PMDN has a positive and significant impact on income inequality. Indirectly, the variable balancing funds, PMLN, and RLS negatively and significantly affect income inequality through GRDP per capita. Meanwhile, the TPT variable does not affect income inequality.

KEYWORDS: Income Inequality, Investment, Income Distribution

1. INTRODUCTION

Economic development is an activity carried out by a country to improve the welfare of its people. According to Arsyad (2016: 282), the essence of the development process is the eradication of poverty and the elimination of the development of inequality in income distribution. Kuncoro (2012: 257) further states that the purpose of the development process is to pay attention to the operation of equity formed in economic activity in addition to growth and increase in per capita income. Equally, the distribution of results and the development process is the primary goal of development itself. The Gross Domestic Product (GDP) per capita in Indonesia calculates by the Central Bureau of Statistics (BPS). According to BPS, in 2015, Indonesia's GDP per capita was IDR 35,161,890, which continued to increase until the 2019 data reached IDR 41,021,610. However, since the Corona Virus Disease 2019 (COVID-19) pandemic hit Indonesia, Indonesia's GDP per capita in 2020 fell to IDR 39,778,890 and increased again in 2021 to IDR 40,775,880. However, more than GDP per capita population is used as the only measure in assessing a country's development performance. Therefore, development must be seen as a multidimensional process involving fundamental changes in social structure, societal attitudes, and national institutions, accelerating growth, reducing inequality, and alleviating poverty (Todaro & Smith, 2006). There needs to be more than GDP per capita population to be used as the only measure in assessing a country's development performance. Therefore, development must be seen as a multidimensional process involving fundamental changes in social structure, societal attitudes, and national institutions, accelerating growth, reducing inequality, and alleviating poverty (Todaro & Smith, 2006). There needs to be more than GDP per capita population to be used as the only measure in assessing a country's development performance. Therefore, development must be seen as a multidimensional process involving fundamental changes in social structure, societal attitudes, and national institutions, accelerating growth, reducing inequality, and alleviating poverty (Todaro & Smith, 2006).

In Indonesia, income inequality is measured using the Gini Ratio. From the data for the last seven years, Indonesia's Gini Ratio has fluctuated yearly but relatively decreased, namely by 0.408 in 2015 to 0.381 in 2021. During the same period, Indonesia's economic growth rate in the last seven years fluctuated but tended to decrease by 4 .88 percent in 2015 to 3.69 percent in 2021. Indonesia's highest economic growth rate occurred in 2018 at 5.17 percent and experienced a contraction of -2.07 percent in 2020.

Income inequality is also a subject of debate among developmental economists, some of whom think that the problem of income inequality that has occurred in various countries so far is closely related to the problem of resource redistribution, especially fiscal redistribution. Each country implements a different resource redistribution system, some countries use a decentralized system, and some use a centralized system. Indonesia, in particular, has adopted a fiscal decentralization system after adopting a

centralized approach for a long time during the New Order era. After the New Order collapsed, the Indonesian state fiscal system changed to fiscal decentralization. After entering the age of decentralization, the central government manages most of the budget, and now most of it is allocated through balancing funds. Most funds in the regions are balancing funds, which are approximately 60 percent of the total regional revenues.

Besides government spending, a critical component in the sustainability of economic activity is investment, both domestic investment (PMDN) and investment from abroad (PMLN). According to Sukurno (1998), the distribution of per capita income occurs with more and more investment used in the production process of goods and services where more labor can be absorbed. Based on Harrod-Domar theory(in Hartini, 2017)which explains the existence of a positive relationship between the level of investment and the rate of economic growth, it can be stated that little investment in area results in economic growth and the income level of people per capita in that area is low due to the lack of productive economic activities. With the concentration of investment in an area, this imbalance in investment distribution is one of the main factors causing development inequality.

