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DETERMINANTS OF EDUCATED UNEMPLOYMENT IN INDONESIA: A COMPREHENSIVE LOGISTIC REGRESSION ANALYSIS

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ABSTRACT

Indonesia faces a fairly serious problem of educated unemployment amid the potential for a demographic dividend. In 2021, the educated unemployment rate reached a percentage of 8.55%, representing an increase of 1.86% compared to the previous year. Using logistic regression estimates, this study aims to examine the characteristics underlying the phenomenon of educated unemployment in Indonesia. The data used in this study were sourced from the 2022 National Labor Force Survey (Sakernas) conducted by the Indonesian Bureau of Statistics (BPS). The findings reveal that gender, marital status, household status, and migration significantly influence the likelihood of being part of the educated unemployed. Specifically, highly educated female workers are 1.9 times more likely to be unemployed compared to their male counterparts. This study highlights the persistence of gender disparities in Indonesia's labor market, even when women possess educational qualifications equivalent to men. Furthermore, this study has important implications for public policy and the Indonesian labor market. First, findings on the gender gap point to the need for policies that support equality in access to work, especially for women with higher education. Second, the influence of household status and migration indicates the need for more flexible skills training and workforce mobility programs. Third, these results can be the basis for the government in formulating education policies that are more in line with the needs of the job market. Overall, this study provides insights to reduce educated unemployment and make optimal use of the potential demographic bonus.

Keywords : *Educated Unemployment, Gender, Marital Status, Household Status, Migration*

ABSTRAK

Indonesia menghadapi masalah pengangguran terdidik yang cukup serius di tengah potensi bonus demografi. Pada tahun 2021, tingkat pengangguran terdidik mencapai persentase 8,55%, yang merupakan peningkatan sebesar 1,86% dibandingkan dengan tahun sebelumnya. Dengan menggunakan estimasi regresi logistik, penelitian ini bertujuan untuk mengkaji karakteristik yang mendasari fenomena pengangguran terdidik di Indonesia. Data yang digunakan dalam penelitian ini bersumber dari Survei Angkatan Kerja Nasional (Sakernas) 2022 yang dilakukan oleh Badan Pusat Statistik (BPS) Indonesia. Hasil penelitian ini menunjukkan bahwa jenis kelamin, status pernikahan, status rumah tangga, dan migrasi secara signifikan mempengaruhi kemungkinan menjadi bagian dari pengangguran terdidik. Secara khusus, pekerja wanita dengan tingkat pendidikan tinggi memiliki memiliki peluang menganggur lebih tinggi sebesar 1,9 kali dibandingkan laki-laki. Penelitian ini menyoroti keberlanjutan kesenjangan gender di pasar tenaga kerja Indonesia, meskipun perempuan memiliki kualifikasi pendidikan yang setara dengan laki-laki. Selanjutnya, penelitian ini memiliki implikasi penting untuk kebijakan publik dan pasar tenaga kerja Indonesia. Pertama, temuan mengenai kesenjangan gender

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menunjukkan perlunya kebijakan yang mendukung kesetaraan dalam akses pekerjaan, khususnya bagi perempuan dengan pendidikan tinggi. Kedua, pengaruh status rumah tangga dan migrasi mengindikasikan perlunya program pelatihan keterampilan dan mobilitas tenaga kerja yang lebih fleksibel. Ketiga, hasil ini dapat menjadi dasar bagi pemerintah dalam merumuskan kebijakan pendidikan yang lebih sesuai dengan kebutuhan pasar kerja. Secara keseluruhan, penelitian ini memberikan wawasan untuk mengurangi pengangguran terdidik dan memanfaatkan potensi bonus demografi secara optimal.

Kata kunci: *Pengangguran Terdidik, Gender, Status Pernikahan, Status Rumah Tangga, Migrasi*

INTRODUCTION

The issue of unemployment in Indonesia warrants significant research due to two fundamental reasons. First, the unemployment rate continues to rise at a pace that exceeds economic growth, with labor absorption rates varying across regions and levels of educational attainment. Second, Indonesia is currently experiencing a demographic dividend, characterized by a larger proportion of the population in productive age groups compared to unproductive ones. However, this opportunity has not been fully optimized to mitigate household-level income inequality (Sipayung et al., 2022). According to data from the Central Statistics Agency (BPS) in 2022, Indonesia's total labor force reached 143.72 million, with an open unemployment rate (TPT) of 5.86%, equivalent to approximately 8.42 million individuals (BPS, 2023). In response to unemployment challenges, the Indonesian government has undertaken various initiatives since 2009, including the allocation of mandatory spending amounting to 20% of the state budget to promote growth in the education sector, particularly higher education.

