**JRBM**

# Jurnal Riset Bisnis dan Manajemen

# Editorial Team

## Editor-in-Chief

Juanim, Universitas Pasundan, Scopus ID: 57201472570

## Managing Editor

Ardi Gunardi, Universitas Pasundan, Scopus ID 57191667735

## Publishing Manager

Muhammad Iqbal Baihaqi, Universitas Pasundan, Sinta ID 6834982

## Editorial Boards

Heru Setiawan, Universitas Pasundan, SINTA ID: 6709500

Wasito, Universitas Pasundan, SINTA ID: 6693865

Fatkhurahman, Universitas Lancang Kuning-Pekanbaru, Scopus ID: 57216616608

Mujibah A. Sufyani, Universitas Pasundan, SINTA ID: 6678526

Popo Suryana,  Universitas Pasundan, SINTA ID: 6010339

Dewi Yuliati Indah, Universitas Pasundan, Scopus ID: 57217083298

Avid Leonardo Sari, UIN Sunan Gunung Djati Bandung,  Scopus ID: 57212606764

## Reviewer

Law Siong Hook, Universiti Putra Malaysia Scopus ID: 1452300040

Noor Azman Ali, Universiti Putra Malaysia, Scopus ID: 23501199700

Budi Septiawan, Universitas Pasundan Scopus ID: 57491552100

Ellen Rusliati, Universitas Pasundan Scopus ID: 57218660135

Azhar Affandi, Universitas Pasundan, Scopus ID: 57189332798

Horas Djulius, Universitas Pasundan, Scopus ID: 57193535048

Sidik Priadana, Universitas Pasundan, Scopus ID: 57189323821

Jaja Suteja, Universitas Pasundan, Scopus ID: 57190028247

Aldrin Herwany, Universitas Padjadjaran, Scopus ID: 36815920800

Doni Purnama Alamsyah, Universitas BSI, Scopus ID: 56119114400

Ina Ratnamiasih, Universitas Pasundan, Scopus ID: 55320156100

Atty Tri Juniarti, Universitas Pasundan, Scopus ID: 57192415215

Ardi Gunardi, Universitas Pasundan, Scopus ID: 57191667735

Bagus Shandy Narmaditya, Universitas Negeri Malang, Scopus ID: 57194286237

Suliyanto, Universitas Jenderal Soedirman, Scopus ID: 55037259400

Vera Intanie Dewi, Universitas Katolik Parahyangan, Scopus ID: 57208330958

Keni Kaniawati, Universitas widyatama, Scopus ID: 57207890118

Nurul Hermina, Universitas widyatama, Scopus ID:13341253

Sunu Puguh Hayu Triono, Telkom University, Sinta ID: 6643393

Brigita Meylianti Sulungbudi, Universitas Katolik Parahyangan, SINTA ID: 6006821

Mulyaningrum, Universitas Pasundan, Sinta ID: 258488

Fatkhurahman, Universitas Lancang Kuning, Scopus ID: 57216616608

Iwan Nugroho, Universitas Widyagama Malang, Scopus ID: 57209914106

Yudi Azis, Universitas Padjadjaran, Scopus ID: 36705674300

Syahriyah Semaun, Intitut Agama Islam Negeri, SInta ID: 6666368

Ratna Roostika, Universitas Islam Indonesia, Scopus ID: 57039133300

**Layout Editor**

Diki Achmad, Universitas Pasundan, Indonesia

Syahriyah Semaun, Intitut Agama Islam Negeri, SInta ID: 6666368

Ratna Roostika, Universitas Islam Indonesia, Scopus ID: 57039133300

**Layout Editor**

# Articles

# THE ROLE OF DOMESTIC INVESTMENT IN POVERTY REDUCTION IN 11 PROVINCES IN JAVA, BALI, NTT, NTB AND MALUKU

**Dedi Sulistiyo Soegoto✉[1], Surjatno Wiganepdo[2], Herman Surdiatno[3]**
Universitas Komputer Indonesia[1,2,3]
✉[1] **dedi@unikom.ac.id**
Jl. Dipati Ukur No.112-116, Kota Bandung, Jawa Barat 40132, Indonesia

## Abstract

This study aims to investigates the role of domestic investment in reducing poverty in 11 provinces in Indonesia, specifically Java, Bali, East Nusa Tenggara, West Nusa Tenggara, and Maluku. This study employs a quantitative framework, utilizing panel data analysis to investigate trends across selected regions. The findings support region-specific economic strategies that boost growth and reduce poverty by encouraging local investment to reduce poverty and improve living standards. The research highlights the importance of domestic investment in promoting inclusive growth and improving social welfare in Indonesia. This research represents a novel inquiry, as the study of the panel data pool model across 11 provinces provides a wider perspective by emphasizing the importance of domestic investment in promoting inclusive growth and improving social welfare in Indonesia.

