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Probability Analysis Of Educated Unemployment Among Generation Z In West Sumatra

Analisis Probabilitas Pengangguran Berpendidikan Di Kalangan Generasi Z Di Sumatera Barat

Kurniawan Aristo Perdana[a], Endrizal Ridwan[b]
Departement of Economics, Faculty of Economics and Business, Andalas University[a,b]
aristo612@gmail.com[a]

Abstract

Educated unemployment among young people is a serious challenge in the Indonesian labor market, especially amid increasing participation in secondary and higher education. This phenomenon is increasingly relevant to Generation Z, which is in the transition phase from education to the world of work. This study aims to analyze the factors that influence the probability of educated unemployment among Generation Z in West Sumatra Province. The data used is microdata from the 2024 National Labor Force Survey (Sakernas) with individual Generation Z units of analysis having a minimum education level of high school or equivalent. The analysis method used is logistic regression (logit) to estimate the probability of individuals experiencing unemployment, supplemented with an interpretation of odds ratios and average marginal effects. Independent variables include education level, participation in job training, internet access, gender, status in the household, age, and region of residence. The estimation results show that diploma and bachelor's degree levels significantly increase the probability of unemployment compared to high school graduates, while participation in job training and internet access tend to reduce the probability of unemployment. Demographic factors such as gender, household status, and place of residence also play a significant role in determining the unemployment status of Generation Z. These findings indicate a mismatch between educational qualifications and labor market needs at the regional level. This study provides important policy implications related to strengthening vocational education, improving the quality of job training, and expanding access to digital-based labor market information for educated youth.

***Keywords**: Educated Unemployment, Generation Z, Sakernas, Logistic Regression, Labor Market.*

Abstrak

Pengangguran terdidik di kalangan anak muda merupakan tantangan serius di pasar tenaga kerja Indonesia, terutama di tengah meningkatnya partisipasi dalam pendidikan menengah dan tinggi. Fenomena ini semakin relevan bagi Generasi Z, yang berada dalam fase transisi dari pendidikan ke dunia kerja. Studi ini bertujuan untuk menganalisis faktor-faktor yang mempengaruhi probabilitas pengangguran terdidik di kalangan Generasi Z di Provinsi Sumatera Barat. Data yang digunakan adalah mikrodata dari Survei Angkatan Kerja Nasional (Sakernas) 2024 dengan unit analisis individu Generasi Z yang memiliki tingkat pendidikan minimal SMA atau setara. Metode analisis yang digunakan adalah regresi logistik (logit) untuk memperkirakan probabilitas individu mengalami pengangguran, dilengkapi dengan interpretasi rasio odds dan efek marginal rata-rata. Variabel independen meliputi tingkat pendidikan, partisipasi dalam pelatihan kerja, akses internet, jenis kelamin, status dalam rumah tangga, usia, dan wilayah tempat tinggal. Hasil estimasi menunjukkan bahwa tingkat diploma dan sarjana secara signifikan meningkatkan probabilitas pengangguran dibandingkan dengan lulusan SMA, sedangkan partisipasi dalam pelatihan kerja dan akses internet cenderung mengurangi probabilitas pengangguran. Faktor demografis seperti jenis kelamin, status rumah tangga, dan tempat tinggal juga memainkan peran penting dalam menentukan status pengangguran Generasi Z. Temuan ini menunjukkan ketidaksesuaian antara kualifikasi pendidikan dan kebutuhan pasar tenaga kerja di tingkat regional. Studi ini memberikan implikasi kebijakan penting terkait penguatan pendidikan kejuruan, peningkatan kualitas pelatihan kerja, dan perluasan akses ke informasi pasar tenaga kerja berbasis digital bagi kaum muda terdidik.

Kata kunci: Pengangguran Terdidik, Generasi Z, Sakernas, Regresi Logistik, Pasar Tenaga Kerja.

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1. Introduction

The transition from education to employment is a crucial phase in the life cycle of young people because it determines an individual's success in entering the job market and building economic independence (Somerville & Scholarios, 2022). At this stage, young people face various structural and individual barriers that can slow down the process of obtaining their first job. In many developing countries, including Indonesia, the school-to-work transition process tends to take longer and carries a high risk of resulting in open unemployment, especially among young people with secondary and higher education (Suharno et al., 2020). This condition creates a paradox in employment development, where improvements in educational attainment are not always followed by an increase in labor absorption (Somerville & Scholarios, 2022).