Although the government has demonstrated its commitment to enhancing the quality of the labor market, research by Digdowiseiso (2020) suggests that increasing government expenditure on education alone is insufficient to achieve meaningful improvements. Effective reform requires simultaneous advancements in quality assurance, equitable access to education, institutional capacity, and enrollment rates. Furthermore, the government must address broader economic growth and the establishment of minimum wage policies, which have significantly influenced the rate of educated unemployment over the past decade. Meanwhile, Pasay and Indrayanti (2012) argue that this issue not only reduces overall productivity and consumption but also contributes to various social challenges, including the persistent problem of educated unemployment.

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In developing countries, particularly Indonesia, educated unemployment is largely a consequence of an imbalance in labor supply factors (Bloom dan Finlay, 2009). The labor supply theory is a fundamental framework within labor economics, however, there remains a scarcity of studies analyzing unemployment in Indonesia from this perspective. Additionally, the misalignment between educational development planning and workforce development further contributes to the persistence of unemployment.

According to a report by the United Nations Development Programme (UNDP), a distinct pattern in unemployment trends within developing countries indicates that the unemployment rate is disproportionately higher among individuals with higher education (Cerya dan Sari, 2018). Research by Hidayah and Hakim (2019) further highlights that the largest contributors to the open unemployment rate are individuals who have completed high school (SMA) and higher education. This suggests that the labor market has not been able to accommodate the demand for skilled employment in proportion to the number of high school and university graduates. Additionally, Allen (2016) found that one-third of the unemployed population experiences prolonged entry into the labor market, with many waiting up to a year to secure employment, particularly in the formal sector.

According to the human capital theory developed by Becker (2019), individuals invest their financial resources and early years in education as a form of self-investment aimed at improving their quality and future prospects. This concept, widely known as human capital, represents an independent investment intended to yield higher returns in the labor market. Higher education, in particular, serves as a crucial investment that allows individuals to enhance their skills and assess the quality of human resources. From this perspective, the issue of educated unemployment can be viewed as both a lost investment for individuals and a missed opportunity for national economic growth. Prolonged educated unemployment further suggests inefficiencies in government policies, particularly in aligning job creation initiatives with higher education programs designed to develop a workforce with specialized skills and competencies.

The ineffectiveness of this policy is evident in the role of higher education institutions in Indonesia, the majority of which focus on producing job seekers rather than job creators (Syoer, 2022). Furthermore, research by Jaya (2016) emphasizes the importance of non-

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academic skills, which higher education institutions have not adequately integrated into their curricula. As a result, graduates often face difficulties in securing employment. From a different perspective, Tobing (2005) and Sumarsono (2003) argue that educated unemployed individuals tend to prefer formal employment with desirable working conditions, including placement in reputable organizations, access to various benefits, and immediate high salaries. These expectations serve as a benchmark for educated job seekers, making it challenging for them to accept the reality that job availability does not align proportionally with the number of graduates entering the labor market.

Educated unemployment can also be analyzed from the perspective of job seekers' expectations and job availability. According to Becker's (2019) job search theory, the wage expectations of job seekers significantly influence their reservation wages. Given their investment in human capital, highly educated job seekers generally have higher reservation wage thresholds compared to those with lower levels of education. Reservation wages, in turn, vary based on several characteristics of highly educated job seekers, including age, gender, marital status, and household head status (Mada dan Ashar, 2015; Maryati, 2015; Pratomo, 2017). These factors play a crucial role in determining whether highly educated job seekers remain unemployed or successfully enter the labor market.