In addition, several studies also link income inequality with human capital. Such as De Gregorio & Lee (2002)and Parks (2017), who examined the effect of the average length of schooling on income inequality, found that the average length of schooling had a negative impact on income inequality. Based on BPS data, the average length of schooling (RLS) for Indonesia's population will reach 8.54 years in 2021. This figure has grown by 0.06 years compared to 2020, which was 8.48 years. Compared to 7 years ago, the RLS of Indonesia's population in 2021 has increased by 0.7 years. In 2015, the RLS population of Indonesia was only 7.84 years. Seeing the trend, RLS in Indonesia has continued to grow in the last seven years. On the other hand, income inequality in Indonesia in the same period has decreased.

Finally, the income inequality in Indonesia cannot be separated from the unemployment factor. From 2015 to 2019, the unemployment rate in Indonesia continued to decline from 6.18 percent to 5.23 percent. However, after the Covid-19 pandemic hit Indonesia, the unemployment rate reached 7.07 percent in 2020 and fell to 6.49 in 2021. The decline in the unemployment rate in Indonesia has had a positive impact on income inequality. In line with the results of research conducted by Deyshapriya (2017) According to him, income inequality is significantly and positively affected by unemployment. If the unemployment rate increases, the impact will reduce the wage rate.

From the description above, income inequality in Indonesia is still a problem, so it is necessary to find the right solution. From the various policies implemented by the Indonesian government, the authors take several indicators that can influence income inequality, namely GRDP per capita, balancing funds, domestic investment (PMDN) and foreign investment (PMLN), the average length of schooling, and the open unemployment rate.

2. LITERATURE REVIEW

Income Inequality Concept

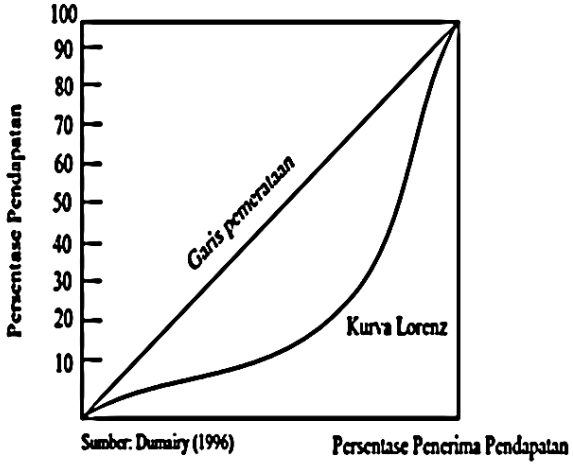
Several theories and models have been developed to explain inequality in the economy. The theory that explains the phenomenon of inequality is Kuznet's theory (1955) with the inverted U hypothesis. According to this theory, income inequality between regions will increase at the beginning of the economic development phase and then decrease along with the economic development process.

Widening inequality in the economy is scientifically explained by Myrdal (1957) in the theory of cumulative causation. Based on this theory, the growth of developed regions will sacrifice backward areas. Dependence on capital, raw materials, and labor from underdeveloped areas for the development of a region will make underdeveloped areas even more backward.

According to Banerjee & Iyer (2005), regional differences in the quality of institutions can also significantly influence regional economic development within countries. In addition, Henderson (2002) reveals that political institutions that determine the distribution of resources and fiscal between the federal, state, and local governments can play an essential role in determining spatial inequality.

Inequality Measure

The size distribution of income is one of the most frequently used indicators by economists. In general, this first inequality is calculated by calculating the percentage of income the poorest 40 percent of the population receives. Furthermore, inequality can also be measured by comparing the percentage of income received by the poorest 40 percent of people with the percentage received by the wealthiest 20 percent. (Todaro, 1989:145).



Lorenz Curve Drawing

The Lorenz curve describes the cumulative distribution of national income among the population. This curve is located in a square where the vertical side represents the cumulative percentage of national income, while the flat side represents the cumulative percentage of the population. The Lorenz curve closer to the diagonal (straighter) indicates that the distribution of national income is more even. Conversely, if the Lorenz curve is further away from the diagonal (more curved), the situation worsens, and the distribution of national income becomes increasingly unequal and unequal (Arsyad, 2016).