Nationally, employment data shows that the open unemployment rate is actually higher among high school/vocational school, diploma, and college graduates than among elementary school graduates (BPS, 2024). This phenomenon indicates the existence of educated unemployment, which is a condition where individuals with relatively high educational qualifications are not absorbed into the labor market. Educated unemployment is often associated with skill mismatch, narrow job preferences, and limited formal employment opportunities that can absorb educated workers (Butkus et al., 2020). In the long term, high educated unemployment reflects inefficient investment in human capital and has the potential to reduce economic productivity

This issue becomes even more important when linked to Generation Z, a group that currently dominates the young workforce and is in the early stages of their career transition (BPS, 2024). Generation Z has unique characteristics, including a relatively higher level of education compared to previous generations, extensive exposure to digital technology, and more selective job (Nurachma, 2024). On the one hand, these characteristics have the potential to increase the competitiveness of young workers. However, on the other hand, when the labor market structure is unable to provide suitable jobs, Generation Z faces a higher risk of unemployment and a longer period of waiting for work (Adriani & Yustini, 2021).

At the regional level, West Sumatra Province shows quite alarming unemployment dynamics. In recent years, the open unemployment rate in this province has consistently been above the national average (BPS, 2024). The regional economic structure, which is still dominated by the primary and informal sectors, limits the labor market's ability to optimally absorb educated workers. Meanwhile, the demographic structure of West Sumatra is characterized by a large proportion of young people, increasing pressure on the labor market (BPS Sumbar, 2025). This situation makes West Sumatra a relevant context for examining the determinants of educated unemployment among Generation Z.

In addition to structural factors, the probability of unemployment among Generation Z is also influenced by individual and household characteristics (Azahra, 2024). Higher education levels theoretically increase productivity and employment opportunities (Becker, 1993), but in conditions of labor market mismatch, they can actually increase the probability of unemployment (Somerville & Scholarios, 2022). Participation in job training has the potential to improve skill gaps and accelerate job transitions (Butkus & Seputiene, 2019). Internet access has become an important tool in modern job searching through the expansion of information and networks (Osmani

et al., 2021). Demographic factors such as gender, status in the household, age, and region of residence also shape the dynamics of job searching and decisions to accept employment (Anjarwati & Juliprijanto, 2021).

Although various studies have discussed youth unemployment and educated unemployment in Indonesia, most still use aggregate data or do not specifically focus on Generation Z as the main job transition group. Furthermore, empirical evidence based on microdata that examines the simultaneous influence of educational characteristics, training, access to technology, and demographic factors on the probability of unemployment at the provincial level is still relatively limited. In fact, microdata-based analysis is crucial for capturing individual heterogeneity and providing a more precise basis for policy.

Based on this background, this study aims to analyze the factors that influence the probability of educated Generation Z unemployment in West Sumatra Province using Sakernas microdata from 2024. By applying a logistic regression model, this study estimates the probability of individuals experiencing unemployment and interprets the impact of each variable through odds ratios and average marginal effects. The main contribution of this study lies in providing specific micro empirical evidence on Generation Z at the provincial level, as well as relevant policy implications to accelerate the employment transition of educated youth.

2. Literature Review

Educated unemployment refers to the condition of individuals with secondary or higher education who are not working, are looking for work, and are ready to work (BPS, 2024). From a labor economics perspective, educated unemployment reflects an imbalance between the supply of educated labor and the demand for labor available in the market. This phenomenon is increasingly prominent among young people who are in the transition phase from education to the world of work. Generation Z, as the cohort that currently dominates the young workforce, faces complex transition challenges due to changes in economic structure, digitalization, and limited formal job creation (Qasim et al., 2025).

The job search theory developed by McCall (1970) explains that unemployment among educated youth can occur due to a time-consuming job search process, influenced by reservation wages, search costs, and expectations regarding job quality. Young people with higher levels of education tend to have more selective job and wage expectations, thereby prolonging the duration of job search and increasing the probability of unemployment (Sipayung et al., 2022). In the context of regions with limited economic structures, such as West Sumatra, this mechanism becomes even more relevant because job opportunities that match educational qualifications are relatively limited (Sarajwati et al., 2022).

