



Does Women's Role Have an Influence on Economy Growth in Indonesia?

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Article Information Abstract

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Economic growth is one of the goals every country strives for because it measures a country's success. Gender equality and gender empowerment are essential goals for Indonesia's development and economic growth. The purpose of this study is to examine the effect of women's role on the indicators of the gender development index (IPG), gender empowerment index (IDG), women's life expectancy (AHHP), mean years of schooling for women (RLSP), and women's income contribution (SPP) to gross regional domestic product (GRDP), which is a proxy for Indonesian economic growth. This quantitative study uses a panel data regression model, secondary data from BPS-Statistics Indonesia, time series data from 2014 to 2021, and cross-sectional data for 34 provinces in Indonesia. The study's findings yielded 272 observations. The random effects model (REM) is the best estimating model in the research. The research findings show that simultaneously and partially, the variables IPG, IDG, AHHP, RLSP, and SPP positively and significantly affected Indonesia's economic growth. The study's findings show the Indonesian government's dedication to increasing women's roles in various economic sectors in Indonesia. The influence of women's roles indicates additional household income and economic growth.

INTRODUCTION

Economic growth is one of the primary goals every country strives for, as it measures a country's success in achieving economic development. In Indonesia, economic growth increased consistently every year except in 2020, when it decreased, primarily due to the impact of the COVID-19 pandemic (Fig. 1).

Moreover, the success of economic growth is intertwined with human development, characterized by a high degree of quality. A society's well-being is represented by a high level of human development, which involves meeting essential requirements in both economic and social dimensions (Mirza, 2011).

One indicator of economic welfare is equality, which implies that all components of society, including women, have the right to participate in and access opportunities to contribute to improving the economy (Arifin, 2018). However, gender inequality is often an obstacle for women to participate in and feel the results of development (Lorenza, 2022). Difficulties in accessing labor and health cause gender inequality causes significant inequality because women are still viewed as weak and incapable of handling work (Nova, 2022). This preconception makes it more difficult for women to find work and optimize their earnings to satisfy their demands, which can negatively influence women's health.

Gender inequality can be caused by people's mindsets that are still closed-minded due to the influence of social norms that have been hereditary and entrenched so that women are required only to be able to do domestic work. Women as development agents are a valuable national asset; their participation in economic growth is required to achieve sustainable development. The success of development may be shown in the rate of a decent quality of life with an increase in the role of women. The role of women can contribute to numerous domains, such as development, the economy, health, and education.

Gender equality is one of the goals to be achieved by the Sustainable Development Goals

(SDGs) that the United Nations (UN) established in 2015, which are expected to reduce gender inequality and improve the quality of women's human resources (UN, 2022). Women's empowerment is needed to increase development and economic growth while reducing poverty. Gender equality is an effort to support increased economic growth (Arifin, 2018)

The role of women is an interesting topic being discussed in various countries nowadays, and it should be considered that their presence is significant, departing from this thought. Concerning the general perspective and role of women now, it is not only taking care of the kitchen and house; women have equal opportunities in a career to explore and develop their potential according to their interests and talents while continuing to carry out their responsibilities as a woman. A country's gender equality and empowerment are measured using the gender development index and the gender empowerment index (BPS-Statistics Indonesia, 2022a, 2023c). These indicators were used to assess the economy's interconnectedness in Indonesia. In addition, women's life expectancy, mean years of schooling for women, and women's income contribution are used to see the relationship to economic growth. The condition of the gender development index and gender empowerment index in Indonesia for the 2014–2021 period is shown in Figure 1.

The gender development index (IPG) can illustrate inequalities between genders across various indicators. The gender development index in Indonesia showed a tendency to improve from 2014 to 2021, with two exceptions: there was a 0.21 decrease in 2016 and a 0.001 decrease in 2020 (Fig. 1). In 2021, it increased by 0.19 from the prior year to 91.27. The increasing gender development index condition eventually impacted GRDP and reduced gender inequality (Sari et al., 2019). This is in line with research from (Hidayah & Rahmawati, 2020; Naima, 2021; Nursini & Syahrul, 2022; Sari, 2021; Sari & Arif, 2022; Sitorus, 2016) that the gender development index has a positive and significant correlation to economic growth.

The next indicator is the gender empowerment index (IDG), which measures women's economic and political participation. From 2014 to 2021, the gender empowerment index development in Indonesia increased yearly; in 2014, it was at 70.68, then increased the following year, and presently stands at 76.26 until

2021. Referring to Infarizki et al. (2020), Kurnianingsih et al. (2022), Faizah et al. (2020), and Firmansyah & Sihalo (2021) that the gender empowerment index has a positive influence on economic growth in the region. Figure 1 illustrates the state of GRDP, IPG, and IDG in Indonesia

