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Determinants of Unemployment Among Gen Z in South Sulawesi

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Abstract

Indonesia has experienced a demographic bonus since 2015 with the peak period estimated to occur between 2020 and 2035, which is characterized by the population structure being dominated by people of productive age compared to non-productive age. The demographic bonus can be used as an opportunity for the government to improve its regional economy. According to the 2023 Indonesian Youth Statistics, the estimated percentage of youth (population aged 16 - 30 years) in Indonesia is 23.18 percent or almost a quarter of the Indonesian population. Still, the youth open unemployment rate (TPT) is also high, exceeding the national TPT. The 2020 Population Census portrait shows that youth in Indonesia are dominated by Generation Z (Gen Z) with a total population of 74.93 million. Data from the Central Statistics Agency (BPS) shows worrying figures regarding unemployment among Gen Z in Indonesia. As many as 9.9 million Gen Z aged 15-24 years will be recorded as unemployed in 2023, which is equivalent to 22.25% of the total Gen Z population in Indonesia. Gen Z is a population group that dominates the population composition of South Sulawesi and has the potential to become an actor in Indonesia's future development. The analytical method used in this research is binary logistic regression. The results of this study show that the variables gender, marital status, head of household status, education level and type of region have a significant influence on the emergence of unemployment among Gen Z.

Keywords: demographic bonus, youth, gen z, unemployment.

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1. Introduction

Indonesia has experienced a demographic bonus since 2015, with the peak period estimated to occur between 2020 and 2035, characterized by a population structure dominated by a productive age population compared to a non-productive age population (BPS, 2023). This is indicated by the decreasing dependency ratio to 45.5 percent in 2020, reflecting the lower burden borne by the productive age population to support those who are not yet and/or no longer

productive (BPS, 2018). The increase in the productive age population can boost the labor force for production activities and consumption demand, as the productive age group generally has higher consumption levels than other age groups (BPS, 2022).

The demographic bonus can be seen as an opportunity for the government to enhance regional economies, but it also can be a challenges if the population growth rate is not followed by strategic policies to improve human resources and provide adequate and productive employment opportunities (Umar, 2017). Low and unequal educational quality across regions, lack of technological proficiency in the era of digital transformation and industrial revolution, and the reduction in job opportunities during the pandemic make it difficult for the productive age population to compete for jobs (Achmad et al., 2024). According to the Global Employment Trends for Youth 2022, unemployment is dominated by young people. In 2021, 15.6 percent of youth are unemployed, more than three times the unemployment rate of adult (ILO, 2022). Globally, youth unemployment reached 73 million in 2022, 6 million higher compared to 2019 (ILO, 2022a). Regionally, unemployment rates remain higher than pre-COVID-19 levels in Arab countries, East Asia, Sub-Saharan Africa, and South Asia (ILO, 2023).

According to Indonesian Youth Statistics 2023, the estimated percentage of youth (people aged 16 - 30 years) in Indonesia is 23.18 percent or almost a quarter of the Indonesian population. However, the youth unemployment rate is also high, exceeding the national rate (BPS, 2023a). The youth unemployment rate is recorded at around 13.41 percent, indicating that approximately 13 out of 100 youth in the workforce are not absorbed into the labor market. Year by year, the youth unemployment rate shows a downward trend but consistently remains above the unemployment rate for all age groups during the 2016-2023 period. Even compared to the pre-COVID-19 condition in 2018, the youth unemployment rate in 2023 is still higher.

The 2020 Population Census shows that Indonesia's youth is dominated by Generation Z (Gen Z) with a total population of 74.93 million. Gen Z refers to those born between 1997-2012, or those aged 11 – 26 years in 2023, all of whom are expected to enter the productive age within the next seven years (BPS, 2021). However, data from the BPS indicates worrying unemployment rates among Gen Z in Indonesia. As many as 9.9 million Gen Z aged 15-24 years were unemployed in 2023, equivalent to 22.25 percent of the total Gen Z population in Indonesia.

According to Aharon (2021), Gen Z has different characteristics compared to previous generations in the workforce due to the role of technological advancements. The weakness in Gen Z's characteristics, such as uncertainty about long-term jobs, lack of commitment and attachment to a job or organization, can be problematic in the workforce (Ramadhani & Ayu, 2022). Additionally, Gen Z tends to be egoistic and stand out in their work. These characteristics and behaviors of Gen Z in the workforce explain the phenomenon of Gen Z's preference for unemployment over unhappiness in their jobs (Haq and Noor, 2022).