According to the human capital theory developed by Becker (1962), education is an investment that increases individual productivity and employment opportunities. However, various empirical studies show that increased education does not always reduce the risk of unemployment, especially among young people (Zheng, 2024). The phenomenon of educated unemployment or graduate unemployment paradox arises when the expansion of education is not matched by corresponding job growth. Diploma and bachelor's degree graduates often face intense competition, skills mismatches, and limited demand for educated workers at the regional level (Matrafi & Shaheen, 2024). Therefore, in the context of the regional labor market, higher

education can actually increase the probability of unemployment compared to secondary education graduates (Qasim et al., 2025).

Job training is an important instrument in active labor market policies aimed at improving the skills and employability of the workforce (Leung & Pei, 2020). Within the framework of human capital theory, training serves to bridge the skills gap between formal education graduates and labor market needs (Plavgo, 2023). Individuals who participate in job training are expected to have more relevant skills and better work readiness, thereby reducing their chances of unemployment. However, the effectiveness of training is highly dependent on the quality and relevance of the training to the labor market needs (Young et al., 2025).

Internet access plays an important role in the modern job search process by providing job vacancy information, professional networks, and opportunities for digital skills improvement (Wu et al., 2023). From a job search theory perspective, the internet reduces job search costs and increases the efficiency of matching job seekers and employers. Individuals with internet access have greater opportunities to obtain labor market information and accelerate the transition to employment. Therefore, internet access is expected to reduce the probability of unemployment among Generation Z (Nouffeussie et al., 2024).

Demographic characteristics also influence an individual's chances of experiencing unemployment. Gender is often associated with differences in access and barriers in the job market, where women tend to face limitations in mobility and certain job opportunities (Faizah et al., 2025). Household status also plays an important role; young people who are still dependent on their families generally have lower economic pressures and therefore tend to delay accepting employment (Sipayung et al., 2022).

Age reflects experience and maturity in the job search process .(Sitompul & Athoillah, 2023) Meanwhile, the area of residence (urban or rural) determines access to job opportunities and labor market information (Saputri et al., 2023). These differences in characteristics result in heterogeneity in the probability of unemployment among educated youth.

Based on the theoretical framework and previous empirical findings, this study aims to determine the level of educated unemployment and the determinants of educated unemployment among Generation Z. The variables of human capital, the role of technology (internet access), demographic and geographic factors will be used to construct a binary logistic regression model. This study is expected to provide new insights into knowledge and policy formulation related to educated unemployment in West Sumatra.

3. Method

This study is a quantitative study with an explanatory approach. A quantitative approach was chosen because this study aims to estimate the probability of unemployment at the individual level, rather than simply describing the aggregate unemployment rate. This study focuses on the objectivity of statistical data to generalize the phenomenon of educated unemployment in West Sumatra, so that the results of the analysis are value-free and measurable.

Data Collection and Sources

This study uses microdata from the 2024 National Labor Force Survey (Sakernas) published by the Central Statistics Agency. The unit of analysis is Generation Z individuals born between 1997 and 2012, aged 15–27 years, who are part of the labor force and have a minimum education level of senior high school or equivalent. The focus of the analysis is limited to the educated unemployed, namely individuals who are not working, are looking for work, and are ready to work according to the Sakernas definition.

The sample data from the Sakernas microdata consists of 2.170 respondents who are part of the workforce and aged 15-27 years old, in accordance with the Gen Z classification.

The selection of Sakernas microdata allows for a more accurate analysis of individual heterogeneity compared to an aggregate approach, and is relevant for examining the probability of unemployment during the transition phase from education to the world of work.

The dependent variable in this study is unemployment status, which is defined as a binary variable with a value of 1 if the individual is unemployed and 0 if employed. Given the dichotomous nature of the dependent variable, the analysis method used is logistic regression (logit).

The logit model is formulated as follows:

$$P(Y_i = 1) = \frac{e^{\beta_0+\beta_1 X_{1i}+\beta_2 X_{2i}+\cdots+\beta_k X_{ki}}}{1 + e^{\beta_0+\beta_1 X_{1i}+\beta_2 X_{2i}+\cdots+\beta_k X_{ki}}}$$

where Y_i is the probability of individual i experiencing unemployment, and X_k represents the independent variables.

