Vol. 3, No. 2, 2026
DOI: 10.61975/gjbes.v3i2.121

ORIGINAL ARTICLE

Gender Inequality and Economic Growth in Aceh: Evidence from Panel Data Analysis

M. Saleh, Suriani Suriani* and M. Shabri Abd. Majid

Department of Economics, Faculty of Economics and Business, Universitas Syiah Kuala, Banda Aceh 23111, Indonesia

* Correspondence: suriani@usk.ac.id

Article History

Received
17 March 2026

Accepted
2 June 2026

Available Online
9 June 2026

Keywords

Gender inequality
Economic growth
Panel data regression
Random Effect Model
Aceh

Abstract

This study examines the impact of gender inequality on economic growth in Aceh Province, Indonesia, where persistent gender disparities may hinder regional economic performance by limiting human capital development and economic participation. Despite increasing attention to gender issues in Indonesia, empirical evidence for Aceh remains limited. Using panel data from 23 districts/cities in Aceh Province during 2018-2025, this study employs a random effects model to analyze the effect of the Gender Inequality Index on economic growth. The analysis also incorporates control variables, including the open unemployment rate, labor force participation rate, and human development index. The empirical findings reveal that gender inequality has a negative and statistically significant effect on economic growth in Aceh, indicating that higher levels of gender inequality tend to reduce regional economic performance. These findings imply that reducing gender inequality is essential for achieving sustainable and inclusive economic growth. Therefore, policymakers should strengthen gender-inclusive development policies, expand women's access to education and employment opportunities, and encourage greater female participation in economic activities to support long-term regional development.

Introduction

Gender inequality remains one of the most persistent socio-economic challenges across the world. Despite considerable progress in education, healthcare, political participation, and labor market inclusion, substantial disparities between men and women continue to exist in many countries, particularly in developing economies [1]. Women often experience unequal access to education, employment opportunities, financial services, leadership positions, and economic resources [2]. Global development reports consistently show the existence of gender gaps in wages, labor force participation, political representation, and access to productive assets. These disparities not only represent a social and human rights issue but also create structural inefficiencies that may hinder economic performance [3]. As a result, gender equality has increasingly become an important component of sustainable development agendas and inclusive economic growth strategies across the world.

In Indonesia, gender inequality remains an important development issue despite continuous improvements in human development indicators over recent decades. Although women's access to education has improved significantly, disparities are still visible in labor force participation, wage levels, employment quality, and representation in strategic economic sectors [4]. Women are more likely to work in informal sectors with lower income and weaker social protection [5], while cultural and social norms in several regions continue to limit women's economic participation [6]. At the same time, Indonesia continues to pursue higher and more inclusive economic growth to support national development goals [7]. Although the national Gender Inequality Index (GII) has gradually declined from 0.499 in 2018 to 0.402 in 2025 [8], indicating improvements in gender equality, the persistence of gender disparities suggests that

Copyright: © 2026 by the authors. This is an open-access article distributed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License. (https://creativecommons.org/licenses/by-nc/4.0/)

gender inequality remains a significant challenge that may affect economic development outcomes across regions.

The issue of gender inequality is particularly relevant in Aceh Province, which possesses unique socio-cultural, institutional, and economic characteristics compared to other provinces in Indonesia. As a region with special autonomous status and the formal implementation of Islamic law, Aceh presents a distinctive institutional and cultural environment that may shape gender roles, labor market participation, and access to economic opportunities differently from other regions in the country [9]. Although Aceh has experienced economic recovery and development following the post-conflict and post-tsunami periods, gender disparities remain visible in several socio-economic indicators. Women in Aceh still face challenges related to labor market participation, economic empowerment, access to productive resources, and representation in formal economic activities [10]. In several districts and cities, traditional social norms and economic limitations may further restrict women's opportunities to participate fully in economic development [11]. At the same time, Aceh continues to face challenges in improving regional economic growth and reducing socio-economic disparities across regions [12]. These conditions indicate that gender inequality may become an important factor influencing regional economic performance in Aceh.