The persistence of educated unemployment is believed to have long-term economic implications (Hidayah dan Hakim, 2019). Therefore, strategic efforts are necessary to reduce the number of educated unemployed individuals. The prolonged nature of this phenomenon presents a significant challenge, given its substantial impact on the real economy, overall societal welfare, and policymaking. Additionally, educated unemployment is closely linked to the underutilization of human capital in the labor market. Several factors contribute to the prevalence of educated unemployment in Indonesia, stemming from both labor demand and supply dynamics. These include labor absorption in the industrial and service sectors, minimum wage policies, and individual characteristics such as age, marital status, and socioeconomic background (Mada dan Ashar, 2015; Maryati, 2015; Pratomo, 2017).

This study investigates the underlying characteristics that contribute to educated unemployment by applying a statistically robust methodology, specifically logistic

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regression. The primary objective is to identify variables that exhibit a significant correlation with educated unemployment. Additionally, the 2022 Sakernas dataset was selected as a crucial reference point for analyzing labor market responses to structural changes, including the potential demographic dividend and the economic transformation accelerated by the COVID-19 pandemic. These factors make the 2022 Sakernas dataset an optimal resource for examining the phenomenon of educated unemployment in Indonesia.

LITERATURE REVIEW

Labor absorption and unemployment are two closely interconnected aspects of the economy. Labor absorption reflects the capacity of an economic sector to employ individuals in available jobs, which is influenced by labor demand and its contribution to national income growth (Ganie, 2017). However, disparities in labor absorption across sectors can impact the distribution of employment opportunities and overall economic productivity. The inability of certain sectors to generate sufficient employment opportunities often contributes to rising unemployment rates, particularly open unemployment, which occurs when the supply of labor exceeds the capacity of the labor market (Fahri et al., 2020).

Furthermore, factors such as declines in economic activity, technological advancements that reduce labor demand, and stagnation in industrial development further exacerbate unemployment, thereby limiting the economy’s capacity to optimally absorb labor (Rahmita et al., 2022). Theoretically, this phenomenon can be explained through the human capital theory developed by Becker (1975), which defines human capital as the skills, knowledge, and competencies acquired by individuals through investments in education, training, and health. In the context of education, academic attainment alone does not necessarily guarantee an individual's success in the labor market without the support of other contributing factors mentioned earlier.

In developing countries, unemployment is closely linked to education, as higher levels of educational attainment generally correlate with a lower likelihood of unemployment (Adyaksa, 2020). Additionally, job opportunities tend to align with the availability of labor based on education levels. Research by Tobing (2005) defines educated unemployment as individuals who have completed a university education and are actively seeking

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employment. The limited availability of jobs for the educated workforce further exacerbates unemployment, posing a significant challenge to economic growth. Veronika and Mafruhat (2022) describe this phenomenon as a waste of educational resources and a contributing factor to the erosion of public trust in educational institutions. The underlying issue is that educated unemployment can lead to a decline in overall productivity, as the labor market fails to capitalize on the skills and knowledge of educated individuals, thereby hindering the economic development process.

From a theoretical perspective, unemployment in the labor market can be explained within the framework of individual labor supply in labor economics. This analysis was developed by Stigler (1961) and later expanded by three Nobel Prize-winning economists Diamond (1982), Mortensen (1986), and Pissarides (2000) who introduced the job search theory as a key explanatory model. Educated unemployment refers to individuals who have attained at least a higher education degree, are actively seeking employment, but have not yet secured a job (Anjarwati dan Juliprijanto, 2021; Mankiw, 2017; Rosalinda et al., 2023; Syoer, 2022; Setyanti dan Finuliyah, 2022; Sipayung et al., 2022; Susanto dan Siswanto, 2022). The rise in educated unemployment is influenced by multiple factors. From the supply-side perspective, key determinants include age, gender, marital status, employment type (formal or informal), participation in training programs, geographical location (rural or urban), and migration status ((Setyanti dan Finuliyah, 2022)..

According to Foley (1997), unemployment is influenced by an individual's marital status, with married workers being more likely to experience unemployment compared to their unmarried counterparts. Additionally, Foley found that married women tend to face longer periods of unemployment than married men. Residence-related factors, such as migration status, also play a crucial role in determining employment outcomes. Baah-Boateng (2016) emphasized that an individual's likelihood of being unemployed is significantly influenced by their place of residence. Specifically, workers residing in urban areas face a higher risk of unemployment compared to those in rural areas (Adu dan Marbuah, 2011).