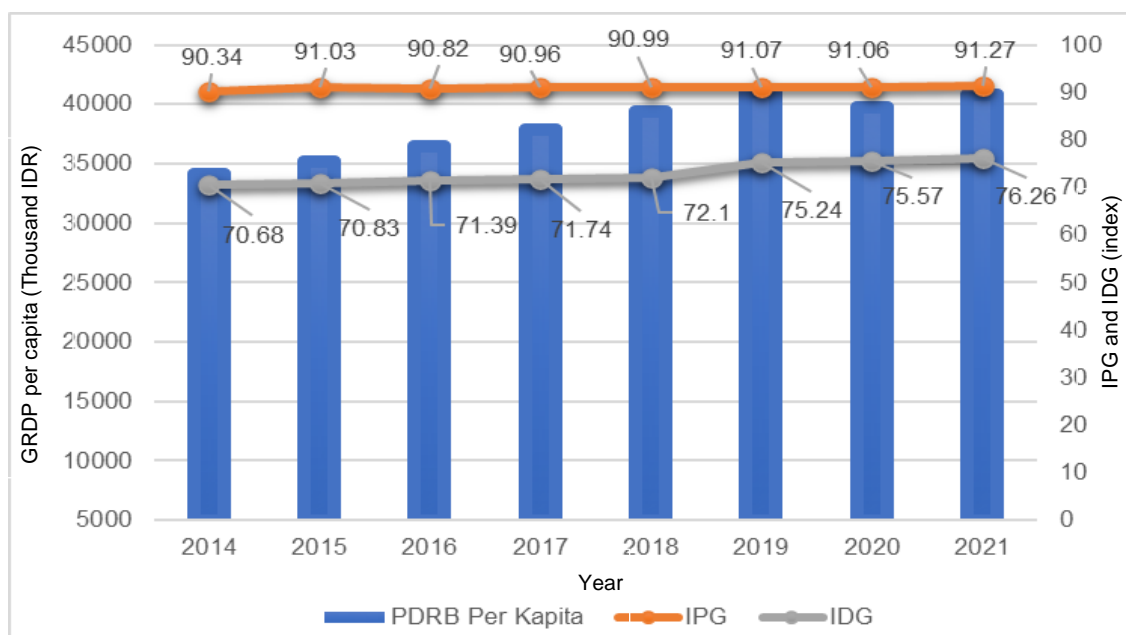


Figure1. Indonesia's GRDP, IPG, and IDG conditions from 2014–2021.

Source: BPS-Statistics Indonesia, 2022a, 2023, and 2023b

In addition to the achievements of the gender development index and the gender empowerment index in Indonesia, the condition of women in indicators of health, education, and women's income must be seen to support and improve the quality of women to increase economic growth. The women's life expectancy (AHHP) is a method for measuring women's health indicators. Table 1 shows that women's life expectancy in Indonesia has increased from 2014–2021. The women's life expectancy value was 72.59 years in 2014, which increased yearly until 2021 when it reached 73.55 years. An increase in women's life expectancy has the potential to have a positive and significant impact on regional economic growth (Adika & Rahmawati, 2021; Arifin, 2018; S. A. A. Faizah et al., 2020; Firmansyah & Sihalo, 2021; Hidayah & Rahmawati, 2020; Infarizki et al., 2020; Nabel, 2021; Rachmawati & Wibowo, 2016).

The mean years of schooling for women (RLSP) are used to measure the education indicator. Likewise, with women's life expectancy, the mean years of schooling for women from 2014 to 2021 has increased. In 2014, the mean years of schooling for women was 7.23 years, and by 2021, it had increased to 8.17 years, indicating that the average women's education in Indonesia is estimated to be at the senior high school (SMA) level. When RLSP has an impact on family income, it has an impact on economic growth. Previous research explained that RLSP has a positive and significant correlation with GRDP, which is a proxy for economic growth (Adika & Rahmawati, 2021; Arifin, 2018; Hidayah & Rahmawati, 2020; Infarizki et al., 2020; Lusiarista & Arif, 2022; Nainggolan & Soleman, 2022; Rasnino et al., 2022).

Table 1. Data on Women's Life Expectancy, Mean Years of Schooling for Women, and Women's Income Contribution in Indonesia (2014 – 2021).

Year	Women's Life Expectancy (Tahun)	Mean Years of Schooling for Women (Year)	Women's Income Contribution (%)
2014	72.59	7.23	35.64
2015	72.78	7.35	36.03
2016	72.80	7.50	36.42
2017	73.06	7.65	36.62
2018	73.19	7.72	36.70
2019	73.33	7.89	37.10
2020	73.46	8.07	37.26
2021	73.55	8.17	37.22

Source: BPS-Statistics Indonesia, 2022b, 2023d, and 2023b)

The higher a woman's level of education, the more income she earns. Women's income indicates women's income contribution (SPP). The trend of women's income contribution in Indonesia over the eight years (2014-2021) was upward, but in 2021, there was a 0.04 decrease, which was not statistically significant. This is quite good, as seen from the reasonably consistent trend rate increasing yearly. According to Azizia et al. (2021), Kauntu & Suraya (2018), Lorenza (2022), and Lusiarista & Arif (2022), women's income contribution to economic growth is both positive and significant.

Based on prior research findings, this study identified various research gaps in the concept and research period, empirical research, and research methods. The gender development index, gender empowerment index, women's life expectancy (health sector), mean years of schooling for women (education sector), and women's income contribution (economic sector) comprehensively analyzed for their effects on Indonesia's economic growth.

Previous research has been unable to draw simultaneous conclusions on the effect of this research variable on GDP per capita in 34 Indonesian provinces. Adika & Rahmawati's (2021) research is limited to three variables that affect the inclusive economic development index from 2015 to 2020. During the 2015-2018 research period, Alamanda & Rinasih (2021) used consumption, expenditure, and investment variables per capita, which exclusively investigated economic sector conditions.

Meanwhile, research from Arifin (2018) focused on the relationship between the RLSP, AHHP, and labor force participation rates in 2011–2017.

