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Article

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DEVELOPMENT ECONOMICS | RESEARCH ARTICLE

Does pre-employment card program improve Indonesian youth labor market performance in pandemic era?

Muhammad Salahudin Al Ayyubi¹, Devanto Shasta Pratomo^{1*} and Ferry Prasetyia¹

Abstract: The pre-employment card program, a training voucher policy initiated by Indonesian government in the beginning of 2020 emerged as an alternative instrument in economic recovery, including for youth affected by the COVID-19 pandemic. Using the multinomial logit and Lee's selection-biased corrections, the objectives of the study then are to see the effect of the program on (1) employment status and (2) income of youth during the pandemic. The data used are sourced from the 2020 National Labor Force Survey. The results show that the participation of youth in the program increases participation in the labor market, especially in the informal sector. However, the results show that there is still no significant effect of the program on income in all employment status, suggesting a potential lagged income effect of the program.

Subjects: Development Studies; Economics and Development; Economics; Education - Social Sciences

Keywords: pre-employment card; employment status; youth; Sakernas; Indonesia

1. Introduction

The coronavirus (COVID-19) pandemic has brought significant disruption to the labor market, including to the young workforce. The imposition of strict restrictions on community activities results in shocks to business and education activities, which makes youth, especially those who complete their education during the crisis period, the "lockdown" generation, who will feel the burden of this crisis (International Labor Organization ILO, 2020). Young people are among the most vulnerable groups during economic shocks and recessions. When young people enter the labor market for the first time, they may face challenges in obtaining decent jobs, and their entry-level wages tend to be lower. This is often due to the lack of prior work experience, which makes it difficult for them to demonstrate their productivity potential to potential employers. Hence, young people often face a trade-off between taking vulnerable jobs or remaining unemployed for a prolonged period.

The impact of the crisis on young people may differ depending on their situation in the labor market. The International Labor Organization ILO (2020) describes the negative impact of the crisis on youth through three channels. First, young people experience job disruptions due to reduced working hours and layoffs. Second, there is interference in education or training when they try to complete both activities. Third, youth are more likely to have difficulties transitioning from school to work or switching between jobs. The scale of the perceived impact depends on the duration of

the crisis, the government's choice of socioeconomic recovery, and the institutional capacity to implement effective measures (International Labor Organization ILO, 2020).

The preexisting vulnerabilities of youth in the labor market have the potential to worsen during a pandemic period and lead to intergenerational inequalities. Before the pandemic, the young workforce had already found it difficult to find work. Indonesia has long been a country with the highest youth unemployment rate in the Southeast Asia (Manning & Pratomo, 2018). Although the gap between total unemployment and youth unemployment is actually a common issue in the region, the biggest gap is found in Indonesia. The Not in Employment, Education, and Training (NEET) youth has also increased significantly at the beginning of the pandemic, especially youth with higher education (high school and university), from about 26% to more than 30% of the total graduates (Putranto et al., 2022). It seems that they also tend to "wait and see" about economic conditions, especially due to the limited availability of formal sector employment. The issue of employment at a young age, of course, should receive serious attention, especially with the declaration in the Millennium Development Goals regarding the provision of productive and decent work for women and young people.

To minimize the negative impact of the pandemic, the government developed a pre-employment card program (a training voucher program) in March 2020 as an alternative instrument to recover the economy, including for youth affected by the COVID-19 pandemic. The large number of people who are equipped with adequate skills from the pre-employment card program has the potential to boost the prosperity of their country and to recover quickly from the pandemic. If not equipped with the appropriate skills, most of these young people will experience social marginalization and social exclusion. The pre-employment card program launched by the Indonesian government aims to assist job seekers in upgrading their skills according to the skills required in today's job market. However, during the pandemic, the initial goals changed slightly. There are two main missions carried out in the pre-employment card program, namely, the mission to increase workforce competence and the mission to increase the purchasing power of people affected by the pandemic (so-called semi-social safety nets).

This study examines how the pre-employment card program influences youth performance in the Indonesian labor market. This study plays an important role in highlighting important areas of the pre-employment card program in Indonesia. This research addresses the policy-level issue of how pre-employment card programs can effectively contribute to increasing youth employment. The pre-employment policy is one of the new policies in the Indonesian labor market, and its evaluation is still relatively limited. This study, therefore, seeks to bridge the gap by conducting a detailed analysis of program outcomes and its effectiveness. By examining the outcomes of program participants, this research seeks to provide valuable insight into whether the program serves as a viable pathway to sustainable and suitable employment for young workers.