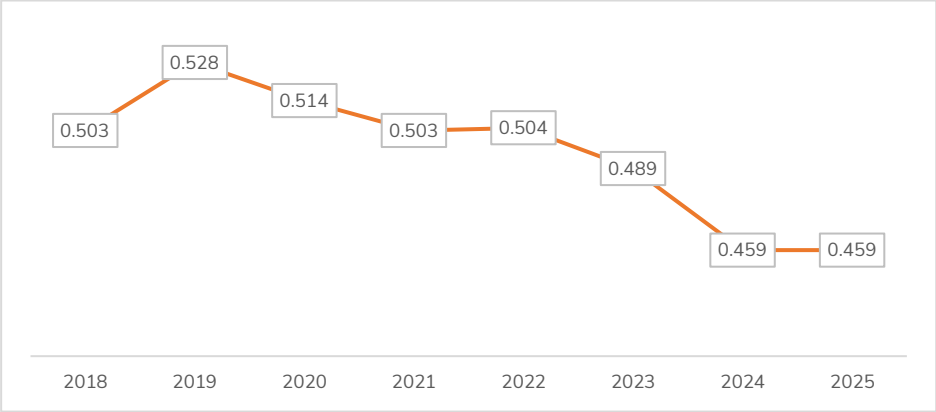


Figure 1. Gender Inequality Index in Aceh Province Period 2018-2025 [13].
Note: The index ranges from 0 to 1 where higher values indicate greater gender inequality and lower values indicate lower gender inequality.

Figure 1 shows that the Gender Inequality Index (GII) in Aceh Province generally exhibited a declining trend during the 2018-2025 period, decreasing from 0.503 in 2018 to 0.459 in 2025. This trend indicates gradual improvements in gender equality over time. However, despite the decline, the level of gender inequality in Aceh remains relatively high, as the index consistently stayed close to 0.5 throughout the observation period. Compared to the national trend, Aceh recorded higher GII values in most years, with the gap widening in recent periods as Indonesia's GII declined more rapidly from 0.499 in 2018 to 0.402 in 2025. This condition suggests that disparities between men and women in areas such as economic participation, access to opportunities, and human development still persist and may be more pronounced in Aceh than at the national level, as highlighted by Adnan [10] and Ocktaviana & Kamaruzzaman [11]. The persistence of relatively high gender inequality indicates that economic development in Aceh has not yet been fully accompanied by inclusive gender-based development outcomes. Consequently, gender inequality continues to represent an important socio-economic problem that may hinder regional economic performance and limit the optimization of human resources in supporting sustainable economic growth.

From a theoretical perspective, gender inequality is closely related to economic growth through several economic mechanisms. Human capital theory explains that unequal access to education and health services between men and women reduces the quality and productivity of human

resources, thereby constraining economic performance [14]. Similarly, endogenous growth theory emphasizes that long-term economic growth is highly dependent on the accumulation of knowledge, innovation, and human capital, all of which may be weakened when women are excluded from productive economic activities [15]. Gender inequality can also reduce labor market efficiency by limiting women's participation in employment, entrepreneurship, and decision-making processes [16]. In addition, unequal opportunities between men and women may lower household welfare and reduce investments in children's education and health, thereby perpetuating poverty and limiting long-term economic development [17]. Therefore, economies that fail to utilize the productive potential of women efficiently may experience lower economic growth compared to more gender-inclusive economies.

Previous empirical studies have widely examined the relationship between gender inequality and economic growth in various countries and regions. Numerous studies as reviewed in review paper by Santos Silva & Klasen [18] have found that higher gender inequality tends to reduce economic growth by weakening human capital accumulation, lowering labor productivity, and reducing economic efficiency. Research conducted by Altuzarra et al. [1] in developing economies generally shows that improvements in women's education, labor participation, and economic inclusion contribute positively to economic performance. Several studies in Indonesia have also highlighted the importance of gender equality in supporting regional development, as demonstrated by Cameron [19] and Wibawa et al. [20], as well as in reducing poverty, as evidenced by Rohmatilah [21]. These empirical findings strengthen the theoretical argument that gender inequality is not only a social issue but also an economic issue with significant implications for development outcomes.