South Sulawesi is one of the provinces with a youth population percentage (23.13 percent) below the national percentage (23.18 percent), but its youth unemployment rate (5.92 percent) is

above the national rate (5.32 percent). According to the August 2023 Sakernas, there are 9 or 10 unemployed youth among 100 youth in the workforce in South Sulawesi. Gen Z is the dominant population group in South Sulawesi, with the potential to be a key actors in Indonesia's future development (BPS, 2021a). Nationally, the 2020 Population Census results show that the Gen Z age group accounts for 30.84 percent of Indonesia's total population. To help reduce unemployment among Gen Z, it is necessary to identify the factors influencing unemployment in this demographic.

Several studies have been conducted on the determinants of youth unemployment, but analysis of determinants of Gen Z unemployment in Indonesia at the regional level is still limited. Tamirat (2023) in his research on the determinants of youth unemployment in Ethiopia mentioned that youth unemployment is influenced by several demographic and socio-economic factors, including age, gender, and education level. Another study by Tesyafe et al. (2023) using the logit model found that age, gender, marital status, and education level significantly influence youth unemployment. These findings are consistent with Yanindah (2021), who stated that microeconomic factors, including education level, gender, marital status, residential area, and household size significantly influence youth unemployment in Indonesia. Additionally, geographic factors such as the area of residence also significantly impact youth unemployment (Prieto et al., 2023).

Based on the above issues, this study aims to understand the unemployment conditions and analyze the determinants of unemployment among Gen Z. Several demographic and geographic variables will be used to develop a binary logistic regression model. This research is expected to provide updated literature for policy formulation related to youth unemployment in South Sulawesi.

2. Research Method

2.1. Research Scope

This research examines the determinants of unemployment among Gen Z in South Sulawesi in 2023. The Gen Z population covered in this study includes the working-age population (15 years and above) who belong to Gen Z, defined as those born between 1997-2012 or aged around 15 – 26 years. The variables in this study consist of dependent and independent variables. The dependent variable is the unemployment status, categorized as unemployed and employed/not in the labor force. Meanwhile, the independent variables include age, gender, household size, marital status, household head status, education level, and residential area.

2.2. Data

This research uses cross-sectional data from the National Labor Force Survey (Sakernas) conducted in August 2023. This data includes 8,744 working-age respondents classified as Gen Z (aged 15 - 26 years) in South Sulawesi Province. The dependent and independent variables used in this study are presented in Table 1.

Table 1. List of dependent and independent variables

Variable	Description	Notation	Type
Dependent Variable			
Unemployment Status	0 Employed and Not in the Labor Force 1 Unemployed	Y	Categorical
Independent Variable			
Age	Age in last birthday (years)	X1	Discrete
Gender	0 Female 1 Male	X2	Categorical
Household Size	Number of permanent household members	X3	Discrete
Marital Status	0 Not married (never married, divorced, widowed) 1 Married	X4	Categorical
Household Head Status	0 Not household head 1 Household head	X5	Categorical
Education Level	0 No formal education 1 Completed primary school or equivalent 2 Completed junior high school or equivalent 3 Completed senior high school or equivalent 4 Completed higher education	X6	Categorical
Residential Area	0 Rural 1 Urban	X7	Categorical

2.3. Analysis Method

In this study, descriptive analysis and inferential analysis will be conducted using SPSS and Minitab software. Descriptive analysis aims to provide an overview of the characteristics of the Gen Z working-age population in South Sulawesi in 2023, aided by graphical representations. Meanwhile, inferential analysis will utilize binary logistic regression. Logistic regression is used to describe and estimate the relationship between the categorical dependent variable (y) and the independent variables (x) that influence a phenomenon (Borucka, 2020). The binary logistic regression model specifically deals with qualitative dichotomous dependent variables, represented by values 0 and 1. A value of 1 indicates the presence of a characteristic, while a value of 0 indicates the absence of a characteristic. The binary logistic regression model is used when following a Bernoulli distribution, with the equation as follows:

$$f(b_i) = \pi_a^{b_a}(1-\pi_a)^{1-b_a}, b = 0,1 \qquad (1)$$

Where:

π_a = probability of the i th event occurrence

b_a = random variable of the *i* th event, which consists of 0 and 1
The form of the binary logistic regression model with multiple independent variables is

$$\pi(x) = \frac{exp(\gamma_0+\gamma_1 x_1+\cdots+\gamma_p x_p)}{1+exp(\gamma_0+\gamma_1 x_1+\cdots+\gamma_p x_p)} \qquad (2)$$

To facilitate the estimation of regression parameters, the π(x) in the equation above is transformed into the form of the logistic regression logit (Tampil et al., 2017), as follows:

$$g(x) = ln\left[\frac{\pi(x)}{1-\pi(x)}\right] = \beta_0 + \beta_1 x_1 + \cdots + \beta_p x_p \qquad (3)$$