The empirical findings discovered in the research were primarily limited to specific districts/cities and provinces. These conditions resulted in different findings: Abidin et al. (2022) and Naima (2021) in West Java; Infarizki et al. (2020) and Mulasari (2015) in Central Java; Kurnianingsih et al. (2022) in Tanjupinang; Rachmawati & Wibowo (2016) in East Java; and Rasnino et al. (2022b) in Lampung. Finally, unlike Salsabila & Hendrawan's (2021) research, which used agglomerative hierarchical clustering and biplot analysis, and Kurnianingsih et al.'s (2022) research, which used multiple linear regression analysis, the research approach used panel data regression analysis. Based on the described phenomena and empirical research, this study aims to determine the effect of women's roles on economic growth in Indonesia from 2014 to 2021 by using the variables gender development index, gender empowerment index, women's life expectancy, mean years of schooling for women, and women's income contribution. Based on the description above, this study hypothesizes that women's roles (IPG, IDG, AHHP, RLSP, and SPP) positively and significantly influence economic growth.

RESEARCH METHODS

This quantitative study makes use of secondary data from BPS-Statistics Indonesia. The research panel data consists of a time series

of 2014–2021 and a cross-section covering 34 provinces in Indonesia. This study yielded 272 observations, and the research data is in the form

of literature data from earlier studies and other data sources. Table 2 shows detailed information regarding the variables in the study.

Table 2. Operational Information on Research Variables

Variables Name	Operational Definition	Unit	Data Source
IPG	Gender development index, comparison between HDI of Women and HDI of Men	Index	BPS
IDG	Gender empowerment index, women's equality at work, and participation in economic and political aspects	Index	BPS
AHHP	Women's life expectancy as an indicator of health	Year	BPS
RLSP	Mean years of schooling for women as an indicator of education	Year	BPS
SPP	Women's income contribution, percentage of women's income in the economic aspect of their family	Percentage	BPS
GRDP	Gross regional domestic product per capita in 34 provinces	IDR	BPS

Source: BPS-Statistics Indonesia, 2023a

The research conducted refers to the problem to be solved, namely finding out how the independent variables (gender development index (IPG), gender empowerment index (IDG), women's life expectancy (AHHP), mean years of schooling for women (RLSP), and women's income contribution (SPP)) correlate with the dependent variable (GRDP) in Indonesia. This study utilized the panel data regression model to analyze the correlation or influence between the five independent and dependent variables. The research panel data regression model is as follows (Gujarati, 2004):

$$Y_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \beta_4 X_{4it} + \beta_5 X_{5it} + \varepsilon_{it} \dots\dots\dots(1)$$

Equation 1 is a model basis for conducting multiple regression analysis. While the panel data regression model used in this study is described as follows:

$$\text{LogGRDP}_{it} = \beta_0 + \beta_1 \text{IPG}_{it} + \beta_2 \text{IDG}_{it} + \beta_3 \text{LogAHHP}_{it} + \beta_4 \text{LogRLSP}_{it} + \beta_5 \text{SPP}_{it} + \varepsilon_{it} \dots\dots\dots(2)$$

Where GRDP is gross regional domestic product (Indicator of economic growth), β_0 is constant, $\beta_1 - \beta_5$ is regression coefficient, IPG is gender development index, IDG is gender empowerment index, AHHP is women's life expectancy, RLSP is mean years of schooling for women, SPP is women's income contribution, i is 34 provinces in Indonesia, t is year (2014 – 2021), and Log is logarithmic operators.

Based on the research problems and research framework, several hypotheses were formulated and tested statistically as temporary answers to research problems (Ghozali, 2016). The hypotheses of this study are: 1) H_{IPG} : gender development index has a positive and significant effect on economic growth, 2) H_{IDG} : gender empowerment index has a positive and significant effect on economic growth, 3) H_{AHHP} : women's life expectancy has a positive and significant effect to economic growth, 4) H_{RLSP} : mean years of schooling for women has a positive and significant effect to economic growth, and 5) H_{SPP} : women's income contribution has a positive and significant effect to economic growth. Figure 2 shows the research framework.

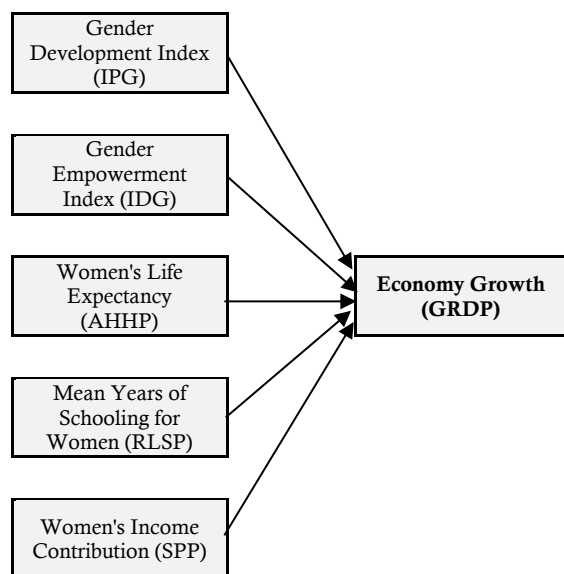


Figure 2. Research Framework

Source: Data processed, 2023.

According to Ghozali (2016), statistical analysis is primarily descriptive because it provides for the general visualization of the characteristics of a group of data without making generalization conclusions. This study's mean value was calculated by adding the funds for each research variable (IPG, IDG, AHHP, RLSP, SPP, and GRDP) and dividing by the number of samples in the research variables (number of provinces and years of research samples). The maximum value represents the highest value for each research variable, and the minimum value represents the lowest value for each research variable.

