Original Research Article

The Influence of Regional Financial Independence and Government Spending on Economic Growth and Poverty

ABSTRACT

This study aims to determine the effect of Regional Financial Independence and Government Expenditure on Poverty and Economic Growth in Kalimantan Island in 2012. The data used in this study is secondary data in the form of Regional Financial Independence, Government Expenditures, Poverty Levels, and Economic Growth in the Province Central Kalimantan, West Kalimantan, East Kalimantan and South Kalimantan. The analytical method used in this study is multiple regression analysis. The results of the first model analysis state that regional financial independence has a negative and insignificant effect on poverty, and government spending has a significant effect on poverty. While the results of the second model analysis are regional financial independence and government spending have a significant effect on economic growth.

Keywords: [Independence, Government Spending, Economic Growth, Poverty]

1. INTRODUCTION

The implementation of fiscal ~~desantralization~~decentralization government reduces the gap between the central government and local governments. With the enactment of decentralization, gave birth to autonomous regions, where some government affairs were handed over to local governments. Law Number 23 of 2014 explains about Regional Government, through the enactment of this regulation, the regions gained authority in their regional independence. Through this authority, it becomes the responsibility of the regional government to increase regional financial income through regional self-reliance funds which will certainly have an impact on economic growth.

To measure the success of a country's development, economic growth is a process of increasing output from time to time and is an important indicator of successful development (Todaro, 2003). Meanwhile, economic growth in a region can be seen through the Gross Regional Domestic Product (GRDP) indicator. The economic conditions of the island of Kalimantan in 2020 experienced a contraction, this resulted in the Province of East Kalimantan experiencing a decline in performance, especially in the transportation and warehousing sector by -5.59 percent, the accommodation and food and drink provision sector contracted -5.32 percent, and mining and quarrying contracted -4.58 percent. Meanwhile, the economic contraction in West Kalimantan Province was caused by economic contraction in 9 sectors, especially in the accommodation and food and drink provision sector (-19.26 percent) and the transportation and warehousing sector (-19.08 percent). When viewed based on the economic contribution of the provincial Kalimantan Island to the national economy, the province with the largest contribution to the national economy in this region is East Kalimantan Province with a contribution of 3.85 percent. The Central Statistics

Comment [DDW1]: Is this what you want to investigate of effect as stated in your abstract.

Comment [DDW2]: This topic is over loaded.
1.You will need to show the influence of RFI on Economic Growth
2.You will need to show the influence of Government spending on Economic Growth
3.You will show RFI influence on Poverty
4.You will need to show Government spending on Poverty
Basically you have two dependent variables and two independent variables

Comment [DDW3]: In your title you want to look at influence while in the abstract you switch to effect. Be consistent on what your study seeks to achieve. Effect is an outcome/result as opposed to influence which is to do with power to change something

Comment [DDW4]: Something is missing here. Check it to get it grammatically correct.

Agency noted that Kalimantan would contribute 8.26 percent to economic growth in 2021 with a growth of 3.18 percent.

Table 1. The economic growth of different year.

	Economic growth			
Year	West Kalimantan	Central Kalimantan	South Kalimantan	East Kalimantan
2012	5.81	6.87	5.97	5.26
2013	6.05	7.37	5.33	2.25
2014	5.03	6.21	4.84	1.71
2015	4.81	7.01	3.82	-1.2
2016	5.2	6.35	4.4	-0.38
2017	5.17	6.73	5.28	3.13
2018	5.07	5.61	5.08	2.64
2019	5.09	6.12	4.09	4.7
2020	-1.82	-1.41	-1.82	-2.9
2021	4.8	3.59	3.48	2.55

Source: Central Bureau of Statistics (GRDP 2012-2021)

In increasing economic development, the problem of poverty is often a problem for every country. According to Todaro and Smith (2006) one of the goals and efforts in economic development is to eliminate or reduce poverty. Poverty is one of the problems in which a person's inability to fulfill his basic needs such as food, clothing, education, health, and shelter occurs (Mardiana, Militina, T., & Utary, RA, 2017) . The island with the lowest percentage of poor people in Indonesia is the island of Kalimantan, based on a report from the Central Statistics Agency (BPS) the percentage of poor people on the island of Kalimantan is 5.85% in 2021.

Comment [DDW5]: Are you referring to economic growth or you have switched to economic development? These two are not the same. Check them out. While economic growth means increase in national output/income. Economic development means improvement in quality of life and standards of living.