Since unemployment is influenced by educational attainment, particularly the level of formal education required to enhance individual performance, education is regarded as an investment in human capital within the industrial sector (Psacharopoulos dan Woodhall,

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1985). Numerous studies have demonstrated that education levels significantly impact unemployment rates. In other words, higher levels of education are generally associated with a lower likelihood of unemployment.

RESEARCH METHOD

This study employs a descriptive analysis technique using cross-tabulation. Descriptive statistical analysis is applied to examine data by summarizing and presenting the collected information (Ghozali, 2019). Meanwhile, cross-tabulation analysis is utilized to determine the frequency and proportion of variables descriptively, facilitating a clearer understanding of their meaning. Additionally, this study employs logistic regression analysis, as it aligns with the research objective of examining whether individuals with higher education levels are more likely to experience unemployment. Logistic regression analysis is used to describe the relationship between the dependent variable, represented as binary data, and independent variables, which include both interval and categorical data.

Binary variables consist of only two categories: one representing a successful event (Y=1) and the other representing a failed event (Y=0). Several independent variables in this study are also binary, except for age, as outlined in the description of research variables. The primary reason for selecting logistic regression as an appropriate analytical method for the 2022 Sakernas data is that this model does not require assumptions of normality, linearity, or homoscedasticity (Fávero dan Belfiore, 2019). In logistic regression, the explanatory variable is assumed to follow a Bernoulli distribution. The basic logistic regression model, with ppp as the explanatory variable, is formulated as follows:

$$\pi(x_i) = \frac{exp(\sum_{j=0}^{p} \beta_j X_{ij})}{1 + exp(\sum_{j=0}^{p} \beta_j X_{ij})}$$

Where $\pi(x_i)$ is the (i) possibility of observation being included in the category that is considered successful. This is the expected value of the random variable Y_i is the value of the parameter which is estimated using the Maximum Likelihood Estimate (MLE) method.

The objective of logistic regression is to develop a model that explains the relationship between independent and dependent variables. When applying this regression, one category of the dependent variable is selected as the reference category. Odds ratios are

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calculated for all independent variables concerning each category of the dependent variable, except for the reference category. By examining the Model Coefficient Omnibus Test table, if the significance value of the model in the final stage is less than α, the null hypothesis is rejected. Subsequently, a partial test is conducted to identify significant variables, which are then incorporated into the final model.

This study examines both the main effects and interactions within the logistic regression model. Interactions refer to synergistic or multiplicative effects that are tested by incorporating product variables, indicating a non-additive influence that extends beyond the linear effects of the independent and dependent variables included in the model. The regression coefficient for a product term quantifies the degree of interaction between two variables. The model used in this analysis investigates the factors influencing the likelihood of highly educated individuals becoming unemployed, expressed as follows:

$$y = f(x_{1,}x_{2,}x_{3,}x_{4,}x_{5,})$$

While multiple logistic regression with interaction effect models can be written with the following equation:

$$\hat{y} = \hat{\beta}_0 + \hat{\beta}_1 age_1 + \hat{\beta}_2 gender_2 + \hat{\beta}_3 maritalstatus_3 + \hat{\beta}_4 householdstatus_4 + \hat{\beta}_5 training_5 + \hat{\beta}_6 migration_6 + \varepsilon$$

Tabel 1. Variables Operational Definition

Variable	Definition	Unit	Value/Notes
Dependent Variables			
Unemployed Educated	Unemployment status held by individuals who have completed higher education D-III to S3.	Dummy	1=College graduates from D-III to S3 are unemployed 0=College graduates from D-III to S3 are not unemployed
Independent Variables			
Age	Age range	Skala	Individual age ratio
Gender	Individual gender	Dummy	1=Female 0=Male

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Variable	Definition	Unit	Value/Notes
Marital Status	Individual marital status	Dummy	1=Married 0=No/Unmarried
Household Status	Individual status in the household	Dummy	1=Head of Household 0=Not Head of Household
Training	Status of whether the individual has received training or not	Dummy	1=Yes 0=No
Migration	The status of the individual's residence, whether it is still the same as his place of birth or not	Dummy	1=Migrated 0=Not Migrated

Source : Sakernas Data 2022 (Processed)

Odds ratios are used extensively to explain variable relationships rather than regression coefficients. Odds ratios can explain the effect of changes in the value of an explanatory variable on the chances or observations to experience a category of success.

