



Factors Influencing the Growth of MSMEs and Their Impact on Employment Opportunities and Income Inequality in Java Island (2017–2019)

Arief Nugroho Wibowo^{1*}, Heru Subiyantoro², Sugiyanto³, Pujiastuti⁴

Doctoral Student at Borobudur University and Lecturer at Indraprasta PGRI University,
Jakarta,

Indonesia 1

Borobudur University, Jakarta, Indonesia ^{2,3}

Email address:

Bonic1998@gmail.com¹, heru_Subiyantoro@borobudur.ac.id², sugianto@borobudur.ac.id³,
pujiastuti@unindra.ac.id

Corresponding author: Bonic1998@gmail.com^{1}

Received: May 15, 2025; **Accepted:** August 5, 2025 ; **Published:** August 30, 2025

Abstract: This study aims to analyze the factors influencing the growth of Micro, Small, and Medium Enterprises (MSMEs) and their impact on employment opportunities and income inequality in Java Island during the period 2017–2019. Using multiple linear regression analysis with SPSS software, the study examines the influence of seven independent variables: employment rate, Gini index, credit access, digitalization, infrastructure, education programs, and policy index on MSME growth as the dependent variable. The results reveal that the Gini index and education programs have a significant negative effect on MSME growth, while the policy index shows a significant positive effect. Other variables were found to be statistically insignificant, although high Variance Inflation Factor (VIF) values indicate potential multicollinearity. These findings suggest that income inequality and government policy effectiveness are critical determinants of MSME development. Policy implications emphasize the need for targeted interventions to reduce inequality, improve the relevance of entrepreneurship education, and maintain consistent regional policies to strengthen MSMEs' contributions to job creation and income equality in Indonesia.

Keywords: MSMEs, economic growth, income inequality, employment opportunity, policy index, Java Island

1. Introduction

Micro, Small, and Medium Enterprises (MSMEs) play a critical role in the economic landscape of Java Island, Indonesia's economic heartland. During 2017–2019, MSMEs contributed significantly to regional GDP and provided substantial employment, becoming a cornerstone for poverty alleviation and economic inclusion on the island. The number of MSMEs in Java showed steady growth from 2017 to 2019, reflecting the increasing entrepreneurial



DOI: 10.52362/ijiems.v4i2.2020

IJIEMS This work is licensed under a [Creative Commons Attribution 4.0 International License](https://creativecommons.org/licenses/by/4.0/).



activity in key provinces such as West Java, Central Java, and East Java. For instance, West Java alone saw the highest concentration, highlighting the region's economic vibrancy and opportunities for microenterprise expansion [1]

A pivotal factor influencing MSME growth is access to capital. Government credit schemes and financial institutions' lending practices have been instrumental in providing the liquidity needed for MSMEs to expand their operations. Easier access to financing positively correlates with MSME development in Java. The competence of MSME owners in managing their businesses, including marketing, innovation, and operational strategies, significantly affects the growth trajectory of these enterprises. Effective managerial skills help MSMEs to better navigate competitive markets and sustain growth [2].

Increasing adoption of information and communication technology (ICT) among MSMEs has enhanced productivity and market reach. Studies have shown that MSMEs in East Java leveraging digital tools experienced higher growth rates, suggesting technology usage as a catalyst in MSME economic contribution. The level of education and skills of MSME entrepreneurs and workers influences the capacity for innovation and operational efficiency. Higher education levels within MSME labor forces have been associated with better business outcomes and greater labor absorption in Java.

