

DETERMINANTS AFFECTING WOMAN LABOR FORCE PARTICIPATION IN SIX URBAN AREAS OF CENTRAL JAVA PROVINCE DURING THE PERIOD 2016-2023

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Abstract

This study aims to analyze the impact of the number of productive-age women, Mean Years of Schooling, Regional Minimum Wage, and Gender Development Index on the Woman Labor Force Participation Rate in six urban areas of Central Java Province during the period from 2016 to 2023. The analytical method used is panel data regression with the Fixed Effect Model (FEM). The results indicate that the number of productive-age women has a negative and insignificant effect on Woman Labor Force Participation Rate. Conversely, Mean Years of Schooling has a negative and significant impact, suggesting that an increase in Mean Years of Schooling will lead to a decrease in Woman Labor Force Participation Rate. Both Regional Minimum Wage and Gender Development Index, however show a positive and significant effect on Woman Labor Force Participation Rate, where increases in both will enhance women's participation in the labor force. Overall, these variables collectively influence Woman Labor Force Participation Rate. The implications of this study highlight the need to improve the quality of human resources and create job opportunities that align with women's education levels.

Keywords: women's labor force participation, regional minimum wage, productive-age women, mean years of schooling, gender development index. Please state 5 keywords that related to your research

INTRODUCTION

Indonesia's demographic bonus, expected to occur between 2020 and 2045, represents a period when 70% of the population falls within the productive age group (15-64 years), leaving only 30% in non-productive groups, such as children and the elderly (Sutikno, 2020). This demographic transition creates an opportunity for significant economic growth if labor force participation, particularly among women, is optimized. The demand for labor is projected to grow faster during this period compared to the 2019–2022 average, underscoring the need for targeted policies to maximize benefits (Muhyiddin, 2023).

The productive age population in Indonesia is defined similarly to the working-age population by Statistics Indonesia (BPS), which categorizes individuals aged 15-64 as productive (BPS, 2024). This demographic advantage provides an economic opportunity if companies can effectively employ this large labor pool (Qomariyah *et al.*, 2023). Key conditions for leveraging this bonus include improving human resource quality, increasing savings rates, and enhancing woman labor force participation (Parwodiwiyono & Witono, 2022).

This study examines woman labor force participation in six urban areas of Central Java: Magelang, Surakarta, Salatiga, Semarang, Pekalongan, and Tegal. Urban areas are characterized by dominant non-agricultural activities, serving as centers of economic and governmental activities, and having more heterogeneous populations (Setyawati *et al.*, 2020). The urban population in Indonesia is expected to surpass 200 million by 2035, representing 70% of the total population (BPS, 2024). Java remains the most

densely urbanized island, with urban population growth significantly impacting mid-sized cities like those studied (Mardiansjah *et al.*, 2018). Unlike previous studies that focused on major metropolitan areas, such as Jakarta and Bandung, this research highlights medium-sized urban areas. These cities exhibit unique dynamics in woman labor force participation, influenced by increasing urban populations and the concentration of economic and social activities.

Data from BPS indicates disparities in labor force participation between genders across the six cities. Woman participation consistently lags behind that of males, despite women comprising a significant portion of the productive-age population. For instance, in 2023, woman labor force participation in Magelang was only 61.1%, compared to 78.45% for males. Similar trends were observed in Pekalongan (63.96% for women vs. 83.82% for men) and Semarang (60.64% for women vs. 78.56% for men). This disparity suggests structural barriers to women's participation, including discrimination and limited professional opportunities (Banjarani & Andreas, 2019). According to the International Labour Organization (ILO), fostering gender equality through decent work opportunities and strengthened social protection is crucial (Hakiki & Pratiwi, 2023). Despite progress, traditional gender roles continue to restrict women's economic participation. The division of labor along gender lines often limits women to domestic roles, reducing their engagement in the formal labor market (Iftitah *et al.*, 2023).

Education is a key determinant of labor market outcomes. Women with higher education levels are more likely to enter the workforce and secure better-paying jobs. However, data shows that women in Central Java's urban areas have lower average years of schooling compared to men, with the disparity worsening during the COVID-19 pandemic (BPS, 2024). Lower education levels hinder women's ability to compete in the labor market and exacerbate wage gaps (Theddy *et al.*, 2019). The Gender Development Index (GDI), which measures gender disparities in health, education, and income, provides insight into the state of gender equality. Central Java's six cities report high GDI values, averaging 95.33% in 2023, indicating significant progress in narrowing gender gaps. However, this progress has not fully translated into equitable labor force participation (Novitasari, 2022).

Wages significantly influence women's decision to work. According to Gary Becker's time allocation theory, individuals weigh the financial benefits of employment against household responsibilities. Regional Minimum Wages in Central Java's six cities have consistently increased, averaging IDR 2,339,257 in 2023, yet wage disparities persist (Chiappor & Arthur, 2015). Women often earn less than men due to factors such as lower education levels, fewer working hours, and occupational segregation (Damayanti, 2019). While government interventions, such as minimum wage policies, aim to protect workers' rights, their effectiveness in reducing gender disparities remains limited. Studies show that education has a more significant impact on woman labor force participation than wage levels alone (Ratnasari *et al.*, 2021).

Addressing barriers to woman labor force participation requires a multifaceted approach. Enhancing education for women, promoting gender equality in the workplace, and addressing discriminatory practices are essential. Policies should also focus on improving access to childcare, implementing flexible work arrangements, and providing targeted training programs to empower women economically. The demographic bonus presents a golden opportunity for Indonesia, but its full potential can only be realized if women are equally integrated into the labor market. By addressing structural and cultural barriers, Central Java's urban areas can serve as a model for inclusive economic growth.

LITERATURE REVIEW AND HYPOTHESIS FORMULATION

Labor refers to individuals capable and willing to work, including self-employed workers, unpaid family members, and wage earners (Sudarto, 2019). Labor is classified into:

- 1) Educated Labor: Skilled individuals with formal or informal education, such as lawyers, doctors, and researchers.