The Gini index is a measure of evenness calculated by comparing the area between the diagonals, the Lorenz curve divided by the area of the triangle below the diagonal. The Gini index is between zero and one. If the Gini index value is close to zero, it indicates low inequality, while if the Gini index value is close to one, it shows high inequality (Todaro & Smith, 2006).

The Relationship between Fiscal Decentralization, Per Capita Income and Income Inequality

Brueckner (1999 in Aswar, 2018) wrote that the impact of decentralization on growth in per capita income depended on how the demand for public goods differed between regions. Decentralization can also generate incentives for investment in human capital and, through this investment, can permanently increase per capita income and economic growth.

McKinnon (1995) and Qian & Weingast (1997) said that income inequality could be linked to the efficiency of public services, and fiscal decentralization not only contributes to increased efficiency but also reduces income inequality. Competition between regions can ultimately reduce regional inequality without a centrally mandated-redistribution policy.

Investment Relations, Income Per Capita, and Income Inequality

Based on Harrod-Domar theory (in Hartini, 2017) which explains the existence of a positive relationship between the level of investment and the rate of economic growth, it can be stated that little investment in area results in economic growth and the income level of people per capita in that area is low due to the lack of productive economic activities.

More Harrod-Domar (in Arsyad, 2016) explained that the formation of capital/investment is essential to economic growth. In theory, Harrod-Domar argues that investment affects economic growth in a longer-term perspective. It can be concluded that investment will directly or indirectly affect economic growth, then with an increase in investment, economic growth will also increase; along with an increase in growth, it will affect income inequality.

The Relationship between Human Capital, Per Capita Income and Income Inequality

Regarding development economics, Knight and Sabot (1983 in Aswar, 2018) also emphasize the effect of human capital accumulation on income distribution due to the composition and compression of wages in the economy. They state that educational development has two distinct effects on income distribution. The impact of wage compression lowers education premiums as the relative supply of educated workers increases, reducing income inequality. On the other hand, compositional effects increase the relative size of groups with more education and tend to initially increase income inequality but eventually decrease it.

The Relationship between Unemployment, Per Capita Income and Income Inequality

Mankiw et al. (2014) define unemployment as someone who has temporarily stopped working or is looking for work. An unemployed person does not earn income. The higher unemployment, the more labor groups who do not have income. Unemployment that is too high can reduce the wages of low-income groups so that income inequality is even higher (Sukirno,

1998). Situations like this require job vacancies to be provided and created in accordance with changes in the number of workers so that the distribution of income is equitable.

3. RESEARCH METHODS

This research is quantitative research with research data in the form of numbers from various sources in the form of secondary data. This research is explanatory research by analyzing the relationship between variables. The variables used in this study are balancing funds, PMDN, PMLN, the average length of schooling, the open unemployment rate, GRDP per capita, and income inequality.

The type of data used in this study is secondary data, namely balancing funds, PMDN, PMLN, the average length of schooling, open unemployment rate, Gini ratio, and GRDP per capita at constant prices for all provinces in Indonesia from 2015-2021. PMDN data, PMLN, the average length of schooling, open unemployment rate, gini ratio, and GRDP per capita at constant prices for all provinces were obtained at the RI BPS office. Balancing fund data for all Provinces is received at the Directorate General of Fiscal Balance of the Ministry of Finance to examine the relationship between balancing funds, PMDN, PMLN, the average length of schooling, open unemployment rate, GRDP per capita, and income inequality, a simultaneous modeling framework is used. Concurrent treatment of all variables is the most suitable tool to see the direct and indirect effects of balance funds, PMDN, PMLN, the average length of schooling, open unemployment rate, and GRDP per capita on income inequality. Therefore, this study used a path analysis model to look for direct and indirect relationships between the independent and dependent variables.