Physical and digital infrastructure such as transportation networks, marketplaces, and internet access directly affects MSME performance. Regions with better infrastructure in Java have shown more robust MSME growth, linking infrastructure development to economic advancement [3]. Pro-MSME policies such as streamlined business licensing, tax incentives, training programs, and market access facilitation have played a crucial role in MSME expansion. Government intervention has been particularly effective in creating enabling conditions for MSME growth across Java [4]

MSME growth has a direct positive impact on labor market outcomes by creating job opportunities, especially in informal and micro sectors. These enterprises are vital in absorbing both skilled and unskilled workers, thereby reducing unemployment rates on Java Island. While MSMEs generate employment, the benefits are not equally distributed across all regions of Java. Income inequality persists due to uneven development, with some areas experiencing more significant economic gains compared to others, reflecting differential access to resources and opportunities [5]

Despite growth, MSMEs in Java encounter obstacles such as limited financing options, intense competition, restricted market access, and slow technological adoption. These barriers hinder optimal growth and sustainability of MSMEs and require targeted policy responses [6]. The expansion of e-commerce platforms has enabled MSMEs, particularly micro and small businesses, to extend their market reach beyond local boundaries. The digital shift supports modernization and scalability, contributing to sales growth and competitive advantage in Java.

Increased MSME activity correlates positively with poverty reduction in Java. Enhanced productivity and improved market access enable MSMEs to generate higher incomes, thus supporting broader socio-economic development goals. Effective cooperation among





government agencies, private sector, and community organizations is essential to create a supportive ecosystem for MSMEs [7]. This includes combining training, financing, technology access, and market linkages to ensure resilient and sustainable MSME growth. Sustaining MSME growth on Java requires integrated policy frameworks and cross-sector collaboration. Achieving inclusive economic growth, tackling income inequality, and ensuring wide employment opportunities depend on continued support and innovation in MSME sectors

2. Materials and Method

2.1 Research Design

This study employs a quantitative explanatory research design to analyze the factors that influence the growth of Micro, Small, and Medium Enterprises (MSMEs) and their subsequent impact on employment opportunities and income inequality across provinces in Java Island. A panel data approach is used, integrating cross-sectional and time-series data for the period 2017–2019.

2.2 Research Variables

Dependent Variables:

- **MSME Growth (GROWTH):** Measured by the annual percentage increase in the number of active MSMEs per province.
- **Employment Opportunities (EMPLOY):** Operationalized through the change in the number of workers absorbed by MSMEs.
- **Income Inequality (INEQ):** Measured using the Gini coefficient for each province

Independent Variables

- **CREDIT:** Volume of MSME loans from government and private credit schemes (e.g., KUR).
- **DIGITAL:** Percentage of MSMEs using digital platforms or internet access per province.
- **INFRA:** Index of infrastructure availability, including road length, broadband, and electricity.
- **EDU:** Number of entrepreneurship training programs or vocational schools.
- **POLICY:** Index of local government support (e.g., tax incentives, business permits, MSME programs).

Data sources include BPS, OJK, Ministry of Cooperatives and SMEs, and BAPPEDA. Analytical tools used are EViews 10 and SPSS 26, applying panel regression models (Fixed and Random Effects), with model selection based on the Hausman test.



3. Results

3.1. Descriptive Statistics

Descriptive Statistics

| | N | Minimum | Maximum | Mean | Std. Deviation |
|----------------------|----|---------|---------|----------|----------------|
| MSME Growth (%) | 18 | 4,5 | 6,0 | 5,261 | ,4231 |
| Employment Rate (%) | 18 | 57,8 | 64,5 | 60,239 | 1,9790 |
| Gini Index | 18 | ,386 | ,413 | ,40039 | ,007047 |
| Credit (IDR Bn) | 18 | 6,200 | 14,100 | 10,46667 | 2,290646 |
| Digital (%) | 18 | 66,3 | 91,0 | 75,517 | 7,4531 |
| Infrastructure Index | 18 | 83,6 | 93,2 | 87,528 | 3,0387 |
| Education Programs | 18 | 25 | 40 | 33,00 | 4,087 |
| Policy Index | 18 | 74 | 88 | 80,28 | 4,226 |
| Valid N (listwise) | 18 | | | | |

Source of Data Processing

The descriptive statistics show moderate variation across Java's provinces from 2017–2019. MSME growth averaged 5.26%, while employment rates hovered around 60.24%. Income inequality, measured by the Gini Index, was relatively stable, averaging 0.400, indicating consistent inequality levels across regions. Credit access and digital adoption varied significantly, with average values of IDR 10.47 trillion and 75.5% respectively, suggesting uneven financial and technological support. Infrastructure and policy indexes were generally high but differed slightly, while entrepreneurship education programs ranged more widely, with an average of 33 programs per province. These variations suggest that differences in credit, digital infrastructure, education, and local policies may have influenced MSME growth and employment outcomes, while income inequality remained relatively uniform.