Parameter Estimation

Essentially, the Maximum Likelihood Estimation (MLE) method provides estimates β to maximize the likelihood function. Systematically, the likelihood function for the binary logistic regression model is as follows:

$$L(\beta) = \prod_{i=1}^{n} \pi(x_i)^{y_i}[1-\pi(x_i)]^{1-y_i} \qquad (4)$$

Where:
y_i = observations on the *i*-th variable
$\pi(x_i)$ = The probability for the *i*-th predictor variable

To simplify the calculation, a log-likelihood approach is adopted, defined as:

$$L(\beta) = \sum_{i=1}^{n}\{y_i ln[\pi(x_i)] + (1-y_i) ln[1-\pi(x_i)]\} \qquad (5)$$

To obtain the interpretation of the logistic regression coefficient ($\hat{\beta}$), you take the first derivative of $L(\beta)$ with respect to β and set it equal to 0

Simultaneous Test

Model testing is conducted to examine the role of predictor variables on the response variable simultaneously, also known as the chi-square model test (Pamungkas, 2017).

$H_0 : \beta_1 = \beta_2 = \cdots = \beta_i = 0$

H_1: at least one parameter $\beta_i \neq 0$, where $i = 1, 2, \ldots, p$

Statistical Test Statistic

$$G = -2\, ln \frac{\left(\frac{n_1}{n}\right)^{n_1}\left(\frac{n_0}{n}\right)^{n_0}}{\sum_{i=1}^{n} \hat{\pi}_i^{y_i}(1-\hat{\pi}_i)^{(1-y_i)}} \qquad (6)$$

Where :
n_1 = Number of observations with the response category 1
n_0 = Number of observations with the response category 0
n = Total number of observations
p = Number of parameters

Statistical Test Statistic *G* follows a chi-square distribution, so to make a decision, we compare it with the chi-square critical value (χ^2tabel value) with degrees of freedom (df) equal to k-1 , where k is the number of predictor variables. The decision criterion for rejecting H_0 (null hypothesis):

1. Compare G with χ^2Table Value :
   - Calculate the chi-square critical value $\chi^2_{(df,\alpha)}$, where df = k-1 and α is the significance level.
   - If $G > \chi^2_{(df,\alpha)}$, reject H_0 (null hypothesis).
2. Compare P-Value with α :
   - Alternatively, calculate the p-value associated with G
   - If the p-value < α, reject H_0 (null hypothesis).

In summary, in the context of logistic regression, the statistic G is used as a likelihood ratio test to assess the overall significance of the predictor variables. If G exceeds the critical χ^2 value or if the p-value is less than the significance level α, it indicates that at least one of the predictor variables significantly contributes to the model, leading to the rejection of the null hypothesis H_0.

Partial Test

Partial testing is used to examine the individual influence of each β_i in the obtained model. The hypotheses are

$H_0: \beta_i = 0$

$H_1 : \beta_i \neq 0$ where i = 1,2,3, … , p

Wald Test Statistic (W) :

$$W = \frac{\hat{\beta}_i}{SE(\hat{\beta}_i)} \qquad (7)$$

where:

$$SE(\hat{\beta}_i) = \sqrt{\left(\sigma^2(\hat{\beta}_i)\right)} \qquad (8)$$

- $SE(\hat{\beta}_i)$: Standard error of the coefficient β_i
- $\hat{\beta}_i$: Estimated value of the parameter β_i

The decision rule for rejecting H_0 (null hyphothesis) is:

Reject H_0 if $|W| > Z_{\alpha/2}$(two-tailed test), where $Z_{\alpha/2}$ is the critical value from the standard normal distribution corresponding to the significance level α.

Model Fit Test

This test is conducted to determine whether the logistic regression model generated from multivariate/simultaneous logistic regression is appropriate. The test uses the Hosmer-Lemeshow test statistic with hypotheses (Hosmer et al, 2013):

$H_0: \hat{C} > \chi^2_{(g-2,\alpha)}$

H_1 : there is a significant difference between observed and predicted outcomes

Test Statistic : $\hat{C} = \sum_{k=1}^{g} \frac{(O_k - n_k\overline{\pi}_k)^2}{n_k\overline{\pi}_k(1-\overline{\pi}_k)}$ (9)

where:

O_k : Observed number in group k.

$\overline{\pi}_k$: Estimated average probability $\left(\sum_{j=1}^{c_k} \frac{m_j\hat{\pi}_j}{n_k}\right)$

g : Number of groups (combination of categories in the model)

n_k : Number of observations in group k.

