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What Drives Blue-Collar Workers Transition in The Labor Market Dynamics? Lesson Learned from Indonesia

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Abstract

The recovery from the global pandemic, as well as improvements in automation technologies, have presented substantial challenges for blue-collar workers who specialized in manual work. Labor transition is considered a strategy to adapt and strengthen their resilience. This study utilizes Indonesian National Labor Force Survey / SAKERNAS data from August 2023 to examine the key factors influencing blue-collar worker transitions in Indonesia, including three primary outcomes: (1) remaining unemployed and inactive, (2) transitioning back to the blue-collar worker, and (3) transitioning to the white-collar worker. The study employs multilevel multinomial logistic regression to examine the influence of individual characteristics (e.g., gender, marital status, age, education, migration, training, employment card possession, and area of residence) and regional characteristics (e.g., internet penetration, minimum wage levels, and municipal economic growth) on labor transitions. Results reveal that both individual and regional characteristics significantly impact these transitions. To address these challenges, enhancing human capital through targeted technical training is essential to improve the resilience and adaptability of blue-collar workers in Indonesia's dynamic labor market. This research emphasizes the importance of policy in equipping the blue-collar worker to navigate the evolving demands of the labor market.

Keywords: Blue-Collar Worker, Transition, Multilevel multinomial logistic regression, SAKERNAS
JEL Classification: J62, J24, C35

INTRODUCTION

The global and domestic economies are predicted to continue evolving rapidly, making adaptability a crucial factor for enhancing competitiveness in the labor market (Zemtsov et al., 2019). For groups of workers who have not fully mastered technology, this challenge necessitates more significant efforts to keep up with technological advancements and navigate ongoing transformations. A report by the Brookings Institution indicates that over a quarter of jobs have already been automated, with workers being replaced by automated tools (Muro et al., 2019). In Indonesia, digitalization has similarly reduced the demand for labor, mainly manual workers. Technological advancements are regarded as a key driver of structural shifts in Indonesia's labor market (Hanri & Sholihah, 2024).

The structure of workers based on job occupation can be broadly classified into two major groups: blue-collar and white-collar workers. Historically, this classification stems from workplace attire. Blue-collar workers, typically engaged in physical labor, are associated with blue-collar clothing. In contrast, white-collar workers, often involved in professional, managerial, or administrative tasks, are linked to formal white-collared attire.

In a broader sense, blue-collar workers are characterized by their specific skills in manual labor and machine operation. They often have lower educational backgrounds, reflecting the relatively low complexity of their tasks, which contributes to lower income levels. Examples of blue-collar occupations include machine operators, craft workers, repair technicians, and vehicle operators (Eurofound, 2022; Snell & Gekara, 2023; Wroblewski, 2019). Conversely, white-collar workers perform more complex tasks and more significant responsibilities. These roles typically require higher education, involve higher intellectual demands, and offer higher wages compared to blue-collar jobs (Söderqvist, 2024; Vella & Shariah, 2024). Both blue-collar and white-collar workers can be found across all industries, in both formal and informal sectors, and at various skill levels.

In indonesia, blue-collar workers still dominate the proportion of indonesian workers. In the last decade (10 years period), blue-collar workers still constantly dominate the proportion, although the proportion gradually decreasing (Figure 1). This phenomenon emphasizes the urgency for suitable policies for the Indonesian workforce, especially for blue-collar workers segmentation.