Todaro & Smith (2011) and Amarty (1998) (in Ningrum and Nuryadin's 2021 research) explain that economic development is something that is planned and sustainable, and has the goal of creating a better life. Enceng (2012) (in Suci and Asmara's 2014 research) one of the things that becomes an aspect of the implementation of regional autonomy authority is knowing the level of regional financial independence in financing government administration and development activities through increasing regional revenue potential. Regions with a high degree of independence are expected to be able to reduce poverty on the island of Kalimantan and increase economic growth, this is in line with the research results of Prakoso, Islami and Sugiharti (2019) showing that economic growth is influenced by financial independence. Halim (2002) in the research of Karika and Kusuma (2015) formulates the ratio of regional financial independence based on each year through total regional income and total total income, which is formulated as follows:

$$Rasio\ Kemandirian\ Keuangan\ Daerah = \frac{Pendapatan\ Asli\ Daerah}{Total\ Pendapatan}$$

Paul Hersey and Kenneth Blanchard introduced a pattern of situational relationships that can be used in the implementation of regional autonomy Halim (2004). There are 4 types of relationship patterns, namely: Instructive relationship patterns where regions with this pattern are unable to implement regional autonomy, Consultative relationship patterns are defined as the role of central government intervention which has begun to decrease and regions are considered to be slightly more capable in implementing regional autonomy, Participatory relationship patterns, where in this pattern it is explained if the role of the central government has diminished and it is considered that the level of independence of this region is close to being able to carry out autonomous affairs, the Delegative relationship pattern, where this pattern of relationship illustrates that the intervention of the central

government no longer exists and the regions are capable and independent in carrying out regional autonomy.

Table 2. Regional Financial Independence (%) of different year.

	Regional Financial Independence (%)			
Year	West Kalimantan	Central Kalimantan	South Kalimantan	East Kalimantan
2012	40%	38%	57%	45%
2013	41%	39%	58%	51%
2014	44%	40%	60%	59%
2015	42%	36%	57%	52%
2016	37%	33%	48%	50%
2017	36%	33%	51%	56%
2018	39%	35%	54%	54%
2019	39%	36%	52%	56%
2020	38%	33%	45%	52%
2021	39%	36%	54%	60%

Source: One Data for West Kalimantan, Central Kalimantan, South Kalimantan and East Kalimantan

The graph above explains that West Kalimantan and Central Kalimantan have a consulative pattern with the percentage of regional financial independence between 36-44% for West Kalimantan and 33-40% for Central Kalimantan, while for South Kalimantan and East Kalimantan with the same percentage, namely 45-60%. have a participatory pattern.

According to Jhingan (2008), government spending has a role in economic development which lies in the rate of economic growth, prosperity, provision of employment opportunities, increased income, standard of living, reduced income gap, encouraging private business initiatives and realizing regional economic balance. If the goal of economic development is to improve the standard of living of the people, the determination of government spending policies must be carried out properly. In terms of government spending, both provincial and district/city government spending is divided into two main groups, namely indirect spending and direct spending. Indirect spending includes spending on personnel, interest, subsidies, grants, social assistance, spending for results and financial assistance as well as unexpected spending. While direct spending consists of personnel spending, goods and services spending, and capital spending, this spending is more of an accumulation of capital stock, and it is hoped that the government will increase the allocation of direct spending in order to be able to stimulate economic growth.

The government has given freedom to each region to be able to develop the potential that exists in each region, through this the ability to manage regional financial independence and government spending is expected to be able to reduce poverty and increase economic growth. Data for 2012-2021 shows that if the rate of economic growth on the island of Kalimantan tends to increase but the poverty rate on the island of Kalimantan has increased, this is of course a problem for every province in Kalimantan, through regional financial independence and government spending researchers want to know the effect on economic growth and poverty in West Kalimantan, Central Kalimantan, South Kalimantan, East Kalimantan in the 2012-2021 time frame. The purpose of this study is to determine the independence of regional finance and government spending on economic growth and poverty in Kalimantan Island.

Comment [DDW6]:

Comment [DDW7]:

Comment [DDW8]: No graph above….or you mean the table above

Comment [DDW9]: Do you have any scientific categorization of these levels. For instance, what determines that a region between 36-44% is consultative while one between 45-60 is participatory? Enlighten the reader with the basis for your categorization of the levels. In other words, try and cite where you got these categorizations.