However, despite the important relationship between gender inequality and economic growth, empirical studies specifically examining the effect of gender inequality on regional economic growth in Aceh Province remain very limited. Most previous studies in Indonesia, such as those by Cameron [19], Rohmatilah [21], and Wibawa et al. [20], primarily focus on the national level or broader regional contexts without specifically analyzing district and city conditions in Aceh. Meanwhile, studies conducted in Aceh, including Pandiangan et al. [22] and Nailufar et al. [23] mainly examine the relationship between gender inequality and poverty, whereas Hasni [24] focuses on gender inequality in the context of sex education and adolescent development supervision. Therefore, previous studies have not specifically investigated the effect of gender inequality on economic growth across districts and cities in Aceh using recent regional panel data.

Accordingly, the research gap of this study lies in the limited regional-level empirical evidence regarding the relationship between gender inequality and economic growth in Aceh Province. To address this gap, this study analyzes the effect of gender inequality on economic growth across 23 districts/cities in Aceh during the 2018-2025 period using a random effects panel data model. This study contributes to the literature by providing district/city level evidence and by incorporating labor market and human development indicators as control variables, namely the open unemployment rate, labor force participation rate, and human development index, to provide a more comprehensive explanation of regional economic growth in Aceh. Furthermore, the findings are expected to provide policy implications for local governments in formulating more inclusive development strategies that strengthen gender equality and support sustainable regional economic growth.

Materials and Methods

Data and Variable

The study uses data from 23 districts/cities in Aceh Province, Indonesia, from 2018 to 2025, resulting in a total of 184 observations. The study period is determined by the availability and

consistency of district/city-level data for all variables included in the analysis. The dependent variable is gross regional domestic product (PDRB) per capita, measured in rupiah. The main independent variable is the Gender Inequality Index (IKG), measured on a scale from 0 to 1. The control variables include the Open Unemployment Rate (TPT), measured in percent, which is included to capture labor market conditions and potential inefficiencies in resource utilization; the Labor Force Participation Rate (TPAK), also measured in percent, which reflects the extent of labor utilization in economic activities; and the Human Development Index (IPM), measured on a scale from 0 to 100, which serves as a proxy for human capital development through improvements in education, health, and living standards. These variables are incorporated to account for key socioeconomic factors that may influence regional economic growth beyond gender inequality. All data are sourced from the Statistics of Aceh Province (BPS Aceh) [13]. Table 1 provides detailed information on the variables employed in this study.

Table 1. Operational definition of variable.

Variable	Symbol	Units	Source
Gross Regional Domestic Product per Capita (dependent)	PDRB	Rupiah	BPS [13]
Gender Inequality Index (independent)	IKG	Scale from 0 to 1	BPS [13]
Open Unemployment Rate	TPT	Percent	BPS [13]
Labor Force Participation Rate	TPAK	Percent	BPS [13]
Human Development Index	IPM	Scale from 0 to 100	BPS [13]

Model and Method

The econometric model of this study is as follows:

$$PDRB_{it} = \beta_0 + \beta_1 IKG_{it} + \beta_2 TPT_{it} + \beta_3 TPAK_{it} + \beta_4 IPM_{it} + \varepsilon_{it}$$

Where PDRB is the gross regional domestic product per capita, IKG is the gender inequality index, TPT is the open unemployment rate, TPAK is the labor force participation rate, IPM is the human development index, i is the districts/cities, t is the time period, β0 is the constant, β1 to β4 are the coefficients, and ε is the error term.

This study employs panel data regression analysis which combines cross-sectional data and time-series data simultaneously, allowing the analysis to capture both interregional differences and changes over time. The use of panel data regression provides several advantages, including increasing the number of observations and improving estimation efficiency, and controlling for unobserved heterogeneity among cross-sectional units [25]. To obtain elasticity interpretations and reduce heteroscedasticity problems, PDRB, IKG, and IPM are transformed into natural logarithm form.