By focusing on young workers who have attended the pre-employment card program, this research strategically captures a group of workers who are particularly vulnerable in the dynamics of the labor market. This targeted unit of analysis allows for a thorough evaluation of the program's effectiveness in addressing the specific challenges faced by vulnerable groups in general and youth in particular in accessing quality employment opportunities. The selected sample is expected to enrich the study's ability to provide insight into policy implications and recommendations to improve program impact.

There are two indicators used in assessing labor market performance, namely, employment status and earning or income levels. Based on human capital theory, an individual's decision to continue their education has the potential to provide greater benefits for their employment status and lifetime earnings. Therefore, our hypothesis is that the pre-employment card program is able to increase opportunities for young workers to get jobs, especially decent jobs in both formal and informal sector, and earn more incomes. To answer this goal, this study will use the multinomial

logit method to evaluate the impact on employment status and Lee's selection-biased corrections to see the impact on income, across employment. The multinomial logit model makes it possible to observe the more complete effect of the program on several categories of employment statuses, while Lee's selection-biased corrections is used in the income equation due to the individuals selected in the sample might select themselves (self-selection) into an employment sector (or category) where they have a preference depending on their potential income.

The main contribution of this study is then to add to the limited empirical literature on the effectiveness of active labor market policies, especially the impact of training voucher programs on youth labor market outcome. This study also contributes to the developing country's literature, first, by providing a complete specification of the effect of training voucher programs on a particular youth labor market outcome based on employment status and income, including formal-informal employment, self-employment, unpaid family workers, and unemployment, showing a complete picture of the labor market in Indonesia. Groh et al. (2012), in Jordan, for example, only focused on the impact of the training vouchers on the employability of the workers, not specific labor market statuses. The sample from a large informal sector like Indonesia has never also been used for these purposes. Second, the model is also examined separately for males and females, since males and females are expected to have different labor market characteristics. A high proportion of females in developing countries tends to be concentrated in the self-employment and unpaid family worker categories (Schaner & Das, 2016).

It is important to consider that the dynamics of the labor market and the character of active labor market policies may differ from country to country. The results of the study are based on the unique circumstances of the developing countries labor market, which consist of formal and informal sectors. However, the implications of this research can also be used as valuable guidance for policymakers who face challenges similar to Indonesia's in youth employment and skills development.

The structure of the paper is as follows. The next section discusses the brief literature review, including studies about the pre-employment card program and some other previous studies. The paper then explains the methodology used in the study. After the research methodology, the paper reports the empirical results and discussions. Finally, the paper concludes and provides some policy implications.

2. Literature review

The pre-employment card as part of a skills development program for job seekers, laid-off workers, or youth is expected to increase the job opportunities of those who initially lack the resources, skills, or motivation. Theoretically, the training program has a positive effect on the individual's qualifications and productivity, and thus, the individual manages the work that can be achieved. Several previous studies have suggested that similar programs can provide human capital with useful skills to prepare these individuals to enter the labor market and increase opportunities for better professional careers (Barría & Klasen, 2016; Bol et al., 2019; Korber, 2019; Kratz et al., 2019; Kriesi & Schweri, 2019).

The linkage between training and labor market outcomes can be understood by utilizing three basic theories: the classical labor market equilibrium approach, the theory of human capital and the learning curve theory. First, based on the classical approach, workers who attend training will tend to get higher salaries and employment opportunities. This is explained by the fact that the number of skilled workers tends to be lower than the number of less skilled workers. On the other hand, the demand for more skilled workers is also relatively high. Hence, workers who attend training have a greater chance of success in the labor market (see Figure 1).

Second, the relationship between training and labor market outcomes can be understood through human capital theory. In human capital theory, an individual's decision to continue

Figure 1. Labor market equilibrium between skilled and unskilled workers.

Source: Adapted from Ehrenberg and Smith (2012)

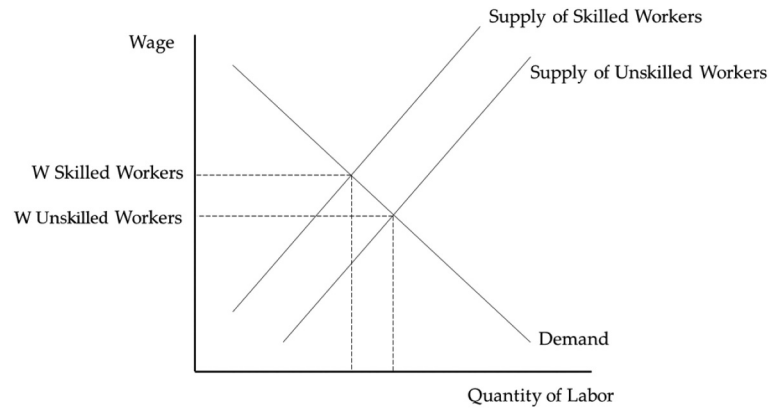


Figure 2. Impact of training on income.