This study produces a structural equation that describes the relationship between the components of the Balancing Fund (X1), PMDN (X2), PMLN (X3), Average Length of School (X4), Open Unemployment Rate (X5), GRDP per capita (Y), and Income Inequality (Z). The structural equation in the regression model can be formulated as follows:

$$Y = c + \rho_{yx_1}X_1 + \rho_{yx_2}X_2 + \rho_{yx_3}X_3 + \rho_{yx_4}X_4 + \rho_{yx_5}X_5 + \varepsilon_1 \quad (1)$$

$$Z = c + \rho_{zx_1}X_1 + \rho_{zx_2}X_2 + \rho_{zx_3}X_3 + \rho_{zx_4}X_4 + \rho_{zx_5}X_5 + \rho_{zy}Y + \varepsilon_2 \quad (2)$$

4. RESULTS AND DISCUSSION

According to Ghozali (2016), the linear regression model has weaknesses in interpreting the coefficients, which will cause errors in the analysis. Therefore, the linear regression model can be covered by transforming the model into a log-log, log-lin, or lin-log model. By transforming equations (1) and (2), the model form is obtained as follows:

$Log(Y)$= c + + + + , referred to as the Structural Equation I and

$\rho_{yx_1}Log(X_1) + \rho_{yx_2}Log(X_2) + \rho_{yx_3}Log(X_3)\rho_{yx_4}Log(X_4)\rho_{yx_5}Log(X_5)\varepsilon_1$

Z= c + + + +$\rho_{zx_1}Log(X_1) + \rho_{zx_2}Log(X_2) + \rho_{zx_3}Log(X_3)\rho_{zx_4}Log(X_4)\rho_{zx_5}Log(X_5)\rho_{zy}Log(Y) + \varepsilon_2$as

Structural Equation II

Furthermore, the two structural equation models above will be tested using three approaches, namely the least squares approach (Pooled Least Square/Common Effect Model), fixed effects approach (Fixed Effect Model), and random effects approach (Random Effect Model).

Testing Using *Common Effects Model*

In the approach using the Common Effect model, the intercept and slope are fixed over time and individually. The disturbance variable (error or residual) is assumed to explain the difference in intercept and slope. By using the Eviews 13 application on structural equation I and structural equation II, the following results are obtained:

Table1. CEM Estimation Results on Structural Equations I

Variables Dependents: Z	coefficient	std. Error	Prob.
C	-0.741027	0.276728	0.0079
LOGX1	0.058049	0.056995	0.3095
LOGX2	0.017488	0.021946	0.4263
LOGX3	0.087226	0.022513	0.0001
LOGX4	1.763830	0.282368	0.0000
LOGX5	0.105388	0.092634	0.2564
R-squared	0.336676		

From Table 1. it can be seen that the PMLN and RLS variables have a probability number that is less than 0.05. meaning that the PMLN and RLS variables significantly influence GRDP per capita. The value of R2 is the amount of influence or ability of the independent variables to simultaneously explain the dependent variable. The R2 value of this test is 0.337, which means that the independent variable can explain 33.7% of the dependent variable, and other variables explain the remaining 66.3%.

Table 2. CEM Estimation Results in Structural Equation II

Variables Dependents: Z	coefficient	std. Error	Prob.
C	0.378496	0.054183	0.0000
LOGX1	0.029119	0.011016	0.0088
LOGX2	-0.005159	0.004238	0.2247
LOGX3	0.005545	0.004480	0.2170
LOGX4	-0.121025	0.058854	0.0409
LOGX5	-0.015773	0.017913	0.3795
LOGY	-0.002701	0.012661	0.8313
R-squared	0.078960		

From Table 2. above, it can be seen that the Balancing Fund and RLS variables have a probability number that is less than 0.05, which means that the Balancing Fund and RLS variables significantly influence Income Inequality. The R2 value of this test is 0.07896, which means that the independent variables can explain the dependent variable by 7.9%, and other variables explain the remaining 92.1%.