EMPIRICAL RESULTS

According to the Central Statistics Agency report (BPS, 2023), the Labor Force Participation Rate (TPAK) represents the proportion of the working-age population (15 years and older) who are either employed or actively seeking employment. Individuals who are not part of the labor force include those still attending school, engaged in household responsibilities, or involved in non-economic activities. Economically active individuals comprise those who are employed, have a job but are temporarily unemployed, or are completely unemployed (Abrar et al., 2019). Based on Sakernas data from the 2017–2022 period, the average TPAK was 67.61%, with the highest recorded in 2022 at 68.63% and the lowest in 2017 at 66.67%. The consistent upward trend in TPAK indicates an expanding economically active population, which directly contributes to improvements in overall societal welfare. According to research by Mala et al. (2017), several factors influence TPAK beyond population size, including education, gender, age, and household status. For instance, wage growth data from various countries, particularly developed and developing economies, reveal a strong correlation between higher wages and increased productivity. Several key factors contribute to productivity growth, including

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advancements in production technology, improvements in labor characteristics, and the enhancement of company and regional organizational structures (Sukirno, 2011).

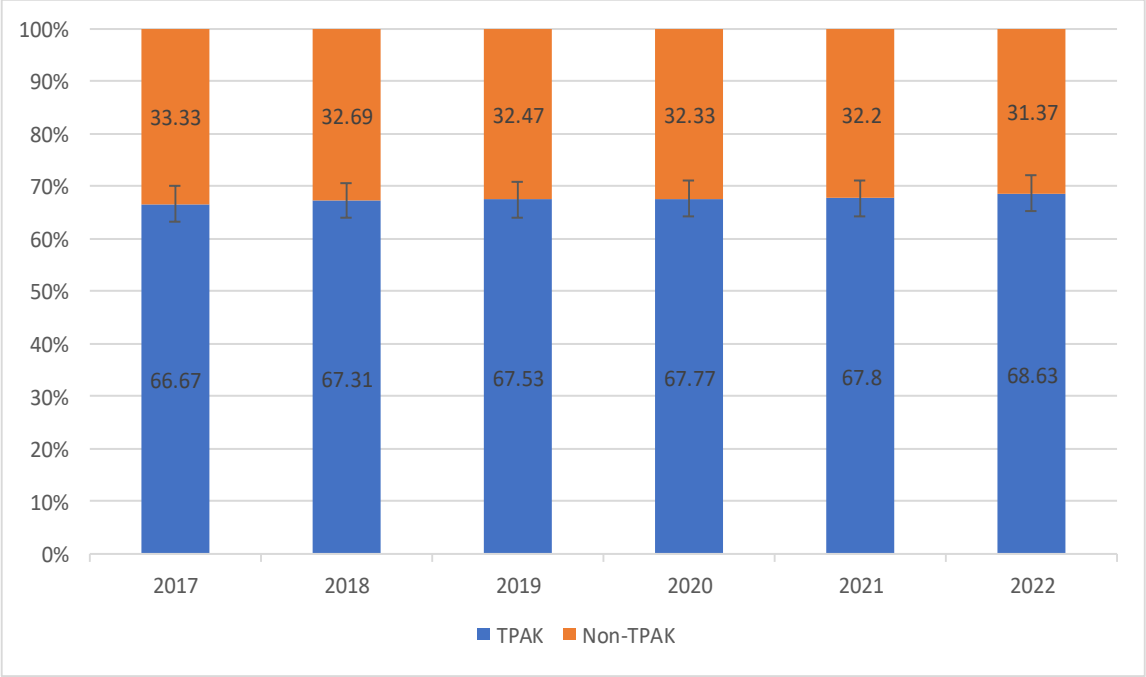

Figure 1. Labor Force Participation Rate (TPAK) from 2017-2022.
Source: Sakernas Data in 2022 (Processed)

Furthermore, Table 2 presents data on labor absorption in 2022 based on education level and employment sector. In terms of sectoral distribution, the education services sector emerged as the primary employment destination for university graduates, with a workforce of 4.8 million people in 2022. Meanwhile, the wholesale and retail trade sector ranked second, employing approximately 2.2 million university graduates. The government, defense, and compulsory social security administration sector followed in third place, absorbing 2.1 million individuals.