Source: Adapted from Todaro and Smith (2011)

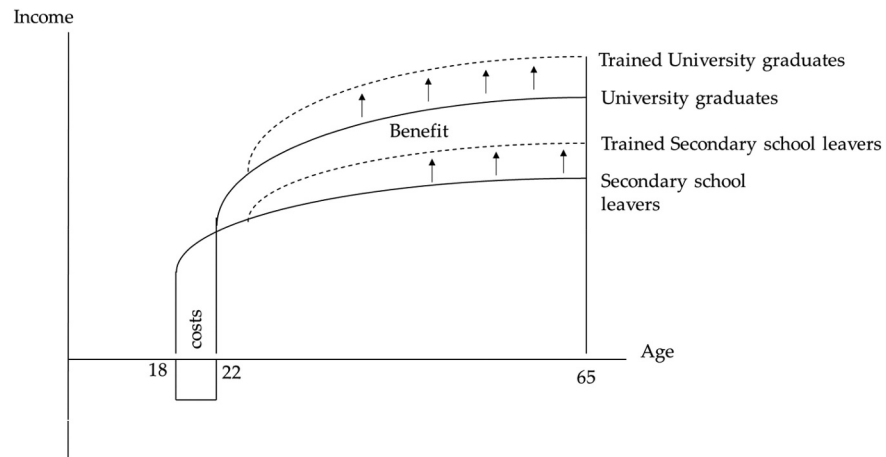
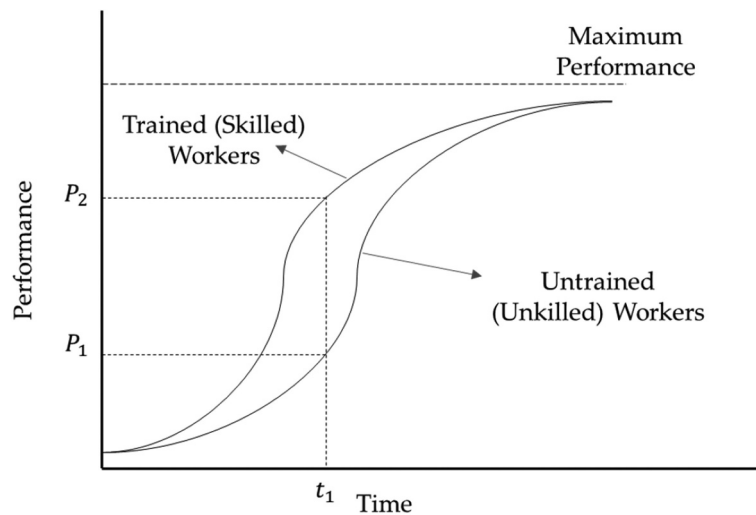


Figure 3. Learning curve theory.

Source: Adapted from Anzanello and Fogliatto (2011)



their education has the potential to provide greater benefits for lifetime earnings. In this regard, training can be a catalyst for individuals to get even greater benefits from their education. Highly educated workers who are already trained will tend to have wider employment opportunities and higher competitiveness. This means that with the same age and level of education, training can increase potential income to a higher level (see Figure 2).

Third, the impact of training can also be explained through the learning curve theory (see Figure 3). Learning curve theory is a visual representation that explains the relationship between individual performance in carrying out tasks and their experience. Based on this theory, training can improve the performance or level of worker proficiency in work activities. This means that within the same period or level of experience, workers who take part in training activities have better performance in carrying out their duties. Better performance is an indicator of better-quality workers.