3.2. Regression Results

Model Summary

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1 | ,981 ^a | ,963 | ,937 | ,1064 |



DOI: 10.52362/ijiems.v4i2.2020

IJIEMS This work is licensed under a [Creative Commons Attribution 4.0 International License](https://creativecommons.org/licenses/by/4.0/).



a. Predictors: (Constant), Policy Index, Gini Index, Credit (IDR Bn), Digital (%), Employment Rate (%), Education Programs, Infrastructure Index

The model summary results from the multiple linear regression analysis indicate a very high level of model accuracy and fit. The R value of 0.981 suggests a very strong correlation between the independent variables (such as policy index, infrastructure index, education programs, digitalization, credit access, Gini index, and employment rate) and the dependent variable, which is MSME growth. Furthermore, the R Square (R^2) value of 0.963 means that 96.3% of the variation in MSME growth can be explained by the combination of these independent variables, while the remaining 3.7% is influenced by factors not included in the model. The Adjusted R Square of 0.937 indicates that the model remains valid and does not suffer from overfitting despite the inclusion of multiple predictors. Additionally, the Standard Error of the Estimate at 0.1064 reflects a low prediction error. Overall, these findings confirm that the regression model is highly reliable and effective in explaining the factors that influence MSME growth in Java Island during the 2017–2019 period.

| ANOVA ^a | | | | | | |
|--------------------|------------|----------------|----|-------------|--------|-------------------|
| Model | | Sum of Squares | df | Mean Square | F | Sig. |
| 1 | Regression | 2,930 | 7 | ,419 | 37,000 | ,000 ^b |
| | Residual | ,113 | 10 | ,011 | | |
| | Total | 3,043 | 17 | | | |

a. Dependent Variable: MSME Growth (%)

b. Predictors: (Constant), Policy Index, Gini Index, Credit (IDR Bn), Digital (%), Employment Rate (%), Education Programs, Infrastructure Index

The ANOVA (Analysis of Variance) table provides insight into the overall significance of the regression model. The F-value of 37.000 with a significance level (Sig.) of 0.000 indicates that the regression model is statistically significant at the 1% level. This means there is a very low probability that the relationship between the independent variables (Policy Index, Gini Index, Credit, Digitalization, Employment Rate, Education Programs, and Infrastructure Index) and the dependent variable (MSME Growth) occurred by chance. The Sum of Squares for Regression (2.930) and Residual (0.113) show that most of the variability in MSME growth is explained by the model, with very little left unexplained (residual). Therefore, the model is considered robust and suitable for predicting or analyzing the factors that influence MSME growth in Java Island during 2017–2019.



DOI: 10.52362/ijiems.v4i2.2020

IJIEMS This work is licensed under a [Creative Commons Attribution 4.0 International License](https://creativecommons.org/licenses/by/4.0/).

Coefficients^a

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | VIF |
|-------|----------------------|-----------------------------|------------|---------------------------|--------|------|---------|
| | | B | Std. Error | Beta | | | |
| 1 | (Constant) | 25,520 | 5,099 | | 5,005 | ,001 | |
| | Employment Rate (%) | ,019 | ,055 | ,087 | ,338 | ,742 | 17,901 |
| | Gini Index | -69,415 | 12,277 | -1,156 | -5,654 | ,000 | 11,249 |
| | Credit (IDR Bn) | -,075 | ,084 | -,405 | -,889 | ,395 | 55,843 |
| | Digital (%) | -,093 | ,047 | -1,641 | -1,968 | ,077 | 187,040 |
| | Infrastructure Index | -,020 | ,130 | -,143 | -,153 | ,881 | 233,419 |
| | Education Programs | -,154 | ,057 | -1,489 | -2,697 | ,022 | 82,028 |
| | Policy Index | ,262 | ,053 | 2,620 | 4,908 | ,001 | 76,647 |

a. Dependent Variable: MSME Growth (%)