Preliminary Tests

To determine the most appropriate estimation model, several specification tests are conducted as a preliminary step. The panel data estimation process involves three alternative approaches: the Common Effect Model (CEM), Fixed Effect Model (FEM), and Random Effect Model (REM) [26,27]. The Chow test is first employed to compare the CEM and FEM. Subsequently, the Hausman test is used to select between the FEM and REM. Finally, the Lagrange Multiplier (LM) test is conducted to compare the CEM and REM. Based on the results of these tests, the REM is selected as the most appropriate estimation approach for this study. The main estimation results are obtained using the REM without random period effects, while a robustness check is performed using the REM with random period effects to verify the consistency and stability of the findings.

In addition, the study only conducts a multicollinearity test as the classical assumption test in panel data analysis. The multicollinearity test is performed using the correlation matrix among independent variables to ensure that the explanatory variables do not exhibit strong linear

relationships. The study does not conduct a normality test because the total number of observations reaches 184, which is considered sufficiently large under the Central Limit Theorem assumption, implying that the sampling distribution of the estimators tends to approach normality. Furthermore, a heteroscedasticity test is not conducted because the model selection tests indicate that the REM is the most appropriate estimation approach, where the Generalized Least Squares (GLS) estimation procedure in REM is generally able to accommodate heteroscedasticity problems. Similarly, a serial correlation test is not performed because autocorrelation is primarily associated with pure time-series data, whereas this study employs panel data with dominant cross-sectional characteristics across districts and cities.

Results and Discussion

Model Selection

The model selection procedure in panel data regression involves three sequential specification tests, namely the Chow test, Hausman test, and Lagrange Multiplier (LM) test. Based on the results presented in Tables 2-4, the appropriate panel data estimation model can be determined systematically.

The Chow test is conducted to compare the Common Effect Model (CEM) and the Fixed Effect Model (FEM). As shown in Table 2, the probability value of the Cross-section F test is 0.0000, which is lower than the 5% significance level. Therefore, the null hypothesis that the CEM is appropriate is rejected. This finding indicates that there are significant individual effects across cross-sectional units, implying that the FEM is preferable to the CEM.

Table 2. Chow test.

Test	Effect Test	Statistic	Prob.
Chow	Cross-section F	350.58	0.0000
	Cross-section Chi-square	720.27	0.0000

After determining that the FEM is superior to the CEM, the Hausman test is employed to choose between the FEM and the Random Effect Model (REM). Table 3 shows that the probability value of the Hausman test is 0.0749, which is greater than 0.05. Consequently, the null hypothesis cannot be rejected, indicating that the REM is more appropriate than the FEM.

Table 3. Hausman test.

Test	Test Summary	Chi-Sq. Statistic	Prob.
Hausman	Cross-section random	8.5012	0.0749

The Lagrange Multiplier (LM) test is then used to compare the CEM and the REM. Based on Table 4, the probability value for the cross-section LM statistic is 0.0000, which is below the 5% significance level. Hence, the null hypothesis of no random effects is rejected. This finding confirms that the REM is superior to the CEM because significant random variations exist across cross-sectional units.

Table 4. Lagrange Multiplier test.

Test	*Cross-section*		*Time*		*Both*	
	Stat.	**Prob.**	**Stat.**	**Prob.**	**Stat.**	**Prob.**
Lagrange Multiplier	549.74	0.0000	0.0381	0.8453	549.77	0.0000

Overall, the results of the three specification tests consistently indicate that the REM is the most appropriate estimation model for this study. The Chow test rejects the CEM in favor of FEM, the Hausman test favors REM over FEM, and the LM test further confirms that REM is preferable to the CEM. Therefore, the REM is selected as the best model for the panel data regression analysis.

Multicollinearity Test

Table 5 presents the correlation matrix among the independent variables used in the regression model to examine the presence of multicollinearity. The results show that all correlation coefficients among variables are below the threshold of 0.70, indicating that the relationships are relatively weak to moderate. The highest correlation is found between TPT and TPAK with a coefficient of -0.6047, followed by the correlation between IKG and IPM of -0.5635, both of which remain below the critical level for multicollinearity concerns. The remaining correlation values are also relatively low. Therefore, it can be concluded that multicollinearity is not present in the regression model.

Table 5. Independent variable correlation.