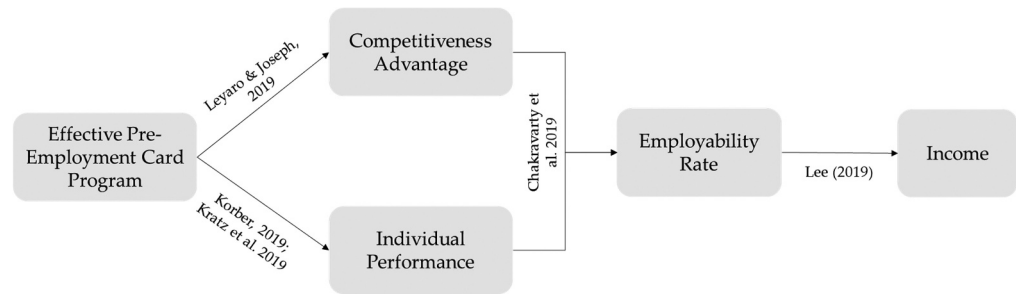
Furthermore, the impact of human resource development through training can be felt by three main actors, namely, individuals, organizations, and society. Training can increase individual income by increasing individual output. In addition, an individual with a high level of human resources can easily gain access to work and have greater professional opportunities than others (Leyaro & Joseph, 2019). Barría and Klasen (2016) also mentioned the role of training in improving labor market outcomes and regional mobility among graduating youths. On the other hand, increasing individual capabilities will increase the possibility of industrial or business players getting better workers to maximize profits. Furthermore, from a community point of view, the ability of training to develop practical skills has direct and indirect effects on productivity and regional economic growth (Korber, 2019; Kratz et al., 2019; Kriesi & Schweri, 2019).

In practice, there is no consensus in the previous studies on the impact of training voucher programs, similar to pre-employment card program on youth workers. Several studies have revealed the various benefits of training programs, such as increased income and job opportunities for better professional careers (Kriesi & Schweri, 2019). Doerr et al. (2017) also suggested stronger positive effects particularly both for low-skilled individuals and for degree courses, although no gains in earnings even four to 7 years after the voucher award in Germany. Lee et al. (2019) studied the impact of government training programs on wages and employment status in the Republic of Korea. The results show that there is a correlation between participation in training, higher wages and greater employment possibilities. Using the discontinuity regression approach, Chakravarty et al. (2019) looked at youth training programs in Nepal and found a 10% increase in nonfarm employment. In the Indian context, several studies have tried to evaluate the training program. Banerjee (2016), in his analysis, found that participation in the manufacturing sector was increased in all social groups that attended the training.

On the other hand, skills training assistance programs do not always have a positive effect on the level of job participation. Attanasio (2015) in Colombia, Card et al. (2011) in the Dominican Republic, and Cho et al. (2013) in Malawi revealed that there was no substantial effect of vocational training on employment and uncertain income increases. Kaplan et al. (2015) even indicate that the voucher program in Chile has an overall negative impact on employment and earnings, particularly among individuals who expect to change the economic sector. However, they find that the program improves labor outcomes for females, particularly for those with lower education. In addition, according to Hanushek et al. (2017), the impact of job training on employment decreases with age. The effects tend to disappear around age 50. In this regard, a study conducted by Golsteyn and Stenberg (2017) found a similar pattern. In addition, the impact of training can also vary depending on the form of training provided. Relatedly, Choi (2015) argues that different training systems can have different effects on labor market outcomes, especially on the type of work and changes in income.

Evaluation data on training vouchers from Germany and US, for example, also show that voucher systems do not support employment choices but even lead to a shortage of high-quality and specialized training due to weakening partnerships between public employment agencies previously and training providers (Hipp & Warner, 2008). Therefore, a weak labor market result might suggest the need for improvement of the program, while a positive result would indicate that the pre-employment card program is already running effectively in boosting youth performance in the labor market.

Figure 4. Conceptual framework between pre-employment card and labor outcome.



Based on the literature review, in general, the relationship between the training and labor outcome can be seen in Figure 4. One of the important aspects expected from the pre-employment card policy is an increase in individual performance at work as well as an increase in their competitiveness in the labor market. High competitiveness will make it easier for individuals to compete in the labor market and be able to generate higher incomes. This is an important component, especially for youth who have relatively low experience and competitiveness in the labor market. Therefore, the hypothesizes of the study are that:

H₁ : The pre-employment card policy was able to increase youth labor market outcomes (both employment status and earning).

This research therefore will provide answers to how pre-employment policies affect the output of the youth labor market, in terms of employment status and income, in the Indonesian context. This issue is important because the effect on youth has also been limited in previous studies, particularly in developing country cases.