The tertiary sector has the highest employment rate for university graduates, accounting for more than 85% of this workforce, while the remaining 15% is distributed across the primary and secondary sectors. In contrast, individuals who did not attend school or did not complete primary education have the lowest representation in the tertiary sector, with only 25% of the workforce belonging to this group. This trend is supported by research conducted by Feng et al. (2017) and Sipayung et al. (2022), which found that individuals with lower levels of education are more likely to be employed in the primary and secondary sectors.

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Given that the tertiary sector plays a critical role in economic growth and labor absorption, this pattern highlights Indonesia's increasing demand for a highly educated workforce. Meanwhile, the secondary sector exhibits a different employment distribution compared to the tertiary sector. Therefore, fostering the growth of the tertiary sector is considered one of the most effective strategies for strengthening Indonesia's economy.

Table 2. Number of Workers Based on Education Level and Sector in August 2022.

No.	Employment Sector	No School	Primary school	Junior High School (SMP)	Senior High School (SMA)	College
	Primary Sector					
1	Agriculture, Forestry, and Fisheries	10.650.424	14.995.306	6.541.946	5.879.922	636.398
2	Mining and Quarrying	183.411	423.249	285.326	505.829	132.342
	Secondary Sector					
3	Processing Industry	1.731.249	4.445.062	3.992.386	7.825.416	1.178.284
4	Electricity and Gas Procurement	3.777	15.312	37.218	169.333	85.484
5	Water Procurement, Waste Management, Waste, and Recycling	101.711	152.893	91.961	130.989	33.596
6	Construction	789.744	2.857.768	2.217.009	2.220.539	396.289
	Tertiary Sector					
7	Wholesale and Retail Trade	2.629.834	5.919.960	4.923.785	10.487.169	2.233.142
8	Transportation and Warehousing	296.966	1.017.821	1.132.151	2.830.364	528.006
9	Provision of Accommodation and Meals	867.028	2.254.588	2.114.494	3.764.671	606.928
10	Information and Communication	4.405	36.389	79.600	492.731	395.966
11	Financial Services and Insurance	2.676	16.331	57.847	703.354	846.252
12	Real Estate	24.604	70.775	55.683	197.584	101.361

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No.	Employment Sector	No School	Primary school	Junior High School (SMP)	Senior High School (SMA)	College
13	Corporate Services	77.597	229.692	250.935	1.035.904	643.584
14	Government, Defense, and Compulsory Social Security Administration	9.831	117.592	156.736	2.443.006	2.148.834
15	Educational Services	24.559	126.166	235.386	1.319.925	4.806.213
16	Health Services and Social Activities	54.986	77.816	152.623	451.738	1.496.990
17	Other Services	699.239	1.585.854	1.399.554	1.947.397	401.918
	Number of Workers	18.152.041	34.342.574	23.724.640	42.405.871	16.671.587

Source: Central Statistics Agency (2023)

Table 3 indicates that the open unemployment rate for men and women remained relatively consistent between 2017 and 2022, with an average of 6.04% for men and 5.7% for women. This suggests that, in numerical terms, men and women are considered relatively equal in labor market participation, aligning with findings from Klein (2015). However, male unemployment continues to exceed female unemployment. The highest open unemployment rate was recorded in 2020, coinciding with the initial outbreak of the COVID-19 pandemic, which caused a significant disruption in the labor market. Following 2020, the unemployment rate gradually declined, improving by 1.53 percentage points over the subsequent two years.

Table 3. Open Unemployment Rate Based on Gender in Indonesia.