- 2) Trained Labor: Workers with skills acquired through training or experience, such as drivers and technicians.
- 3) Uneducated and Untrained Labor: Physical laborers like sweepers and farmers (Arininoer Maliha, 2018).

Expansion of employment opportunities often involves easily accessible jobs but can lead to low worker productivity (Malik, 2018).

The labor market serves as a platform for job seekers and employers to interact. Labor demand depends on the production of goods and services requiring labor as a production factor (Syarvina *et al.*, 2022). Ehrenberg and Smith (2018) describe the labor market as an exchange between job seekers and employers, balancing supply and demand. According to Todaro and Smith (2018), labor participation reflects the balance of labor supply and demand in producing goods and services.

Women's participation in the labor market is influenced by supply (skills and education) and demand (job opportunities) (Utami & Ariusni, 2023). Becker's time allocation theory highlights women's choices between work and leisure based on utility maximization. Economic needs often push women to work, especially when household incomes decline (Yeni *et al.*, 2023). Cultural norms, such as patriarchy, often place the responsibility of caregiving solely on women, limiting their workforce participation (Puspitarini, 2024). Gender inequality remains significant in Indonesia, where women face lower access to income-generating opportunities compared to men (Effendi & Ratnasari, 2018).

Labor demand refers to employers hiring workers at varying wage levels within a specific timeframe. Unlike consumer demand, it aims to increase production for societal needs (Ali *et al.*, 2020). Economic growth positively impacts labor absorption, with technological advancements driving job creation (Ramadani & Iskandar, 2024). Labor supply represents individuals' willingness to work for specific wages. In the short term, it reflects hours worked, while in the long term, it adjusts to population changes and participation rates (Triani & Andrisani, 2018). Labor supply also indicates society's overall capacity to produce goods and services (Yumey, 2024). David Ricardo's Natural Wage Theory posits that wages are determined by the cost of workers' subsistence. Critics argue this theory overlooks social and technological factors influencing wages. Technological progress, improved education, and nutrition boost productivity, leading to wages above subsistence levels (Hasan *et al.*, 2020). In modern economies, wages are influenced by competition, education, and productivity, with businesses leveraging technology to enhance labor quality (Lube *et al.*, 2021).

Previous studies provide valuable insights into the factors influencing labor force participation, forming the basis for this research. George *et al.* (2024) explored the effects of education, regional GDP, and minimum wages on labor force participation in the Sangihe Islands. The findings indicated that education and GDP positively and significantly impacted labor participation, whereas minimum wages had a negative but insignificant effect. Similarly, Juardi *et al.* (2024) examined the relationship between minimum wages, education, and economic growth in Bulukumba. Their analysis revealed that while minimum wages and economic growth positively and significantly influenced labor force participation, education unexpectedly demonstrated a negative and insignificant impact.

In a study focusing on Central Java, Atikasari *et al.* (2023) analyzed the combined effects of GDP, minimum wages, population, education, and unemployment on labor absorption. The research concluded that GDP and population had a positive and significant impact on participation, whereas minimum wages, education, and unemployment showed negative and insignificant effects. Another study by Nihayati *et al.* (2023) examined real wages, investment, and education across Indonesia, finding that investment was a significant positive determinant of labor absorption. However, real wages and education did not exhibit a statistically significant relationship.

Further, Maksum and Khovifa (2022) explored the influence of minimum wages, GDP, inflation, and education in East Java. Their findings showed that GDP and education positively influenced participation, while minimum wages and inflation had negative but insignificant effects. Similarly, Elpisah (2022)

investigated education, wages, and GDP in South Sulawesi, confirming that education and GDP positively impacted labor absorption, whereas wages had a negative and insignificant relationship.

Additional research by Prayogo and Hasmarini (2022) in Yogyakarta demonstrated that GDP and minimum wages positively affected participation, while population and the Human Development Index (HDI) showed negative and insignificant impacts. Lastly, Izzah and Islamiatus (2021) in Solo Raya and Ratnasari and Nugraha (2021) in Central Java highlighted that population and GDP positively influenced participation, whereas education and minimum wages often had negative or insignificant effects.

While these studies share similarities in methodology and focus on labor participation, this research is distinct in its exclusive examination of woman labor force participation in six urban areas of Central Java. This focus is driven by persistent gender disparities in participation, despite a growing proportion of productive-age women. The research integrates unique variables, including productive-age woman population, education measured by average years of schooling, minimum wage, and the Gender Development Index (GDI), to assess their impact on woman labor force participation.

This research examines the effects of the productive-age woman population, mean years of schooling, regional minimum wage, and gender development index on woman labor force participation in six cities of Central Java. Previous studies, such as those by Atikasari et al. (2023) and Izzah & Islamiatus (2021), indicate that variables like population, education, and minimum wages significantly and positively influence labor participation:

H1: The productive-age woman population, mean years of schooling, regional minimum wage, and gender development index significantly and positively affect woman labor force participation in Magelang, Surakarta, Salatiga, Semarang, Pekalongan, and Tegal.

H2: A larger productive-age woman population positively and significantly influences woman labor force participation, as a greater population increases workforce availability (Qomariyah et al., 2023).

H3: Education significantly and positively affects woman labor force participation by enhancing skills and competitiveness in the labor market (George et al., 2024).

H4: Higher regional minimum wages positively and significantly impact woman labor force participation by improving income motivation and purchasing power (Juardi et al., 2024).

H5: gender development index significantly and positively influences woman labor force participation, reflecting equitable gender development and opportunities (UNDP, 2017).