3. Empirical context

The pre-employment card program, as one of Indonesia's active labor policies, launched in March 2020, aims to develop competencies, increases labor productivity and competitiveness (Presidential Regulation No. 36/2020), and develops entrepreneurship among the workforce (Presidential Regulation No. 76/2020). The pre-employment card program is stipulated in the Minister of Finance Regulation (PMK) Number 25/PMK/05/2020 concerning Procedures for Allocation, Budgeting, Disbursement, and Accountability of Pre-Employment Cards. The pre-employment card program is one of the government efforts to provide skills, reskilling, and upskilling for future jobs. The program is motivated by several incidents, including (1) Indonesia's employment conditions, where the majority of graduates from formal education are not in accordance with the needs of the labor market; (2) the Industrial Revolution 4.0, which will result in a gap between the current and future competencies of the workforce; and (3) the demographic bonus that Indonesia will have in 2030–2040. The other innovations of the program including end-to-end digital implementation, the use of customer-centric approach, public-private partnership, multi-channel government-to-person payment, and responsive contact center. Some popular and most demand course category including sales and marketing, lifestyle, foreign language, food and beverages, finance, and social and behavior.

The pre-employment card program, in practice, then underwent an adjustment to respond to the COVID-19 pandemic, which also acted as social assistance by utilizing post-training incentives. Anticipating the pandemic, the program is directed to those who are marginalized, such as those who have not or are looking for work, workers who want to improve their work competencies, and people who want to bounce back after being affected by the negative impact of the pandemic. Due to the pandemic, the programs then collaborated with digital platforms (online trainings), causing individuals need to be use the digital technology and dependence on internet availability which is still uneven in Indonesia.

The targeted population is productive-age workers affected by the pandemic, semi-informal workers, informal workers, and new job seekers (aged 18+), including youths. Until 2022, there are around 12 million participants of the program from more than 30 batches (Purnagunawan, 2022). In 2020, it is reported that 41% of the participants are youth aged 18–24 years, 84% are high school and universities graduated, 80.8% are unemployed, and covering about 507 districts in Indonesia (Pratomo, 2020).

In practice, the beneficiaries will receive a fund incentive of Rp. 3,550,000 (approximately USD 240), with several details, e.g., Rp. 1,000,000 for the first incentive to help with training costs to improve skills and job competencies. The second incentive of IDR 600,000 is given for 4 (four) consecutive months. Furthermore, pre-employment cardholders are given a final incentive of Rp. 150,000, and this assistance is given after completing their training. Participants are also given a certificate as proof of having participated in a job training program through the pre-employment card (Consuello, 2020).

4. Research method

The main objective of this study is to analyze the effect of participation in the pre-employment card program on the employment status and income of youth in Indonesia. In the first objective, we hypothesize that the pre-employment card policy was able to increase youth participation in all employment statuses and decrease the probability of youth becoming unemployed. We used a multinomial logit model to examine more rigorously the distribution of youth employment among five unordered possible work-status groups. Using this method, we can see how the youth employment status distribution changes as a result of the impact of pre-employment card program. This method will also reduce the possibility of error distribution problems and heteroscedasticity violations due to non-metric dependent data (Gujarati, 2011).

The data used in this study are from the 2020 National Labor Force Survey (Sakernas), covering several questions, including sociodemographic characteristics, job status, education, and wages (earnings). The survey is conducted annually by the Central Statistics Agency (BPS) and is often used as the main medium to monitor the dynamics of the labor force. In general, the equations used in this study can be written as follows:

$$\text{EmploymentStatus}_{it} = \alpha_0 + \alpha_1 \text{PreEmploymentCard} + \psi X_i + \varepsilon_i \quad (1)$$

The category of employment status used in this study refers to research conducted by Pratomo (2016) into five main categories:

- (1) Self-employment (Entrepreneurs)
- (2) Unpaid family workers
- (3) Formal-paid employment
- (4) Informal-paid employment
- (5) Unemployment (as a reference).

Self-employment includes own-account workers and those assisted by family member or temporary workers, while informal-paid employees are mostly casual workers (Pratomo, 2016). BPS categorized self-employment, casual workers, and unpaid family workers as informal sectors or informal employment (Pratomo & Manning, 2022). Meanwhile, formal-paid employees, including regular wage workers, are categorized as formal sector or formal employment.

The main independent variable in this study is individual participation in the pre-employment card program. The coefficient vector (ψ) on variable X acts as a control variable that includes the sociodemographic characteristics of individuals, including gender, place of residence, marital

status, education level, and migration status. This study focuses on young individuals aged 18–24 years because adolescents aged 15–17 are not eligible for the pre-employment card program (minimum age for the program is 18 years old). The results are estimates separately for males and females to see different effects between male and female youth in the labor market.