**Keywords:** domestic investment; PMDN; poverty

## INTRODUCTION

Governments in every nation aim to enhance the well-being of their citizens. Various programs to accelerate improving community welfare and reducing poverty rates in society in general. In general, people in the poor category will find it difficult to fulfill basic needs such as food, clothing, shelter, education and health services. The global poverty rate has decreased steadily over the last 41 years, dropping from approximately 42.7% in 1981 to 8.4% in 2022. The World Bank defines poverty as having an average daily income of less than $3.2, or Rp. 48,800 on a daily basis. Whereas, severe poverty is characterized as having an average daily income below $1.9. Countries with high levels of extreme poverty typically exhibit low standards of public health (World Bank, 2022). Poverty leads to the disturbance of family dynamics (Banovcinova, A., Levicka, J., & Veres, M., 2014). Experiencing poverty adversely affects all members of the family (Dodge et al., 1994; Gerbery et al., 2007; Currie & Stabilem, 2003).

The 2020 The corona virus outbreak has had an impact on reducing the level of public health and greatly affecting national economic growth, social development, worsening poverty and causing food shortages in a country. (United Nations, 2020). Particularly affected are underprivileged households (Howes et al., 2020)., Indonesia, being a developing nation, is witnessing a notable increase in its substantial poverty rate; in 2020, the effects of the coronavirus pushed the percentage to approximately 10.19% of the population (Hasrimi et al., 2024). Amid these challenges, an area of focus for Indonesia's development efforts is the resolution of poverty, an enduring and complex issue (OECD, 2021). One way to alleviate poverty is through development programs to improve the welfare of society as a whole.. addressing both the immediate and long-term needs of the population (Junaidi et al., 2023). The Bureau of Statistics (BPS) reports that the percentage of Indonesians living in poverty

fell from 11.47% in 2013 to 7.53% in 2022, a steady drop from the previous year. An effort is made to continue to promote investment, including that of entities whose capital is derived domestically and internationally.

Domestic investment (PMDN) refers to investment activities carried out within the government of the Republic of Indonesia that are funded by domestic investors who utilize local funds, which might be in the form of people or commercial entities. PMDN involves investing in constructing, purchasing, or acquiring an enterprise. In 2022, the investment within the domestic sector across all provinces in Indonesia was 552,769 billion rupiah (BKPM, 2022). PMDN has a beneficial effect on poverty reduction, according to sources (Permana, 2019; Agustini & Kurniasih, 2017; Momongan, 2013). Nevertheless, various researchers argue that PMDN has no substantial influence on the reduction of poverty in Indonesia (Dorojatun & Susamto, 2016). According to (Bárcena, A., 2020).  For the entire population living at the poverty line level in 2020 (215 million, 34.7% of the population) their income is equivalent to the poverty line level for six months. Strategically: Universal basic income, universal social protection (health, pension, unemployment insurance) and the welfare of a country can be seen from several indicators such as fiscal, social and productivity levels, and (Nadzir M &, Kenda A S, 2023) Domestic investment is positive for domestic economic growth. In calculating and analyzing macro poverty in Indonesia, Badan Pusat Statistik BPS (2023), according to the opinion of Haughton & Khandker (2009), there are four reasons for measuring poverty, namely: 1. It is a strong instrument to focus policy makers on the lives of the poor 2. Identifying poor people so that can provide appropriate policy interventions 3. Monitor and evaluate projects and policies used for poor people 4. Evaluate institutions that have the aim of helping poor people, in real terms the results of poverty calculations and analysis show that the percentage of poor people in March 2023 is 9.36 percent, The Poverty Depth Index (P1) is 1.53 points, and the Poverty Severity Index (P2) is 0.38 points. This is relevant to measuring domestic investment as a step in alleviating poverty in several provinces. This is in accordance with statistical data that the number of poor people in 11 provinces of Indonesia in 2022 is recorded as Dki Jakarta 502, West Java 4071, Central Java 3831, In Djogjakarta 455, East Java 4181, Banten 814, Bali 306, NTB 732, NTT 1132, Maluku 291, and North Maluku 79.87. So the role of investment is very large as part of Indonesia's development efforts to resolve poverty, which is a complex and eternal problem (OECD, 2021). Problems of poverty, unemployment, deviations in income distribution, injustice and high levels of inflation will be minimized if the prosperity of a nation and state is achieved through economic growth (Donaldson, 2008; Khoirunurrofik & Fitriatinnisa, 2021; Omar & Inaba, 2020). Globally, economic growth is a competitive effort to improve technology, capital goods, human capital, services and economic goods over time (Zaidi et al., 2019).