RESEARCH METHODS

This research aims to examine the influence of the productive-age woman population, mean years of schooling, regional minimum wage, and the Gender Development Index on woman labor force participation in six cities of Central Java. Drawing from previous studies, such as Atikasari et al. (2023) and Izzah and Islamiatus (2021), which demonstrate the significant and positive effects of population, education, and minimum wages on labor participation, this research builds on these findings to explore gender-specific dynamics. The hypotheses include that the productive-age woman population, mean years of schooling, regional minimum wage, and gender development index significantly and positively influence woman labor force participation in Magelang, Surakarta, Salatiga, Semarang, Pekalongan, and Tegal. A higher population is expected to boost workforce availability (Qomariyah et al., 2023), while education enhances skills and competitiveness, improving participation (George et al., 2024). Similarly, increases in regional minimum wage motivate participation by improving income levels (Juardi et al., 2024), and a higher gender development index reflects equitable gender development, which fosters greater inclusion in the labor market (UNDP, 2017).

The study employs a quantitative approach using panel regression, integrating time-series data from 2016–2023 and cross-sectional data from the six selected cities. Data were sourced from secondary records, including the Statistics Indonesia (BPS), BRIN, and local statistical agencies. The population sample comprises productive-age women (15–64 years old) residing in these urban areas. The dependent variable is the woman labor force participation rate, while independent variables include the productive-age woman population, mean years of schooling, regional minimum wage, and gender development index.

Panel regression analysis is conducted using EViews 12, combining cross-sectional and time-series data. The analysis involves three models: the Common Effect Model (CEM), which assumes identical intercepts; the Fixed Effect Model (FEM), which incorporates regional-specific variations using dummy variables; and the Random Effect Model (REM), which accounts for inter-correlation between error terms. Model selection is guided by the Chow Test, Hausman Test, and Lagrange Multiplier Test to ensure the best fit. Hypothesis testing is conducted using R^2 to measure explanatory power, the F-Test to assess simultaneous effects of independent variables, and the t-Test to evaluate individual significance. This comprehensive methodology provides insights into the factors driving woman labor force participation in Central Java's six cities.

RESULTS AND DISCUSSION

RESULT

Central Java Province consists of 29 regencies and six cities, collectively spanning 562.10 km². These cities, with the smallest geographical area in the province, include Semarang, Salatiga, Surakarta, Pekalongan, Tegal, and Magelang. Semarang is the largest city, covering 373.80 km², with diverse terrains comprising 62.22% flatlands. Magelang, the smallest city, spans just 16.10 km² but holds strategic significance as a transportation, economic, and tourism hub.

- 1) **Economic Landscape:** The six cities demonstrate varied economic structures. Semarang leads with a GRDP of IDR 248.90 trillion (14.67% of Central Java's total), driven by industries (28.78%), construction (26.45%), and trade (13.09%). Salatiga's economy, with a GRDP of IDR 16.77 trillion, is dominated by manufacturing (33.10%), followed by the accommodation and food services sector, which grew by 11.43% in 2023. Surakarta's GRDP reached IDR 60.48 trillion, with construction and trade contributing significantly. Pekalongan's GRDP of IDR 13.74 trillion reflects its reliance on trade (21.05%) and manufacturing (20.44%), while Tegal's economy, growing at 5.01%, relies heavily on trade (25.22%).
- 2) **Woman Labor Force Participation:** Woman labor force participation rates in these cities varied between 2016–2023, averaging 58%, significantly lower than male participation. Salatiga recorded the highest average woman labor force participation at 62.3%, while Tegal had one of the lowest, with woman participation at 61.1% compared to 78.45% for males.
- 3) **Population Dynamics:** The six cities had a total population of 3,321,386 in 2023, with women comprising the majority of the productive-age population (1,227,629). Semarang had the highest number of productive-age women (685,106), while Magelang had the lowest.
- 4) **Regional Minimum Wage:** Regional minimum wages in these cities consistently increased from 2016–2023. Semarang offered the highest regional minimum wage at IDR 3.06 million in 2023, while Magelang had the lowest at IDR 2.06 million.
- 5) **Education Levels:** Mean years of schooling for women remained relatively low but improved over time, reaching an average of 9.5 years by 2023, equivalent to a middle school level. Woman education levels remained below those of males, who averaged 10.8 years.

- 6) Gender Development Index (GDI): The GDI scores in these cities were exceptionally high, averaging 95% from 2016–2023, indicating significant progress in gender equality. Surakarta recorded the highest GDI at 97.15% in 2023, reflecting substantial efforts to reduce gender disparities in education, health, and economic participation.

The analysis involved panel regression using three approaches: Common Effect Model (CEM), Fixed Effect Model (FEM), and Random Effect Model (REM). Model selection was based on statistical tests, including the Chow, Hausman, and Lagrange Multiplier tests, ensuring adherence to appropriate assumptions (Basuki & Prawoto, 2016). The Chow test determined FEM as the best model, with a probability value of 0.0000 (< 0.05). The Hausman test further confirmed FEM as optimal with a probability of 0.0000.

Table 4.1 Panel Data Regression Results for the Woman Labor Force Participation Rate Variable

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.856425	1.451778	1.278725	0.2087
THE PRODUCTIVE-AGE WOMAN POPULATION	-9.616575	6.435305	-1.495004	0.1432
MEAN YEARS OF SCHOOLING	-5.324512	2.862172	-1.860304	0.0706
REGIONAL MINIMUM WAGE	10.95725	4.480465	2.445560	0.0192
GENDER DEVELOPMENT INDEX	3.071155	1.663710	1.845967	0.0727

Source :
Eviews
Output

The
regression

results using FEM are summarized in Table 1, where the coefficient for productive-age women (-9.61) indicates a negative, insignificant effect on woman labor force participation. Mean years of schooling (-5.32) also showed a negative effect but was significant at the 10% level. Regional minimum wage (10.95) and gender development index (3.07) both positively and significantly influenced woman labor force participation, suggesting their importance in enhancing participation.