Decision Rule:

Reject H_0 (null hypothesis) if $\hat{C} > \chi^2_{(g-2,\alpha)}$

Model Accuracy Test

In this study, the model Accuracy is evaluated using the Apparent Error rate (APER). APER represents the fraction of observations in the sample that are misclassified by the classification function. The explanation can be seen in Table 2 (Khoitimah & Wulandari, 2014).

Table 2. *Apparent error rate (APER)*

Actual Data	Predicted Data		Total
	Y_1	Y_2	
Y_1	n_{1C}	n_{1M}	n_1
Y_2	n_{2M}	n_{2C}	n_2

Source: Khoitimah and Wulandari (2014)

Based on the table, the APER value is obtained from the equation:

$$APER = \frac{n_{1M}+n_{2M}}{n_1+n_2} \quad (10)$$

3. Results and Discussion

3.1. Descriptive analysis

Overview of Gen Z unemployment in South Sulawesi in 2023 is depicted in Figure 1. According to the results from the August 2023 Sakernas survey, 5.82 percent of Gen Z are unemployed. This indicates that approximately 5 out of 100 Gen Z in working age are unemployed, either not working or actively seeking employment. Meanwhile, 94.18 percent of Gen Z are employed or not in the workforce (such as students, homemakers, retirees, and others).

Figure 2 shows the percentage of unemployment among Gen Z based on individual characteristics and regions, namely gender, household head status, marital status, educational level, and residential area. According to gender, male Gen Z has an unemployment rate of 6.87 percent, while female Gen Z has an unemployment rate of 4.79 percent. In terms of household head status, Gen Z who are not household heads have a higher unemployment rate compared to those who are household heads. Specifically, 5.93 percent of Gen Z who are not household heads

and 2.87 percent of Gen Z who are household heads are unemployed. Based on marital status, the unemployment rate for unmarried Gen Z is 6.50 percent, which is higher than the unemployment rate of 2.03 percent for married Gen Z.

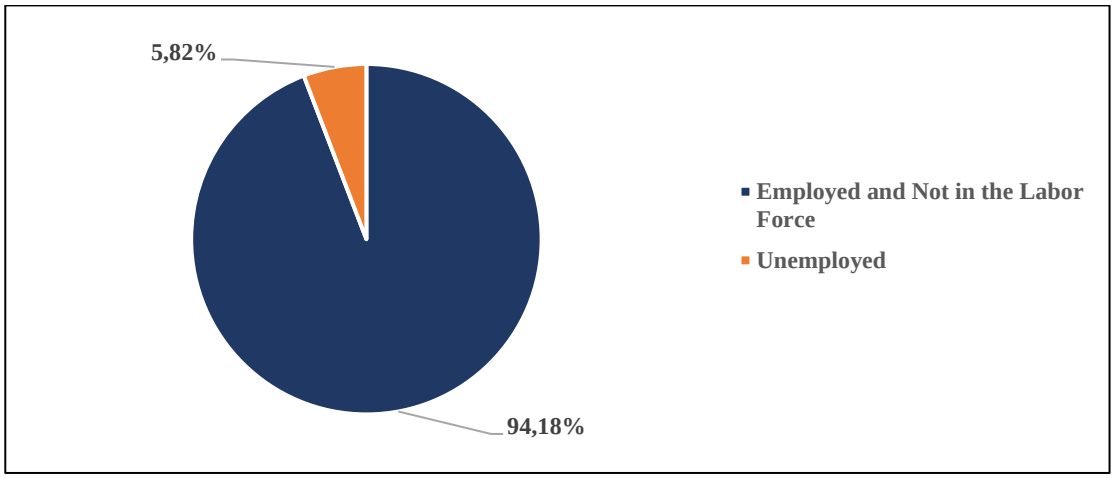

Figure 1. Unemployment Rate of Gen Z in South Sulawesi, Year 2023
Source: Sakernas Agustus 2023, Processed