To address discrepancies with certain findings of prior research, Researchers conducted investigations in 11 Indonesian provinces which had the highest number of poor people in 2022, including DKI Jakarta 502, West Java 4071, Central Java 3831, Djogjakarta 455, East Java 4181, Banten 814, Bali 306, NTB 732, NTT 1132 , Maluku 291, and North Maluku 79.87. The goal of this study was to ascertain whether PMDN effectively mitigates poverty rates across all provinces examined or if its impact is limited to specific provinces and inconsequential in others. In addition, it is anticipated that the findings of this research will serve as a benchmark for implementing PMDN to alleviate poverty, particularly in provinces where such initiatives have been successful in reducing poverty. In addition, to a more recent time span for data collection, the location of this study and the number of provinces examined distinguish it from a number of earlier investigations.

## METHOD

The establishment of a coordinating board for investments (BKPM) in Indonesia was intended to facilitate investment coordination. It's mission is to ensure that policies and services pertaining to domestic investment are aligned with relevant laws and regulations. Domestic Investment (PMDN) refers to an investment endeavor conducted by domestic investors with domestic capital with the intention of participating in commercial endeavors throughout the Unitary State of the Republic of Indonesia (NKRI) territory. The provision pertaining to PMDN is outlined in Article 2 of Law No. 6 of 1968 on Domestic Investment. Furthermore, the implementation of investment is based on the applicable laws and regulations, Article 1 of the 2007 Law Number 25 about Investment. As of present time, PMDN has complied with Regulation Number 4 of 2021 of the Investment Coordinating Board of the Republic of Indonesia, which outlines the policies and processes for service licensing.

The data used in this study is quantitative, namely in the form of numbers and can be measured. The amount of data on domestic investment and poverty rates is based on secondary data from BPS from 2010 to 2022. The amount of sample data required is large enough to provide sufficient panel data, both in the form of time series and cross section data. The study of the impact of PMDN growth on reducing poverty rates is based on the results of analysis of panel data calculations according to whether they are Common Effect, Fixed Effect or based on Random Effect.

Panel data can also be utilized for practical technological purposes. During research studies, we may encounter challenges in determining the data availability needed to represent the variables used. Sometimes, we encounter data in a concise series that hinders the time series data processing due to the limited amount of data. Similarly, data may be limited in terms of cross-section units, making it challenging to conduct cross-section data processing to extract behavioral insights from the model under study. In such cases, a panel data technique could provide an adequate solution. It will be possible to considerably enhance the number of observations by integrating time-series and cross-section (pooling) data without undergoing any data processing.

Panel data analysis often offers the potential to deliver several statistical and economic benefits, formed: (a) Data panels use individual-specific variables in econometric equations to specifically consider and address the presence of diversity or variation. (b) Controlling individual heterogeneity allows for testing and building complicated behavioral models using panel data. For example, the phenomenon of economies of scale or technical advances will be investigated with data panels rather than cross-sectional or time-series data. (c) Using panel data can dramatically lessen the problem of omitted factors, especially if the particular effect is heavily associated with other variables. (d) Panel data, which is based on repeated cross-sectional observations, is ideal for studying dynamic changes like labor mobility and employment levels. (e) Increasing the number of observations leads to more useful and varied data, lower collinearity, and increased degrees of freedom, resulting in more efficient estimation outcomes. (f) Expanded panel data analysis to include numerous people rather than just one (Ekananda, 2016).

In this research, there are three methods used to determine the estimation model that can be applied to panel data. When using panel data, the three methods will each provide an illustration that based on the existing panel data, only the most appropriate method provides optimal output based on the results of the study. These methods are as follows: This approach is referred to as the most basic panel data model as it incorporates both time series and cross-sectional data. without considering time dimensions or individuals. It assumes that the behavior of the sample data remains consistent across different time periods. In this instance, the coefficients for time and individuals, or intercepts and slopes, remain consistent across different time points and individuals. The Ordinary Least Squares (OLS) method or the least squares method can be used with this method to predict panel data (Agus, 2009). This approach capitalizes on discrepancies in intercepts among individuals while preserving an intercept that remains constant over time (time-invariant). To ascertain whether the appropriate model is Fixed Effect or Common Effect, a F Test is performed. By incorporating surrogate variables into fixed effects models, we can compensate for our ignorance of the actual model. However, this also reduces the efficacy of the parameters by causing a reduction in degrees of freedom. One potential solution to address this concern is the implementation of error interference variables, which are frequently referred to as random effects. The determination uses the Hausman test, as the most appropriate method between fixed effects and random effects (Agus, 2009).

## RESULTS

The impact of domestic investment on the alleviation of poverty was examined using data from 11 provinces. The data is a compilation of data published by several Indonesian government entities.