Table 4.2 Multicollinearity Test Using Pairwise Correlation

	THE PRODUCTIVE- AGE WOMAN POPULATION	MEAN YEARS OF SCHOOLING	REGIONAL MINIMUM WAGE	GENDER DEVELOPMENT INDEX
THE PRODUCTIVE- AGE WOMAN POPULATION	1	0.30583111	0.68635444	0.23946953
MEAN YEARS OF SCHOOLING	0.30583111	1	0.41057262	0.82985304
REGIONAL MINIMUM WAGE	0.68635444	0.41057262	1	0.17024217
GENDER DEVELOPMENT INDEX	0.23946953	0.82985304	0.17024217	1

Source : Eviews Output

Table 4.3 Heteroskedasticity Test Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	16.82027	94.30512	0.178360	0.8594
THE PRODUCTIVE-AGE WOMAN POPULATION	-6.55006	4.18005	-0.156899	0.8762

MEAN YEARS OF SCHOOLING	2.363844	1.859220	1.271417	0.2113
REGIONAL MINIMUM WAGE	-2.647061	2.910436	-0.909507	0.3688
GENDER DEVELOPMENT INDEX	-0.320652	1.080719	-0.296703	0.7683

Source : Eviews Output

Multicollinearity and Heteroskedasticity Tests demonstrated no significant issues. Pairwise correlations among independent variables were below 0.85, and VIF values were under 10, confirming no multicollinearity. Additionally, heteroskedasticity was absent as all variables showed probabilities > 0.05.

The coefficient of determination (R^2) was 0.632, meaning 63.2% of the variation in woman labor force participation is explained by the independent variables: productive-age women, mean years of schooling, regional minimum wage, and gender development index. The remaining 36.8% is due to other factors. The F-Test yielded a value of 7.26 ($p = 0.000005$), confirming the combined significance of the independent variables.

Table 4.4 t-Test Results for the Woman Labor Force Participation Rate Variable

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.856425	1.451778	1.278725	0.2087
THE PRODUCTIVE-AGE WOMAN POPULATION	-9.616575	6.435305	-1.495004	0.1432
MEAN YEARS OF SCHOOLING	-5.324512	2.862172	-1.860304	0.0706
REGIONAL MINIMUM WAGE	10.95725	4.480465	2.445560	0.0192
GENDER DEVELOPMENT INDEX	3.071155	1.663710	1.845967	0.0727

Source : Eviews Output

Table 4.4 summarizes the results of the t-Test, highlighting individual variable significance. regional minimum wage and gender development index positively and significantly impacted woman labor force participation, while mean years of schooling had a negative yet significant effect at the 10% level. The productive-age woman population was found to have an insignificant effect. These findings underscore the importance of regional minimum wage and gender development index in enhancing woman labor force participation, suggesting targeted policy interventions to address wage disparities and promote gender equality in the workforce.

DISCUSSION

Conversely, the regional minimum wage emerged as a positive and statistically significant factor influencing Woman Labor Force Participation Rate among women. An increase in Regional Minimum Wage correlates positively with higher levels of woman labor force participation, highlighting the importance of wage policies in promoting workforce engagement. Research by Mankiw Gregory N et al. (2014) suggests that when labor demand aligns with supply, companies are inclined to expand their workforce to maximize profitability. The consistent rise in regional minimum wage across the six urban regions since 2016 has created an environment conducive to increased woman participation in the labor market.

Supporting this observation, research conducted by Rakhmawati & Boedirochminarni (2018) emphasizes that a stable and growing regional minimum wage fosters greater workforce involvement. Individuals are incentivized to join the labor market when the minimum wage rises, thereby contributing to a more active and engaged workforce. This relationship is further corroborated by the findings of Ratnasari and Nugraha (2021), who assert that regional minimum wage is a product of negotiations among employers, government, and workers, ensuring that wage increases are justified by improvements in productivity.

Additionally, Becker's theory of human capital supports this relationship, suggesting that women consider potential wages as a factor in their decisions to allocate their time. The opportunity to work for a wage becomes increasingly attractive when household needs cannot be adequately met by relying solely on the income of the primary breadwinner. As a result, the necessity for women to contribute financially to their households becomes more pronounced, further motivating them to seek employment opportunities.

Finally, the Gender Development Index was found to have a positive and significant effect on Woman Labor Force Participation Rate among women. An increase in Gender Development Index values is associated with higher woman labor force participation, indicating progress toward achieving gender equality. The United Nations Development Programme (UNDP) has positioned the Gender Development Index as a key indicator of development success, highlighting the importance of reducing gender disparities. The average Gender Development Index in the six urban areas reached an impressive 95 percent, reflecting significant advancements in gender equality from 2016 to 2023. This improvement in Gender Development Index values demonstrates effective efforts to address gender inequality in these regions, leading to enhanced opportunities for women in the labor market.

The relationship between Gender Development Index and labor market participation is evident through the reduction of gender gaps over the years, signaling increased equality for women in the workforce. Research by Nuraeni and Suryono (2021) supports this conclusion, emphasizing that gender parity in the labor market can be measured through the Gender Development Index. Furthermore, findings by Lukiswati et al. (2020) highlight several factors contributing to improved Gender Development Index values, including life expectancy, school participation rates, and per capita expenditures. According to data from BPS (2024), the life expectancy of women in 2023 was recorded at 78.5 years, surpassing the 74.8 years average for men. This increase in life expectancy not only reflects improvements in healthcare and living conditions for women but also underscores the correlation between enhanced well-being and higher Gender Development Index values.

The interplay between education, economic factors, and gender equality significantly influences woman labor force participation in Central Java's urban areas. The negative impact of the productive-age woman population on Woman Labor Force Participation Rate underscores the urgent need for policies that address the quality of education and enhance job opportunities for women. Additionally, the findings regarding the Mean Years Of Schooling and its unexpected negative correlation with Woman Labor Force Participation Rate suggest that more comprehensive approaches are necessary to bridge the gap between education and available employment opportunities.