Independent Variable	IKG	TPT	TPAK	IPM
IKG	1			
TPT	-0.0812	1		
TPAK	0.1058	-0.6047	1	
IPM	-0.5635	0.2061	0.0151	1

Panel Data Regression

Table 6 presents the results of the panel data regression analysis using the Random Effect Model. The estimation results indicate that IKG has a negative and statistically significant effect on PDRB. Since both IKG and PDRB are transformed into natural logarithm form, the coefficient can be interpreted as an elasticity. The coefficient value of -0.0626 with a probability value of 0.0014 indicates significance at the 1% level. This implies that a 1% increase in IKG leads to a 0.0626% decrease in PDRB, ceteris paribus. The negative relationship suggests that higher gender inequality reduces regional economic output. In economic terms, greater disparities between men and women may weaken labor productivity, limit human capital accumulation, and reduce the efficiency of resource allocation, thereby constraining regional economic growth.

Regarding the control variables, TPT has a negative coefficient of -0.0069 and is weakly statistically significant at the 10% level, indicating that higher unemployment tends to reduce PDRB. TPAK has a positive coefficient of 0.0010 but is statistically insignificant, suggesting that labor force participation does not significantly influence PDRB during the observed period. Meanwhile, IPM has a positive and highly significant coefficient of 1.2246 at the 1% significance level, implying that improvements in human development substantially increase regional economic output. The constant term is also positive and statistically significant. Furthermore, the R-squared value of 0.5021 indicates that approximately 50.21% of the variation in PDRB can be explained by the independent variables included in the model, while the remaining 49.79% is explained by other factors outside the model. In addition, the Prob(F-statistic) value of 0.0000 confirms that all independent variables jointly have a statistically significant effect on PDRB, indicating that the overall regression model is statistically reliable.

Table 6. Panel data regression with Random Effect Model.

Variable	Coeff.	Std. er.	t-stat.	Prob.
IKG	-0.0626	0.0193	-3.2429	0.0014
TPT	-0.0069	0.0041	-1.6710	0.0965
TPAK	0.0010	0.0013	0.7889	0.4312
IPM	1.2246	0.1300	9.4185	0.0000
C	4.7383	0.5479	8.6477	0.0000
R-squared	0.5021			
Adjusted R-squared	0.4909			
F-statistic	45.122			
Prob(F-statistic)	0.0000			

Robustness Check

Table 7 presents the robustness check results using the REM with Random Period Effects specification. The findings remain generally consistent with the main regression results shown in Table 6, particularly for the main independent variable, IKG. The coefficient of IKG remains negative and statistically significant at the 1% level, with a coefficient value of -0.0593 and a probability value of 0.0019. The coefficient indicates that a 1% increase in IKG reduces PDRB by approximately 0.0593%, ceteris paribus. The consistency in both the sign and significance of IKG across model specifications indicates that the negative effect of gender inequality on regional economic output is robust.

Meanwhile, TPT and TPAK remain statistically insignificant, while IPM continues to show a positive and highly significant effect on PDRB. The Prob(F-statistic) value of 0.0000 further confirms that the overall model is statistically significant. Therefore, the robustness test strengthens the reliability of the main findings and suggests that the estimated relationship between gender inequality and economic growth is stable across different Random Effects specifications.

Table 7. Random Effects Model with Random Period Effects specification.

Variable	Coeff.	Std. er.	t-stat.	Prob.
IKG	-0.0593	0.0188	-3.1520	0.0019
TPT	-0.0051	0.0040	-1.2760	0.2036
TPAK	0.0014	0.0012	1.1368	0.2571
IPM	1.1554	0.1572	7.3482	0.0000
C	5.0007	0.6684	7.4811	0.0000
R-squared	0.3642			
Adjusted R-squared	0.3500			
F-statistic	25.635			
Prob(F-statistic)	0.0000			

Discussion

The findings of this study indicate that gender inequality negatively affects economic growth in Aceh Province. This result suggests that disparities between men and women are not only a social issue but also an economic constraint that may reduce regional productivity and development performance. Higher levels of gender inequality can limit women's access to education, employment opportunities, health services, and economic resources [2], thereby reducing the overall quality and utilization of human capital within the region. As a consequence, the economy may operate below its productive potential due to the underutilization of a significant portion of the population.