The following analysis is panel data regression, and panel data is synthesis data from cross-section and time-series data. This model assesses statistical estimation findings that are more efficient and appropriate to observe whether the independent and dependent variables have positive or negative and significant or insignificant effects (Gujarati, 2004). The panel data regression model consists of 3 statistical panel models: CEM (Common Effect Model), FEM (Fixed Effect Model), and REM (Random Effect Model).

The CEM is the simplest model to use ordinary least squares (OLS) by aggregating all the cross-section and time-series data, with each

analytical data object assumed to have the same intercept and slope (Gujarati, 2004). In the following model, FEM assumes that each individual's intercept is different, and several variables not included in the equation model allow for non-constant intercepts (Gujarati, 2004). This model has another designation for a least-squares dummy variable, resulting in a dummy variable in the analysis. The last model in this research, REM, overcomes the uncertainty of FEM by assuming that individual and aggregate errors are uncorrelated (Gujarati, 2004).

The best panel data regression model is selected through decision-making. The Chow, Hausman, and LM tests were used to examine the three regression models in this research. According to (Gujarati, 2004), the Chow Test was used to select between the CEM and FEM models, which were then assessed following the test's provisions. Additionally, the Hausman test is a test for choosing a model between FEM and REM that is analyzed according to the test's provisions. The LM Test finds differences between the CEM and REM models and those assessed following the test's provisions. The model was selected, and a classical assumption test was run to confirm that the findings met the best linear, unbiased criteria. A normality test, a multicollinearity test, a heteroscedasticity test, and an autocorrelation test are all part of the test.

The following statistical test in econometrics must be carried out: the F-statistic test, t-statistic test, and coefficient of determination test (R^2). The F-statistic test simultaneously examines the effect of the five independent variables (IPG, IDG, AHHP, RLSP, and SPP) on GRDP per capita. In contrast, the t-statistic test determines the effect of each of the five independent variables on the dependent variable. With values ranging from 0 to 1, the coefficient of determination test to measure the IPG, IDG, AHHP, RLSP, and SPP variables can explain the GRDP variable.

RESULTS AND DISCUSSION

Data from 34 provinces in Indonesia shows that the average GRDP per capita is IDR 297.086,90 thousand, with a maximum value of IDR 185.630,00 thousand in DKI Jakarta Province in 2021 and a minimum value of IDR 19.208,76 thousand earned by North Maluku Province in 2014. The average index in IPG from 2014 to 2021 is 90.120, with a maximum index of 95.040 in North Sulawesi Province in 2016 and a minimum index of 78.520 in Papua Province in 2015. Additionally, IDG in Indonesia has an average index of 68.218, a maximum index of 83.20 in Central Kalimantan Province in 2019, and a minimum index in West Papua Province in 2017 of 47.88.

From 2014 to 2021, the achievement of AHHP in Indonesia had an average value of 71.572 years, the maximum value obtained by Yogyakarta Province in 2021 was 76,890 years, and the minimum value was 66,000 years in West Sulawesi Province in 2014. The RLSP has an average value of 7,962 years, a maximum value is 10.830 years in DKI Jakarta Province in 2021, and a minimum value of 5,320 years in Papua Province in 2016. The SPP had an average value of 33.027%, with East Nusa Tenggara Province obtaining the maximum value of 43.78% in 2021 and East Kalimantan Province recording the minimum value of 21.73% in 2014. Detailed research data and descriptive statistics can be seen in Table 3.

Table 3. Research Data Descriptive Statistics

Variables	GRDP (Thousand IDR)	IPG (Index)	IDG (Index)	AHHP (Year)	RLSP (Year)	SPP (Percentage)
Mean	297.086,90	90.120	68.218	71.572	7.962	33.027
Maximum	185.630,00	95.040	83.200	76.890	10.830	43.780
Minimum	19.208,76	78.520	47.880	66.000	5.320	21.730
Std. Dev.	420.937,70	3.4130	6.7185	2.591	1.034	4.573

Source: Data Processed, 2023

Table 2 shows that if the Chow test has a cross-sectional chi-square value of $0.0005 < 5\%$, H_0 is rejected. It is concluded that the best model uses FEM. The next test, namely Hausman Test, obtained a cross-sectional random value of $0.461 > 5\%$, then proceeded with the LM test. The test results obtained probability values for Breusch-Pagan of 0.000 to 5%, then H_0 is rejected. The REM is the estimation result of selecting the best and most relevant model, and it can answer the research hypothesis.

Table 4. The Results of the Chow Test, Hausman Test, and LM Test.

Statistical Tests	Probability Value	Decision
Chow Test	0.000	FEM
Hausman Test	0.461	REM
LM Test	0.000	REM

Source: Data Processed, 2023

The REM model is then tested using classical assumptions to ensure it is free from deviations. Normality test to check whether the

error term is normally distributed or not. The analysis results show that the probability value of Jarque-Bera is greater than 5%, so it is concluded that the assumption of normality is met. The results of the analysis on multicollinearity show that the correlation value between the independent variables in the study is less than 0.80, so it is concluded that there is no violation of the multicollinearity assumption. The REM model in this study has used cross-section weighting to overcome heteroscedasticity and autocorrelation problems (Gujarati, 2004).