With regard to the fact that panel data is a composite of time series and cross-sectional data, the overarching framework of panel data can be described as follows:

$$Y_{it} = \beta_0 + \Sigma^k_{J=1} \beta_j X_{jit} + \varepsilon_{it} \ .............................................................(1)$$

Information, $Y_{it}$ stands for decrease in poverty, $\beta_0$ stands for constant, $\beta_1$ stands for regression coefficient, $X_{jit}$ represent domestic investment, i stands for Province or i stands for 1,2,3,4,5,6 ... n, t represent Time period, t stands for 1,2,3,4,5,6 ... It, $\varepsilon_{it}$ represent error term.

There are three approaches used in determining the estimation model using panel data (Baltagi, B.H., 2005), including:

Common Effect Model (CEM), The simplest panel data model approach is known as the CEM method, because it combines time series data with cross sections, and appears to ignore time and sample dimensions, so the behavior of the sample data can be assumed to be the same over various time periods (Widarjono 2018, p 365).

Fixed Effect Model (FEM). Based on the use of the FEM method in estimating panel data which uses dummy variables to obtain intercept differences. Basically, the intercept differs between individuals but the intercept is the same over time (time invariant) through a FEM approach. Widarjono 2018, p. 367.

Random Effect Model (REM). REM (Random Effects Model). The purpose of adding dummy variables to fixed effects is to represent an indication that we do not know what the model should be. This has an impact on reducing degrees of freedom which can reduce parameter efficiency. Problems like this are usually overcome through the use of error interference variables, also better known as random effects (Widarjono, 2018, p.370).

The study utilized data from 11 provinces spanning a decade, employing a combination of time series and cross-sectional data analysis together with panel data regression methods, which are well-suited for addressing economic and business issues (Ekananda, 2016).

The data provided includes information on Domestic Investment and Poverty Rate in 11 provinces located in Java, Bali, NTT, NTB, and Maluku Island (Tables 1 and 2).

Table 1. Total Domestic Investment

| No | Provinces | 2022 | 2021 | 2020 | 2019 | 2018 | 2017 | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | PMDN 11 Provinces in Indonesia (billion IDR) | | | | | | | | | | | | | |
| 1 | DKI Jakarta | 89.224 | 54.708 | 42.955 | 62.095 | 49.097 | 47.262 | 12.217 | 15.513 | 17.812 | 5.755 | 8.540 | 9.256 | 4.599 |
| 2 | Jawa Barat | 80.808 | 59.949 | 51.401 | 49.284 | 42.278 | 38.391 | 30.360 | 26.273 | 18.727 | 9.006 | 11.384 | 11.194 | 15.800 |
| 3 | Jawa Tengah | 24.992 | 31.311 | 30.606 | 18.655 | 27.475 | 19.866 | 24.070 | 15.411 | 13.602 | 12.594 | 5.797 | 2.738 | 5.853 |
| 4 | DI Yogyakarta | 2.275 | 2.761 | 2.683 | 6.299 | 6.132 | 295 | 949 | 362 | 704 | 284 | 334 | 1,60 | 795 |
| 5 | Jawa Timur | 65.356 | 52.552 | 55.661 | 45.453 | 33.333 | 45.045 | 46.332 | 35.490 | 38.132 | 34.849 | 21.520 | 9.688 | 10,00 |
| 6 | Banten | 31.284 | 25.990 | 31.146 | 20.708 | 18.638 | 15.142 | 12.426 | 10.710 | 8.081 | 4.009 | 5.118 | 4.299 | 8.084 |
| 7 | Bali | 6.002 | 6.355 | 5.433 | 7.393 | 1.549 | 593 | 482 | 1.250 | 253 | 2.985 | 3.108 | 313,40 | 313 |
| 8 | Nusa Tenggara Barat | 11.032 | 9.091 | 6.582 | 3.519 | 4.135 | 5.414 | 1.343 | 348 | 213 | 1.398 | 45,40 | 42,30 | 1.806 |
| 9 | Nusa Tenggara Timur | 3.459 | 3.743 | 3.029 | 3.753 | 4.246 | 1.082 | 822 | 1.296 | 3,60 | 17,60 | 14,40 | 1,00 | 0,10 |
| 10 | Maluku | 611 | 2.940 | 475 | 283 | 1.014 | 52 | 11,40 | - | - | - | 3,40 | 0,10 | - |
| 11 | Maluku Utara | 3.415 | 2.665 | 662 | 683 | 2.276 | 1.151 | 8,80 | 48,20 | 156,30 | 114,90 | 320,50 | 13,50 | - |