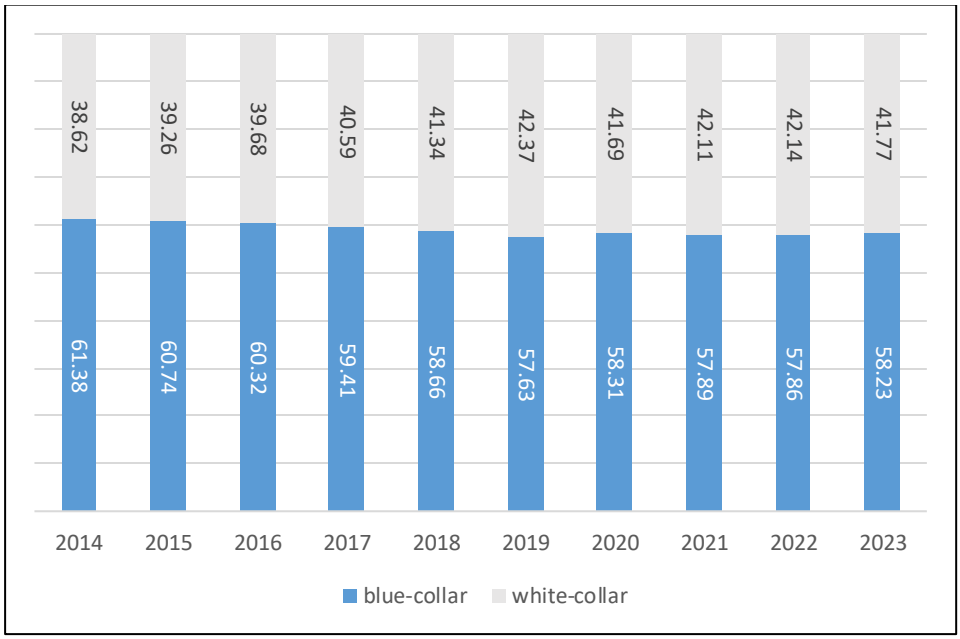

Figure 1. Percentage of Indonesian Worker by Occupational Status 2014-2023. Source: BPS (2023)

Due to their reliance on manual labor, blue-collar workers are particularly vulnerable to labor market dynamics, especially those driven by technological advancements. The ongoing transformation of the labor market is expected to increase the risk of job losses among blue-collar workers as manual skills are

increasingly replaced by automation technologies (Waschull et al., 2022; Zemtsov et al., 2019). This vulnerability highlights the need for strategies to adapt and upskill blue-collar workers to maintain their competitiveness in an evolving job market.

Amid improving economic conditions after COVID-19 pandemic, blue-collar workers continue to face challenges in returning to work. JP Morgan (2020) proposed that economic recovery follows a K-shaped trajectory, especially for underdeveloped countries. According to this approach, technology-based and large-scale industries recover quickly and may even experience acceleration. Conversely, small-scale businesses, poor workers, and blue-collar workers face increasing pressure and unexpected difficulty in achieving recovery.

In 2023, despite relatively stable economic conditions and the recovery of the economy from the pandemic's impact, blue-collar workers continue to face significant challenges. The rapid transformation of the labor market has heightened the demand for workers with adequate digital skills. However, the phenomenon of skill-biased technological change—an incompatibility between blue-collar workers' skills and the evolving market demands due to technological advancements—has created a skills gap that undermines their competitiveness in the labor market during this era of rapid digital transformation (Wang et al., 2021).

Blue-collar workers, whose roles are heavily reliant on manual tasks, are particularly vulnerable to being replaced by technological automation (Toshav-Eichner & Bareket-Bojmel, 2022). In summary, various challenges in the labor market, including technological shifts, the weakening of labor unions, and the decline in real minimum wages, are expected to have long-term impacts on blue-collar workers (Massenkoff & Wilmers, 2023).

The adaptation efforts of blue-collar workers amidst labor market dynamics can be analyzed through the process of transitions. Labor market transitions refer to phenomena where individuals move from one condition to another, influenced by considerations of economic costs and benefits (Carrasco et al., 2024; Huckfeldt, 2022). Within the context of an ever-evolving labor market, these transitions occur dynamically until a new equilibrium is reached between labor supply and demand. Examples of labor market transitions include (i) entering the workforce for the first time after completing education, (ii) shifting from one employment sector to another, (iii) re-entering the workforce after experiencing job loss and (iv) transitioning from employment to retirement.

Several prior research has explored various aspects of job transitions. For instance, Carrasco et al., (2024) studied how workers move from temporary jobs to more stable, permanent roles. Huckfeldt (2022) investigated how people re-enter the workforce after losing their jobs during economic downturns, showing that decisions to transition often depend on careful consideration of the potential costs and benefits.