Comment [DDW10]: See my previous comments

Comment [DDW11]: This is not the purpose. Check your title and abstract.

2. LITERATURE REVIEW

2.1 Economic Growth

Economic Growth is a measure used to describe the development of an economy in a given year when compared to the previous year. Economic growth is often used as a benchmark in economic development or the progress of an area, where events that occur in economic growth are a reference source in increasing living standards in the community's economy. According to Siagian (2018) said that the success of economic growth will not be seen without real results in the form of growth from something that is built, especially in the economic sector, as well as without economic growth, the development of a country will not work as it should.

2.1.2 Poverty

Poverty is a problem that can disrupt the welfare of an area. In measuring poverty, the Central Bureau of Statistics (BPS) uses the concept of ability to meet basic needs (basic needs approach). With this approach, the inability to meet basic needs for food and others is seen as a poverty approach. Poor people are residents who have an average expenditure below the poverty line.

2.1.3 Regional Financial Independence

Regional financial independence is an area that is able to show the ability of the region to finance its own government activities, development, services to the community who have paid taxes and fees as a source of income needed by the Halim area (2004). The ratio in regional financial independence is explained in the receipt of Regional Original Revenue and the total amount of income. In this case the higher the ratio, the higher the level of independence of the area.

2.1.4 Expenditures

According to the Government Expenditure theory (in Chamdani's 2019 research) it explains that regional government spending on various developments will increase aggregate spending and enhance regional economic growth. This theory can be interpreted that regional spending (direct spending and indirect spending) which is reflected in the Regional Expenditure Budget (APBD) has a relationship and influence on economic growth. According to Jhingan (2008), the role of government spending in economic development lies in increasing the rate of economic growth, providing employment opportunities, increasing income and living standards, reducing income gaps and prosperity, encouraging private initiatives and businesses, and realizing regional economic balance. Therefore, if the goal of economic development in a country is to further improve the standard of living of the people, the determination of government spending policies must be carried out as well as possible.

2.2 Hypothesis

In this study, we will discuss the effect of regional financial independence and government spending on economic growth and poverty on the island of Kalimantan, along with the research model :

H1 : **Effect of Regional Financial Independence on Economic Growth**

The results of research by Parkoso, et al (2019) show that the ratio analysis of regional financial independence conducted in Central Java Province in 2013 has a significant positive effect on economic growth, in this case the government's efforts are still needed to increase its financial independence. The results of the same research from Suci and Asmara (2014) show that Regional Financial Independence in Banten Province in 2001-2011 had a positive influence on economic growth.

Comment [DDW12]: The literature section lacks substantial information that show what other researchers have done about the subject matter of inquiry in this paper. The author needs to provide some kind of both theoretical and empirical research that has been done by other scholars on the study matter. Otherwise this is lacking
Basically, the section is just full of definitions for key terminologies of the study.

Comment [DDW13]:

Comment [DDW14]: Is a measure used to describe increase in national income or output

Comment [DDW15]: Delete this.

Comment [DDW16]: We have different forms/types of poverty. Which poverty form/type is your study trying to address? Or you chose to generalize poverty and if so, do you think that you have made substantial recommendations to address poverty in general?

Comment [DDW17]: Recast this…. RFI is when an area is able to……

Comment [DDW18]:

Comment [DDW19]: No hypothesis in the study. Your study should show the null and Alternative hypotheses. For instance: Ho – Regional Finance Independence has influence on Poverty
HA- Regional Finance Independence has no influence on poverty.

Basically, the problem of your hypothesis setting emanates from the broadness of your topic which as 2 independent variables and 2 dependent variables

Comment [DDW20]: See my previous comments

Comment [DDW21]: This is not a hypothesis. You don't set a hypothesis by basing on the findings of another study.

However, in research conducted by Amalia and Suwarno (2021) which was conducted in Central Java Province, it yielded results if regional financial capabilities had a negative and insignificant effect on economic growth (growth), which means that higher regional financial capacity will not reduce the level of economic growth. .

H2 : **Effect of Government Spending on Economic Growth**

Inscription research (2022) gives the results of government spending having a significant positive effect on economic growth in the districts/cities of South Sulawesi Province. The results of a similar study were also conducted in Eliza's research (2015) in West Sumatra Province which showed that government spending had a significant effect on economic growth. The results of this study indicate that the government is able to explore the potential that exists in the area and use government spending funds that focus on supporting sectors that have the potential to lift the economy.