To improve the interpretability of the results, the logit coefficient estimates are supplemented with odds ratios and average marginal effects (AME), which show the change in the probability of unemployment due to changes in each independent variable.

Research Variable

Independent variables are factors that influence other variables, while dependent variables are the results determined by independent variables (Creswell & Creswell, 2018). To understand and measure variables, operational definitions are needed, which are explanations of how to measure variables in a specific and clear manner so that they can be measured (Sugiyono, 2013). In this study, the operational definition covers the model of educated unemployment among Gen Z, and the analysis was conducted on 8 independent variables and 1 dependent variable.

In this study, the model was modified by using educated unemployment as the dependent variable and the independent variables used were education level, gender, status in the household, internet access, job training, age, and region of residence.

4. Result and Discussion

Results

Simultaneous test results on logistic regression of the probability of educated unemployment among Generation Z in West Sumatra. The results of the Modified Wald Test from 2,170 samples or respondents representing 475,943 individuals can be seen in Table 1.

Table 1. Simultan Test Result

Number of obs	2.170
Population size	475.943
Design df	821
F (8, 814)	8,77
Prob > F	0,0000

Source: Stata Output Result.

The results of the Adjusted Wald Test from 2,170 samples or respondents representing 475,943 individuals obtained an F value of 8.77 with 8 independent variables and 814 degrees of freedom in the numerator, indicating that the model as a whole has a fairly strong influence.

The prob>F=0.0000 value is smaller than the significance level of 0.05. This result shows that H0 is rejected, meaning that the independent variables formed simultaneously have a significant effect on changes in the dependent variable. The simultaneous test results show that individual and household characteristics together significantly affect the probability of unemployment among Generation Z, making the model suitable for further analysis.

The results of the regression model suitability test used for the analysis of the probability of educated unemployment among Generation Z in West Sumatra are presented. The prob>chi2 value obtained was 0.2594, which is greater than the significance level of 0.05. These results indicate that H0 is accepted, or that the model used is sufficient to explain the data (goodness of fit).

Partial tests were used to test the effect of each independent variable in a model. The results of this test will show whether an independent variable affects the dependent variable or not. Table 2 presents the logistic regression coefficient results, Odds Ratio (OR) estimates, and marginal effects of the determinants of educated unemployment.

Table 2. Partial test result, odds ratio and Marginal effect

Variabel	**Coef**	**Std_Err**	**t**	**P_value**	**Odds Ratio**	***AME***
1.Diploma	0,5865855	0,3455310	1.70	0.090	1,7978390	0,1000731
1.Sarjana	0,2970077	0,2246585	1.32	0.187	1,3458260	0,0461665
1.Pelatihan	-0,4319247	0,1866583	-2.31	0.021	0,6492582	-0,0623294
1.Internet	0,5519489	0,5597054	0.99	0.324	1,7366340	0,0699272
1.JK	0,9178196	0,2438423	3.76	0.000	2,5038250	0,1117236
1.Status	-0,3026139	0,1500842	-2.02	0.044	0,7388844	-0,0452225
Umur	-0,1183191	0,0317784	-3.72	0.000	0,8884125	-0,0175695
1.Lokasi	0,2476639	0,1454237	1.70	0.089	1,2810290	0,0365852
_cons	0,0189862	0,9326417	0.02	0.984	1,0191680	

Table 2 shows eight independent variables that are hypothesized to have a significant effect on the dependent variable or the probability of educated unemployment among Generation Z. The results of the logistic regression test show that of the eight variables, two variables are not statistically significant in influencing the dependent variable.

Diploma education has a P-value of 0.090 and an Odds Ratio (1.74), so it is declared to have a positive and significant effect at a significance level of 10%. Diploma graduates have a tendency (risk) to be unemployed 1.74 times higher than high school/vocational school graduates. A bachelor's degree has a P-value of 0.187, so a bachelor's degree is considered to have no statistically significant effect on the probability of a person becoming unemployed compared to high school graduates.

The marginal effect results show that diploma graduates have a 10 percentage point higher probability of unemployment than high school graduates, ceteris paribus. Meanwhile, bachelor's degree graduates have the same probability as high school graduates, ceteris paribus.