The empirical approach utilized in this study is based on a thorough examination of previous studies that suggests that the pre-employment card program could potentially enhance individuals' chances of finding jobs in the job market (see for examples Doerr et al. (2017), Lee et al. (2019), and Kriesi and Schweri (2019)). However, the outcomes for those participating in the program could depend on how well the chosen training aligns with what employers are looking for in the job market. If the skills gained through the program do not match what employers are seeking, individuals may encounter some difficulties in finding jobs that match their qualifications. This situation could lead to a gap between the skills they possess and the qualifications that are needed by employers. Jobs that require skills that do not match what an individual has learned could be limited or less stable in the long run.

In the second objective, the study examines the relationship between pre-employment card and earnings received by workers in 2020. We hypothesize that the pre-employment card policy was able to increase youth income. Since the study focus on earnings, we will not estimate unemployed and unpaid family worker group. Therefore, the second objective focus on earnings of self-employment, formal-paid and informal-paid employment. However, in practice, individuals might select themselves into their preferred work-status category (self-employment, formal-paid or informal-paid employment) depending on the level of earnings on offer. Therefore, they are likely to be non-random samples within the population. This implies that unobserved factors that affect the choice among types of work (and hence work status) are also likely to be correlated with the unobserved factors in the earnings equation, suggesting a potential sample-selection bias in the Ordinary Least Squares (OLS) estimator.

To control for this potential sample selection bias, we used Lee's selection-biased corrections, based on the multinomial logit equation from the previous estimate, when estimating the earning equation (Lee, 1983). The method basically follows the Pratomo (2017) approach which also uses Lee's Selection-Biased correction method to overcome the bias problem. Lee's Selection-Biased correction method is divided into two main stages as follow:

$$y_s = Zy_s + \omega_s \quad (2)$$

$$W_s = x\beta_s + m_s + \mu_s \quad (3)$$

The first stage is an estimation of the multinomial logit model that is used to estimate the outcome of the youth labor market (y_s) based on five main categories used in the first objective, namely, self-employed, family workers, formal-paid and informal-paid workers, and unemployed. This first stage aims to make prediction values to generate selectivity terms related to youth labor market outcomes. This selection term(s) will then be used as an additional explanatory variable(s) in the income equation (second-stage of estimation). The marital status is used to identify the selection terms (in the first stage of the estimation) assuming that they are likely to affect work status but are unlikely to directly affect the outcome variable (earnings). The second stage of estimation then is the earning equation including the selectivity term result (m_s) from the first stage estimation. The dependent variable in this estimate is the log of monthly earnings, while the explanatory variables are broadly the same as in the previous section with the main independent variable is individual participation in the pre-employment card program.

Table 1 contains the summary statistics for the main variables across employment status categories. The proportion of youth participating in the pre-employment card program is relatively small, and the majority of users of this program are entrepreneurs. The majority of youth who live in cities

Table 1. Summary of statistics by employment status of youth, 2020

	Self-employment			Unpaid Family Workers			Informal-paid Employment			Formal-paid Employment			Unemployment		
	Mean	Std. dev.		Mean	Std. dev.		Mean	Std. dev.		Mean	Std. dev.		Mean	Std. dev.	
Use of Pre-Employment Card	0.005	0.067		0.001	0.034		0.003	0.057		0.003	0.055		0.002	0.039	
Lives in Urban Areas	0.375	0.484		0.259	0.438		0.485	0.500		0.659	0.474		0.473	0.499	
Males	0.630	0.483		0.567	0.495		0.633	0.482		0.652	0.476		0.459	0.498	
University Graduate	0.054	0.225		0.027	0.162		0.092	0.289		0.149	0.356		0.028	0.165	
High school graduate	0.325	0.468		0.283	0.451		0.305	0.461		0.291	0.454		0.264	0.441	
Married	0.345	0.475		0.109	0.312		0.147	0.354		0.176	0.381		0.103	0.303	
Migrant Residents	0.053	0.225		0.032	0.177		0.062	0.241		0.085	0.280		0.037	0.189	
Java Island	0.259	0.438		0.192	0.394		0.289	0.453		0.653	0.476		0.307	0.461	
Sumatra island	0.285	0.452		0.320	0.467		0.346	0.476		0.144	0.351		0.294	0.456	
Kalimantan island	0.093	0.291		0.079	0.270		0.114	0.318		0.105	0.306		0.098	0.297	
Experience	0.292	0.455		0.142	0.349		0.292	0.455		0.325	0.468		0.108	0.311	
Number of Observations	9,488			25,206			24,038			6,907			104,779		

work in the paid employment sector, both formal-paid employment and informal-paid employment. Young people who graduate from college are mostly in the formal sector. As for high-school graduates, the proportion of workers is relatively the same for all job statuses. The proportion of men is higher in almost all employment statuses, although the proportion of women is relatively high as family workers and as unemployed. Most youth are single, and the proportion is relatively the same for all categories, both formal and informal, family workers and unemployed. Furthermore, based on the island of residence, youth on the island of Java have better job prospects than other islands. Lastly, experience can be an important contributor to youth getting better jobs. Experienced youth tend to have a greater proportion in the formal-paid employment sector.