Test results of goodness of fit were determined in this study using the coefficient of determination test (R^2) and global test—the value of adj. R^2 obtained by 0.749 is shown in Table 4. This shows the extent of the ability of independent variables (IPG, IDG, AHHP, RLSP, and SPP) in the study to explain the variation of the dependent variable (GDRP) of 74.87%, remaining 25.13% is explained by other independent variables not included in this study's

analysis. In the global test, the F-statistic probability value was 0.000 or less than α (5%), so H_a failed to be rejected. This indicates that at

least one independent variable significantly affects the dependent variable (GRDP). Table 5 shows REM Output Estimation Results.

Table 5. REM Output Estimation Results

Variables	Coefficients	t-statistics	Hypotheses
C	-34.651	0.000	
IPG	0.018	0.014	H_{IPG} accepted
IDG	0.003	0.001	H_{IDG} accepted
AHHP	9.998	0.000	H_{AHHP} accepted
RLSP	0.430	0.000	H_{RLSP} accepted
SPP	0.034	0.018	H_{SPP} accepted
<i>Goodness of Fit</i>			
R^2		0.753	
Adj R^2		0.749	
F-stat		162.528	
Prob (F-stat)		0.000	

Source: Data Processed, 2023

Thus, the panel data regression equation for the REM model in this study can be written as follows:

$$\text{LogGRDP}_{it} = -34.651 + 0.018 \cdot \text{IPG}_{it} + 0.003 \cdot \text{IDG}_{it} + 9.998 \cdot \text{LogAHHP}_{it} + 0.430 \cdot \text{LogRLSP}_{it} + 0.034 \cdot \text{SPP}_{it} + \varepsilon_{it} \quad (3)$$

The gender development index (IPG) is the ratio between the HDI of women and the HDI of men. Based on the results of the analysis in Table 5, it is known that the gender development index had a coefficient value of 0.018, indicating that an increase in the gender development index by 1 unit resulted in the average GRDP increasing by 0.018%, assuming *ceteris paribus*. In the significance test, if the probability value is 0.014 or less than 5%, then H_{IPG} is accepted. The conclusion is that the gender development index has a positive and significant influence on economic growth in Indonesia. The gender development index visualizes how big an impact prioritizing gender equality has on the quality of human development.

Moreover, it is impossible to deny that women are vital in society because they are agents of progress and potential assets for nations. The success of development may be observed by increasing their role by enhancing the quality of life and the involvement of women in various fields related to development, such as

the economy, health, and education. This study's findings are supported by research conducted by Nursini & Syahrul (2022), which suggests that economic development in South Sulawesi Province can increase regional economic growth by improving gender equality. In line with previous studies from Hidayah & Rahmawati (2020), Naima (2021), Sari (2021), Sari & Arif (2022), and Sitorus (2016), this study suggests that the gender development index has a positive and significant influence on economic growth.

The test results in Table 5 showed that the gender empowerment index (IDG) positively affected GRDP as a proxy for economic growth with a coefficient value of 0.003. This means that an increase in the gender empowerment index by 1 unit increased the average GRDP by 0.003%, assuming *ceteris paribus*. If the probability value in the significance test is 0.001 (< 5%), then H_{IDG} is accepted. The research results on the gender empowerment index positively and significantly influence economic growth. This has occurred because women's emancipation has been echoed: women's roles are no longer focused on domestic affairs in the household.

Nonetheless, women are increasingly open to pursuing careers as professionals in various disciplines, including politics, parliament, and other fields. Women's participation in parliament indicates how far women have progressed in politics. Women's

rights and political voices are significant roles for women and impact women's engagement in public spaces.

Women can contribute to developing policies that make their lives more just and responsive to gender equality to improve women's welfare. This policy is expected to encourage women's participation in the formal sector. This factor is quite essential in measuring the quality of women's empowerment. Women who are adequately empowered to contribute optimally to the economic sector and formulate policies to make decisions are ultimately expected to increase the achievement of national economic development. According to Salsabila & Hendrawan (2021), efforts to empower women provide a stimulus for doing business in MSMEs so that they can improve the economy. This is supported by research from Infarizki et al. (2020), Kurnianingsih et al. (2022), Faizah et al. (2020), and Firmansyah & Sihalo (2021), the gender empowerment index has a positive and significant effect on economic growth in the region.

The influence of women's life expectancy (AHHP) provides an overview of the number of ages a woman has from birth. The study indicated a coefficient of 9,998, showing a positive correlation between women's life expectancy and economic growth. During the significance test, the probability value is 0.0000 ($< 5\%$), and H_{AHHP} is approved. Finally, women's life expectancy positively and significantly affects GRDP per capita. The findings of this study are consistent with those of previous studies from Adika & Rahmawati (2021), Arifin (2018), Hidayah & Rahmawati (2020), Infarizki et al. (2020), Rachmawati & Wibowo (2016), Faizah et al. (2020), Nabel (2021), and Firmansyah & Sihalo (2021), which found a positive and significant correlation between women's life expectancy and economic growth. The role of women in pushing economic activity cannot be denied. Therefore, the higher the Women's Life Expectancy, the longer the time for women's productivity to participate in helping economic activities (Mulasari, 2015). It is necessary to pay attention to the level of health in order to increase

women's life expectancy. Women with a high life expectancy are more energetic and productive in carrying out economic activities from upstream to downstream, supporting economic progress (Amory, 2019). Conversely, the lower a woman's life expectancy, the less productive she is. The high and low life expectancies indicate health development in a specific location, with the higher women's life expectancy indicating more successful health development in that area.