From a development economics perspective, the findings support the argument by Bowlus & Robinson [14] that gender equality contributes to economic growth through improvements in labor productivity, human capital accumulation, and resource allocation efficiency. When women face barriers in participating in economic activities, the labor market becomes less efficient because talent and productive capacity are not allocated optimally. Over time, this condition may weaken regional competitiveness and reduce the sustainability of economic growth. Therefore, reducing gender inequality may generate broader economic benefits beyond social welfare improvements, particularly in developing regions where human capital remains a key driver of growth.

The findings of this study are also consistent with several previous studies that emphasize the importance of gender equality in supporting economic and regional development. Studies by Cameron [19], Rohmatilah [21], and Wibawa et al. [20] similarly found that greater gender equality contributes positively to development outcomes through increased economic participation, improved human capital quality, and more inclusive growth patterns. The

consistency between the present findings and previous empirical evidence indicates that gender inequality remains a significant structural issue that may hinder economic progress, particularly in developing regions.

The negative relationship between gender inequality and economic growth may also reflect structural conditions in Aceh. Although economic development has continued in recent years, women in some areas may still experience limited participation in formal employment, lower economic empowerment, and unequal access to productive opportunities [10]. These conditions can reduce household income generation and limit the contribution of women to regional economic activities. In addition, unequal educational and employment opportunities may restrict the development of skilled labor, which is essential for supporting long-term economic transformation and productivity growth [11].

The findings regarding the Human Development Index (HDI) show that HDI has a positive and significant effect on economic growth, further strengthening the importance of human capital in promoting regional economic performance. Improvements in education, health, and living standards appear to contribute positively to economic activity and productivity. This result is consistent with the view that human development enhances labor quality and productivity, which subsequently supports economic expansion [28,29]. In contrast, the insignificant effect of unemployment and labor force participation may indicate that the quantity of labor alone is insufficient to stimulate growth without corresponding improvements in labor quality, employment opportunities, and productive capacity.

Furthermore, the consistency of the results across different model specifications indicates that the negative effect of gender inequality on economic growth is relatively stable. This suggests that gender inequality constitutes a persistent structural issue rather than a temporary economic phenomenon. Consequently, policies aimed at reducing gender disparities should be considered an integral component of regional development strategy. Expanding women's access to education, vocational training, healthcare, and formal employment opportunities may help improve economic productivity and support more inclusive economic growth in Aceh Province.

Conclusions

The study finds that gender inequality represents a significant constraint on regional economic growth in Aceh. Higher disparities between men and women tend to reduce regional economic performance, suggesting that unequal access to education, employment opportunities, economic participation, and social empowerment can limit the productive potential of the economy. The findings also highlight the important role of human development in promoting economic growth, indicating that improvements in education, health, and living standards contribute positively to regional economic performance. Furthermore, the robustness analysis confirms that the negative relationship between gender inequality and economic growth remains consistent across alternative model specifications. Overall, this study contributes to the literature by providing district-level panel evidence from Aceh, a province with distinctive socio-cultural and institutional characteristics, and demonstrates that reducing gender inequality is not only a social objective but also an important strategy for achieving sustainable and inclusive economic growth.

Based on these findings, the Aceh provincial government should prioritize policies aimed at reducing gender inequality by expanding women's access to education, employment opportunities, and economic resources. Since gender inequality is found to negatively affect economic growth, local governments should strengthen vocational training programs, entrepreneurship assistance, and financial inclusion initiatives targeted at women, particularly in districts where female economic participation remains relatively low. The government should also expand scholarship programs for girls, reduce female school dropout rates, and improve

maternal and reproductive health services to strengthen women's human capital. Given the positive contribution of human development to economic growth, increasing investment in education and healthcare infrastructure, especially in less-developed districts, should become a policy priority. In addition, policymakers should promote gender-inclusive labor market policies by providing incentives for businesses and MSMEs that recruit, retain, and develop female workers. Integrating gender-responsive planning into regional development strategies and strengthening the monitoring of gender inequality indicators across districts can further support inclusive and sustainable economic growth. These policy recommendations may also be relevant for other regions that continue to face persistent gender disparities and seek to promote economic growth through more inclusive development strategies.