Testing Using the Fixed Effect Model

In the approach to the Fixed Effect model, time and individual dimensions are not considered. It is assumed that the behavior of data between regions is regarded as the same in various periods. By using the Eviews 13 application on structural equation I and structural equation II, the following results are obtained:

Table 3. FEM Estimation Results in Structural Equations I

Variables Dependents: LOGY	coefficient	std. Error	Prob.
C	0.295580	0.135899	0.0308
LOGX1	0.036450	0.013962	0.0097
LOGX2	0.003789	0.004623	0.4134
LOGX3	0.021178	0.006070	0.0006
LOGX4	1.140396	0.186587	0.0000
LOGX5	-0.034720	0.022054	0.1170
R-squared	0.991314		

From Table 3 above, it can be seen that the Balancing Fund, PMLN, and RLS variables have a probability number that is less than 0.05. meaning that the Balancing Fund, PMLN, and RLS variables significantly influence GRDP per capita. The R2 value of this test is 0.991314, which means that the independent variables can explain 99.1% of the dependent variable, and other variables explain the remaining 0.9%.

Table 4. FEM Estimation Results in Structural Equation II

Variables Dependents: Z	coefficient	std. Error	Prob.
C	0.797346	0.064555	0.0000
LOGX1	-0.013509	0.006666	0.0441

LOGX2	0.004477	0.002174	0.0408
LOGX3	0.004878	0.002936	0.0981
LOGX4	-0.286615	0.095466	0.0030
LOGX5	-0.009632	0.010418	0.3563
LOGY	-0.102152	0.033280	0.0024
R-squared	0.928568		

From Table 4. above, it can be seen that the variables per capita GRDP, Balance Fund, PMDN, and RLS have a probability number that is less than 0.05. meaning that per capita GRDP, Balance Fund, PMDN, and RLS variables significantly influence income inequality. The R2 value of this test is 0.928568, which means that the independent variable can explain 92.8% of the dependent variable, and other variables explain the remaining 7.2%.

Testing Using the Random Effect Model

In the approach using the Rdanom Effect estimation model, the data is based on differences in intercept and slope resulting from differences in each object and individual. By using the Eviews 13 application on structural equation I and structural equation II, the following results are obtained:

Table 5. REM Estimation Results in Structural Equation I

Variables Dependents: LOGY	coefficient	std. Error	Prob.
C	0.265273	0.137020	0.0541
LOGX1	0.035600	0.013745	0.0102
LOGX2	0.004000	0.004590	0.3844
LOGX3	0.022501	0.006027	0.0002
LOGX4	1.168253	0.180894	0.0000
LOGX5	-0.031754	0.021962	0.1496
	Weighted Statistics		
R-squared	0.474544		

From Table 5. above, it can be seen that the Balancing Fund, PMLN, and RLS variables have a probability number of less than 0.05. meaning that the Balancing Fund, PMLN, and RLS variables significantly influence GRDP per capita. The R2 value of this test is 0.474544, which means that the independent variable can explain 47.4% of the dependent variable, and other variables explain the remaining 52.6%.

Table 6. REM Estimation Results in Structural Equation II

Dependent Variable: Z	coefficient	std. Error	Prob.
C	0.717203	0.054626	0.0000
LOGX1	-0.017301	0.006044	0.0046
LOGX2	0.003796	0.002086	0.0700
LOGX3	0.004575	0.002802	0.1039
LOGX4	-0.295896	0.078291	0.0002
LOGX5	-0.004799	0.010078	0.6344
LOGY	-0.035825	0.022553	0.1135
	Weighted Statistics		
R-squared	0.262745		

From Table 6. above, it can be seen that the Balancing Fund and RLS variables have a probability number that is less than 0.05. It means that the Balancing Fund and RLS variables significantly influence Income Inequality. The R2 value of this test is 0.262745, which means the independent variable can explain the dependent variable by 26.3%, and other variables explain the remaining 73.7%.

Best Model Selection

Three test tools are used to select the best method for this research: the Chow test, the Haussman test, and the LM test.

Chow test (Likelihood Test)

The Chow test is used to choose between CEM or FEM.

Table 7. Structural Equation Chow Test I

Effect Test	Statistics	df	Prob.
Cross-section F	454.472218	(33,199)	0.0000
Chi-square cross-sections	1031.854014	33	0.0000

Based on Table 7 above, with a significance level of 0.05, the F statistic value is 454.47 ≥ 1.495 (FTabel), or the P value is 0.0000 ≤ 0.05, which means that the selected model is FEM.