Education is one of the human capital investments that can produce better and more feasible human resources since human resource development is considered successful, one of which is seen through the level of success of education in a region. The mean years of schooling for women is used to examine the number of years completed by women aged 15 and over to carry out education, which affects the economy. The test results show a positive effect, with a coefficient value 0.430. In the significance test, if a probability value of 0.000 or less than 5% is obtained, then H_{RLSP} is accepted. Women's mean years of schooling have a positive and significant correlation to GRDP as a proxy for economic growth. These results are in line with the reports of studies from Adika & Rahmawati (2021), Arifin (2018), Hidayah & Rahmawati (2020), Infarizki et al. (2020), Lusiarista & Arif (2022), Nainggolan & Soleman (2022), and Rasnino et al. (2022a) that mean years of schooling for women (RLSP) have a positive effect on economic growth. The higher and longer the mean years of schooling for women, the more skilled and reliable they become. They also gain broad insights and are considered capable of increasing the production of goods and services that generate added value. This, in turn, positively impacts increasing economic growth and the gender development index (Abidin et al., 2022). On the other hand, the lower and shorter mean years of schooling for women can endanger economic performance in a region. This is because the region loses its productive age population, ultimately leading to reduced economic growth.

Women's income contribution (SPP) shows the position and role of women in contributing financially to the world of work. Women's income contribution can also indicate that women can be financially and economically independent. Table 5 shows that women's income contribution has a coefficient of 0.034, indicating a positive correlation with economic growth. The H_{SPP} is accepted, even though the probability value is 0.018 (< 0.05). It was concluded that the results of women's income contributions positively and significantly affected economic growth in Indonesia. The findings of this study are consistent with theory and past research, which indicate that women's income contribution has a positive and significant correlation with regional economic growth (Azizia et al., 2021; Kauntu & Suraya, 2018; Lorenza, 2022; Lusiarista & Arif, 2022). According to Bertham et al. (2011), women farmers contribute income to their families in the moderate category, or nearly 50% provide income to the family. Putrie & Rahman (2020) added that the income of women employees would affect the HDI of women and GRDP. Alamanda & Rinasih (2021) added that the smaller the gender inequality, the greater the income women earn. This is due to the excellent quality of women's education, one factor affecting SPP. Women's participation in the professional world reduces gender inequality, encouraging labor force participation and increasing the amount of GRDP. The increase in SPP can signal that the quality of women in the world of work must be considered. Men no longer dominate the labor market, but today there are also many women whose qualities can compete in the world of work.

CONCLUSION

A study examined the impact of women's roles on per capita GRDP (a proxy for economic growth) in 34 Indonesian provinces from 2014 to 2021. Based on the study's findings and discussion, it was concluded that the five independent variables, namely the gender development index (IPG), gender empowerment index (IDG), women's life expectancy (AHHP),

the mean number of years of schooling for women (RLSP), and women's income contribution (SPP), had a positive and significant impact on Indonesian economic growth. An increase of 1% in the gender development index, gender empowerment index, women's life expectancy, the mean number of years of schooling for women, and women's income contribution would increase the average GRDP per capita. This conclusion is based on each independent variable's coefficient results (expressed in percentage form). These findings indicate the government's commitment to strengthening women's roles in Indonesia's various economic sectors.

The central and regional governments are expected to continue optimizing women's role in all sectors by strengthening policies and supporting women's contributions. The government needs to improve women's quality, quantity, and potential to compete in the labor market and participate in forming opinions in the political sector to increase economic growth. In addition, the government can improve the quality of women's health through improved health facilities and infrastructure in the community. The better the quality of health, the more women can play an active role at work. Women's role in the economic sector can be increased by increasing their education and completing compulsory education for at least nine years. Higher education can help women increase their families' income. Further research is needed to produce findings that are more diverse and better at explaining the variables of economic growth by using various research methods and analytical tools that can be compared to produce public policies that can be felt by the community, especially by women in Indonesia.

REFERENCES

- Abidin, A. Z., Arif, M., & Abroroh, S. A. (2022). [Studi keterlibatan perempuan dalam lembaga legislatif dalam indeks pembangunan gender di Provinsi Jawa Barat]. *Journal of Economics Research and Policy Studies*, 2(1), 23–36. <https://doi.org/https://doi.org/10.53088/jerps.v2i1.385>