This study has several limitations that provide opportunities for future research. First, the analysis is limited to districts and cities within Aceh Province, which may restrict the generalizability of the findings to other regions. Second, the study employs a static panel data approach that may not fully capture the long-run dynamics of the relationship between gender inequality and economic growth. Third, the model includes only a limited set of control variables due to data availability constraints. Therefore, future research is encouraged to utilize broader panel data covering all provinces in Indonesia, apply alternative estimation techniques such as Fully Modified Ordinary Least Squares (FMOLS), or Quantile Regression to examine heterogeneous effects across regions, and incorporate additional variables such as investment, government expenditure, poverty, income inequality, and financial inclusion to provide a more comprehensive understanding of the relationship between gender inequality and economic growth.

Funding: This study does not receive external funding.

Data Availability Statement: The data availability by request.

Acknowledgments: The author would like to express the gratitude to Universitas Syiah Kuala.

Conflicts of Interest: All the authors declare that there are no conflicts of interest.

References

[1] Altuzarra A, Gálvez-Gálvez C, González-Flores A. Is Gender Inequality a Barrier to Economic Growth? A Panel Data Analysis of Developing Countries. *Sustainability* 2021;13:367. https://doi.org/10.3390/su13010367.

[2] Duflo E. Women Empowerment and Economic Development. *Journal of Economic Literature* 2012;50:1051–79. https://doi.org/10.1257/jel.50.4.1051.

[3] Kabeer N, Natali L. Gender Equality and Economic Growth: Is There a Win-Win? *IDS Working Papers* 2013;2013:1–58. https://doi.org/10.1111/j.2040-0209.2013.00417.x.

[4] Samarakoon S, Parinduri RA. Does Education Empower Women? Evidence from Indonesia. *World Development* 2015;66:428–42. https://doi.org/10.1016/j.worlddev.2014.09.002.

[5] Susilo H, Artha IKAJ, Yusuf A, Susanto SF, Zakariyah MF. Women's Empowerment in the Family Economy: The Role of Informal Education as a Catalyst for Gender Justice and Equality. *JPPM (Jurnal Pendidikan Dan Pemberdayaan Masyarakat)* 2025;12:197–209.

[6] Platt M. Marriage, Gender and Islam in Indonesia: Women Negotiating Informal Marriage, Divorce and Desire. Routledge; 2017.

[7] Rini DL, Hamonangan Tambunan TT. Inclusive Economic Growth of Indonesia and Its Determinants-Recent Evidence with Provincial Data. *Asian Journal of Interdisciplinary Research* 2021:85–100. https://doi.org/10.34256/ajir2118.

[8] Statistics Indonesia. Indeks Ketimpangan Gender (IKG) 2026.

[9] Djawas M, Nurdin A, Zainuddin M, Idham I, Idami Z. Harmonization of State, Custom, and Islamic Law in Aceh: Perspective of Legal Pluralism. *Hasanuddin Law Review* 2024;10:64. https://doi.org/10.20956/halrev.v10i1.4824.

[10] Adnan G. Gender Mainstreaming in the Context of Aceh Development. *Marwah: Jurnal Perempuan, Agama Dan Jender* 2017;16:127. https://doi.org/10.24014/marwah.v16i2.4284.

[11] Ocktaviana S, Kamaruzzaman S. Examining Women, Peace, and Security Agenda in Local Concept Case Study:

Aceh, Indonesia. *Jurnal Masyarakat Dan Budaya* 2021;23. https://doi.org/10.14203/jmb.v23i2.1403.
[12] Fahmi M. The Impact of Disparity in Infrastructure Development on Aceh's Economic Performance: An Inter-provincial Analysis. *Economics and Finance in Indonesia* 2020;66:5.
[13] Statistics of Aceh Province. Provinsi Aceh Dalam Angka 2026 2026.
[14] Bowlus A, Robinson C. The Evolution of the Human Capital of Women. *Canadian Journal of Economics/Revue Canadienne d'économique* 2020;53:12–42. https://doi.org/10.1111/caje.12424.
[15] Sakamoto R, Minami K. On the Undesirable Repercussions of Gender Norms in an Endogenous Growth Model. *The Scandinavian Journal of Economics* 2026. https://doi.org/10.1111/sjoe.70009.
[16] Khan A, Khan S, Khan MA, Zaman K, Khan H ur R, Rosman AS Bin, et al. Economic Costs of Gender Inequality in Health and the Labor Market: India's Untapped Potential. *Frontiers in Public Health* 2023;11. https://doi.org/10.3389/fpubh.2023.1067940.
[17] Kahn P. Unequal Opportunities: Women, Employment and the Law. Gender, sex law, Routledge; 2024, p. 79–101.
[18] Santos Silva M, Klasen S. Gender Inequality as a Barrier to Economic Growth: A Review of the Theoretical Literature. *Review of Economics of the Household* 2021;19:581–614. https://doi.org/10.1007/s11150-020-09535-6.
[19] Cameron L. Gender Equality and Development: Indonesia in a Global Context. *Bulletin of Indonesian Economic Studies* 2023;59:179–207. https://doi.org/10.1080/00074918.2023.2229476.
[20] Wibawa R, Budiartiningsih R, Endang Kornita S, Maulida Y, Nurmayanti M P. The Influence of Gender Inequality on Economic Growth in Riau Province 2012–2021. *KnE Social Sciences* 2024. https://doi.org/10.18502/kss.v9i23.16748.
[21] Rohmatilah DA. The Role of Gender Equality on Poverty Alleviation: Case of Indonesia. *Jurnal Perencanaan Pembangunan: The Indonesian Journal of Development Planning* 2023;7:272–87. https://doi.org/10.36574/jpp.v7i2.450.
[22] Pandiangan JI, Taufiq M, Wardaya W. Analysis of the Role of Gender Equality on Poverty Levels in Aceh Province. *Journal of Regional Economics and Development* 2025;2:12. https://doi.org/10.47134/jred.v2i4.865.
[23] Nailufar F, Andriyani D, Mellita Sari CP, Trisniarti N, Manurung DA, Tanjung DW. Gender Inequality and Poverty in Aceh. *Proceedings of International Conference on Finance Economics and Business (ICOFEB)* 2023;1:0017. https://doi.org/10.29103/icofeb.v1i-.592.
[24] Hasni K. Gender Inequalities, Sex Education, and Development Supervision Adolescents in Aceh Indonesia. Proc. Malikussaleh Int. Conf. Educ. Soc. Humanit. Innov., vol. 1, 2024, p. 71.
[25] Gujarati DN, Porter DC. Basic Econometrics. 6th ed. McGraw-Hill Education; 2020.
[26] Garini FA, Majid MSA, Suriani S. Foreign Investment, Domestic Savings, and Exchange Rates as Drivers of Per Capita Income and Financial Sector Development in OIC Countries. *Grimsa Journal of Business and Economics Studies* 2024;2:15–25. https://doi.org/10.61975/gjbes.v2i1.42.
[27] Afliana M, Zulham T, Suriani S, Miksalmina M. Impact of Oil and Gas vs. Non-Oil and Gas Exports on Provincial Economic Growth: A Panel Data Analysis. *Grimsa Journal of Business and Economics Studies* 2024;1:56–63. https://doi.org/10.61975/gjbes.v1i2.24.
[28] Appiah M, Amoasi R, Frowne DI. Human Development and Its Effects on Economic Growth and Development. *International Research Journal of Business Studies* 2019;12:101–9. https://doi.org/10.21632/irjbs.12.2.101-109.
[29] Zulham T, Dawood TC, Farlian T, Saputra J, Juliansyah R, Hadi F. The Nexus of Human Development Index, Economic and Population Growth on Environmental Degradation in Aceh Province, Indonesia. *WSEAS Transactions on Environment and Development* 2021;17:314–20. https://doi.org/10.37394/232015.2021.17.31.