Furthermore, several studies have explored the position of blue-collar workers within the labor market. Decius et al., (2021) identified various challenges that hinder blue-collar workers from coping with employment shocks, including inadequate vocational education and poor-quality formal training, often linked to earlier school experiences. Similarly, Clays et al., (2020) in their study of Denmark, highlighted the significant influence of gender on employment in

blue-collar jobs. Their findings show a marked preference for male workers in roles such as machine operation, construction, and industrial jobs, while female blue-collar workers are predominantly found in the service sector.

This study addresses the research gap regarding the transitions of blue-collar workers within the labor market durung the rapid changes of automation technologies. This study aims to analyzes the determinants of transitions among blue-collar workers who experiencing job loss within the past 12 months. The transitions of blue-collar workers are examined using a multilevel multinomial logistic regression model with three possible outcomes: (1) transitioning back to work as blue-collar workers, (2) transitioning back to work as white-collar workers, and (3) remaining unemployed or inactive (as the reference category). The possibility of transitioning to white-collar job is particularly notable for blue-collar workers with high skill levels, who may shift to low-skill white-collar positions.

METHOD

This study employs a quantitative research methodology utilizing secondary data provided by Statistics Indonesia, drawing primarily from the National Labor Force Survey (SAKERNAS) conducted in August 2023. SAKERNAS is administered across all regions of Indonesia and involves a sample of 30,000 census blocks, each comprising ten sampled households. The resulting SAKERNAS microdata includes individual-level information collected from survey respondents, allowing for comprehensive labour market analysis.

In this research, two selection criteria were applied: (1) individuals who had stopped working within the past year and (2) individuals whose most recent occupation fell under the blue-collar category, defined by the first digit of the Indonesian Standard Classification of Occupations (ISCO/KBJI) codes 6, 7, 8, or 9. After applying these selection criteria, 21,226 individuals were included as observations in the study sample. To ensure accurate aggregate estimates, such as the proportion of individuals undergoing different types of employment transitions, the analysis includes the frequency weights provided in the SAKERNAS microdata, thereby enhancing the representativeness and reliability of the findings.

In order to provide a more comprehensive analysis, complement the individual-level data, regional characteristics at the district and municipal levels were incorporated. These macro-level regional data were sourced from annual publications of the Statistics Indonesia (BPS), encompassing all municipalities across Indonesia (514 municipalities). By integrating individual and regional data, this research provides a robust framework for analyzing the determinants of blue-collar worker transitions within the context of Indonesia's labor market. Table 1 provides a list of variables used in this research, including the data type description and categorization.

This study employs a multilevel multinomial logistic regression analysis to examine the determinants of blue-collar worker transitions in Indonesia. This method is particularly suitable for modeling nominal dependent variables with more than two categories and exhibits a hierarchical structure encompassing multiple levels (Goldstein, 2010). Its appropriateness lies in its ability to incorporate independent variables at different levels, namely individual

characteristics and regional characteristics at the district or municipal level, and account for their interrelations.

Table 1. Research Variables

Variables	Category
Dependent Variable	
The transition of blue-collar workers (transition)	0 = remaining unemployed or inactive (reference category) 1 = transitioning back to blue-collar worker 2 = transitioning to white-collar worker
Independent Variable	
Individual Characteristics (Level 1)	
Gender	0 = female (reference category) 1 = male
Marital Status	0= unmarried (reference category) 1= married
Age	Continous Variable
Age-Squared	Continous Variable
Household Head Relationship	0= not a household head 1= household head
Recent Migrant	0 = non-migrant (reference category) 1 = inter-province migrant 2 = inter-municipality migrant
Education Level	0 = low educated (reference category) 1 = medium educated (junior and senior high school) 2 = high educated (university)
Training	0= never participate on a training program 1= ever/currently participate on a training program
KartuPrakerja Participation	0= never participate in *KartuPrakerja* program 1= participate in *KartuPrakerja* program
Region Classification	0 = rural (reference category) 1 = urban
Previous Employment Sector	0 = agriculture (reference category) 1 = manufacture 2 = service
Previous Skill Classification	0 = low-skill worker (reference category) 1 = high-skill worker
Previous Employment Status	0 = Formal (reference category) 1 = Informal
Regional Characteristics (Level 2)	
Percentage of Internet User	Continous Variable
Ln_Municipal minimum wages	Continous Variable
Economic Growth	Continous Variable