- Adika, N. D., & Rahmawati, F. (2021). [Analisis indikator ketimpangan gender dan relevansinya terhadap pertumbuhan ekonomi inklusif di Indonesia]. *Ecoplan*, 4(2), 151–162. <https://doi.org/https://doi.org/10.20527/ecoplan.v4i2.400>
- Alamanda, & Rinasih. (2021). The Effect of Gender Inequality on Income Per Capita: Panel Data Analysis From 34 Provinces in Indonesia. *Jurnal BPPK*, 14(1), 33–43. <https://jurnal.bppk.kemenkeu.go.id/jurnalbppk/article/view/626>
- Amory, J. D. S. (2019). [Peranan gender perempuan dalam pembangunan di Sulawesi Barat tahun 2016-2018]. *GROWTH Jurnal Ilmiah Ekonomi Pembangunan*, 1(1), 1–15.
- Arifin, S. (2018). [Kesetaraan gender dan pertumbuhan ekonomi di Indonesia]. *Kajian*, 23(1), 27–41. <https://doi.org/https://doi.org/10.22212/kajian.v23i1.1872>
- Azizia, M. I., Komariyah, S., & Somaji, R. P. (2021). Determinants of Female Workers on Economic Growth. *Jurnal Ekonomi Dan Bisnis Airlangga*, 31(1), 40–50. <https://doi.org/10.20473/jeba.V31I12021.40-50>
- Bertham, Y. H., Ganefianti, D. W., & Andani, A. (2011). [Peranan perempuan dalam perekonomian keluarga dengan memanfaatkan sumberdaya pertanian]. *AGRISEP*, 10(1), 138–153.
- BPS-Statistics Indonesia. (2022a, April 10). [Indeks Pemberdayaan Gender (IDG), 2010-2021. Jakarta: BPS-Statistics Indonesia]. <https://www.bps.go.id/indicator/40/468/1/indeks-pemberdayaan-gender-idg-.html>
- BPS-Statistics Indonesia. (2022b, April 10). [Sumbangan Pendapatan Perempuan, 2010-2021. Jakarta: BPS-Statistics Indonesia]. <https://www.bps.go.id/indicator/40/467/1/sumbangan-pendapatan-perempuan.html>
- BPS-Statistics Indonesia. (2023a, February 7). [Seri 2010] Produk Domestik Regional Bruto Per Kapita, 2010-2022. BPS-Statistics Indonesia.
- BPS-Statistics Indonesia. (2023b, March 8). [Angka Harapan Hidup (AHH) Menurut Kabupaten/Kota dan Jenis Kelamin, 2010-2022]. Jakarta: BPS-Statistics Indonesia. <https://www.bps.go.id/indicator/40/455/1/angka-harapan-hidup-ahh-menurut-kabupaten-kota-dan-jenis-kelamin.html>
- BPS-Statistics Indonesia. (2023c, March 8). [Indeks Pembangunan Gender (IPG)], 2010-2022. Jakarta: BPS-Statistics Indonesia. <https://www.bps.go.id/indicator/40/463/1/indeks-pembangunan-gender-ipg-.html>
- BPS-Statistics Indonesia. (2023d, March 8). [Rata-rata Lama Sekolah (RLS) menurut Jenis Kelamin, 2010-2022]. Jakarta: BPS-Statistics Indonesia. <https://www.bps.go.id/indicator/40/459/1/rata-rata-lama-sekolah-rls-menurut-jenis-kelamin.html>
- Faizah, S. A. Al, Mafruhah, I., & Sarungu, J. J. (2020). Does Women's Reproductive Health and Empowerment Affect Female Labor Participation in ASEAN? *Jurnal Ekonomi Pembangunan: Kajian Masalah Ekonomi Dan Pembangunan*, 21(1), 32–39. <https://doi.org/10.23917/jep.v21i1.10387>
- Faizah, S. A. A., Mafruhah, I., & Sarungu, J. J. (2020). Does Women's Reproductive Health and Empowerment Affect Female Labor Participation? *Jurnal Ekonomi Pembangunan: Kajian Masalah Ekonomi Dan Pembangunan*, 21(1), 32–39. <https://doi.org/https://doi.org/10.23917/jep.v21i1.10387>
- Firmansyah, C. A., & Sihalohe, E. D. (2021). The Effects of Women Empowerment on Indonesia's Regional Economic Growth. *Jurnal Ekonomi Pembangunan: Kajian Masalah Ekonomi Dan Pembangunan*, 22(1), 12–21. <https://doi.org/10.23917/jep.v22i1.11298>
- Ghozali, I. (2016). [Aplikasi analisis multivariate dengan program IBM SPSS 23 (3rd ed.)]. Semarang: Badan Penerbit Universitas Diponegoro.
- Gujarati, D. N. (2004). *Basic Econometrics* (4th ed.). New York: Mc. Graw Hill Companies.
- Hidayah, Z. M., & Rahmawati, F. (2020). [Menelusuri relasi indikator indeks pembangunan gender terhadap pertumbuhan ekonomi]. *EcceS: Economics, Social, and Development Studies*, 7(1), 110–129.
- Infarizki, A. Y., Jalunggono, G., & Laut, L. T. (2020). [Analisis pengaruh ketimpangan gender terhadap produk domestik regional bruto di Jawa Tengah tahun 2010-2018]. *Dynamic: Directory Journal of Economics*, 2(2), 528–547. <https://doi.org/https://doi.org/10.31002/dinamic.v2i2.1387>
- Kauntu, R. R., & Suraya, R. S. (2018). [Perempuan pemulung dalam mendukung ekonomi keluarga di pesisir Teluk Kendari]. *ETNOREFLIKA*, 7(3), 212–221. <https://doi.org/https://doi.org/10.33772/etnoreflika.v7i3.553>
- Kurnianingsih, F., Mahadiansar, Putri, R. A., & Azizi, O. R. (2022). [Perspektif analisis indeks pemberdayaan gender Kota Tanjungpinang dalam masa pandemi covid-19]. *Jurnal Ilmu Sosial Dan Humaniora*, 11(1), 45–55. <https://doi.org/http://dx.doi.org/10.23887/jish.v11i1.37594>
- Lorenza, D. G. (2022). The Role of Women's Participation in Development: Empirical Evidence from Indonesia. *Journal of Economics Research and Social Sciences*, 6(2), 124–130. <https://doi.org/10.18196/jerss.v6i2.15322>
- Lusiarista, & Arif, M. (2022). [Peran perempuan terhadap pertumbuhan ekonomi di Karesidenan Pati periode 2015-2020]. *Social Science Studies*, 2(3), 197–214. <https://doi.org/10.47153/sss23.3792022>
- Mirza, D. S. (2011). [Pengaruh Kemiskinan, Pertumbuhan Ekonomi, dan Belanja Modal Terhadap IPM Jawa Tengah]. *JEJAK: Jurnal Ekonomi Dan Kebijakan*, 4(2), 102–113. <https://doi.org/https://doi.org/10.15294/jejak.v4i2.4645>
- Mulasari, F. D. (2015). [Peran gender perempuan terhadap pertumbuhan ekonomi di Provinsi Jawa Tengah tahun 2008-2012]. *Economics Development*