Participating in job training has a negative and significant effect on an individual's probability of becoming unemployed. Gen Z who have participated in job training are 0.64 times less likely to be unemployed than those who have never participated in training. The marginal effect shows that participating in job training reduces the probability of unemployment by 6.3 percentage points, ceteris paribus.

For internet access, the P-value is 0.324 and the Odds Ratio is 1.73. The P-value is greater than 0.05, so the hypothesis is rejected. Internet access is statistically not shown to make a significant difference to the unemployment status of Gen Z in West Sumatra.

The status of being a child or dependent in the household has a very significant and positive effect on the probability of an individual being unemployed. As can be seen in Table 4.7, the P-value of this variable is 0.000 and the odds ratio is 3.76. The marginal effect results find that an individual's status as a child in the household increases the probability of unemployment by 11.1%, ceteris paribus.

The partial test results for gender show a negative and significant effect with a P-value of 0.044. With an odds ratio of 0.73, it can be concluded that men have a lower risk of unemployment than women. The marginal effect results show that men have a 4.5% lower chance of unemployment than women, ceteris paribus.

Age has a negative and significant effect on the probability of unemployment. From the logit regression results, the age variable has an odds ratio of 0.88. Marginally, the older the respondent, the lower the probability of unemployment by 1.7%, ceteris paribus.

The place of residence has a P-value of 0.089, which means that the classification of place of residence has a positive and significant effect at a 10% statistical significance level. An odds ratio of 1.28 indicates that living in an urban area increases the probability of unemployment by 1.28 times compared to living in a rural area. Marginally, living in an urban area increases the probability of unemployment by 3.6%, ceteris paribus.

Discussion

The regression results in this study show that, statistically, individuals with a diploma have a higher risk of unemployment than individuals who have graduated from high school or equivalent. This finding confirms the hypothesis of Educated Unemployment. It is precisely those with higher education (diploma) who find it more difficult to get a job than high school graduates. This is strong evidence of a mismatch or high reservation wage among higher education graduates. This finding does not contradict human capital theory, but rather reflects the failure of the labor market to optimally absorb educated workers.

These findings are in line with the results of research by (Matrafi & Shaheen, 2024) on the graduate unemployment paradox or educated unemployment, as well as research by Young et al. (2025) which explains the education paradox and skill mismatch. Both studies found that higher education graduates have a greater chance of being unemployed than secondary education graduates.

Training variables show a negative and significant effect on the probability of unemployment. An odds ratio value of 0.65 indicates that individuals who have undergone training are 0.65 times less likely to be unemployed than those who have not undergone training.

The marginal effects results show that training can reduce the probability of unemployment by 4.6%. This finding confirms the importance of training as an instrument for increasing employability, because training tends to provide practical skills that are more suited to the needs of the labor market than formal education alone.

These results are in line with research conducted by Plavgo (2023), which revealed that individuals with low basic education benefit most from training programs, with a 5 percentage point increase in the probability of employment when there is an increase in the standard deviation in efforts to improve national ALMP (active labor market policies). This phenomenon shows that training acts as a strong compensatory mechanism for those who are less fortunate in terms of initial formal education, thus filling the gap left by the formal education system.

Internet access does not have a significant effect on the probability of unemployment. Neither the regression coefficient, odds ratio, nor marginal effects are statistically significant. This indicates that internet access alone is not enough to reduce the risk of unemployment.

This finding suggests that the benefits of the internet in the job search process are highly dependent on an individual's ability to utilize the technology, such as digital literacy and job search skills, rather than solely on the availability of access.

This contrasts with the results of a study by Nouffeussie et al. (2024) conducted in Cameroon, which found that internet use has a negative and significant effect on unemployment, especially in developing countries.

A study conducted by Illahi et al. (2025) in Indonesia found the same results as this study, namely that the use of digital technology in the form of the internet does not have a significant effect on reducing unemployment rates. This counterintuitive finding suggests that the spread of information technology, without being supported by adequate internet infrastructure, adequate digital skills among the population, or strong labor market institutions, may create the impression of adoption without any real impact on employment or even create job displacement.

The gender variable shows that men have a lower probability of unemployment than women. An odds ratio value of 0.74 indicates that men are 0.74 times less likely to be unemployed than women.

The marginal effects results show that being male reduces the probability of unemployment by 4.5 percentage points. This finding reflects structural differences in the labor market based on gender, both in terms of employer preferences and social norms that encourage men to enter the labor market earlier.