Gender	Open Unemployment Rate By Gender					
	2022	**2021**	**2020**	**2019**	**2018**	**2017**
Male	5,93	6,74	7,46	5,24	5,34	5,53
Female	5,75	6,11	6,46	5,22	5,25	5,44
Total	11,68	12,85	13,92	10,46	10,59	10,97

Source: Central Statistics Agency (2023)

Table 4 presents data on unemployment rates based on area of residence. In general,

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individuals living in urban areas are more vulnerable to unemployment than those residing in rural areas. From 2017 to 2022, the unemployment rate in urban areas consistently remained higher than in rural areas. The highest open unemployment rate was recorded in 2020, reaching 8.98% in urban areas—approximately 4.27 percentage points higher than the rural unemployment rate of 4.71%. By 2022, the open unemployment rate in both urban and rural areas had steadily declined to 7.74% and 3.43%, respectively. This downward trend suggests that the fluctuations in unemployment were partly influenced by broader economic conditions. Specifically, the economic recovery in 2022, following the COVID-19 pandemic, contributed to a gradual decline in open unemployment across both urban and rural areas (Sipayung et al., 2022).

Table 4. Open Unemployment Rate by Region of Residence

Residential Area	Open Unemployment Rate by Region of Residence					
	2022	**2021**	**2020**	**2019**	**2018**	**2017**
Urban	7,74	8,32	8,98	6,29	6,44	6,79
Rural	3,43	4,17	4,71	3,92	3,97	4,01
Total	11,68	12,85	13,92	10,46	10,59	10,97

Source: Central Statistics Agency (2023)

DISCUSSION

The estimation results from logistic regression, as presented in Table 5, indicate that gender and migration status have a significant effect on the likelihood of an individual becoming educated unemployed. Conversely, marital status and household head status exhibit a significant negative effect on the probability of an educated workforce experiencing unemployment. In this logistic regression model, the Pseudo R^2 value is 12.74%, which is characteristic of logistic regression, as estimates often yield relatively low values. This occurs due to the limited variation in the dependent variable, which is a dummy variable with binary values (0 and 1).

Tabel 5. Hasil Estimasi Regresi Logistik

Dependent variable: Educated Unemployment				
Variable	**Coefficient**	**Odds Ratio**	**Std. Error**	**P-value**
Age	-.0001	1.000	.0001	0.794
Gender	.1434	1.949	.0119	0.000
Marital Status	-.1655	.4601	.0025	0.000

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Dependent variable: Educated Unemployment				
Variable	**Coefficient**	**Odds Ratio**	**Std. Error**	**P-value**
Household Status	-.2558	.3151	.0022	0.000
Training	-.0068	.9702	.0156	0.060
Migration	.0683	1.395	.0089	0.000
Cons	.5880	1.420	.0101	0.000
Pseudo R2/R2	0.1650	0.1274	-	-
Prob > chi2	0.0000	-	-	-

Source: 2022 National Labor Force Survey (Sakernas) Data (Processed).

The odds ratio analysis in this study further corroborates the findings of Setyanti and Finuliyah (2022), which indicate that the educated unemployed workforce is predominantly composed of women. This phenomenon is largely influenced by gender disparities and socio-cultural constraints within Indonesia's heterogeneous labor market. Moreover, the results of this study align with the educated unemployment discourse proposed by Moesis (1992) in job search theory, which asserts that individuals with higher education levels in Indonesia face a greater likelihood of unemployment. Several factors contribute to the educated unemployment rate, including gender, age, and marital status (Muhson et al., 2012).

Variables with significant positive values, such as gender and migration status, indicate a higher likelihood of an educated workforce experiencing unemployment. The gender variable reveals that women in the labor force are 1.949 times more likely to become educated unemployed compared to men, nearly doubling their risk. These findings align with previous research by Feng et al. (2017), Marchang (2019), Mohanty (2021), and Ritonga (2018), which identifies gender as a key factor contributing to disparities in educated unemployment, disproportionately affecting women. This disparity is largely driven by persistent stereotypes, which suggest that men possess greater physical strength, resilience under pressure, and more stable emotions, making them more desirable in the workforce. Such stereotypes not only affect educated unemployment rates but also extend to unemployment trends in general. One of the most effective ways to challenge and dismantle these stereotypes is through increased awareness, knowledge, and education (Mohanty, 2021; Ritonga, 2018).