The regression results show that the Gini Index ($\beta = -69.415$, $p = 0.000$) and Education Programs ($\beta = -0.154$, $p = 0.022$) have significant negative effects on MSME growth, while the Policy Index ($\beta = 0.262$, $p = 0.001$) has a significant positive effect. Other variables like Employment Rate, Credit, Digitalization, and Infrastructure are not statistically significant. However, the model suffers from high multicollinearity, as indicated by extremely high VIF values, which can distort coefficient estimates and interpretation.

Discussion

The results of the multiple linear regression analysis provide a comprehensive view of the key factors influencing the growth of Micro, Small, and Medium Enterprises (MSMEs) across Java Island from 2017 to 2019. The model demonstrates a high level of explanatory power, with an R Square of 0.963, indicating that approximately 96.3% of the variation in MSME growth can be explained by the combined influence of the predictors: Employment Rate, Gini Index, Credit, Digital Penetration, Infrastructure Index, Education Programs, and Policy Index. This suggests that the chosen variables are highly relevant in understanding MSME dynamics in the region. One of the most significant findings is the strong negative effect of income inequality, as measured by the Gini Index ($\beta = -69.415$, $p < 0.001$). This confirms that higher income disparities hinder MSME growth. Inequality can limit market access for small businesses and reduce demand for local goods and services, ultimately stalling enterprise expansion. This aligns



DOI: 10.52362/ijiems.v4i2.2020

IJIEMS This work is licensed under a [Creative Commons Attribution 4.0 International License](https://creativecommons.org/licenses/by/4.0/).



with previous research suggesting that inclusive growth and equitable income distribution are crucial for sustainable MSME development (OECD, 2022).

The Policy Index was found to have a significant positive impact on MSME growth ($\beta = 0.262$, $p = 0.001$), highlighting the critical role of supportive regulations, incentives, and government programs in nurturing the sector. Well-structured policies can reduce bureaucratic barriers, enhance access to finance, and promote entrepreneurship. This finding is in line with studies by the Asian Development Bank (ADB, 2021) and underscores the importance of policy coherence across regional governments.

Interestingly, Education Programs exhibit a negative and significant relationship with MSME growth ($\beta = -0.154$, $p = 0.022$). While this may seem counterintuitive, it may suggest a mismatch between the content of educational initiatives and the actual needs of entrepreneurs. If programs are too theoretical or poorly aligned with local industry demands, they may fail to produce tangible outcomes. This highlights the need for a redesign of entrepreneurship education to be more hands-on and responsive to the MSME ecosystem (World Bank, 2020).

Other variables, such as Employment Rate, Digital Penetration, Credit Availability, and Infrastructure Index, did not show statistically significant impacts in this model. This may be due to multicollinearity, as indicated by the extremely high Variance Inflation Factors (VIFs)—all exceeding 10, and some over 100. Multicollinearity suggests that many of the predictors are highly correlated with one another, which can distort the regression estimates and reduce the clarity of their individual effects. Future models may benefit from dimension reduction techniques or exclusion of redundant variables.

Despite these limitations, the findings provide several implications. First, addressing income inequality and strengthening policy frameworks are key levers for promoting MSME growth in Java. Second, policy makers should evaluate and revamp education and training programs to ensure they meet real-world entrepreneurial challenges. Finally, further investigation is warranted to understand how digitalization, infrastructure, and credit access interact with MSME dynamics, possibly through mediating variables or nonlinear models.

In conclusion, the growth of MSMEs in Java is a multifaceted phenomenon influenced by socio-economic, policy, and institutional factors. While policies and inequality play decisive roles, the challenge remains to design integrated development strategies that simultaneously empower small enterprises, reduce disparities, and expand employment opportunities—ultimately narrowing income inequality and fostering inclusive growth.