This finding is also supported by previous research conducted by Wafi & Kafa (2025), which used 2022 Sakernas data to state that educated female workers have a 1.9 times higher probability of unemployment than men with equivalent education.

An individual's status within the household has a positive and significant effect on the probability of unemployment. An odds ratio of 2.50 indicates that individuals with the status of child/dependent in the household are 2.5 times more likely to be unemployed than the reference category.

The marginal effects show an increase in the probability of unemployment by 11.1 percentage points. This finding indicates that household factors are important determinants in individuals' decisions and ability to participate in the labor market, for example, in relation to domestic responsibilities or economic position within the household. This is clear evidence of the phenomenon of "Luxury Unemployment" or Waithood. Parental financial support makes young people comfortable with being unemployed and selective in their job search because they are not pressed by economic needs, in line with the job search theory developed by McCall (1970).

Individuals who are members of a household generally do not bear the main economic burden because they can still depend on the household head's income. This condition provides greater economic flexibility, so individuals tend to be more selective in choosing jobs. This selectivity can prolong the job search period and increase the likelihood of individuals being unemployed, especially among educated workers who have higher job and wage expectations (Sipayung et al., 2022).

The age variable has a negative and significant effect on the probability of unemployment. An odds ratio value of 0.80 indicates that each additional year of age reduces the probability of unemployment by approximately 0.8 times.

The marginal effects results show that each additional year of age reduces the probability of unemployment by 3.6 percentage points. This indicates that unemployment is more prevalent among younger age groups, who are generally still in the transition phase from education to the world of work and face frictional unemployment.

Sitompul & Athoillah (2023) also found the same thing in their research. Using data from the 2019 Sakernas survey, they found that the younger age group had a much higher probability of unemployment, with the unemployment rate among educated young people reaching 50.99% of the educated young population. This pattern is consistent with human capital theory, which states that young individuals have limited work experience, unclear labor market signals, and do not yet have a track record that can communicate their productivity to employers.

The regional classification variable (urban and rural) showed a significant positive effect at a 10% significance level with a P value of 0.089. This indicates that living in an urban area increases the probability of unemployment compared to a rural area. The odds ratio value indicates that someone living in an urban area has a 1.28 times higher chance of being unemployed than someone living in a rural area. The marginal effects results show that living in an urban area increases the chance of unemployment by 3.6% compared to a rural area.

These findings support the results of previous research conducted by Aulia & Yuliana (2022), whose study conducted in the Riau Islands Province in 2021 found that place of residence has a significant effect on the probability of unemployment. Aulia & Yuliana found that individuals living in urban areas have a higher chance of unemployment than those living in rural areas.

Implications

The results of this study provide relevant policy implications for local governments and employment stakeholders in West Sumatra Province. First, the finding that diploma education increases the probability of unemployment compared to high school graduates indicates the need to align secondary and higher education curricula with regional labor market needs. Strengthening the link and match between

universities, vocational education institutions, and the business world is crucial to reduce the skills mismatch experienced by educated graduates.

Second, the negative effect of job training on the probability of unemployment emphasizes the importance of improving the quality and relevance of job training programs. Local governments need to prioritize training based on local industry needs, including the productive services and digital economy sectors, and strengthen post-training job placement mechanisms so that training does not stop at certification alone.

Third, although internet access has not been statistically proven to reduce the probability of unemployment, the expansion and equal distribution of digital infrastructure must still be accompanied by an increase in digital literacy among young people. Digital platform-based job search programs, online career guidance, and basic digital skills training can accelerate the work transition process for Generation Z.

Fourth, the influence of status within the household and other demographic characteristics indicates that youth employment policies need to consider a target group-based approach. Generation Z, who are still dependent on their families, need interventions that encourage earlier work readiness, such as structured internships, career coaching, and incentives for companies that recruit new graduates.

Overall, policies to reduce unemployment among educated Generation Z cannot rely on a single instrument, but require an integrated approach that combines education reform, strengthening job training, and utilizing digital technology.

5. Conclusion

This study analyzes the factors that influence the probability of educated unemployment among Generation Z in West Sumatra Province using micro data from the 2024 National Labor Force Survey (Sakernas) with a logistic regression approach. The results show that diploma and bachelor's degree levels significantly increase the probability of unemployment compared to high school graduates, indicating the phenomenon of educated unemployment and labor market mismatch at the regional level.

