Advances in Economics, Business and Management Research, volume 192
Proceedings of the Seventh Padang International Conference On Economics Education, Economics, Business and Management, Accounting and Entrepreneurship (PICEEBA 2021)

Causality Between Poverty, Economic Growth, Income Inequality and Unemployment in Latin America

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ABSTRACT
This study examines the causality between poverty, economic growth, income inequality and unemployment in Latin America. Using the panel data for the period 2010-2019, and 6 developing countries in Latin America PVAR. The results showed that there is absolutely no effect of the causal relationship either between poverty on economic growth and between economic growth and poverty in developing countries in Latin America. There is no causal relationship between income inequality and poverty in developing countries in Latin America. Poverty and unemployment and also between unemployment and poverty in developing countries in Latin America, there is no causality relationship between the two variables. Between economic growth and income inequality, and between income inequality and economic growth in developing countries in Latin America, there is a two-way causality relationship between the two variables. Between economic growth and unemployment and also between unemployment and economic growth in developing countries in Latin America, there is no causality at all between the two variables. There is a one-way causality relationship between income inequality and unemployment in developing countries in developing countries in Latin America.

Keywords: *Poverty, Economic Growth, Income Inequality, Unemployment.*

1. INTRODUCTION

The economic problems of a country such as poverty, economic growth, inequality and unemployment are problems that occur in every country. Thus, a policy is needed to overcome these problems.

Inequality has a negative impact on economic growth. However, it shows that when taking into account both inequality and poverty, the negative effects of growth inequality appear to be concentrated among countries with high poverty[1].

[2] economic growth has a significant effect on corruption in Philippines. Poverty against corruption in Thailand. Meanwhile, there is no relationship between Indonesia and Malaysia.[3] In the long run a positive relationship between inequality and poverty. In the short term there is a positive relationship between inequality and economic growth and poverty.

[4] That relative is necessary for a complete picture of global poverty rates and their evolution. The standard assumption that the national average or median is the comparative income relevant to establishing a relative poverty line. [5] There are important limitations to what education policy can do for decades to reduce inequality and poverty and that only a significant scale-up of university education will lead to much lower levels of inequality and poverty.

[6] Explaining the relationship between priorities and public policies to combat poverty and inequality.[7]In the long term, there is a significant positive relationship between GDP & income inequality, carbon dioxide emissions & income inequality, and poverty & income inequality in Pakistan. On the other hand, there is a negative relationship between carbon emissions & economic growth, carbon emissions & income inequality, and economic growth & income inequality.

[8]The negative affected areas were on average better than unaffected areas, both before and after the typhoon. In areas that were negatively affected by the typhoon it was greatest in absolute terms among richer households, but as a proportion of household expenditure, this negative effect was greater among poor households. As the typhoon increased economic inequality in the affected areas. [9]There is no significant or causal relationship between inequality or poverty on income

[10]There is no causal relationship between poverty and inequality. Poverty with economic growth. Inequality with economic growth. The purpose of this study was to determine intermediate causality between poverty, economic growth, income inequality and unemployment in Latin America.

2. METHODS

This research is a de facto expo study that examines the causality between poverty, economic growth, income inequality and unemployment. The data used were sourced from World Bank. The analysis model uses panel PVAR, study in Latin America in the period 2010-2019.

Equation:

$$Y1_t = \sum_{i=0}^{n} aiY1_{t-i} + \sum_{i=0}^{n} aiY2_{t-i} + \sum_{i=0}^{n} aiY3_{t-i} + \sum_{i=0}^{n} aiY4_{t-i} + U1_t \quad (1)$$

$$Y2_t = \sum_{i=0}^{n} aiY2_{t-i} + \sum_{i=0}^{n} aiY1_{t-i} + \sum_{i=0}^{n} aiY3_{t-i} + \sum_{i=0}^{n} aiY4_{t-i} + U1_t \quad (2)$$

$$Y3_t = \sum_{i=0}^{n} aiY3_{t-i} + \sum_{i=0}^{n} aiY1_{t-i} + \sum_{i=0}^{n} aiY2_{t-i} + \sum_{i=0}^{n} aiY4_{t-i} + U1_t \quad (3)$$

$$Y4_t = \sum_{i=0}^{n} aiY4_{t-i} + \sum_{i=0}^{n} aiY1_{t-i} + \sum_{i=0}^{n} aiY2_{t-i} + \sum_{i=0}^{n} aiY3_{t-i} + U1_t \quad (4)$$

where Y1 is poverty, Y2 is economic growth, Y3 is income inequality, Y4 is unemployment, and U is a residual term.

3. RESULTS AND DISCUSSION

3.1. Stationary Test

In the root root test, it can be seen that the data is stationary or not stationary on the variables used. The data in this study uses panel data, it is called the panel root test using the Levin Lin Chu test. From this test, if the data is stationary at the level.

Table 1. Unit root tests

Variable	ADF In levels
Y1	0.0001
Y2	0.0000
Y3	0.0327
Y4	0.0082

Source : Data Processed

3.2. Lag Optimal

The optimum lag test is useful for determining the optimum lag amount that will be used in the study. determining the amount of lag is determined by several criteria, namely: Likelihood Ratio (LR), Final Prediction Error (FPE), Akaike Information Criteria (AIC), Schwars Information Criterion (SIC), and Hanna Quinn Information Criterion (HQ). that the * sign is the most in lag 2.

3.3 Cointegration Test

The cointegration test is an analytical test that is useful for determining whether or not long-term balance occurs, namely there is a similarity and stability relationship between variables in this study. Based on the test results that there is no cointegration. So from these results the analysis used is PVAR.