Table 8. Structural Equation Chow Test II

Effect Test	Statistics	df	Prob.
Cross-section F	71.363583	(33,198)	0.0000
Chi-square cross-sections	608.508094	33	0.0000

Based on Table 8 above, with a significance level of 0.05, the F statistic value is 71.36 ≥ 1.495 (FTabel), or the P value is 0.0000 ≤ 0.05, which means that the selected model is FEM.

Hausman test

The Hausman test is carried out if, from the results of the Chow test, the appropriate model is FEM. The Hausman test was conducted to select the best estimation model between FEM and REM.

Table 9. Structural Equation Hausman Test I

Test Summary	Chi-Sq. Statistics	Chi-Sq. df	Prob.
Random cross-sections	5.477622	5	0.3604

Based on Table 9 above, with a significance level of 0.05, a statistical Chi-Square value of 5.48 ≤ 11.07 () or a P value of 0.36 ≥ 0.05 means accepted. It means that the selected model is REM.

Table 10. Structural Equation Hausman Test II

Test Summary	Chi-Sq. Statistics	Chi-Sq. df	Prob.
Random cross-sections	19.225699	6	0.0038

Based on Table 10 above, with a significance level of 0.05, a statistical Chi-Square value of 19.23 ≥ 12.59 () or a P value of 0.0038 ≤ 0.05 means rejected. It means that the selected model is FEM. The LM test does not need to be carried out because in the

previous Chow test on either structural equation I or structural equation II, the FEM model was selected. Thus it can be concluded that in structural equation I, the model chosen is REM, while in structural equation II, the model chosen is FEM.

Assumption Test on Selected Models

According to Gujarati (2003), one of the advantages of panel data is that panel data implies not having to test classical assumptions. Meanwhile, autocorrelation only occurs in time series data. Testing autocorrelation on data that is not time series (cross-section or panel) is meaningless. The normality test is not a BLUE (Best Linear Unbias Estimator) requirement, and some opinions do not require this condition as something that must be fulfilled. Multicollinearity must be done when linear regression uses more than one independent variable. Heteroscedasticity usually occurs in cross-sectional data, where panel data is closer to the features of cross-sectional data than time series.

Multicollinearity Test

Multicollinearity means a linear relationship exists between the independent variables in the regression model. One way to detect multicollinearity is to calculate the Variance Inflation Factors (VIF) values.

Table 11. Structural Equation VIF Value I

Variable	coefficient Variances	Centered VIF
LOGX1	0.003248	1.843179
LOGX2	0.000482	1.673237
LOGX3	0.000507	1.577804
LOGX4	0.079732	1.234500
LOGX5	0.008581	1.317187
C	0.076578	NA

Based on Table 11. above, each independent variable has a VIF Centered value ≤ 10, and it can be concluded that there is no multicollinearity in the structural model I.

Table 12. Structural Equation VIF Value II

Variables	coefficient Variances	Centered VIF
LOGX1	0.000121	1.851420
LOGX2	1.80E-05	1.677817
LOGX3	2.01E-05	1.679898
LOGX4	0.003464	1.442128
LOGX5	0.000321	1.324535
LOGY	0.000160	1.507559
C	0.002936	NA

Based on Table 12 above, each independent variable has a VIF Centered value ≤ 10. It can be concluded that there is no multicollinearity in the structural model II.

Heteroscedasticity Test

Testing for heteroscedasticity was carried out for structural equation II only with the FEM-selected model. Meanwhile, for the structural equation I with the selected model is REM, there is no need to perform a heteroscedasticity test because it is assumed that the Generalized Least Square (GLS) estimation method can overcome heteroscedasticity. By using the Glejser test on structural equation II, the following output is obtained:

Table 13. Heteroscedasticity Test on Structural Equations II

Variables	coefficient	std. Error	t-Statistics	Prob.
C	0.058224	0.025047	2.324585	0.0211
LOGX1	-0.003814	0.002401	-1.588493	0.1138
LOGX2	0.001203	0.000908	1.324904	0.1867
LOGX3	-0.002357	0.001271	-1.854388	0.0652
LOGX4	-0.046724	0.037748	-1.237780	0.2173
LOGX5	0.006502	0.004441	1.464017	0.1448
LOGY	0.004034	0.013081	0.308409	0.7581

Based on Table 13. above, it can be seen that the significance value of all the independent variables is more than 0.05. Thus it can be concluded that there is no heteroscedasticity problem in the structural equation model II.