On the positive side, the significant relationship between Regional Minimum Wage and Woman Labor Force Participation Rate emphasizes the role of wage policies in promoting workforce engagement, while the positive impact of Gender Development Index highlights the progress made toward gender equality. Moving forward, targeted efforts to improve the quality of education for women, create job opportunities in high-demand sectors, and implement policies that support wage growth will be essential for enhancing woman labor force participation and achieving greater gender equality in the labor market. The journey toward achieving these objectives will require collaboration among government, private sector, and civil society to create an inclusive and supportive environment for women's economic empowerment in Central Java.

CONCLUSION

This study was conducted to analyze how the number of productive-age women, Mean Years of Schooling, Regional Minimum Wage, and Gender Development Index affect the Woman Labor Force Participation Rate in six urban areas of Central Java Province from 2016 to 2023. The analytical model used

is panel data regression with a Fixed Effect Model (FEM). Based on the results of the research conducted, the conclusions that can be drawn from this study are:

- 1) The number of productive-age women has a negative and insignificant effect on the Woman Labor Force Participation Rate, meaning that an increase in the number of productive-age women will lead to a decrease in Woman Labor Force Participation Rate in the six urban areas of Central Java Province during the period 2016-2023.
- 2) Mean Years of Schooling has a negative and significant effect on Woman Labor Force Participation Rate, indicating that an increase in Mean Years Of Schooling will result in a decrease in Woman Labor Force Participation Rate in the six urban areas of Central Java Province during the period 2016-2023.
- 3) Regional Minimum Wage has a positive and significant effect on Woman Labor Force Participation Rate, meaning that an increase in Regional Minimum Wage will enhance Woman Labor Force Participation Rate in the six urban areas of Central Java Province during the period 2016-2023.
- 4) The Gender Development Index has a positive and significant effect on Woman Labor Force Participation Rate, suggesting that an increase in Gender Development Index will improve Woman Labor Force Participation Rate in the six urban areas of Central Java Province during the period 2016-2023.
- 5) The variables of the number of productive-age women, Mean Years of Schooling, Regional Minimum Wage, and Gender Development Index have a collective influence on Woman Labor Force Participation Rate, meaning that an increase in all independent variables will raise Woman Labor Force Participation Rate in the six urban areas of Central Java Province during the period 2016-2023.

BIBLIOGRAPHY

- Adriyanto, Prasetyo, D., & Khodijah, R. (2020). Angkatan Kerja dan Faktor Yang Mempengaruhi Pengangguran. *Jurnal Ilmu Ekonomi & Sosial*, 11(2), 66 - 82. doi:10.35724/jies.v11i2.2965
- Agishintya, C. C., & Hoesin, S. H. (2021). Perlindungan Hukum Bagi Pekerja Terhadap Pemberian Upah Di Bawah Upah Minimum. *Jurnal Hukum dan Bisnis (Selisik)*, 7(2), 93-110.
- Aisyah. (2024). *Pengaruh Peluang Kerja dan Persepsi Mahasiswa tentang Profesi Guru terhadap Minat Melanjutkan Pendidikan Profesi Guru (PPG)*. Universitas Jenderal Soedirman.
- Ali, G., Koleangan, R. A. M., dan Siwu, H. F. D. (2020). Pengaruh Produk Domestik Regional Bruto (Pdrb) Dan Investasi Terhadap Penyerapan Tenaga Kerja Di Kabupaten Minahasa Selatan. *Jurnal Berkala Ilmiah Efisiensi*, 20(1), 1–11.
- Anggitya Vitasari, Yosa Permata Shafira, F., Rachmawati, Sania Diaurrahmi, A. D. S., Suryo Hadiyono, Zulfika Satria Kusharsanto, B. D., Cahyono, Dwi Aji Darmawan, Kanetasya Sabilla, H., Setiawan, Budi Setiadi Sadikin, Nani Grace Berliana, R., A.K. Simanjuntak, Socia Prihawantoro, G. E. P., Ryan Corinus Dato Matheos, Rizki Noorreza Allshal, Y., Octavian Murdiono Putra, Tri Handayani, R., Catursaptani, Muhammad Fazri, Syandi Negara, Y. S., Lestari, Darmawan B. Napitupulu, A. R. S., Argoposo Cahyo Nugroho, Nurlia Rahmatika, S. S., & Supriyanti, H. W. (2024). *Indeks Daya Saing Daerah 2023* (S. Fairuz (ed.); kedua). BRIN.
- Apriliawan, D. T. & Hasbi, Yasin. (2013). Pemodelan Laju Inflasi di Provinsi Jawa Tengah Menggunakan Regresi Data Panel. *Jurnal Gaussian*, 2(4).
- Arifin, A. (2021). Analisis Daya Saing dalam strategi Pengembangan Kompetensi Daerah : Studi Kasus di Kabupaten Mempawah Kalimantan Barat. *Intelektiva: Jurnal Ekonomi, Sosial & Humaniora*, 2(06), 29–38.
- <https://www.jurnalintelektiva.com/index.php/jurnal/article/view/394/272>
- Banjarani, D. R., Febrian, Zuhir, M. A., & Adisti, N. A. (2023). The Urgency of War Crimes Regulation in Indonesia Criminal Law. *Fiat Justisia: Jurnal Ilmu Hukum*, 17, 109-132.