Source: National Labor Force Survey (Sakernas) 2023

Furthermore, this analytical approach is well-suited for datasets obtained through multistage sampling, where sampling units are selected across hierarchical levels (Hox et al., 2017). Such a sampling framework aligns with the methodology of the National Labor Force Survey (SAKERNAS), which serves as the primary source of microdata for this study. By considering both individual and regional-level characteristics, the multilevel multinomial logistic regression

enables a comprehensive analysis of labor transitions while addressing the complexity inherent in multistage survey data. The interpretation of the regression estimates utilizes the marginal effects, which quantify the change in the probability of each outcome category. In other words, the marginal effects indicate the probability of experiencing each type of employment transition increases or decreases, providing easier interpretation and meaningful insights.

The multilevel multinomial logistic regression model used in this research is as follows:

$$\ln\left(\frac{\pi_{ij}^{(s)}}{\pi_{ij}^{(t)}}\right) = \beta_0^{(s)} + \beta_1^{(s)} x_{1ij} + \cdots + \beta_m^{(s)} x_{mij}$$

where: s= 1, …, t-1; t= number of outcomes in dependent variable; i= 1,2,…,n_j; j=1,2,…, 514; n_j = number of individual in every j-th municipality; and m=independent variables. Moreover, summary statistics from research data provided in Table 2 as follows.

Table 2. Summary Statistics (Mean)

Variable	Remain Unemployed / Inactive	Transitioning back to blue-collar worker	Transitioning to white-collar worker
Individual Characteristic (Level 1)			
Male	0.52	0.71	0.62
Married	0.56	0.75	0.66
Age	40.29	42.85	38.06
Age-Squared	1,913.49	2,036.06	1,630.99
Household Head	0.34	0.58	0.47
Migration Status			
Inter-Province	0.04	0.03	0.04
Inter-Municipality	0.02	0.02	0.03
Education Level			
Medium	0.52	0.43	0.57
High	0.02	0.01	0.09
Training	0.15	0.12	0.25
KartuPrakerja Participation	0.03	0.03	0.05
Urban	0.51	0.39	0.53
Previous Employment Sector			
Manufacture	0.14	0.16	0.11
Service	0.19	0.12	0.24
High Skill Worker	0.43	0.46	0.44
Formal Worker	0.41	0.29	0.46
Municipality Characteristics (Level 2)			
Percentage of Internet User	66.61	64.09	67.26
Municipal minimum wages	14.85	14.79	14.85
Economic Growth	4.46	4.27	4.47

Source: National Labor Force Survey (Sakernas) 2023, processed

Summary statistics presented in Table 2, explicitly using mean values, provide an overall picture of the data distribution obtained from the study

observations. The data distribution is organized according to the types of transitions examined to give a more precise understanding and interpretation of each category. For binary categorical variables, the mean value can be interpreted as representing the proportional share of observations. For example, for the "remain unemployed/inactive" category, a mean value of 0.52 for the male variable indicates that 52% of the observations in this category are male. In comparison, the remaining 48% are female. Meanwhile, for continuous variables, the mean value represents the average value drawn from all observations of that variable.

RESULTS AND DISCUSSION

This study analyzes three possible outcomes for the transition of formerly blue-collar workers in 2023. Based on data from the National Labor Force Survey (Sakernas) in Figure 2. A significant majority, 56.99 percents of formerly blue-collar worker transitioned back to blue-collar jobs, highlighting the persistence of their involvement in manual labor sectors. Meanwhile, 31.34 percents remained unemployed or inactive, indicating potential barriers to securing employment or transitioning to other types of work. Only 11.66 percents transitioned to white-collar worker, suggesting limited upward mobility into more professional or administrative roles. This distribution underscores the challenges in diversifying career pathways for blue-collar workers under the acceleration of automation technology in Indonesia.