5. Results and Discussion

Table 2 reports the results of the multinomial logit regression on the effect of the pre-employment card program on young male workers in the labor market. In general, the estimation results show that the pre-employment card program increases youth participation rates in self-employment and informal sector employment. Individuals who participate in pre-employment training programs have a 1.8 times greater chance of becoming an entrepreneur or self-employed and a 1.1 times greater chance of becoming workers in the informal sectors (relative to unemployed; unemployed as a reference). However, the pre-employment card program has not been able to encourage youth participation in formal sector jobs. The results show that the pre-employment card has no significant effect on the probability of young workers becoming workers in the formal sector. On the other hand, their participation in the pre-employment card program does also not affect the probability of unpaid family workers. This result is different from previous studies which found a positive impact on training programs on various labor market outcomes, including formal sector employment in the short term as carried out by Ibararán and Rosas Shady (2009), Attanasio et al. (2011) and Card et al. (2011).

The results of this study specifically show that the opportunities for youth to become self-employed or entrepreneurs are greater than in other employment statuses. This strong positive impact is thought to be caused by the role of skill improvement as an important capital for youth to maneuver as entrepreneurs as supported by the program. Basically, young workers tend to have minimal or no access to finance to expand their business scope or employ people. Youth also often lack the entrepreneurial skills essential for identifying and exploiting new opportunities, while access to entrepreneurship education is somewhat limited. The pre-employment card can help young workers face the problems they often encounter to become entrepreneurs.

In the period before pandemic, Rice (2004) explains that young people in Indonesia tend not to be entrepreneurs because the rate of business failure (risk) is usually high, especially among new entrepreneurs. Therefore, the use of the pre-employment card by youth increases the confidence and capability of youth to develop or start a new business that is relatively low risk. This result is in line with several studies that have also found that there is an increased likelihood of individuals engaging in entrepreneurship after training (Chakravarty et al., 2017; De Mel et al., 2014; Premand et al., 2016).

Moreover, the participation of young men in the pre-employment card program increases their chances of becoming paid workers in the informal sector employment. On the other hand, the pre-employment card is still not able to encourage youth participation in the formal sector. The potential reason is that the nature of program offered is more likely to expand the entrepreneurial skills rather than up-skilling skills needed by formal sector employment. This can be seen from the popular training chosen by the participants, including online marketing, food and beverages, information technology, lifestyles, entrepreneurship training, career development, and languages. On the other hand, training for formal job-related technical skills is still limited and inadequate, as it is often not effectively delivered through online training alone. The second reason is that the program lacks of job placement activities that might assist to increase the opportunities for young workers to find better jobs in the formal sectors.

In line with these findings, Tukundane et al. (2015) also emphasizes that the experience of graduates of a labor training program can increase the opportunities for marginalized youth to enter the

Table 2. Multinomial logit regression results, males

Variables	Self-Employment		Unpaid Family Workers		Informal Paid-Employment		Formal Paid Employment	
	Coef	Odds Ratio	Coef	Odds Ratio	Coef	Odds Ratio	Coef	Odds Ratio
Pre-Employment Card	0.603**	1.827	0.027	1.027	0.075*	1.078	-0.195	0.823
Living in Urban Areas	-0.506***	0.603	-1.061***	0.346	-0.191***	0.826	0.105***	1.111
University Graduate	0.867***	2.379	0.245***	1.277	0.781***	2.183	1.602***	4.963
High school graduate	0.375***	1.455	0.210***	1.234	0.210***	1.234	0.488***	1.629
Married	0.092	1.096	0.036	1.037	0.300***	1.350	0.671***	1.956
Migrant Residents	2.923***	18.593	0.583***	1.791	2.032***	7.630	2.461***	11.717
Java Island	-0.405***	0.667	-0.623***	0.536	-0.171***	0.843	1.561***	4.764
Sumatra island	-0.134***	0.875	-0.150***	0.861	0.320***	1.377	0.476***	1.610
Kalimantan island	-0.293***	0.746	-0.464***	0.629	0.237***	1.267	1.256***	3.510
Experience	1.149***	3.156	0.561***	1.752	1.323***	3.755	1.179***	3.251
Constant	-2.330***	0.097	-0.731***	0.481	-1.602***	0.202	-4.052***	0.017
Observations	88,118							