doi:10.25041/fiatjustisia.v17no2.2859

- Banjarani, Desia Rakhma, & Andreas, Ricco. (2019). Pelaksanaan dan Perlindungan Akses Hak Pekerja Wanita di Indonesia: Telaah Undang-Undang No. 13 Tahun 2003 tentang ketenagakerjaan atas Konvensi ILO. *Jurnal Penelitian HAM* Vol, 10(1).
- Basuki, T. A., & Nano, P. (2023). *Analisis Data Panel dalam Penelitian Ekonomi dan Bisnis*. Yogyakarta: Rajawali Pers.
- Basuki, & Prawoto. (2016). *Analisis Regresi dalam Penelitian Ekonomi dan Bisnis: Dilengkapi SPSS dan Eviews*. Jakarta: PT Raja Grafindo Persada.
- Becker, G. S. (1965). A Theory of the Allocation of Time. *The economic journal*, 75(299), 493-517.
- Budi Widya Hanny, Fitria. (2015). *Peranan International Labour Organization (ILO) Melalui Proyek Propel (Promoting Rights And Oppornnuties For People With Disanilities In Employment Throught) Indonesia Dalam Mempromosikan Hak Kesempatan Kerja Bagi Para Penyandang Disabilitas Di Indonesia*. Universitas Komputer Indonesia.
- Chiappor, P.-A., & Arthur, L. (2015). Gary Becker's A Theory of The Allocation of Time. *The Economic Journal*, 410-443. <https://doi.org/10.1111/eoj.12157>
- Damayanti, M. G. A. (2019). Kesenjangan Upah Antargender di Indonesia: Bukti Empiris di Sektor Manufaktur. *Jurnal Ekonomi dan Pembangunan Indonesia*.
- Devi Ratnasari. (2021). *Pengaruh Umk, Pendidikan, Jumlah Penduduk Terhadap Penyerapan Tenaga Kerja di Kota/Kabupaten Jawa Tengah*. 1, 16–32.
- Ehrenberg, R., & Smith, R. (2018). *Modern Labor Economics Theory and Public Policy* (13th Edition ed.). United States of America: Pearson Education.
- Ghasemi, & Zahediasl. (2012). Normality Tests for Statistical Analysis: A Guide for Non- Statisticians. *International Journal of Endocrinology and Metabolism*, 486-489. doi:<https://doi.org/10.5812/ijem.3505>.
- Ghozali, I. (2013). *Aplikasi Analisis Multivariate dengan Program IBM SPSS 21 Update PLS Regresi*. Semarang: Universitas Diponegoro.
- Goma, E. I., Sandy, A. T., & Zakaria, M. (2021). Analisis Distribusi dan Interpretasi Data Penduduk Usia Produktif Indonesia Tahun 2020. *Jurnal Georaflesia: Artikel Ilmiah Pendidikan Geografi*, 6(1), 20. <https://doi.org/10.32663/georaf.v6i1.1781>
- Gujarati, D., & Porter, D. (2015). *Dasar-Dasar Ekonometrika Edisi 5 Buku 2*. Jakarta: Salemba Empat.
- Guszalina, S., Kornita, S. E., & Maulida, Y. (2022). Analisis Penyerapan Tenaga Kerja Perempuan Di Provinsi Riau. *Eqien - Jurnal Ekonomi Dan Bisnis*, 11(04). <https://doi.org/10.34308/eqien.v11i04.1345>
- Hakiki, I. O., & Pratiwi, C. S. (2023). Efektivitas Konvensi ILO Nomor 100 Tahun 1951 terhadap Kesenjangan Pemberian Upah Buruh Perempuan dan Laki-Laki dalam Melindungi dan Menegakkan Hak Asasi Perempuan di Indonesia. *JIM: Jurnal Ilmiah Mahasiswa Pendidikan Sejarah*, 8(3), 2822-2826.
- Hariadinata, I. (2019). *Ketimpangan Gender dan Pengaruhnya terhadap Pertumbuhan Ekonomi, Kesehatan, Pendidikan, dan Ketenagakerjaan*. Jakarta: Universitas Negeri Syarif Hidayatullah Jakarta.
- Hasan, M., Dinar, M., Rijal, S., Rahmatullah, .., Inanna, & Arisah, N. (2020). *Sejarah Pemikiran Ekonomi*. Bandung: MEDIA SAINS INDONESIA.
- Ikmatussuniah. (2015). *Sosialisasi Peraturan Pemerintah RI Nomor 78 Tahun 2015 Tentang Pengupahan* (pp. 4-7). Retrieved from [https://jdih.kemnaker.go.id/data_puu/PP_Nomor_78_Tahun_2015\(1\).pdf](https://jdih.kemnaker.go.id/data_puu/PP_Nomor_78_Tahun_2015(1).pdf)
- Iksan, S. A., Arifin, Z., & Susilowanto, M. S. (2020). Pengaruh Upah Minimum Provinsi, Investasi, dan PDRB terhadap Penyerapan Tenaga Kerja di Indonesia. *Jurnal Ilmu Ekonomi*, 4(1), 42-55. doi: <https://doi.org/10.22219/jie.v4i1.9482>
- Iskandar Ahmaddien, N. H. S. (2017). *Pengaruh Kebijakan Upah Minimum terhadap Penyerapan Tenaga Kerja Perempuan Di Indonesia*. 14(1), 55–64.
- Kawet, Jefry Antonius, Vecky AJ Masinambow, and George MV Kawung. "Pengaruh jumlah penduduk, pendidikan dan tingkat upah terhadap penyerapan tenaga kerja di kota manado." *Jurnal*