- Analysis Journal*, 4(2), 254–263. <https://doi.org/https://doi.org/10.15294/edaj.v4i3.14832>
- Nabiel, M. (2021). The Effect of Gender Equality on Economic Growth in West Sumatera 2017-2020. *HUMANISMA: Journal of Gender Studies*, 5(2), 193–205. <https://doi.org/http://dx.doi.org/10.30983/humanisme.v5i2>
- Naima, R. J. (2021). [Analisis pengaruh variabel investasi, angkatan kerja, dan indeks pembangunan gender terhadap pertumbuhan ekonomi di Provinsi Jawa Barat tahun 2015-2019]. *Jurnal Ilmiah Universitas Brawijaya*, 9(2), 1–8.
- Nainggolan, B., & Soleman, R. (2022). [Pembangunan berwawasan gender dalam pertumbuhan ekonomi Indonesia dan perspektif Maqashid Syariah Jasser Auda]. *IQTISHADUNA: Jurnal Ilmiah Ekonomi Kita*, 11(2), 153–168.
- Nova, M. A. (2022). [Peran perempuan dalam pembangunan desa (Studi feminisme dan gender pada perempuan Desa Blang Krueng Aceh Besar)]. *Jurnal Al-Ukhwah*, 1(1), 1–13.
- Nursini, N., & Syahrul, S. (2022). [Tinjauan peran kualitas gender dalam pembangunan ekonomi]. *Jurnal Ekonomika Dan Dinamika Sosial*, 1(2), 14–27.
- Putrie, D. A., & Rahman, A. (2020). [Analisis dan pemodelan pendapatan pekerja perempuan di Indonesia menggunakan data panel]. *Seminar Nasional Official Statistics 2019: Pengembangan Official Statistics Dalam Mendukung Implementasi SDG's*, 1269–1276. <https://doi.org/https://doi.org/10.34123/semnasoffstat.v2020i1.688>
- Rachmawati, P., & Wibowo, W. (2016). [Pemodelan peran perempuan terhadap pertumbuhan ekonomi di Jawa Timur tahun 2010-2014 menggunakan regresi data panel]. *Jurnal Sains Dan Seni ITS*, 5(2), 305–310.
- Rasnino, C. A., Nuryadin, D., & Suharsih, S. (2022a). [Pengaruh Angka Harapan Hidup, Rata-rata Lama Sekolah dan Konsumsi Rumah Tangga Terhadap Pertumbuhan Ekonomi di Kabupaten/Kota Provinsi Lampung, 2014-2019]. *Jurnal Impresi Indonesia*, 1(3), 191–200. <https://doi.org/10.58344/jii.v1i3.29>
- Rasnino, C. A., Nuryadin, D., & Suharsih, S. S. (2022b). [Pengaruh angka harapan hidup, rata-rata lama sekolah dan konsumsi rumah tangga terhadap pertumbuhan ekonomi di Kabupaten/Kota Provinsi Lampung, 2014-2019]. *Jurnal Impresi Indonesia (JII)*, 1(3), 191–200. <https://doi.org/https://doi.org/10.58344/jii.v1i3.29>
- Salsabila, D., & Hendrawan, M. Y. (2021). [Analisis kondisi pemberdayaan gender di Indonesia tahun 2020 dengan agglomerative hierarchical clustering dan biplot]. *Seminar Nasional Official Statistics 2021: Official Statistics Dan Sains Data Mendukung Percepatan Pemulihan Sosial Ekonomi Masyarakat*, 204–213. <https://doi.org/https://doi.org/10.34123/semnasoffstat.v2021i1.839>
- Sari, C. P. (2021). [Gender inequality: dampaknya terhadap pendapatan per kapita (Studi kasus 33 Provinsi di Indonesia 2011-2019)]. *Berdikari: Jurnal Ekonomi Dan Statistik Indonesia*, 1(1), 47–52. <https://doi.org/http://dx.doi.org/10.11594/jesi.01.01.06>
- Sari, R. M., & Arif, M. (2022). Women's emancipation in their contribution to economic development in the Surakarta Residency Region 2016-2020. *Proceeding of The 15th University Research Colloquium 2022*, 482–502. <http://repository.urecol.org/index.php/proceeding/article/view/2100>
- Sari, R. P., Sarfiah, S. N., & Indrawati, L. R. (2019). [Analisis pengaruh ketimpangan gender terhadap produk domestik regional bruto (PDRB) tahun 2011 - 2017 (Studi kasus 6 kota di Provinsi Jawa Tengah)]. *DINAMIC: Directory Journal of Economic*, 1(4), 467–478.
- Sitorus, A. V. Y. (2016). [Dampak ketimpangan gender terhadap pertumbuhan ekonomi di Indonesia]. *Sosio Informa: Kajian Permasalahan Sosial Dan Usaha Kesejahteraan Sosial*, 2(1), 89–101. <https://doi.org/https://doi.org/10.33007/inf.v2i1.190>
- United Nations. (2022). *The Sustainable Development Goals Report 2022*. <https://unstats.un.org/sdgs/report/2022/>