Table 2. Poverty Rate in 11 Provinces in Java, Bali, NTT, NTB and Maluku

| No | Provinces | 2022 | 2021 | 2020 | 2019 | 2018 | 2017 | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number of Poor People in Indonesia in 11 Provinces as of March (x 1000) | | | | | | | | | | | | | |
| 1 | DKI Jakarta | 502 | 502 | 481 | 366 | 373 | 390 | 384 | 399 | 394 | 354 | 367 | 363 | 312 |
| 2 | Jawa Barat | 4071 | 4195 | 3920 | 3399 | 3616 | 4168 | 4224 | 4436 | 4327 | 4297 | 4421 | 4649 | 4774 |
| 3 | Jawa Tengah | 3831 | 4110 | 3981 | 3743 | 3897 | 4451 | 4507 | 4577 | 4836 | 4733 | 4863 | 5107 | 5369 |
| 4 | DI Yogyakarta | 455 | 506 | 476 | 448 | 460 | 489 | 495 | 550 | 545 | 550 | 562 | 561 | 758 |
| 5 | Jawa Timur | 4181 | 4573 | 4419 | 4112 | 4333 | 4617 | 4703 | 4789 | 4787 | 4771 | 4961 | 5356 | 5529 |
| 6 | Banten | 814 | 867 | 776 | 654 | 661 | 675 | 658 | 702 | 623 | 656 | 648 | 690 | 577 |
| 7 | Bali | 206 | 202 | 165 | 164 | 172 | 180 | 178 | 197 | 185 | 163 | 161 | 166 | 175 |
| 8 | Nusa Tenggara Barat | 732 | 747 | 714 | 736 | 737 | 794 | 804 | 824 | 821 | 831 | 828 | 895 | 1009 |
| 9 | Nusa Tenggara Timur | 1132 | 1169 | 1154 | 1146 | 1142 | 1151 | 1150 | 1160 | 995 | 994 | 1000 | 1013 | 1014 |
| 10 | Maluku | 291 | 322 | 318 | 318 | 320 | 321 | 328 | 328 | 316 | 322 | 339 | 360 | 379 |
| 11 | Maluku Utara | 79,87 | 87,16 | 86,37 | 84,60 | 81,46 | 76,47 | 74,67 | 79,90 | 82,64 | 83,44 | 88,30 | 97,31 | 91,10 |

Dependent Variable: Y?
Method: Pooled Least Squares
Date: 02/10/24 Time: 10:02
Sample: 2010 2022
Included observations: 13
Cross-sections included: 11
Total pool (balanced) observations: 143

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| C | 952338.8 | 162101.4 | 5.874956 | 0.0000 |
| X1? | 4.73E-08 | 7.07E-09 | 6.700092 | 0.0000 |
| R-squared | 0.241492 | Mean dependent var | | 1587698. |
| Adjusted R-squared | 0.236112 | S.D. dependent var | | 1798793. |
| S.E. of regression | 1572157. | Akaike info criterion | | 31.38768 |
| Sum squared resid. | 3.49E+14 | Schwarz criterion | | 31.42912 |
| Log likelihood | -2242.219 | Hannan-Quinn criterion | | 31.40452 |
| F-statistic | 44.89123 | Durbin-Watson stat | | 0.053853 |
| Prob (F-statistic) | 0.000000 | | | |

Figure 1. Ordinary Least Square

The results in Figure 1 of the common effect model will be compared with the fixed effect which is better using the Chow test to choose the best method. This result can be seen from the very low R-square and only 0.2415 of the reduction in poverty rates is due to PMDN and the remaining is influenced by other factors.

Dependent Variable: Y?
Method: Pooled Least Squares
Date: 02/10/24 Time: 10:03
Sample: 2010 2022
Included observations: 13
Cross-sections included: 11
Total pool (balanced) observations: 143

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| C | 1696530. | 26632.86 | 63.70061 | 0.0000 |
| X1? | -8.11E-09 | 1.47E-09 | -5.511072 | 0.0000 |
| Fixed Effects (Cross) | | | | |
| _JAKARTA--C | -1036144. | | | |
| _JABAR--C | 2773112. | | | |
| _JATENG--C | 2910837. | | | |
| _YOGYA--C | -1154295. | | | |
| _JATIM--C | 3307446. | | | |
| _BANTEN--C | -881901.0 | | | |
| _BALI--C | -1496111. | | | |
| _NTB--C | -862926.6 | | | |
| _NTT--C | -589351.0 | | | |
| _MALUKU--C | -1365419. | | | |
| _MALUT--C | -1605248. | | | |

| Effects Specification | | | |
|---|---|---|---|
| Cross-section fixed (dummy variables) | | | |
| R-squared | 0.986980 | Mean dependent var | 1587698. |
| Adjusted R-squared | 0.985887 | S.D. dependent var | 1798793. |
| S.E. of regression | 213692.3 | Akaike info criterion | 27.46265 |
| Sum squared resid. | 5.98E+12 | Schwarz criterion | 27.71128 |
| Log likelihood | -1951.579 | Hannan-Quinn criterion | 27.56368 |
| F-statistic | 902.7939 | Durbin-Watson stat | 0.459823 |
| Prob (F-statistic) | 0.000000 | | |

Figure 2. Fixed Effect Model

The results of the panel data in Figure 2 above show that the value of each coefficient for each province is very significant in implementing investment in reducing poverty levels in the P 5% probability statistical test. Based on the calculation results, it shows that the regression coefficient shows a very high level of statistical significance and has a very high R-square value of 0.987. The determination uses the Hausman test, as the most appropriate method between fixed effects and random effects.