Parameter Significance Test

The parameter significance test consists of a simultaneous test and a partial test.

Simultaneous Test

The F test or simultaneous test aims to determine how much influence the independent variables simultaneously have on the dependent variable. This F test is also called the joint significance test. Following are the results of simultaneous tests on structural model I and structural

Table 14. F Test on Structural Equation I

F-statistics	41.90428
Prob(F-statistic)	0.000000

Based on Table 14 above, at a significance level of 0.05, the F statistic value is 41.90428 ≥ 1.465529 (Ftable), or the P value is 0.000000 ≤ 0.05, so H0 is rejected. It means that the independent variables jointly affect the dependent variable.

Table 15. F Test on Structural Equation II

F-statistics	65.99655
Prob(F-statistic)	0.000000

Based on Table 15 above, at a significance level of 0.05, the F statistic value is 65.99655 ≥ 1.460661 (Ftable), or the P value is 0.000000 ≤ 0.05, so H0 is rejected. It means that the independent variables jointly affect the dependent variable.

Partial Test

A partial test or t-test is conducted to see how much influence each independent variable has at a significance level of 0.05. If the t-statistic ≥ t-table or the P value is less than 0.05, then H0 is rejected.

Table 16. T Test on Structural Equation I

Variables	t-Statistics	t-table	Prob.
C	1.936017	1.970197 55	0.0541
LOGX1	2.590057		0.0102
LOGX2	0.871537		0.3844
LOGX3	3.733213		0.0002
LOGX4	6.458203		0.0000
LOGX5	-1.44582		0.1496

Based on Table 16, the results of the partial test show that the independent variables that influence Per Capita GRDP are Balancing Funds, PMLN, and RLS. The independent variables that do not affect GRDP Per Capita are PMDN and TPT.

Table 17. T test on Structural Equation II

Variables	t-Statistics	t-table	Prob.
C	12.35147	1.97024188	0.0000
LOGX1	-2.02653		0.0441
LOGX2	2.059099		0.0408
LOGX3	1.661761		0.0981
LOGX4	-3.00229		0.0030
LOGX5	-0.92457		0.3563
LOGY	-3.06947		0.0024

Based on Table 17. the results of the partial test show that the independent variables that influence the Gini Ratio are Balancing Funds, PMDN, RLS, and GRDP Per Capita. The independent variables that do not affect the Gini Ratio are PMLN and TPT.

Intervening Hypothesis Test (Mediation)

The mediation hypothesis can be tested by carrying out the Sobel or Sobel tests. The Sobel test examines the indirect effect of the independent variables on the dependent variable through the intervening variables. The impact of mediation can be seen from the multiplication of the coefficients, whether significant or not.

Table 18. Sobel test

Variables	ab	Sat	t. hit	t. table
LOGX1	-0.00364	0.001837	-1.97949	1.970198
LOGX2	-0.00041	0.000487	-0.83833	
LOGX3	-0.0023	0.000969	-2,371	
LOGX4	-0.11934	0.043047	-2.77228	
LOGX5	0.003244	0.00248	1.308012	

Based on Table 18, the results of the Sobel test show that the calculated t-values for the Balancing Fund, PMLN, and RLS variables are greater than the t table. It means that these three variables negatively and significantly affect the income inequality variable through Per Capita GRDP as an intervening variable. Meanwhile, the calculated t-value for the PMDN and TPT variables is smaller than the t-table, which means that the PMDN and TPT variables do not affect income inequality through Per Capita GRDP as an intervening variable.