The results of another study conducted by Grier and Tullock (1989) using cross-sectional data yielded significant negative effects of government spending on economic growth. The results of this study were also similar to those conducted by Barro (1991). Grier and Tullock said that this influence can produce different results and depend on the country group and the regression equation can also produce differences from each country group.

H3 : **Effect of Regional Financial Independence on Poverty**

The results of research conducted by Asmara and Suci (2014) show that regional financial independence has a positive effect on increasing poverty in Banten Province. This study found that regional income inequality and unemployment rates can lead to increased poverty.

However, other research shows different results in research conducted by Parkoso, etc. (2019) showing that the results of regional financial independence have a significant negative effect on poverty. This shows that the higher the level of regional financial independence, the lower the poverty rate in the area. These results are similar to research conducted by Purnomo and Danuta (2022).

H4 : **Effect of Government Expenditures on Poverty**

The results of research conducted by Azmi and Panjawa (2022) regarding government spending on health provide positive and significant results in the short term, the results of this study are in line with the research of Mismidawati and Sari (2013).

However, in research conducted by Kurniawan and Soelistyo (2022) it gives results if government spending has a negative and insignificant effect on poverty, this shows that if government spending decreases it will affect the poverty level, with increased government spending it is hoped that it will be able to reduce the poverty rate, this is in line with research conducted by Kataren (2018)

3. RESEARCH METHODS

The type of research used in this study is quantitative, and uses secondary data. This type of quantitative research is displayed in the form of panel data which is a combination of cross section data from 4 provinces on the island of Kalimantan, and time series data from 2012 – 2021.

The variables in this study consist of the independent variable (Dependent Variable) and the dependent variable (Independent Variable): Dependent Variable (Independent Variable) Is a variable that is influenced by the independent variable or known as the dependent variable, in this study the dependent variable is Poverty and Growth Economy on Kalimantan Island in 2012-2021. Independent Variable (Bound Variable) Is a variable that affects which will be the cause of a change in the dependent variable, in this study the dependent variable is regional financial independence and government spending.

Comment [DDW22]: See my comments above

Comment [DDW23]: See comments above

Comment [DDW24]: See comments above. What is the null and alternative hypothesis that your study sought to examine?

Comment [DDW25]: These are two variables. Poverty and Economic Growth.

Comment [DDW26]: Write this well. It is Economic Growth and not Growth Economy.

Comment [DDW27]: Be careful in using this term. Simply say which influences….

Comment [DDW28]: Again these are two variables and not one.

This study uses a multiple regression analysis method, where the dependent variable depends on two or more independent variables, which aims to see the effect of Regional Financial Independence and Government Expenditures on Poverty and Economic Growth in Kalimantan Island. Multiple linear regression analysis is expressed in the following equation:

$$Y_{it} = \beta 0 + \beta_1 KKD_{it} + \beta_2 PP_{it} + e_{it}$$

Description:

Y_{it} : Y_1 and Y_2
Y1 : Poverty
Y2 : Economic Growth
β0 : Constant
$\beta_1 KKD_{it}$: Regional Financial Independence (X1)
$\beta_2 PP_{it}$: Government Expenditures (X2)
e_{it} : Variable Disturbance / Error ter

Comment [DDW29]: Error term

4. Results and Discussion

4.1 Multiple ~~Lignier~~ Linear Regression Analysis

In analyzing this research using panel data analysis which will examine regional financial independence, government spending, poverty and economic growth on the island of Borneo. After conducting panel data analysis, the approach method will be selected, namely the Chow Test, Hausman Test and LM Test which are used to choose between Fixed effects and Random effects.

The results of the model 1 test can be seen in table 3. The output of the chow test on the selection of the best model shows prob. cross-section F = 0.0000 <a = 0.05, so the best model chosen is the fixed effect. Therefore it is necessary to do the Hausman test to determine the best model between the fixed effect or the random effect. Furthermore, to see the results of the Hausman test, the output of the Hausman test on the selection of the best model shows the prob. cross-section random = 0.6632 > a = 0.05, so the best model chosen is random effect. Therefore it is necessary to do the LM test to determine the best model between random effect or common effect. The output of the LM test on the selection of the best model shows the prob. Breusch-Pagan = 0.000 <a = 0.05, so the best model chosen for this data is random effect.