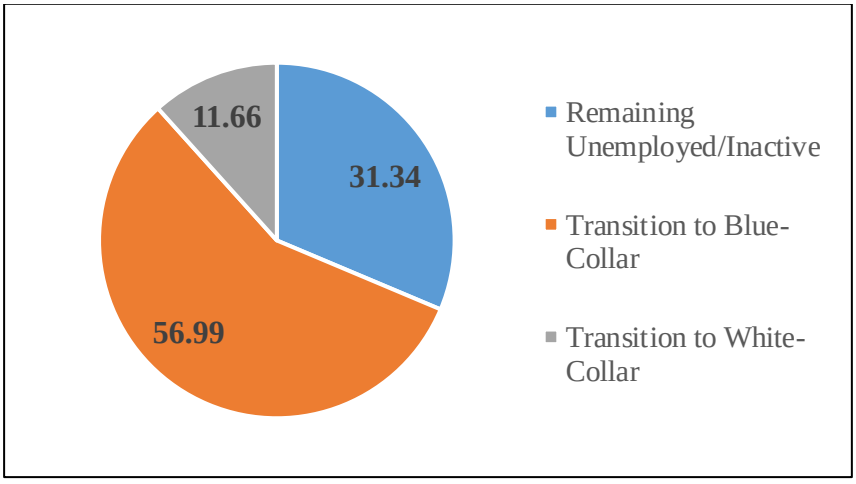

Figure 2. Percentage of Formerly Blue-Collar Worker by Type of Transition, 2023
Sources: National Labor Force Survey (Sakernas) 2023, processed

Furthermore, Table 3 presents the estimation result used in this research. The result interpretation is shown using the marginal effect to give a more precise interpretation. This table also represents the intraclass correlation coefficient, which amounts to 11 percent. This results means that an analysis conducted using multilevel multinomial logistic regression could provide a more reliable interpretation of the data than ordinary or one-level multinomial logistic regression. The results reveal significant differences in employment transitions based on individual and regional characteristics.

Male formerly blue-collar workers are less likely to remain unemployed or inactive, more likely to transition back to blue-collar jobs, but also less likely to

transition into white-collar workers. These findings can be elaborated by persistent gender segmentation in the labour market, particularly within blue-collar occupation. As male workers are more likely to transition into blue-collar workers, the prospects of transitioning into white-collar workers diminish. Consequently, the restricted upward mobility and limited opportunities for skill-based reallocation increase the probability that former male blue-collar workers will remain unemployed or inactive.

This results also inline with the findings from Escudero et al., (2023) and Wicaksono et al., (2023). This probability reflects gender-based employment trends, especially for the formerly blue-collar worker, where males are often preferred in manual labor sectors. This finding underscores that gender plays a significant role in employment transitions, with men being more likely work in blue-collar jobs, than women. This phenomenon could be due to societal norms or employer preferences that favor men for physically demanding roles. Meanwhile, women are more favorable to administrative or clerical work than white-collar workers.

Table 3. Marginal Effect of Multilevel Multinomial Logistic Regression

Determinant	Remain Unemployed / Inactive	Transitioning back to blue-collar worker	Transitioning to white-collar worker
Individual Characteristic (Level 1)			
Male	-0.159***	0.195***	-0.036**
Married	-0.090***	0.094***	-0.004
Age	-0.017***	0.015***	0.002
Age-Squared	0.000***	-0.0002***	-0.0001*
Household Head	-0.098***	0.068***	0.029***
Migration Status			
Inter-Province	0.037***	-0.028***	-0.009***
Inter-Municipality	0.014***	-0.017***	0.003**
Education Status			
Medium	0.022**	-0.055***	0.033***
High	-0.036*	-0.243***	0.279***
Training	-0.006	-0.032***	0.038***
KartuPrakerja Participation	-0.009***	-0.005*	0.014***
Urban	0.056***	-0.074***	0.018***
Previous Employment Sector			
Manufacture	0.085***	-0.058***	-0.027***
Service	0.051***	-0.085***	0.035***
High Skill Worker	0.002	-0.020***	0.018***
Formal Worker	0.045***	-0.067***	0.022***
Municipality Characteristics (Level 2)			
Percentage of Internet User	0.001**	-0.002***	0.001***
Ln_Municipal minimum wages	0.157***	-0.182***	0.026**
Economic Growth	0.002**	-0.002**	0.000
Observation		21,226	
ICC		0.11	

Sources: National Labor Force Survey (Sakernas) August 2023, processed
*** p<0.01, **p<0.05, *p<0.1

Being married reduces the probability of being unemployed or inactive and increases the probability of transitioning to blue-collar workers. This result is feasible due to the economic necessity of maintaining household income. Marriage enhances job stability, likely due to the added financial responsibilities of supporting a household (Brunetti, 2024; Joanne & Kathie, 2023).