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The migration variable indicates that individuals in the labor force who migrate or reside in a different province from their place of birth are 1.395 times more likely to become educated unemployed compared to those who do not migrate. The higher incidence of educated unemployment among migrants suggests that they often encounter various challenges, including cultural adaptation difficulties, limited social networks, and a lack of recognition for their qualifications in the destination area. However, migration is also commonly driven by job-seeking motives, which explains why many educated workers prefer urban areas as their primary destination for migration (Pratomo, 2017).

Meanwhile, the marital status variable indicates that the likelihood of educated unemployed individuals who are married is 0.4601 times lower than that of their unmarried counterparts. This finding suggests that married individuals tend to feel a greater economic responsibility, motivating them to be more proactive in securing employment, even if it means accepting jobs with lower wages. The utility value in considering employment acceptance also depends on the prevailing conditions within the household (Syoer, 2022).

Furthermore, the household status variable reveals that the likelihood of educated unemployment among female heads of households is 0.3151 times lower than that of male heads of households. These findings differ from those of Syoer (2022), who argued that wives within households are more susceptible to unemployment. The discrepancy between these findings can be attributed to differences in variable selection and sampling methods. Syoer (2022) analyzed household members at the provincial level, which may not provide a comprehensive representation of educated labor force conditions in Indonesian households. Additionally, Syoer (2022) defines the educated workforce as individuals who have completed high school or higher education, whereas the present study adopts a more specific definition of educated unemployment, referring only to individuals who have completed higher education but remain unemployed (Moesis, 1992; Muhson et al., 2012; Setyanti dan Finuliyah, 2022; Susanto dan Siswanto, 2022).

The result of this study support the human capital theory developed by Gary Becker (1975), which posits that educational attainment serves as a means to demonstrate skills and knowledge in the labor market. However, education alone is insufficient in

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determining employment outcomes. Various explanatory factors, such as age, gender, marital status, household status, training, and migration status, play a crucial role in shaping employment conditions for the educated workforce.

These findings suggest that educated unemployment can only be effectively addressed if governments and public institutions develop a comprehensive understanding of the labor market, alongside individual characteristics such as educational resources, social capital, and psychological capital (Côté, 1996). Therefore, in managing the economy, stakeholders must define economic development as a concerted effort to reduce poverty, inequality, and unemployment, ultimately fostering prosperity (Todaro dan Smith, 2011).

CONCLUSION

The findings of this study generally indicate that marital status and household status increase the likelihood of a highly educated workforce securing employment. In contrast, gender and migration status tend to decrease employment opportunities. The gender and migration variables exhibit a significant positive effect, indicating that women and migrants have a higher probability of becoming educated unemployed. This suggests that gender disparities persist, and that educated migrants face challenges in adapting to socio-cultural conditions, establishing social networks, and obtaining recognition for their educational qualifications in their destination areas. Conversely, marital status and household head status demonstrate a significant negative effect on educated unemployment, suggesting that married individuals and those who serve as household heads tend to assume greater economic responsibility. As a result, they are more proactive in seeking and accepting employment opportunities.

LIMITATIONS AND RECOMMENDATIONS

Based on the findings of this study, the government must prioritize the absorption of the educated workforce. To address this, it is essential to design and implement policies such as: improving the transition from education to employment through active labor market policies, enhancing the alignment of education and technical training with market demands, providing career guidance, and introducing other relevant policies. Furthermore, to mitigate the negative impact of marital status on labor absorption, the government

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should promote inclusive or family-friendly policies for the educated workforce. For instance, developing the creative industry sector could provide opportunities for educated workers to work from home, based on the assumption that educated unemployed individuals possess skills and knowledge that are not constrained by location or time. The availability of flexible job opportunities could potentially increase the absorption of educated workers into the labor market.

These policy measures represent steps the government can take to maximize the potential of the educated workforce. However, several limitations exist in this study. Specifically, it does not address the magnitude of the impact of educated unemployment on Indonesia's economic development, nor does it explore how educated unemployment interacts with the relationship between the labor market and educational institutions. Additionally, the study does not provide a detailed analysis of the characteristics of educated unemployment, particularly in relation to household assets that may influence unemployed individuals. These limitations stem from the restricted data available in Sakernas, which could not fully serve as a proxy for the inferential analysis conducted in this research. It is hoped that this study will serve as a foundation for future research focusing on solutions to reduce educated unemployment in Indonesia's labor market.

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