Conversely, participation in job training was found to reduce the probability of unemployment, emphasizing the importance of skills enhancement and access to information in accelerating youth employment transition. Demographic factors such as gender, household status, and age also significantly affect unemployment opportunities, indicating the heterogeneity of labor market conditions faced by Generation Z.

These findings confirm that Generation Z's educated unemployment is a structural and individual problem that are interrelated. Therefore, efforts to address this issue require integrated and evidence-based labor policies. This study is expected to serve as a reference for the formulation of youth employment policies at the regional level and to enrich the empirical literature on educated unemployment in Indonesia.

6. References

Adriani, D., & Yustini, T. (2021). Anticipating the demographic bonus from the perspective of human capital in Indonesia. *International Journal of Research in*

Business and Social Science (2147- 4478), *10*(6), 141–152. https://doi.org/10.20525/ijrbs.v10i6.1377

Anjarwati, L., & Juliprijanto, W. (2021). Determinan Pengangguran Terdidik Lulusan Universitas di Pulau Jawa. *Jurnal Ekonomi Pembangunan*, *10*(3), 178–187. https://doi.org/10.23960/jep.v10i3.280

Azahra, S. (2024). Classification of Unemployment at West Sumatra Province in 2021 using Algorithm Classification and Regression Tree. *UNP Journal of Statistics and Data Science*, *2*(2), 173–178. https://doi.org/10.24036/ujsds/vol2-iss2/165

Becker, G. S. (1962). Investment in Human Capital: A Theoretical Analysis. *Journal of Political Economy*, *70*(5, Part 2), 9–49. https://doi.org/10.1086/258724

Becker, G. S. (1993). *Human capital: a theoretical and empirical analysis with special reference to education*. University of Chicago Press.

BPS. (2024). Keadaan Angkatan Kerja di Indonesia Agustus 2024. In *Badan Pusat Statistik Indonesia* (Vol. 46, Number 2). Badan Pusat Statistik Indonesia.

BPS Sumbar. (2025). *Ringkasan Eksekutif Informasi Ketenagakerjaan Provinsi Sumatera Barat Agustus 2024* (Vol. 18, Number 1). BPS Provinsi Sumatera Barat.

Butkus, M., Matuzeviciute, K., Rupliene, D., & Seputiene, J. (2020). Does Unemployment Responsiveness to Output Change Depend on Age, Gender, Education, and the Phase of the Business Cycle? *Economies*, *8*(4), 98. https://doi.org/10.3390/economies8040098

Butkus, M., & Seputiene, J. (2019). The Output Gap and Youth Unemployment: An Analysis Based on Okun's Law. *Economies*, *7*(4), 108. https://doi.org/10.3390/economies7040108

Faizah, F. Y., Isbah, M. F., & Azca, M. N. (2025). Understanding Young People not in Employment, Education or Training in Indonesia: Gendered Transition in the Changing Cultural Context. *Young - Nordic Journal of Youth Research*. https://doi.org/10.1177/11033088251345645

Illahi, S. K., Taufiq, M., & Wardaya, W. (2025). The Impact of Infrastructure Access and Information Technology Use on Open Unemployment Rate in Java. *Asian Journal of Applied Business and Management*, *4*(3), 1033–1046. https://doi.org/10.55927/ajabm.v4i3.423

Leung, P., & Pei, Z. (2020). *Further Education During Unemployment* (642). http://arks.princeton.edu/ark:/88435/dsp01tt44pq76n

Matrafi, M. D., & Shaheen, R. (2024). The Impact of Educational Level on the Unemployment Rate in Saudi Arabia: A Time Series Quantitative Analysis from 2016 to 2023. *International Journal of Economics and Finance*, *16*(10), 74. https://doi.org/10.5539/ijef.v16n10p74

McCall, J. J. (1970). Economics of Information and Job Search. *The Quarterly Journal of Economics*, *84*(1), 113. https://doi.org/10.2307/1879403

Nouffeussie, A. C. N., Meka'A, C. B., Noufelie, R., & Balguessam, B. N. (2024). Use of ICT: What effect on youth access to employment in Cameroon? *Heliyon*, *10*(21), e39967. https://doi.org/10.1016/j.heliyon.2024.e39967