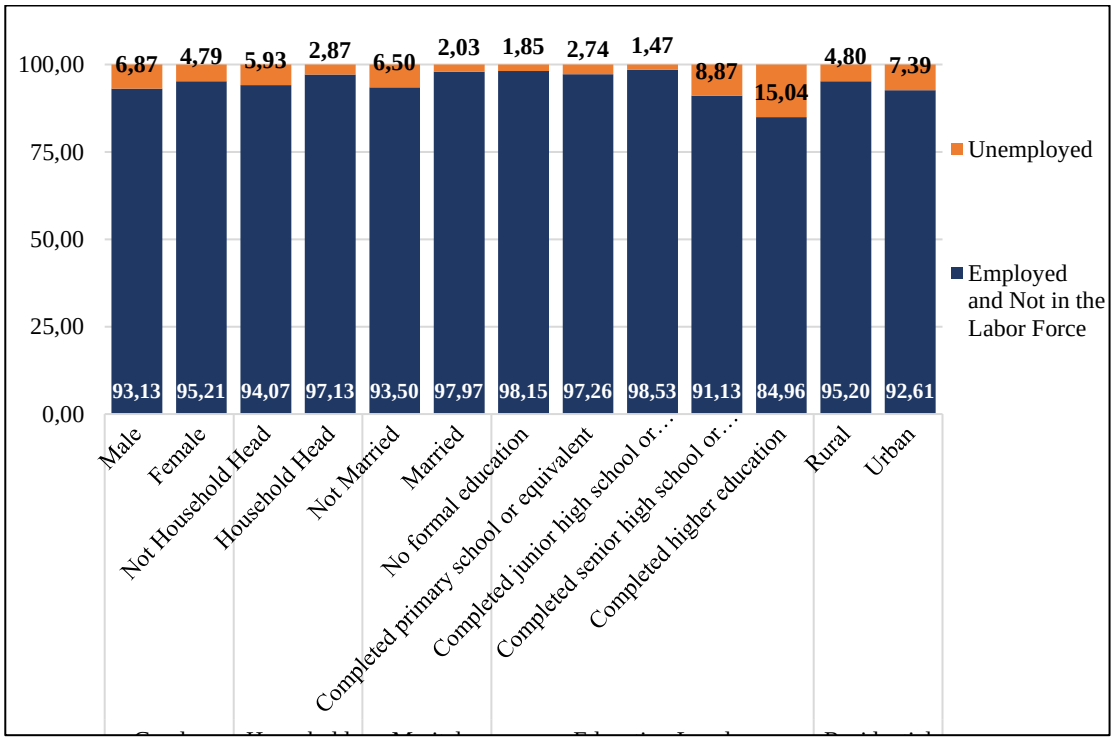

Figure 2. Unemployment Percentage of Gen Z in South Sulawesi by Household Head Status, Marital Status, Education Level, and Region, Year 2023
Source: Sakernas Agustus 2023, Processed

From an educational standpoint, Gen Z graduates with a higher education degree have the highest unemployment rate compared to other educational levels, at 15.04 percent. Furthermore, the unemployment rates for Gen Z graduates with equivalent to senior high school (SMA) and primary school (SD) education are 8.87 percent and 2.74 percent, respectively. Meanwhile, Gen Z graduates with equivalent to junior high school (SMP) education have the lowest unemployment rate at 1.47 percent.

In terms of geographical distribution, the unemployment rate among Gen Z is higher in urban areas compared to rural areas. In urban areas, 7.39 percent of Gen Z are unemployed. On the other hand, Gen Z in rural areas have an unemployment rate of 4.80 percent.

3.2. Logistic Regression Analysis

To analyze the determinants of Gen Z unemployment in South Sulawesi, a binary logistic regression model is employed, considering several predictor variables. These variables include age, gender, marital status, household head status, education level, and residential area. The estimated results of this model can be seen in Table 3. The logistic regression analysis aims to ascertain the significance of each variable's influence on the likelihood of Gen Z unemployment in the South Sulawesi region.

Table 3. Estimation Results of Parameters

Variable	B	*Exp(B)*	*P-Value*	Description
Age	0,020	0,410	0,328	Not Significant
Gender	0,513	1,671	0,000	Significant
Household Size	-0,024	0,976	0,410	Not Significant
Marital Status	-1,172	0,310	0,000	Significant
Household Head Status	-0,891	0,410	0,013	Significant
Education Level				
1 Completed Primary School Equivalent	0,391	1,478	0,397	Not Significant
2 Completed Junior High School Equivalent	-0,285	0,752	0,521	Not Significant
3 Completed Senior High School Equivalent	1,572	4,817	0,000	Significant
4 Completed Higher Education	2,244	9,434	0,000	Significant
Residential Area	0,260	1,297	0,006	Significant
Hosmer-Lemeshow Test (p-value = 0,974)				
Classification Table (Overall Percentage = 94,2)				
Omnibus Tests (*p-value* = 0,000)				

Source: Sakernas Agustus 2023, Processed

The Hosmer-Lemeshow Test results indicate that the model is suitable for explaining the relationship between unemployment and the independent variables. The p-value for the Hosmer-Lemeshow Test is 0.974, which fails to reject Ho. In other words, at a 5% confidence level, there is no significant difference between observed outcomes and the predicted outcomes of the model.