Dependent Variable: Y?
Method: Pooled EGLS (Cross-section random effects)
Date: 02/10/24 Time: 10:05
Sample: 2010 2022
Included observations: 13
Cross-sections included: 11
Total pool (balanced) observations: 143
Swamy and Arora estimator of component variances

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| C | 1693409. | 422782.0 | 4.005396 | 0.0001 |
| X1? | -7.88E-09 | 1.47E-09 | -5.359527 | 0.0000 |
| Fixed Effects (Cross) | | | | |
| _JAKARTA--C | -1038654. | | | |
| _JABAR--C | 2763320. | | | |
| _JATENG--C | 2904581. | | | |
| _YOGYA--C | -1149540. | | | |
| _JATIM--C | 3296009. | | | |
| _BANTEN--C | -880699.8 | | | |
| _BALI--C | -1490961. | | | |
| _NTB--C | -859069.8 | | | |
| _NTT--C | -585564.5 | | | |
| _MALUKU--C | -1359956. | | | |
| _MALUT--C | -1599465. | | | |

| Effects Specification | | | |
|---|---|---|---|
| | | S.D. | Rho |
| Cross-section random | | 1399428. | 0.9772 |
| Idiosyncratic random | | 213682.3 | 0.0228 |
| Weighted Statistics | | | |
| R-squared | 0.460385 | Mean dependent var | 67180.82 |
| Adjusted R-squared | 0.154430 | S.D. dependent var | 239988.1 |
| S.E. of regression | 220680.8 | Sum squared resid | 6.87E+12 |
| F-statistic | 26.93405 | Durbin-Watson stat | 0.398034 |
| Prob (F-statistic) | 0.000001 | | |
| Unweighted Statistics | | | |
| R-squared | -0.087045 | Mean dependent var | 1587698. |
| Sum squared resid | 4.99E+14 | Durbin-Watson stat | 0.005472 |

Figure 3. Random Effect Model

The coefficient of each regional result in each province shows the influence of each investment variable that will be able to influence the poor population variable in several provinces.

The Common effect test on Fixed Effect shows a cross section F probability value of 0.000 so that the fixed effect model estimation results are better than the Common effect (Figure 4).

Redundant Fixed Effect Tests
Pool: PROPINSI11
Test cross-section fixed effects

| Effects Test | Statistic | d.f. | Prob. |
|---|---|---|---|
| Cross-section F | 750.090535 | (10.131) | 0.0000 |
| Cross-section Chi-square | 581.280055 | 10 | 0.0000 |

Figure 4. Test the Common effect model against Fixed effect

Analysis results with Common Effect, Fixed effect and Random effect models show that the value obtained from R-square is very low and only 24% of the decline in poverty rates is caused by PMDN and the

Correlated Random Effects-Hausman Test
Pool: PROPINSI11
Test cross-section random effects

| Test Summary | Chi-Sq. Statistic | Chi-Sq. d.f. | Prob. |
|---|---|---|---|
| Cross-section random | 10.373190 | 1 | 0.0013 |

Figure 5. Fixed effect on Random effect

The Hausman Test results indicate a cross-section value of 0.013, indicating that the fixed effect model estimate results are better than the random effect model (Figure 5).

## DISCUSSION

Model analysis There are three approaches used in determining the estimation model using panel data (Baltagi, B.H., 2005), including: (1) Common Effect Model (CEM), The simplest panel data model approach is known as the CEM method, because it combines time series data with cross sections, and appears to ignore time and sample dimensions, so the behavior of the sample data can be assumed to be the same over various time periods (Widarjono, 2018). (2) Fixed Effect Model (FEM). Based on the use of the FEM method in estimating panel data which uses dummy variables to obtain intercept differences. Basically, the intercept differs between individuals but the intercept is the same over time (time invariant) through a FEM approach (Widarjono, 2018). (3) Random Effect Model (REM). REM (Random Effects Model). The purpose of adding dummy variables to fixed effects is to represent an indication that we do not know what the model should be. This has an impact on reducing degrees of freedom which can reduce parameter efficiency. Problems like this are usually overcome through the use of error interference variables, also better known as random effects (Widarjono, 2018).