Adjusted R-squared: The results obtained show that the R2 obtained from the estimation results is 0.54 or 54%, which means that the ability of regional financial independence and government spending to explain poverty is 54%, while the rest is explained through other factors outside models that affect poverty on the island of Borneo

The results of the Model 2 test can be seen in Table 4. The output of the Chow test on selecting the best model shows a prob. cross-section F = 0.0103 <a = 0.05, so the best model chosen is the fixed effect. Therefore it is necessary to do the Hausman test to determine the best model between the fixed effect or the random effect. The output of the Hausman test on the selection of the best model shows the prob. cross-section random = 1.00000 > a = 0.05, so the best model chosen is random effect. Therefore it is necessary to do the LM test to determine the best model between random effect or common effect. The output of the LM test on the selection of the best model shows the prob. Breusch-Pagan = 0.4295 > a = 0.05, so the best model chosen for this data is the common effect.

Adjusted R-squared: The results obtained show that the R2 obtained from the estimation results is 0.2291 or 22.91%, which means that the ability of regional financial independence and government spending to explain economic growth is 22.91%, while the rest is explained through other factors outside the model that affect economic growth in Kalimantan Island

4.2 Partial Hypothesis Testing (T Test)

4.2.1 Hypothesis Testing Model 1

X1 variable:

- Estimated coefficient (Coefficient) is 0.022519.
- Standard error (Std. Error) is 0.011391.
- t-statistic is 1.976904.
- Probability (Prob.) is 0.0555 (greater than the 0.05 significance level).

These results indicate that the coefficient of the variable X1 is not significantly different from zero at the 0.05 significance level. A probability greater than 0.05 indicates that the effect of variable X1 on the dependent variable (Y1) may not be statistically significant.

Comment [DDW30]: You used linear regression but I don't see your linearity test results and auto correlation test. How did handle these?

Comment [DDW31]: Incomplete sentence… check it

Comment [DDW32]: Where is model 1 and Table 3.

Comment [DDW33]: You already stated that the best model chosen is the fixed effect. But again you say that you are going to do Hausman test to determine the best model between fixed effect and random effect? So which is which?

Comment [DDW34]: The presentation here is very much confusing. You should have just gone straight to explain the model used and why you chose it among the many other models. I don't think that it is a sequential process as you have shown it. Besides, what is LM Test? This needs to be known to a ready who is not good at econometric expressions.

Comment [DDW35]: How did you obtain your adjusted R-squared results? In other words clearly state the method.

Comment [DDW36]:

Comment [DDW37]: See my previous comments in the above section

Comment [DDW38]: See my comments above.

LOG_X2 variable:

- Estimated coefficient (Coefficient) is -392.5336.
- Standard error (Std. Error) is 64.69278.
- t-Statistic is -6.067657.
- Probability (Prob.) is 0.0000 (very small).

These results indicate that the coefficient of the LOG_X2 variable is significantly different from zero. The very small probability indicates that the coefficient of the LOG_X2 variable has a significant effect on the dependent variable (Y1) in the regression model. The results of this test can be seen in table 5.

4.2.1 Hypothesis Testing Model 2

X1 variable:

- Estimated coefficient (Coefficient) is -0.090689.
- Standard error (Std. Error) is 0.042981.
- t-Statistic is -2.109964.
- Probability (Prob.) is 0.0417 (smaller than the 0.05 significance level).

These results indicate that the coefficient of the variable X1 is significantly different from zero at the 0.05 significance level. The probability that is less than 0.05 indicates that the coefficient of the variable X1 has a significant effect on the dependent variable (Y2) in the regression model.

LOG_X2 variable:

- Estimated coefficient (Coefficient) is -1942.111.
- Standard error (Std. Error) is 608.0447.
- t-Statistic is -3.194026.
- Probability (Prob.) is 0.0029 (smaller than the 0.05 significance level).

These results indicate that the coefficient of the LOG_X2 variable is significantly different from zero at the 0.05 significance level. The probability that is less than 0.05 indicates that the coefficient of the LOG_X2 variable has a significant effect on the dependent variable (Y2) in the regression model. The results of this test can be seen in table 6.

3.7 Discussion

3.7.1 The Effect of Regional Financial Independence on Poverty

This study shows the results if the Regional Financial Independence variable has a negative and insignificant effect on poverty in Kalimantan Island at the 5 percent level, thus based on the probability it is concluded that H o = accepted and H a = accepted. This means that the proposed hypothesis is rejected and the independence variable has a result if it has a negative and insignificant effect on poverty.