Furthermore, the model evaluation from the classification table shows that the model correctly classifies Gen Z unemployment in South Sulawesi with an accuracy of 94.2%.

The Omnibus Test yields a p-value of 0.000, indicating rejection of Ho. This suggests that at a 5% confidence level, one or more independent variables significantly influence Gen Z unemployment in South Sulawesi. To determine which variables have a significant partial effect on Gen Z unemployment, a Wald Test is conducted.

Based on the Wald Test p-values, the variables gender, marital status, household head status, senior high school education level, higher education level, and residential area have significant effects. Meanwhile, age, household size, primary school education level, and junior high school education level do not significantly influence Gen Z unemployment in South Sulawesi.

For Gen Z in the workforce, males have a positive influence on unemployment in South Sulawesi. Male workers in the Gen Z age group are 1.671 times more likely to be unemployed compared to females. This aligns with The Job Search Theory, which posits that females typically have lower wages due to limited job opportunities, leading them to have shorter job search durations (Sipayung et al., 2022). In 2023, the average hourly wage for male workers in Indonesia was Rp20,125, while for females it was Rp16,779 (BPS, 2023b). The higher wages for males prolong their job search duration, whereas females, with their shorter job search durations, find it easier to secure employment even in low-productivity sectors such as factory labor and home-based work (Apriliansyah et al., 2021).

Marital status negatively influences unemployment among Gen Z in the workforce. The odds ratio indicates that employed individuals who are married are 0.310 times less likely to be unemployed compared to those who are not married. This is consistent with Sinaga (2023) which shows that married youth tend to look for work. Married youth have responsibilities to support their families, thereby motivating them to seek employment (Alawad et al, 2020). Conversely, single youth often rely on their parents and may lack motivation to work.

Regarding household head status, the odds ratio obtained is 0.410. This means that Gen Z who are household heads are 0.410 times less likely to be unemployed compared to those who are not household heads. This finding aligns with research by Prieto et al. (2023), stating that the likelihood of unemployment decreases by 2.3% for youth who are household heads. Household heads bear the responsibility of supporting their entire family financially, whereas non-household heads have no such obligation beyond themselves or are still supported by their household heads (Zainal, 2018). Therefore, non-household heads may lack the drive to work.

Based on education level, Gen Z who have completed senior high school and higher education have a positive influence on unemployment. The odds ratio for completing senior high school is 4.817, indicating that these individuals are 4.817 times more likely to be unemployed compared to those who are not educated or have not completed school. Meanwhile, Gen Z who have completed higher education are 9.434 times more likely to be unemployed compared to those who are not educated or have not completed school. Despite both having a positive impact

on unemployment, the likelihood of unemployment is higher for Gen Z who have completed higher education compared to those who have completed senior high school. Graduates of higher education are considered less attractive to employers both in terms of skills and age due to efficiency roles by technology leading to skills of graduates of higher education and senior high school graduates not too far from each other while still being far away from graduates of higher education from previous generations (Coskun, 2020). In addition, the increasing quality of education and increasing average length of school cause youth to have more specialized skills and higher career expectations so that youth need longer time to find suitable jobs (ADB, 2023).

In terms of residential areas, Gen Z in the workforce who reside in urban areas tend to have a higher tendency for unemployment compared to those in rural areas. The odds ratio for the residential area variable is 1.297, indicating that Gen Z living in urban areas are 1.297 times more likely to be unemployed compared to their counterparts in rural areas. This finding aligns with Yanindah (2021), who states that youth living in urban areas have a higher tendency for unemployment compared to those in rural areas by 1.4%.

4. Conclusion and Recommendations

This study analyzes the determinants of unemployment among Gen Z in South Sulawesi. The findings from binary logistic regression indicate that variables such as gender, household head status, marital status, education level, and residential area significantly influence Gen Z unemployment. Individuals who are married and household heads tend to have a lower likelihood of being unemployed. Conversely, males, those with senior high school education, those with higher education, and those residing in urban areas tend to have a higher likelihood of unemployment.

Based on these conclusions, several policy recommendations are proposed to reduce Gen Z unemployment in South Sulawesi. Firstly, adjusting educational programs to ensure that educated individuals possess competencies suitable for entering the workforce. Secondly, providing training to support the skills development of youth so they can compete effectively in the labor market alongside adult workers.

There are also recommendations for future research due to the limitations of this study. Firstly, future research could categorize formal and informal sector employment to understand the influence of demographic characteristics and regional factors on Gen Z unemployment more comprehensively. Secondly, exploring additional variables that are more specific could further elucidate the impact of education and training on Gen Z unemployment.