Age decreases the probability of becoming unemployed or inactive but shows diminishing effects, as indicated by the positive coefficient for age-squared, implying older workers face additional challenges in re-employment. Conversely, on the transition back into blue-collar work, older age would increase the probability until a turning point, where an individual would experience a decline in the probability of transitioning into blue-collar work. Age influences transitions in nuanced ways; younger workers are more likely to re-enter employment. However, as they age, the chances of re-employment diminish, possibly due to age discrimination or skill obsolescence.

Household heads increase the probability of transitioning to both blue-collar and white-collar workers, underlining the economic responsibility driving their participation in the labor market. Household heads also demonstrate higher transitions into both blue- and white-collar workers, reflecting the economic pressures driving their active job-seeking behavior (Knoops, 2021; Stengård et al., 2023).

Inter-province and inter-municipality migration significantly influence employment transitions. Workers who migrate between provinces increase their probability of remaining unemployed or inactive and decrease their probability of transitioning to blue-collar or white-collar workers. This finding emphasizes some potential barriers, such as migration costs or mismatch in skills and job availability. In contrast, inter-municipality migration has smaller effects on their transition's probability but follows a similar trend.

Educational attainment shows a significant effect on formerly blue-collar worker transitions. Workers with a medium level of education slightly increase the probability of individuals remaining unemployed but also increase the probability of transitioning to white-collar workers. Medium education levels provide some chances for mobility but may also leave workers vulnerable to unemployment and inactive. This finding underscores the importance of continued skill development. This result also inline with the study by Schmitz (2019) that stated the importance of education for white-collar worker.

Conversely, an individual with a higher level of education significantly reduces the probability of becoming unemployed or inactive and increases the likelihood of transitioning to white-collar workers. These findings underscore the role of education in upward mobility to a higher class of occupational type of jobs.

Training and participation in programs like *Kartu Prakerja*—a program provided by the Indonesian government to provide some training and upskilling for the labor force—also increases the probability of transitioning to white-collar workers. This finding demonstrates the need for accessible and relevant training initiatives to equip blue-collar workers with industry-specific skills, especially during the rapid changes in technological advancements. Nevertheless, several previous studies have indicated that the *Kartu Prakerja* program has no

significant effect on worker transitions (Al Ayyubi et al., 2023; Tasmilah et al., 2023).

Living in urban areas increases the probability of remaining unemployed but decreases the probability of transitioning to blue-collar workers. This result is consistent with urban labor market dynamics, where competition is higher and blue-collar opportunities are less prevalent (Meng et al., 2023). However, urban residents slightly increase the probability of transitioning to white-collar workers, which could be attributed to better access to formal education and professional networks in urban areas.

This result regarding the residential areas of former blue-collar workers implies a paradoxical situation. While urban workers have better access to white-collar job opportunities due to proximity to business centers and educational institutions, they also face higher unemployment rates, possibly due to greater competition and a saturated job market.

The previous employment sector of blue-collar workers significantly affects transition outcomes. Workers previously employed in the manufacturing sector increase the probability of remaining unemployed but decrease the probability of transitioning back to blue-collar workers or white-collar workers. On the other side, formerly blue-collar workers with previous employment sectors in the service sector show an increase in the probability of becoming unemployed or inactive but a more significant increase in the probability of transitioning to white-collar jobs. This finding indicates that workers from the manufacturing and service sectors exhibit higher unemployment risks, reflecting structural challenges in these sectors, such as automation or labor market saturation. Furthermore, it also reflects the possibility of the service sector's role as a stepping stone to professional employment.

The results indicate that experience as a high-skilled worker significantly reduces the probability of transitioning back to blue-collar work while increasing the probability of transitioning to white-collar jobs. This shows the advantage that high-skilled workers hold in securing white-collar jobs that align with their skills. Workers with advanced skills are less likely to return to manual labor and more likely to progress into white-collar positions (Selwyn, 2023).