Table 2. Estimates PVAR

	Y1	Y2	Y3	Y4
Y1-1	6.31771	-0.99669	-0.25547	0.11940
Y1-2	0.74225	0.97259	0.01374	0.15262
Y2-1	-0.48988	3.57681	2.84649	-0.88077
Y2-2	-2.00494	-0.27537	-2.70367	-1.28455
Y3-1	0.23399	0.18256	0.13373	0.04797
Y3-2	-1.66871	2.54728	2.29709	2.25023
Y4-1	0.56262	-0.44392	0.60127	5.49837
Y4-2	-1.20148	0.48193	-0.18263	-0.51849

Source : Data Processed

Based on table 2 with t table 2.006, the significant and positively related effect shows that poverty (Y1) has a positive relationship to itself at lag 1. indicating that economic growth (Y2) has a positive relationship to poverty (Y1) at lag 1. indicates that poverty (Y3)) has a positive relationship to economic growth (Y2) at lag 1. indicates that poverty (Y1) has a positive relationship to inequality (Y3) at lag 1. indicates that inequality (Y3) has a positive relationship to inequality (Y3) at lag 1. shows that economic growth (Y2) has a positive relationship to inequality (Y3) at lag 2. indicates that inequality (Y3) has a positive relationship to inequality (Y3) at lag 2. indicates that unemployment (Y4) has a positive relationship to inequality (Y3)) on lag 2. shows that unemployment (Y4) has a positive relationship with unemployment (Y4) at lag 1.While the negative one only decreases. Show that inequality (Y3) has a positive relationship to economic growth (Y2) at lag 2.

3.4. Causality Test

From the results of the Granger causality test, it can be seen that there is no one-way or two-way causality relationship between poverty and economic growth in developing countries in Latin America. This is because in developing countries economic growth is controlled by several people who have a high level of economy, so that the poor do not have too much influence on economic growth in developing countries.

From the results of the Granger causality test, it can be seen that there is no one-way or two-way causality relationship between poverty and inequality in developing countries in Latin America. This occurs because poverty is not the only factor that affects inequality, because inequality is more due to the factor of the level of wages received and the level of education that affect the work and wages received. Meanwhile, the

level of inequality does not affect poverty because income inequality in developing countries is more due to the level of wages and the level of education so that the level of inequality does not really affect the level of poverty in developing countries.

From the results of the Granger causality test, it can be seen that there is no one-way or two-way causality relationship between poverty and unemployment in developing countries in Latin America. This occurs because poverty in developing countries is not only caused by unemployment, it is also caused by the quality of one's resources, because if the quality of one's resources is low, productivity is also low, which in turn receives low wages. So the level of poverty does not have an effect on unemployment. Meanwhile, the level of unemployment did not affect poverty in developing countries in Latin America. This is because Unemployment can occur due to inequality in the labor market. This shows that the number of workers offered exceeds the number of workers requested. Meanwhile, poverty is also caused by the low income they receive or the wages that cannot meet their needs.

Table 3. Causality tests

Dependent variable: Y1	
	Prob.
Y2	0.0845
Y3	0.0728
Y4	0.4400
Dependent variable: Y2	
	Prob
Y1	0.6085
Y3	0.0200
Y4	0.8820
Dependent variable: Y3	
	Prob
Y1	0.5870
Y2	0.0018
Y4	0.7805
Dependent variable: Y4	
	Prob
Y1	0.5152
Y2	0.2142
Y4	0.0450

Source : Data Processed

From the results of the Granger causality test, it can be seen that there is a one-way or two-way causality relationship between economic growth and income inequality in developing countries in Latin America. This happens because inequality is one of the most crucial things in an economy. Because the level of an inexperience will have an effect on the economy of a country.

From the results of the Granger causality test, it can be seen that there is no one-way or two-way causality relationship between Economic Growth and unemployment in developing countries in Latin America. This is because unemployment in the short term is above the long-term balance so that in the next period economic growth will decline. Conversely, when unemployment is below long-term equilibrium, the economic growth will increase in the next period Meanwhile, the level of unemployment does not affect economic growth, this is because in the long run there is a positive relationship between unemployment and economic growth. When unemployment increases in the long run, this increase is also accompanied by an increase in economic growth

From the results of the Granger Causality Test, it can be seen that there is no one-way or two-way causality relationship between Income Inequality and unemployment in developing countries in Latin America. This is because income inequality affects the economy more, while unemployment is more due to inequality in the education sector. While the high and low unemployment rate does not affect income inequality, the unaffected effect of unemployment on income inequality in developing countries can be caused by policies carried out by the government, such as social assistance from. The existence of this assistance can ease the burden on the community because the necessities of life can be met, although it is still not evenly distributed in all regions in developing countries. In addition, most of the unemployed still depend on the working family and use their assets / savings to get a job and wages.

4. CONCLUSIONS

There is absolutely no effect of the causal relationship either between poverty on economic growth and between economic growth and poverty in developing countries in Latin America. There is no causal relationship between income inequality and poverty in developing countries in Latin America. Poverty and unemployment and also between unemployment and poverty in developing countries in Latin America, there is no causality relationship between the two variables. Between economic growth and income inequality, and between income inequality and economic growth in developing countries in Latin America, there is a two-way causality relationship between the two variables. Between economic growth and unemployment and also between unemployment and economic growth in developing countries in Latin America, there is no causality at all between the two variables. There is a one-way causality relationship between income inequality and unemployment in developing countries in developing countries in Latin America.

Based on the results of this study, the policies that can be recommended to the government to be able to take policies by controlling economic growth with inequality are because economic growth has an impact on inequality and unemployment to inequality.

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