- Pembangunan Ekonomi Dan Keuangan Daerah* 20.2 (2021): 62-79.
- Kedungsepur Zukruf Novandaya, Holi Bina Wijaya, M. Indra Hadi Wijaya, Hafzhi Nur Azmi, H. K. (2022). *Pemanfaatan Penilaian Indeks Daya Saing Daerah untuk Optimalisasi Sektor Unggulan dan Berkembang pada Aglomerasi Wilayah*. 17(2).
- Lukiswati, I., Djuraidah, A., & Syafitri, U. (2020). Analisis Regresi Data Panel dan Indeks Pembangunan Gender (GENDER DEVELOPMENT INDEX) Jawa Tengah Tahun 2011-2015. *Indonesian Journal of Statistics and Its Applications*, 4(1).
- Lube, F., Kalangi, J. B., & Tolosang, K. D. (2021). Analisis Pengaruh Upah Minimum dan PDRB terhadap Penyerapan Tenaga Kerja di Kota Bitung. *Jurnal Berkala Ilmiah Efisiensi*, 21(03), 25-36.
- Mala, V. S. N., Suyadi, B., & Sedyati, R. N. (2017). Analisis Tingkat Partisipasi Angkatan Kerja Berdasarkan Kegiatan Ekonomi Masyarakat Desa Tegalsari Kecamatan Tegalsari Kabupaten Banyuwangi Tahun 2015. *JURNAL PENDIDIKAN EKONOMI: Jurnal Ilmiah Ilmu Pendidikan, Ilmu Ekonomi Dan Ilmu Sosial*, 11(1), 130. <https://doi.org/10.19184/jpe.v11i1.5014>
- Maliha, A. (2018). *Pengaruh Modal, Tenaga Kerja, Dan Bahan Baku Terhadap Tingkat Pendapatan Industri Kue Dalam Perspektif Ekonomi Islam*. Universitas Islam Negeri Raden Intan Lampung.
- Malik, N. (2018). *Dinamika Pasar Tenaga Kerja Indonesia* (Vol. 1). Malang: UMMPress.
- Mandala, R. (2021). *Peranan Organisasi Perburuhan Internasional (International Labour Organisation/ILO) dalam Melindungi Buruh Migran Indonesia*. Universitas Islam Riau.
- Mankiw, N., Quah, Euston, Wilson, & Peter. (2014). *Principles of Economics: An Asian Edition*. Salemba Empat.
- Mardiansjah, F. H., Handayani, W., & Setyono, J. S. (2018). Pertumbuhan Penduduk Perkotaan dan Perkembangan Pola Distribusinya pada Kawasan. *Jurnal Wilayah dan Lingkungan*, 6(3), 2015- 233.
- Muhyiddin. (2023). Post COVID-19 Pandemic Employment Challenges and Indonesia's Opportunities to Take Advantage of the Demographic Bonus. *J-naker: Jurnal Ketenagakerjaan*, 18(2), 96-106.
- Mulyati, S., Sholikhah, & Handaru, A. W. (2022). Pengaruh Pelatihan, Pengalaman Kerja, dan Upah terhadap Produktivitas Kerja Karyawan UMKM Konveksi di Kabupaten Tegal. *Jurnal Bisnis, Manajemen, dan Keuangan*, 3, 284-296.
- Napitupulu, R. B., Simanjuntak, T. P., Hutabarat, L., Damanik, H., Harianja, H., Sirait, R. T. M., Tobing, L., & Ria, C. E. (2021). *Penelitian Bisnis, Teknik dan Analisa dengan SPSS - STATA - Eviews*. 1 ed. Madenatera.
- Novarina, & Ubaidullah. (2021). Perbandingan Kepemimpinan Berdasarkan Keadilan Gender pada Skpk Banda Aceh Tahun 2019. *Jurnal Ilmiah Mahasiswa FISIP Unsyiah*, 6(2), 6.
- Novitasari, I. (2022). *Pengaruh Indeks Pembangunan Gender (GENDER DEVELOPMENT INDEX) Terhadap Penyerapan Tenaga Kerja di Provinsi Banten Tahun 2016-2020*. Yogyakarta: Universitas Islam Indonesia.
- Nuraeni, Y., & Suryono, I. (2021). Analisis Kesetaraan Gender dalam Bidang Ketenagakerjaan di Indonesia. *Jurnal Ilmu Pemerintahan*, 20(01), 68-79.
- Pangestika, S. (2015). *Analisis Estimasi Model Regresi Data Panel dengan Pendekatan Common Effect Model, Fixed Effect Model, Random Effect Model*. Makassar: Universitas Negeri Makassar.
- Parwodiwiyo, S., & Witono. (2022). Analisis Kaitan Angka Beban Ketergantungan dengan Indeks Pembangunan Manusia dalam Pemanfaatan Bonus Demografi (Studi 6 Provinsi Indonesia). *Pancanaka Jurnal Kependudukan, Keluarga, dan Sumber Daya Manusia*, 3, 43-53. doi:10.37269/pancanaka.v3i1.121
- Qomariyah, N., Dewi Ayu Ningtyas, J., Tamara, K., & Ismanto, K. (2023). Analisis Peluang dan Tantangan Adanya Bonus Demografi Ditahun 2045 terhadap Perekonomian Indonesia. *Jurnal Sahmiyya*, 2(1), 180–187.
- Raharjanti, A. V. (2019). *Pengaruh Produk Domestik Regional Bruto, Penanaman Modal Asing dan Upah Minimum Provinsi terhadap Penyerapan Tenaga Kerja Industri Manufaktur Pada 33 Provinsi di Indonesia Tahun 2014-2017* (Doctoral dissertation ed.). Universitas Indonesia.