This is in line with the results of research conducted by Parkoso, etc. (2019) showing that the results of regional financial independence have a significant negative effect on poverty. This indicates that the higher the level of regional financial independence, the lower the regional poverty rate. These results are similar to research conducted by Purnomo and Danuta (2022).

The government plays an important role in helping to increase regional financial independence in each province, public awareness to be able to help increase the amount of regional income is an important factor in helping to increase regional independence.

Comment [DDW39]: You do not have Ho and Ha stated in the hypotheses. So where are these Ho and Ha coming from?

3.7 .2 The Effect of Government Expenditures on Poverty

The government spending variable has a significant effect on poverty on the island of Kalimantan, these results support previous research conducted by Azmi et al (2022) and Mismidawati et al (2013) government spending gave positive and significant results in the short term

The increase in government spending is expected to create facilities and business opportunities for the community, with this the higher the level of government spending is expected to reduce the level of poverty in Kalimantan Island.

3.7.3 Effect of Government Financial Independence on Economic Growth .

Based on the results of this study, it was found that the regional financial independence variable had a significant effect on economic growth on the island of Kalimantan. This is in line with the results of research conducted by Parkoso (2019), Suci et al (2014) which show that the results of X1 versus Y2 have significant results.

Comment [DDW40]: Does it mean that you had different data to obtain these results as opposed to the results in section 3.7.1?

3.7.4 Effect of Government Spending on Economic Growth .

The results of this study X2 have a significant effect on Y2 and are in line with previous research conducted by Prasasti (2022) and Eliza (2015), government spending that is managed properly and correctly can certainly support economic growth in each region.

Comment [DDW41]: Same concern. Results of section 3.7.2 vs 3.7.4

4. CONCLUSION

The results of the first model analysis show that regional financial independence has a negative and significant effect on poverty, while the government expenditure variable has a significant effect on poverty. So if the higher the level of independence and government spending, it will also have an impact on the level of poverty. The results of the second model analysis show that regional financial independence has a significant effect on economic growth, and government expenditure variables have a significant effect on economic growth. These results indicate that the higher the independence and government spending, the more impact this will have on economic growth .

Comment [DDW42]: What about on economic growth- What do the results of the first model say about economic growth?

Comment [DDW43]: Grammatical issues with this statement. Check it out.

Comment [DDW44]: What about on poverty- what do the results of the second model say on poverty?

References

Abdul, Hh. (2002). Rregional financial accounting, selemba four, jakarta. *public sector accounting* .

Abdul, Hh. (2002). Ppublic sector accounting. *regional financial accounting , selemba four jakarta* .

Abdul, Hh. (2004). Rregional financial accounting. *selemba four jakarta* .

Abdul, H.d. (2002). Regional Financial Accounting, selemba four jakarta. *Public sector accounting* .

Blanchard, HP (2005). Management of Organizational Behavior: Utilizing Human Resources. *erlang* .

Enceng, LB (n.d.). Fiscal decentralization of regional financial revenues. *State Administration Science* , 1-73.

Jhingan, M. (2008). Development economics and planning . *PT. Raja Grafindo Persada, Jakarta* .

Mardiana, MT (2017). Analysis of the Influence of Local Government Expenditures on the Education and Health Sector and Infrastructure on Unemployment Rates and Poverty Levels. *Innovation, Vol 13* .

Mardiana, MT (2017). Analysis of the Influence of Regional Government Expenditures on the Education and Health Sector and Infrastructure on the unemployment rate and poverty rate. *Journal of Innovation, Vol. 13* .

Siagian, M. (2018). The Role of Work Discipline and Compensation in Determining Employee Performance with Work Motivation as an Intervening Variable at Pt Cahaya Pulau Pura in Batam City. *Putra Batam University Management Scientific Journal* .

Todaro, MP (2003). UK: Pearson Education Limited. *Economic Development* .

Todaro, MP (2006). Economic Development. *Volume 1 Ninth Edition* .

Todaro, MP (2011). Economic Development Next Edition volume 1 jakarta. *erlang* .

Todaro, MP (2011). Economic Development eleventh edition volume 1. *erlangga* .