Formerly blue-collar workers who previously worked in formal sectors show a decrease in the probability of remaining unemployed, a decrease in the probability of transitioning to both blue-collar workers, and an increase in the probability of transitioning to white-collar workers. This reflects the advantages of formal sector experience in securing employment continuity during many labor challenges. Formal sector experience also facilitates smoother transitions into white-collar jobs, reinforcing the importance of formal employment in providing job security and career development pathways (Floridi et al., 2020).

The percentage of internet users at the municipality level increases the probability of transitioning to white-collar workers and reduces the probability of remaining unemployed or inactive. This finding indicates that internet access facilitates access to job opportunities, particularly for white-collar positions, by improving job search efficiency, enabling online skill development, and increasing exposure to employment networks. However, the relatively small

marginal effect suggests that while internet access is beneficial, its impact may be limited by structural factors such as education and digital literacy of workers. On the other side, decreasing the probability of transitioning to blue-collar workers underscores that from the demand side, the broader use of the internet will limit the opportunity of recovery back into blue-collar jobs.

Higher municipal minimum wages significantly reduce the probability of transitioning back to blue-collar work, while increasing the probability of remaining unemployed or transitioning to white-collar jobs. This finding suggests that higher minimum wages discourage employers or industries in labor-intensive sectors from hiring or retaining workers, driving some workers into unemployment or inactive status (Dögüs, 2019; Parui, 2021). However, it may also incentivize workers to seek better-paying white-collar jobs, reflecting wage-driven labor market sorting.

Economic growth at the municipality level positively affects employment transition by reducing the probability of unemployment or inactive but increasing the probability of transitions to blue-collar workers. However, its impact on white-collar job transitions is insignificant, suggesting that economic expansion predominantly benefits manual labor markets rather than professional or administrative jobs.

CONCLUSION

Blue-collar workers who experience job loss predominantly transition back into blue-collar employment. However, a substantial proportion, exceeding one-third, remain unable to re-enter the workforce. Both individual and regional-level characteristics significantly influence employment transitions. Nevertheless, there is notable variation in the direction of these effects across the probabilities of different types of transitions.

Several recommendations can be proposed based on the findings of this study. In individual level, enhancing education and training at the individual level is essential to reducing skill gaps, enabling skill flexibility to accomodate upward mobility, and breaking the persistent segmentation that confines workers to certain roles. Some kind of executable recommendation for this policy are vocational training programs and lifelong learning initiatives, without any age constraint. This should be prioritized to ensure workers remain competitive in a rapidly evolving labor market. Furthermore, specific training programs such as Kartu Prakerja should have some diversification and carefully tailored to meet the diverse demands of various industries and skill sets. Ensuring the readiness of facilitaty that can effectively linking between labor market needs and the placement of its graduates.

This research indicates that men are more likely to return to blue-collar jobs, while women are more likely to transition into white-collar work. To address these disparities, gender-based policies should be implemented to encourage women to participate in historically male-dominated blue-collar industries. Offering specific facilities—such as on-site daycare centers and rest areas for female workers—could result in safer and more supportive work environments, particularly in businesses such as ride-hailing services, which have a higher chance for women to participate nowadays.

At the municipality or regional level, improving internet access and digital infrastructure is essential to fostering better employment outcomes. Regions with higher percentages of internet users see a greater probability of transitions into white-collar jobs, making it urgent to expand internet penetration, particularly in rural and underserved areas. However, this policy should be complemented by digital literacy training for blue-collar workers to ensure optimizing opportunities for job searches and skill development. Furthermore, minimum wage policies should be managed. While higher wages stimulate transitions to white-collar jobs, they may increase unemployment or reduce blue-collar transition opportunities. In addition, promoting inclusive economic growth by diversifying industries and creating employment opportunities in both blue- and white-collar sectors will ensure that economic development benefits all segments of the labor force.

This study's limitation is its focus solely on the general transitions of formerly employed blue-collar workers (either returning to blue-collar workers, transitioning into white-collar workers, or remaining unemployed or inactive) without further distinguishing employment arrangements. Specifically, the analysis does not break down subsequent employment types regarding self-employment versus paid work. Despite this limitation, the findings still offer valuable insights into blue-collar worker transitions in Indonesia, particularly in an increasingly dynamic and evolving labour market.

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