Nurachma, R. (2024). Bibliografi Nasional Indonesia terhadap Generasi Z. *Biola Pustaka*, *2 No.2*. https://bni.perpusnas.go.id/

Osmani, A. G., Islam, R., Rahman, H., & Amin, A.-. (2021). Incidence and Determinants of Educated-Youth Unemployment in Rajshahi City of Bangladesh. *Economic Insights – Trends and Challenges*, *2021*(1), 73–82. https://doi.org/10.51865/eitc.2021.01.07

Plavgo, I. (2023). Education and active labour market policy complementarities in promoting employment: Reinforcement, substitution and compensation. *Social Policy & Administration*, *57*(2), 235–253. https://doi.org/10.1111/spol.12894

Qasim, M. Z., Naqvi, S. N. U. H., Akhtar, M., & Tagala, M. W. (2025). Determinants of Unemployment: The Role of Education, Political Stability, Economic Growth and Inflation. *ACADEMIA International Journal for Social Sciences*, *4*(1), 57–67. https://doi.org/10.63056/ACAD.004.01.0039

Saputri, M. N., Sifriyani, S., & Wasono, W. (2023). Application Of Nonparametric Geographically Weighted Regression Method On Open Unemployment Rate Data In Indonesia. *BAREKENG: Jurnal Ilmu Matematika Dan Terapan*, *17*(4), 2071–2080. https://doi.org/10.30598/barekengvol17iss4pp2071-2080

Sarajwati, M. K. A., Aini, F. A. N., Setiacahyandari, H. K., Dairina, I., & Dewi, A. K. (2022). Analysis of The Dynamics of Labor Absorbtion in West Sumatera Province in 2018-2020. *Jurnal Pendidikan Ilmu Sosial*, *32*(2), 226–247. https://doi.org/10.23917/jpis.v32i2.20367

Sipayung, F. L., Wijaya, A. F., Putra, F., & Aratame, N. (2022). Analyzing the Characteristics of Highly Educated Unemployment in Indonesia's Capital City. *Jurnal Ekonomi Dan Studi Pembangunan*, *14*(2), 153. https://doi.org/10.17977/um002v14i22022p153

Sitompul, N. K., & Athoillah, Moh. (2023). Indonesia's Youth Unemployment Rate: Evidence from Sakernas Data. *Journal of International Conference Proceedings*, *6*(1), 347–357. https://doi.org/10.32535/jicp.v6i1.2346

Somerville, B. O., & Scholarios, D. (2022). Focused for Some, Exploratory for Others: Job Search Strategies and Successful University-to-Work Transitions in the Context of Labor Market Ambiguity. *Journal of Career Development*, *49*(1), 126–143. https://doi.org/10.1177/08948453211016058

Suharno, Pambudi, N. A., & Harjanto, B. (2020). Vocational education in Indonesia: History, development, opportunities, and challenges. In *Children and Youth Services Review* (Vol. 115). Elsevier Ltd. https://doi.org/10.1016/j.childyouth.2020.105092

Wafi, F. A., & Kafa, M. Z. (2025). Determinants of Educated Unemployment in Indonesia: A Comprehensive Logistic Regression Analysis. *Convergence: The Journal of Economic Development*, *6*(2), 107–126. https://doi.org/10.33369/convergencejep.v6i2.37353

Wu, W., Hon-Wei, L., Yang, S., Muda, I., & Xu, Z. (2023). Nexus between financial inclusion, workers' remittances, and unemployment rate in Asian economies. *Humanities and Social Sciences Communications*, *10*(1). https://doi.org/10.1057/s41599-023-02133-8

Young, F., Ashari, A. A., Zahra, D., Simanjuntak, A. C., & Tampuboln, B. R. (2025). Lulusan Sarjana dan Tantangan Pengangguran di Indonesia - Strategi Adaptasi di Era Digital. *Jurnal Review Pendidikan Dan Pengajaran*, *8*(2), 3821–3827. https://doi.org/10.31004/jrpp.v8i2.44213

Zheng, W. (2024). The Relationship Between Popularization of Higher Education and Unemployment Rate in China. *Advances in Economics, Management and Political Sciences*, *69*(1), 293–301. https://doi.org/10.54254/2754-1169/69/20231484