Tables 1 and 2 represent macro poverty data and analysis in Indonesia Central Statistics Agency BPS (2023) is still quite high so that investment needs to be increased as a policy that accommodates reducing poverty levels in several provinces, this is relevant to the opinion of Haughton & Khandker (2009) there are four reasons why measuring poverty, namely: 1. It is a powerful instrument to focus policy makers on the lives of the poor. 2. Identifying the poor so that they can provide appropriate policy interventions. 3. Monitoring and evaluating projects and policies used for the poor. 4. Evaluating institutions that aim to help the poor. In real terms, the results of poverty calculations and analysis show that the percentage of poor people in March 2023 was 9.36 percent, the Poverty Depth Index (P1) was 1.53 points, and the Poverty Severity Index (P2) was 0.38 points. This is relevant to measuring domestic investment as a step to overcome poverty in several provinces. This is in accordance with statistical data that the number of poor people in 11 provinces of Indonesia in 2022 was recorded in DKI Jakarta 502, West Java 4071, Central Java 3831, In Djogjakarta 455, East Java 4181, Banten 814, Bali 306, NTB 732, NTT 1132, Maluku 291, and North Maluku 79.87. So the role of investment is very large as part of Indonesia's development efforts to solve poverty which is a complex and eternal problem (OECD, 2021).

remaining 75.85% is influenced by other factors. Jufrida et al. (2016) stated that with increasing domestic investment, a country's economy will move better, especially for developing countries. Fixed Effect Model shows that the R-square value is 98.7%, this affects the higher the level of investment in a country, the higher its economic growth will be. (Ayunda & Sari, 2021). Immurana (2020) stated that the very important role of investment can change economic growth for the better. Random effect models shows Based on the results of each regional coefficient for each province, the influence of each investment variable will be able to influence the poor population variable in several provinces. In accordance with other opinions, as determined in the form of residuals, that there is a random effect, due to variations in values and relationships between subjects assuming randomness, (Achmad Kuncoro, Engkos and Ridwan, 2012). This method is used to estimate panel data provided that the residual variable has a relationship to subject and time. Widarjono's opinion, Agus. (2009), to overcome the weaknesses of fixed effects by using random effects for a model that uses dummy variables. The condition that must be met in the panel data analysis method with the random effect model is that the number of cross sections is greater than the number of research variables.

## CONCLUSION

The increase in domestic investment in 11 provinces in Java, Bali, NTT, NTB, and Maluku shows that PMDM has a substantial impact on dipped poverty rates in each province. The results of studies using fixed effect models are better compared to common effects and random effect models. This is in accordance with the panel data statistical test where for the Common Effect model the panel data results in the Probability statistical test with $\alpha = 0.05$ show an R-squared figure of 24%, which states that the influence of domestic investment rates on poverty reduction rates is only 24%. % of poverty reduction while the remainder is influenced by other factors or error terms. Meanwhile, the Fixed Effect model results from panel data in the Probability statistical test with $\alpha = 0.05$ showing an R-squared figure of 98.689%, stating that the domestic investment rate has an effect on reducing poverty in the 11 Provinces studied, the remainder is only 1.31% due to other factors.

In terms of selecting the best model between Common effect and fixed effect model and between Random effect and fixed effect model, based on the statistical test results of the Chow model shows a cross section F probability value of 0.000 so that the fixed effect model estimation results are better than the Common effect . Between the fixed effect model and the random effect model, this is one of the best method selection techniques. The Hausman model statistical test results are The Hausman Test results indicate a cross-section value of 0.0013, indicating that the fixed effect model estimate results are better than the random effect model.

The results of the study are in accordance with the data and the selection of the statistical test model from the data panel, namely the Fixed Effect Model, that the poverty rate in 11 provinces is greatly influenced by the role of domestic investment. The results of the study can be presented and discussed with the local government in order to reduce the limitations of the study in terms of implementing the results of the study itself. So that later the extent to which capital investment participation will allocate their funds is based on the results of the study above.

## REFERENCES

Achmad Kuncoro, Engkos dan Ridwan, 2012, *Análisis jalur (Path Análisis), Edisi kedua*, Penerbit Alfabeta, Bandung.

Agustini, Y., & Kurniasih, E. P. 2017. The Effect of PMDN, FDI, and Employment Investment on Economic Growth and Number Poor People in Districts / Municipalities in West Kalimantan Province. Economic Journal Business and Entrepreneurship, 6(2), 97-119.

Ayunda, N. P., & Sari, Y. P. 2021. *Pengaruh Penanaman Modal dalam Negeri, Penanaman Modal Asing, dan Infrastruktur Transportasi terhadap Pertumbuhan Ekonomi*. Jurnal Kajian Ekonomi Dan Pembangunan, 3(1).

Baltagi, B. H. 2005. Econometric Analysis Of Data Panel. England: John Wiley & Sons Ltd.

Banovcinova, A., Levicka, J., & Veres, M. 2014. The Impact Of Poverty On The Family System Functioning. Procedia-Social and Behavioral Sciences, 132, 148-153.