ATTACHMENT

Table 3 results

Chow test

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

Effects Test	Statistic	d.f.	Prob.
Cross-section F	246.862750	(3,34)	0.0000
Cross-section Chi-square	125.038843	3	0.0000

Hausman

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

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	0.821242	2	0.6632

test LM test

Lagrange Multiplier Tests for Random Effects
Null hypotheses: No effects
Alternative hypotheses: Two-sided (Breusch-Pagan) and one-sided (all others) alternatives

	Test Hypothesis		
	Cross-section	Time	Both
Breusch-Pagan	144.9537 (0.0000)	5.060789 (0.0245)	150.0145 (0.0000)
Honda	12.03967 (0.0000)	-2.249620 --	6.922612 (0.0000)
King-Wu	12.03967 (0.0000)	-2.249620 --	9.301851 (0.0000)
Standardized Honda	16.56210 (0.0000)	-1.970116 --	5.829130 (0.0000)
Standardized King-Wu	16.56210 (0.0000)	-1.970116 --	9.671491 (0.0000)
Gourieroux, et al.*	--	--	144.9537 (< 0.01)

*Mixed chi-square asymptotic critical values:

1%	7.289
5%	4.321
10%	2.952

Table 4. The results of the Model 2 test

Chow test

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

Effects Test	Statistic	d.f.	Prob.
Cross-section F	4.382081	(3,34)	0.0103
Cross-section Chi-square	13.075751	3	0.0045

Uji Hausman

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

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	0.000000	2	1.0000

Uji LM

Lagrange Multiplier Tests for Random Effects
Null hypotheses: No effects
Alternative hypotheses: Two-sided (Breusch-Pagan) and one-sided (all others) alternatives

	Test Hypothesis		
	Cross-section	Time	Both
Breusch-Pagan	0.624177 (0.4295)	18.24038 (0.0000)	18.86456 (0.0000)
Honda	0.790049 (0.2147)	4.270876 (0.0000)	3.578614 (0.0002)
King-Wu	0.790049 (0.2147)	4.270876 (0.0000)	2.819640 (0.0024)
Standardized Honda	1.848765 (0.0322)	4.863074 (0.0000)	1.721137 (0.0426)
Standardized King-Wu	1.848765 (0.0322)	4.863074 (0.0000)	1.250326 (0.1056)
Gourierioux, et al.*	--	--	18.86456 (< 0.01)

*Mixed chi-square asymptotic critical values:

1%	7.289
5%	4.321

10%	2.952	

Table 5. The coefficient of the LOG_X2 variable has a significant effect on the dependent variable (Y1) in the regression model

Dependent Variable: Y1
Method: Panel EGLS (Cross-section random effects)
Date: 08/10/23 Time: 15:17
Sample: 2012 2021
Periods included: 10
Cross-sections included: 4
Total panel (balanced) observations: 40
Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1302.225	213.8969	6.088099	0.0000
X1	0.022519	0.011391	1.976904	0.0555
LOG_X2	-392.5336	64.69278	-6.067657	0.0000

Effects Specification

	S.D.	Rho
Cross-section random	1.456605	0.9720
Idiosyncratic random	0.247220	0.0280

Weighted Statistics

R-squared	0.566290	Mean dependent var	0.326241
Adjusted R-squared	0.542846	S.D. dependent var	0.364754
S.E. of regression	0.246622	Sum squared resid	2.250431
F-statistic	24.15518	Durbin-Watson stat	0.661971
Prob(F-statistic)	0.000000		

Unweighted Statistics

R-squared	-0.092076	Mean dependent var	6.087250
Sum squared resid	61.83488	Durbin-Watson stat	0.024092

Table 6. The coefficient of the LOG_X2 variable has a significant effect on the dependent variable (Y2) in the regression model.

Dependent Variable: Y2
Method: Panel Least Squares
Date: 08/10/23 Time: 15:44
Sample: 2012 2021
Periods included: 10
Cross-sections included: 4
Total panel (balanced) observations: 40

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	6425.980	2009.513	3.197780	0.0028

X1	-0.090689	0.042981	-2.109964	0.0417
LOG_X2	-1942.111	608.0447	-3.194026	0.0029

R-squared	0.268695	Mean dependent var	3.947250
Adjusted R-squared	0.229165	S.D. dependent var	2.699505
S.E. of regression	2.370091	Akaike info criterion	4.635772
Sum squared resid	207.8412	Schwarz criterion	4.762438
Log likelihood	-89.71544	Hannan-Quinn criter.	4.681570
F-statistic	6.797231	Durbin-Watson stat	2.154271
Prob(F-statistic)	0.003061		