References

Achmad, Willya, Nunung Nurwati, Muhammad Fedryansyah, R. Widya Setiabudi Sumadinata and Rd. Siti Sofro Sidiq. (2024). Taking Advantage of Indonesia's Demographic Bonus In

2024: Challenges And Opportunities, *Management Studies and Entrepreneurship Journal*, 5(2), 4425–4434. https://doi.org/10.37385/msej.v5i2.4713

ADB. (2023). *A Closer Look at Causes of Youth Unemployment in the People's Republic of China*. ADB Briefs No. 247. ADB, Manila. Cited in https://www.adb.org/sites/default/files/publication/890896/adb-brief-247-causes-youth-unemployment-prc.pdf [20 Juni 2024]

Aharon, Tidhar. (2021). Generation Z: Characteristics and Challenges to Entering The World of Work. *Cross-Cultural Management Journal*, XXIII(1), 107–115.

Alawad, Akram Sh., Fuad Kreishan, and Mohammad Selim (2020). Determinants of Youth Unemployment: Evidence from Jordan. *International Journal of Economics and Business Administration*, VIII(4), 152–165. http://dx.doi.org/10.35808/ijeba/576

Apriliansyah, Muti Nurjannah Fitri, Sabiq Sofyan, Syifa Rahmawati Hakim and Tiodora Hadumaon Siagian. (2021). Penerapan Regresi Logistik Dalam Menentukan Determinan Pengangguran Usia Muda Terdidik di Provinsi Banten. *Jurnal Matematika dan Statistika serta Aplikasinya*, 9(2), 59–67. https://doi.org/10.24252/msa.v9i2.21370

Borucka, A. (2020). Logistic regression in modeling and assessment of transport services. *Open Eng*, 10(1), 26–34. https://doi.org/10.1515/eng-2020-0029

BPS. (2023). *Bonus Demografi dan Visi Indonesia Emas 2045*. DATAin Edisi 2023.01-2. BPS, Jakarta. Cited in https://bigdata.bps.go.id/documents/datain/2023_01_2_Bonus_Demografi_dan_Visi_Indonesia%20Emas_2045.pdf, [15 Juni 2024]

BPS. (2023a). *Statistik Pemuda Indonesia 2023*. Volume 21, 2021. BPS, Jakarta. Cited in https://www.bps.go.id/id/publication/2023/12/29/18781f394974f2cae5241318/statistik-pemuda-indonesia-2023.html, [15 Juni 2024]

BPS. (2023b). *Tabel Upah Laki-Laki Perempuan BPS*. Tabel Dinamis. BPS, Jakarta. Cited in https://www.bps.go.id/id/statistics-table/2/MTE3NCMy/upah-rata---rata-per-jam-pekerja-menurut-jenis-kelamin--rupiah-jam-.html [15 Juni 2024]

BPS. (2022). *Analisis Profil Penduduk Indonesia*. BPS, Jakarta. Cited in https://www.bps.go.id/id/publication/2022/06/24/ea52f6a38d3913a5bc557c5f/analisis-profil-penduduk-indonesia.html [15 Juni 2024]

BPS. (2021). *Potret Sensus Penduduk 2020*. BPS, Jakarta. Cited in https://www.bps.go.id/id/publication/2021/01/21/213995c881428fef20a18226/potret-sensus-penduduk-2020-menuju-satu-data-kependudukan-indonesia.html [15 Juni 2024]

BPS. (2021a). *Berita Resmi Statistik Hasil Sensus Penduduk 2020 Provinsi Sulawesi Selatan*. BPS, Makassar. Cited in https://sulsel.bps.go.id/pressrelease/2021/01/22/564/berita-resmi-hasil-sensus-penduduk-2020-provinsi-sulawesi-selatan.html [15 Juni 2024]

Coskun, Sena. (2020). *Young, Educated, Unemployed*. Universitat Bonn, Bonn. Cited in https://www.wiwi.uni-bonn.de/bgsepapers/boncrc/CRCTR224_2020_134v2.pdf [18 Juni 2024]

DPD-RI. (2024). *Bonus Demografi Indonesia: Gen Z Terancam Pengangguran*. Senator: Majalah Dewan Perwakilan Daerah Republik Indonesia Edisi 1-15 Juni 2024. DPD-RI, Jakarta. Cited in https://www.dpd.go.id/daftar-majalah-kegiatan/11-edisi-1-15-juni-2024-bonus-demografi-indonesia-gen-z-terancam-pengangguran# [15 Juni 2024]

Haq, R. L. A., & Noorrizki, R. D. (2022). Perilaku Preferensi Menjadi Pengangguran oleh Milenial dan Gen Z dalam Karir Dan Pekerjaan. *Flourishing Journal*, *2*(5), 384-391. http://dx.doi.org/10.17977/um070v2i52022p384-391

Hosmer, David W., Stanley Lemeshow and Rodney X. Sturdivant. (2013). *Applied Logistic Regression 3rd Edition*. John Wiley & Sons, Inc.