Bárcena, A. (Ed.). 2020. The Social Challenge In Times of COVID-19. United Nations, ECLAC.

BKPM https://www.bkpm.go.id/id/statistik/Domestically-direct investment-DDI.

Badan Pusat Statistik BPS. 2023. *Penghitungan dan Analisis Kemiskinan Makro Indonesia Tahun 2022.* Volume 15, 2023 Jakarta : Badan Pusat Statistik. Katalog : 3205022 ISSN : 2502-7484 Nomor Publikasi: 04300.2301

Currie, J., & Stabile, M. 2003. Socioeconomic Status And Child Health: Why Is The Relationship Stronger For Older Children?. American Economic Review, 93(5), 1813-1823.

Dodge, K. A., Pettit, G. S., & Bates, J. E. 1994. Socialization Mediators Of The Relation Between Socioeconomic Status And Child Conduct Problems. Child development, 65(2), 649-665.

Donaldson, J. A. 2008. Growth is Good for Whom, When, How? Economic Growth and Poverty Reduction in Exceptional Cases. World Development, 36(11), 2127–2143.

Dorojatun, K., & Susamto, A. A. 2016. The Effect of Foreign Investment, Domestic Investment, and Domestic Spending on the Poverty Rate. Gadjah Mada University.

Ekananda, M. 2016. Econometric Analysis Panel Data Edition 2: Complete Theory and Thorough Discussion for Economic, Business, and Social Researchers. Media Discourse Partners.

Gerbery, D., Bodnárová, B., & Filadelfiová, J. 2007. *Životné Podmienky Rodín V Medzigeneračnej Perspektíve*. Rodina a práca, 1, 52.

Hasrimi, M., Purwoko, A., & Lubis, S. N. 2024. Enhancing Poor Community Welfare Through Evidence-Based Poverty Alleviation Programs in Serdang Bedagai Regency, North Sumatra, Indonesia. Journal of Law and Sustainable Development, 12(1), e2784-e2784.

Haughton & Khandker. 2009. Handbook on Poverty and Inequality. Washington DC. Halaman 181.

Howes, S., Monk-Winstanley, R., Sefton, T., & Woudhuysen, A. (2020). Poverty in the pandemic: The impact of Coronavirus on low income families and children. Child Poverty Action Group.

Immurana, M. 2020. How does FDI influence health outcomes in Africa? African Journal of Science, Technology, Innovation and Development, 13(5), 1–11.

Jufrida, F., Syechalad, M. N., & Nasir, M. 2016. *Analisis Pengaruh Investasi Asing Langsung (FDI) dan Investasi Dalam Negeri terhadap Pertumbuhan Ekonomi Indonesia*. Jurnal Perspektif Ekonomi Darussalam, 2(1), 54–68.

Junaidi, A. 2012. Analysis of Indonesia's Economic Growth and Poverty. Journal of Economic Studies, 1(1).

Junaidi, J., Usman Raidar, U. R., Ikram, I., Anita Damayantie, A., & Imam Mahmud, I. 2023. Implementing An Inclusive-Collaborative Development Model To Create Prosperity For The Poor. Journal Of Law And Sustainable Development, 11(11), 1-26.

Khoirunurrofik, & Fitriatinnisa, D. 2021. Financial Inclusion, Poverty, Inequality: Empirical Evidence from Provincial in Indonesia. Economics Development Analysis Journal, 10(2), 205–220.

Momongan, J. E. 2013. FDI and PMDN Investment Influence on GRDP Development and Employment and Poverty Reduction in North Sulawesi. EMBA Journal : Journal of Economic Research, Management, Business and Accounting, 1(3).

Nadzir, M., & Kenda, A. S. 2023. Investasi Asing Dan Investasi Dalam Negeri: Pengaruhnya Pada Pertumbuhan Ekonomi Di Indonesia. JIMAT (Jurnal Ilmiah Mahasiswa Akuntansi) Undiksha, 14(02), 317-328.

OECD 2021. OECD Economic Surveys. Indonesian.

Omar, M. A., & Inaba, K. 2020. Does Financial Inclusion Reduce Poverty And Income Inequality In Developing Countries? A Panel Data Analysis. Journal of Economic Structures, 9(1).

Widarjono, Agus. 2018. Econometrics: Theory and Applications, complemented by Applications Eviews. Yogyakarta : Econicia Publishers.

Widarjono, Agus. 2009. *Ekonometrika Pengantar dan Aplikasinya Edisi Ketiga*. Yogyakarta EKONISIA.

Zaidi, S. A. H., Wei, Z., Gedikli, A., Zafar, M. W., Hou, F., & Iftikhar, Y. 2019. The Impact Of Globalization, Natural Resources Abundance, And Human Capital On Financial Development: Evidence From Thirty-One OECD Countries. Resources Policy, 64(June), 101476