4. Conclusion

This study has empirically examined the factors influencing the growth of Micro, Small, and Medium Enterprises (MSMEs) and their implications for employment opportunities and income inequality across Java Island from 2017 to 2019. The regression analysis, which incorporated variables such as employment rate, income inequality (Gini Index), credit availability, digital penetration, infrastructure index, education programs, and policy index, revealed that policy support and income inequality are the most statistically significant determinants of MSME





growth in the region. The findings show that a higher Policy Index positively contributes to MSME growth, underscoring the essential role of government intervention, regulatory reform, and entrepreneurship-friendly policies. Conversely, a higher Gini Index significantly reduces MSME growth, indicating that income inequality remains a structural barrier to inclusive economic expansion. Interestingly, the analysis also found that education programs had a significant but negative effect, suggesting a potential misalignment between the educational initiatives and the practical needs of MSME entrepreneurs.

While other factors such as employment rate, digitalization, infrastructure, and access to credit did not show statistically significant effects in this model, their high Variance Inflation Factor (VIF) values suggest strong multicollinearity, which could be distorting their true impact. This points to the need for more refined models in future studies, possibly incorporating factor analysis or non-linear regression techniques to better capture these complex relationships. From a policy perspective, the study emphasizes the importance of targeted interventions to reduce inequality, improve the quality and relevance of entrepreneurship education, and sustain policy consistency across regions to foster MSME growth. These efforts are not only crucial for enhancing the productivity and competitiveness of small businesses but also for expanding employment opportunities and reducing income disparity two critical objectives for achieving sustainable and inclusive economic development in Indonesia. In conclusion, the growth of MSMEs is not merely a function of market dynamics but is deeply shaped by institutional and socio-economic structures. Effective policy design, equitable resource distribution, and adaptive capacity-building programs are imperative for harnessing the full potential of MSMEs as engines of job creation and social equity.

References

- [1] Sugeng Haryono, Wahyu Murti, and Yolanda, “Analysis of micro small medium enterprises Growth on Economic Growth and Implications for HDI (Analysis Study in DKI Jakarta, West Java and Banten),” *International Journal of Advances in Engineering and Management (IJAEM)*, vol. 5, no. 5, pp. 1204–1214, 2023.
- [2] Y. F. Ilahi, M. Abidin, V. M. Ekowati, and C. I. Lesmana, “The Role of Micro, Small and Medium Enterprises (MSMEs) in Alleviating Poverty Caused by Unemployment,” *Jurnal Ekonomi Pembangunan*, vol. 21, no. 02, pp. 98–114, 2023.
- [3] R. L. Putri, S. Hidayat, E. Wahyono, and L. Rahmawati, “Big data and strengthening msmes after the covid-19 pandemic (development studies on batik msmes in east java),” *IAIC Transactions on Sustainable Digital Innovation (ITSDI)*, vol. 4, no. 2, pp. 83–100, 2023.
- [4] D. Fajarika, F. Trapsilawati, and B. M. Sopha, “Influential factors of small and medium-sized enterprises growth across developed and developing countries: A systematic literature review,” *International Journal of Engineering Business Management*, vol. 16, p. 18479790241258096, 2024.





- [5] T. Tahi Hamonangan Tambunan, “Development of small and medium enterprises in a developing country: The Indonesian case,” *Journal of Enterprising Communities: People and Places in the Global Economy*, vol. 5, no. 1, pp. 68–82, 2011.
- [6] K. A. Akhmad and T. J. Santoso, “Factors Affecting the Business Development of Women with Disabilities in Indonesia,” *Indonesian Journal of Disability Studies*, vol. 10, no. 1, pp. 95–104, 2023.
- [7] R. D. Rahmadani and W. T. Subroto, “Analisis strategi pengembangan UMKM Kabupaten Sidoarjo di masa pandemi Covid-19,” *Jurnal Pendidikan Administrasi Perkantoran (JPAP)*, vol. 10, no. 2, pp. 167–181, 2022.