The Effect of Balancing Funds on Income Inequality

This study found that Balancing Funds directly and indirectly through GRDP per capita negatively and significantly affected Income Inequality in Indonesia in 2015 – 2021. If we look at the available data, the amount of balancing funds distributed to the Provinces from 2015 to 2021 tends to increase. Increasing the allocation of balancing funds every year is perfect for helping regional finances meet their needs and reducing regional disparities. The same was stated by McKinnon (1995) and Qian & Weingast (1997), which state that income inequality can be linked to the efficiency of public services, and fiscal decentralization not only contributes to increased efficiency but also reduces income inequality.

The Effect of PMDN on Income Inequality

This study found that PMDN has a direct positive and significant effect on income inequality. However, PMDN does not directly affect income inequality through GRDP per capita.This finding differs from that stated by Harrod-Domar (in Arsyad, 2016), which explains that the formation of capital/investment is an essential factor determining economic growth. In theory, Harrod-Domar argues that investment affects economic growth in a longer-term perspective. It can be concluded that investment will directly or indirectly affect economic growth, then with an increase in investment, economic growth will also increase; along with an increase in growth, it will affect income inequality.

The Effect of PMLN on Income Inequality

This study found that PMLN has no direct effect on income inequality. However, PMLN negatively and significantly indirectly affects income inequality through GRDP per capita. In contrast to domestic investment, PMLN positively and significantly affects

GRDP per capita. It means that the dominance of foreign investment in the last seven years has been able to have a positive impact on GRDP per capita. As previously stated, GRDP per capita can directly impact income inequality. The findings in this study follow the Harrod-Domar theory.

The Effect of RLS on Income Inequality

This study found that RLS had a negative and significant effect directly and indirectly through GRDP per capita on Income Inequality in Indonesia from 2015 to 2021. It means that any increase in the average length of schooling will reduce income inequality. The same argument was also presented by Acemoglu & Autor (2012), who say that human capital is something related to the provision of knowledge or the characteristics of workers so that they can contribute. The impact of a better accumulation of human capital will also affect a better income level. With the improvement in income for everyone, it is hoped that economic inequality will decrease.

Effect of TPT on Income Inequality

The results of this study found that TPT had no effect on income inequality either directly or indirectly through GRDP per capita as an intermediate variable. From the available data, the trend of TPT in Indonesia in the last seven years has fluctuated, while the trend of income inequality, as indicated by the Gini ratio coefficient, tends to decrease. These results differ from Fatsabit & Yusran's (2019) findings, which examined the Effects of Economic Openness, Education, and Unemployment on Income Inequality in Indonesia in 2007 - 2016 using Regression analysis of the Common Effect, Fixed Effect, and Random Effect models. Based on the results of the data analysis, there is a negative and significant effect of the unemployment rate on income inequality in Indonesia.

5. CONCLUSION

The results of the panel data regression show that directly the variable balance funds and RLS have a negative and significant effect and PMDN has a positive and significant impact on income inequality. Indirectly, the variable balancing funds, PMLN, and RLS negatively and significantly affect income inequality through GRDP per capita as an intervening variable. Meanwhile, the TPT variable does not affect income inequality.

SUGGESTION

Based on the research results and conclusions described, the authors provide several suggestions, namely: Balancing funds have a negative and significant effect on income inequality in Indonesia in 2015-2021, both directly and indirectly through GRDP per capita. Therefore, appropriate and optimal allocations are needed in budget spending to improve regional welfare through programs that can increase people's income and reduce income inequality.

It is hoped that PMDN will be directed at sectors that can open more jobs to grow the people's economy and reduce income inequality. There is a negative relationship between PMLN and income inequality in Indonesia indirectly, and it is hoped that the government will issue a policy for foreign investors to invest their capital in labor-intensive projects and not capital-intensive ones to be able to provide jobs that will then reduce unemployment and increase income.

The importance of encouraging an increase in the education budget and providing scholarships for underprivileged people to ensure the continuity of education to a high level so that the quality of human resources is better and competitive before entering the world of work. With so many experts, the output produced will be of higher quality, and the wages received will be more decent.

The trend of fluctuating TPT data shows that many workers work seasonally in the informal sector. Therefore, as much as possible, the government provides sufficient employment and capital assistance for those ready to open a new business.

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