ILO. (2022). *Global Employment Trends for Youth 2022*. ILO, Geneva. Cited in https://www.ilo.org/publications/major-publications/global-employment-trends-youth-2022-investing-transforming-futures-young [15 Juni 2024]

ILO. (2022a). *Global Employment Trends for Youth 2022: Asia and the Pacific*. ILO, Geneva. Cited in https://www.ilo.org/resource/brief/global-employment-trends-youth-2022-asia-and-pacific [15 Juni 2024]

Khoitimah, K.M. & P.S. Wulandari. (2014). Model Regresi Logistik Biner Stratifikasi Pada Partisipasi Ekonomi Perempuan Di Provinsi Jawa Timur. *J. SAINS DAN SENI POMITS*, 3(1), 2337 – 3520. http://dx.doi.org/10.12962/j23373520.v3i1.6096

Pamungkas. (2017). *Metode regresi logistik biner pada faktor yang mempengaruhi kesembuhan pasien penderita demam berdarah dengue di RSUD Dr. Iskak Kabupaten Tulungagung*. Cited in : http://repository.its.ac.id/42259/1/1314030088-Non_Degree.pdf [20 Juni 2024]

Prieto, Ana Belen Tulcanaza, Paul Alejandro Baez Salazar and Iliana E. Aguilar-Rodriguez. (2023). Determinants of Youth Unemployment in Ecuador in 2019. *Economies 2023*, 11(2), 59. http://dx.doi.org/10.3390/economies11020059

Ramadhani, A., & Ayu, D. N. (2022). Gambaran makna kerja bagi generasi z di Jakarta. *INQUIRY Jurnal Ilmiah Psikologi*, *13*(1), 41-60. https://doi.org/10.51353/inquiry.v13i01.596

Sinaga, Feisal. (2023). Modal Manusia dan Transisi Pemuda Fresh Graduates ke Sektor Digital di Masa Pandemi COVID-19. *Jurnal Ketenagakerjaan*, 18(1), 14–3 1. https://doi.org/10.47198/jnaker.v18i1.190

Sipayung, Febrim Leksiando, Andy Fefta Wijaya, Fadillah Putra and Natsumi Aratame. (2022). Analyzing the Characteristics of Highly Educated Unemployment in Indonesia's Capital City. *Jurnal Ekonomi dan Studi Pembangunan*, 14(2), 153–170. http://dx.doi.org/10.17977/um002v14i22022p153

Tamirat, Negese. (2023). Determinants of youth unemployment in Southern Ethiopia: Evidence from Duna District, Ethiopia. *International Journal of Financial, Accounting, and Management*, 4(4), 509–520. https://doi.org/10.35912/ijfam.v4i4.1185

Tampil, Y.A., H. Komalig and Y. Langi. (2017). Analisis Regresi Logistik Untuk Menentukan Faktor-Faktor Yang Mempengaruhi Indeks Prestasi Kumulatif (IPK) Mahasiswa FMIPA Universitas Sam Ratulangi Manado. *d'CARTESIAN*, 6(2), 57 – 62. https://doi.org/10.35799/dc.6.2.2017.17023

Tesyafe, Denano, Sibera Sintayehu, Asfaw Netsanet and Anjulo Eyasu. (2023). Youth unemployment and its determinants in Ethiopia. *International Journal of Environmental Quality*, 55(2023), 23–32. https://doi.org/10.6092/issn.2281-4485/16710

Umar, Muhammad Agus. (2017). Bonus Demografi Sebagai Peluang dan Tantangan Pengelolaan Sumber Daya Alam di Era Otonomi Daerah. *Genta Mulia*, VIII (2), 90–99.

Yanindah, A. (2021). An Insight into Youth Unemployment in Indonesia. *Proceedings of The 1st International Conference on Data Science and Official Statistics*. Politeknik Statistika STIS. Jakarta. https://doi.org/10.34123/icdsos.v2021i1

Zainal, Muhammad Fahd. (2018). The Effect of Economic and Demographic Characteristics on Unemployment in South Sulawesi. *Jurnal Ilmiah Mahasiswa FEB Universitas Brawijaya*, 7(1), 1–13.