- Rakhmawati, A., & Boedirochminarni, A. (2018). Analisis Tingkat Penyerapan Tenaga Kerja Sektor Industri di Kabupaten Gresik. *Jurnal Ekonomi Pembangunan*, 2(3), 74-82.
- Ramadani, G., & Iskandar, D. D. (2024). Analisis Faktor yang Mempengaruhi Permintaan Tenaga Kerja Di Indonesia Tahun 2015-2023. *Diponegoro Journal Of Economics*, 13(3), 35-42.
- Ratnasari, Devi, dan Jaka Nugraha. (2021). Pengaruh Umk, Pendidikan, Jumlah Penduduk Terhadap Penyerapan Tenaga Kerja Di Kota/Kabupaten Jawa Tengah. *Independent: Journal Of Economics*, 1(2), 16-32.
- Rijal, S., & Tahir, T. (2022). Analisis Faktor Pendorong Terjadinya Urbanisasi di Wilayah Perkotaan (Studi Kasus Wilayah Kota Makassar). *Journal of Economic Education and Enterprenuership Studies*, 3, 262-276. Retrieved from <https://ojs.unm.ac.id/JE3S>
- Rizal, R. N. (2015). Apakah Jenjang Pendidikan Dasar Tenaga Kerja Berperan Dalam Mengurangi Kemiskinan Di Indonesia?. *Jurnal Ekonomi dan Pembangunan Indonesia*, 16(1), 2.
- Rizki, N. A. (2011). *Estimasi Parameter Model Regresi Data Panel Random Effect Model dengan Metode Generalized Least Square (GLS)*. Skripsi. Malang: Universitas Islam Negeri Maulana Malik Ibrahim.
- Saputri, Ayu, F., & Ari, M. (n.d.). *Pengaruh Indikator Komposit Indeks Pembangunan Gender Terhadap Pertumbuhan Ekonomi Di Wilayah Eks Karesidenan Banyumas Tahun 2010-2020*. 2022: Universitas Muhammadiyah Surakarta.
- Savitri, C., Faddila, S. P., Iswari, H. R., Anam, C., Syah, S., Mulyani, S. R., et al. (2021). Statistik Multivariat dalam Riset. Bandung: Penerbit Widina Bhakti Persada Bandung.
- Sihombing. (2017). Kontribusi Tingkat Pendidikan dan Upah Minimum terhadap Penyerapan Tenaga Kerja di Kota Medan Tahun 2012-2015. *Jurnal Pembangunan Perkotaan*, 55.
- Setyawati, K. C., Ghifari, M. K., & Aribahwanto, M. A. (2022). Pengaruh Pengaruh Urban Sprawl Terhadap Tata Kota Surabaya. *Journal of Economics Development Issues*, 5(2), 78–85. <https://doi.org/10.33005/jedi.v5i2.122>
- Silalahi, D., Sitepu, R., & Tarigan, G. (2014). Analisis ketahanan pangan provinsi Sumatera Utara dengan metode regresi data panel. *Saintia Matematika*, 2(3), 237-251.
- Sudarto, A. (2019). Tenaga Kerja Outsourcing Dalam Tinjauan Hukum Islam Dan UU No 13 Tahun 2003 Tentang Ketenagakerjaan. *NIZHAM*, 7, 150-167.
- Sutikno. (2020). Bonus Demografi di Indonesia. *Visioner*, 12(2), 421–438. doi:<https://ejournal.goacademica.com/index.php/jv/article/view/285>
- Susiana, S. (2019). Perlindungan Hak Pekerja Perempuan dalam Perspektif Feminisme. *Aspirasi: Jurnal Masalah-Masalah Sosial*, 17, 207-221.
- Syarvina, W., Saragih, F., & Harahap, I. (2022). Analisis Pasar Tenaga Kerja dalam Prespektif Ekonomi Islam . *JRAK: Jurnal Riset Akuntansi dan Bisnis*, 140-152.
- Tapparan, S. R. (2017). Pengaruh Upah Minimum dan Investasi terhadap Kesempatan Kerja di Provinsi Sulawesi Selatan. *Jurnal Ad'ministrare*, 4(1), 7. <https://doi.org/10.26858/ja.v4i1.3441>
- Theddy, Sirait, Leviza, N. N., & Jelly. (2019). Tinjauan Yuridis Terhadap Perlindungan Hukum oleh International Labour Organization (ILO) Kepada Pekerja/Buruh Perempuan dan Anak di Indonesia. *Journal of USU International Law*, 7(1).
- Todaro, M. P., & Smith, S. C. (2018). *Economic development* 12th ed. Harlow Pearson Education.
- Ukkas, I. (2017). Faktor-Faktor yang Mempengaruhi Produktivitas Tenaga Kerja Industri Kecil Kota Palopo. *Kelola: Journal of Islamic Education Management*, 2(2), 187-198. doi: <https://doi.org/10.24256/kelola.v2i2.440>
- Utami, R. F., & Ariusni. (2023). Determinan Partisipasi Pekerja Perempuan Pada Pasar Tenaga Kerja Di Sumatera Barat. *Jurnal Kajian Ekonomi dan Pembangunan*, 5, 55-62
- Syarvina, W., Saragih, F., & Harahap, I. (2022). Analisis Pasar Tenaga Kerja dalam Prespektif Ekonomi Islam . *JRAK: Jurnal Riset Akuntansi dan Bisnis*, 140-152.

- Utami, R. F., & Ariusni. (2023). Determinan Partisipasi Pekerja Perempuan Pada Pasar Tenaga Kerja Di Sumatera Barat. *Jurnal Kajian Ekonomi dan Pembangunan*, 5, 55-62.
- Wiasih, N. K., & Karmini, N. L. (2021). Pengaruh Pertumbuhan Ekonomi, Jumlah Angkatan Kerja, dan Tingkat Upah terhadap Penyerapan Tenaga Kerja di Provinsi Bali. *E-Jurnal Ekonomi dan Bisnis Universitas Udayana*, 1097-1106.
- Widarjono, A. (2016). *Ekonometrika Edisi Keempat*. UPP STIM YKPN.
- Widiana, W., & Mauliana, N. P. (2020). *Uji Persyaratan Analisis*. Lumanjang: Klik Media.
- Wati, A. K. T. (2016). Analisis Faktor-Faktor Yang Mempengaruhi Penyerapan Tenaga Kerja Pada Industri Kreatif Batik Di Indonesia.
- Yumey, A. (2024). *Analisis Pasar Tenaga Kerja dan Keterserapan Angkatan Kerja di Kabupaten Pangkep*. Makassar: Universitas Muhammadiyah Makasar.
- Yeni, I., Marta, J., Satria, D., Adry, M. R., & Putri, P. D. (2022). Peluang Wanita Bekerja Keluar dari Pasar Tenaga Kerja Setelah Menikah. *Jurnal Ekonomi dan Pembangunan Indonesia*, 131-148.
- Qamariah, Z. (2024). Analisis Dinamika Kesenjangan Gender dalam Pengajaran Bahasa Inggris. *JISPENDIORA: Jurnal Ilmu Sosial Pendidikan Dan Humaniora*, 202-220. doi:<https://doi.org/10.56910/jispendiora.v3i1.1373>