Standard errors in parentheses

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

(Relative to unemployment category)

labor market, especially in the informal labor sector. Furthermore, O'Higgins (2017) universally explains the empirical fact that European youth (15–24) have historically been more likely to seek low-paying, low-skilled jobs, where there is less competition from older workers. This is why the employment distribution of youth tends to skew in low-wage sectors that have relatively low barriers to entry.

There are at least two arguments regarding this phenomenon, both from the individual aspect and the character of the labor market itself. Apart from the relatively limited number of formal jobs, young people are the most vulnerable group in the dynamics of labor demand (Baah-Boateng, 2016; Choudhry et al., 2012). During difficult economic times, like pandemic, young people are often the first to be laid off, hampering their ability to build experience. Young people are also more likely to be affected by certain constraints, such as information asymmetry, due to their limited labor market experience and weak networks (Baah-Boateng, 2016). In addition, the pandemic makes employers and companies in the formal sector are more skeptical about hiring young people who tend to be professionally or personally immature. At the same time, hiring more experienced adults is considered more rational than investing resources in training youth (Elder, 2014). Therefore, the pre-employment card program has relatively not resolved the main negative paradigm attached to young workers so that their chances of getting decent work are still hampered.

In addition, based on the structure of the pre-employment card program, there are two possible reasons that could explain the ineffectiveness of the pre-employment card program in increasing the likelihood of workers becoming formal sector workers. First, the use of pre-employment cards is not expected to have an immediate impact in the same year. There is a possibility that the impact will be felt by workers in the coming period. In fact, the barriers of entry are also usually lower for informal sector and self-employed, rather than for formal sector. Second, the nature of program offered is more likely to expand the entrepreneurial skills rather than up-skilling skills needed by formal sector employment. This can be seen from the popular training chosen by the participants, including online marketing, food and beverages, information technology, lifestyles, entrepreneurship training, career development, and languages (<https://www.liputan6.com/bisnis/read/4357403/7-pelatihan-prakerja-paling-diminati-apa-saja>).

The impact of the pre-employment card program on employment status appears to be different for women. The regression results in Table 3 show that the participation of women in the pre-employment card program only increases their likelihood of becoming self-employed (by 2.7 times). Compared to men, the pre-employment card has no significant effect on the chances of women to attain a more decent job status (formal-paid and informal-paid employment). This result shows that gender inequality is still a characteristic of the labor market in Indonesia. Male workers have higher participation rates for all employment statuses compared to women.

It is difficult for women to find work compared to male workers because their access to the labor market, in general, is very limited. Women often have higher household responsibilities, such as childbirth, child care and parental care, so they tend to choose a more flexible type of work (Nilsson & Shehu, 2014). Women face considerable wage disparities, gaps in opportunities for higher career paths, and gaps in entrepreneurial abilities compared to their male counterparts (O'Reilly et al., 2019). This affects the reduced working hours and, of course, the work experience of women, which in turn becomes an obstacle and reduces their work participation. However, there is an interesting finding from this study. Women have a greater chance of becoming entrepreneurs than men. As explained earlier, women with various roles that must be handled need more flexible time in their work. The implication is that they tend to choose to become entrepreneurs with work activities that are relatively more flexible than other job statuses.

Based on the results, this research provides considerable support for the implementation of the pre-employment card program in Indonesia. The findings of this research clearly show that there has been a positive impact from the program, which has effectively generated more employment opportunities, although it is still stuck in the informal sector. Hence, this study takes it a step further by focusing on

Table 3. Multinomial logit regression results, females

Variables	Self-employment		Unpaid Family Workers		Informal Paid Employment		Formal Paid Employment	
	Coef	Odds Ratio	Coef	Odds Ratio	Coef	Odds Ratio	Coef	Odds Ratio
Pre-Employment Card	0.996***	2.708	-0.509	0.601	-0.101	0.904	0.124	1.132
Living in Urban Areas	-0.067*	0.935	-0.629***	0.533	0.713***	2.041	0.237***	1.267
University graduate	1.184***	3.266	0.125**	1.133	2.515***	12.367	1.993***	7.335
High-school graduate	0.503***	1.653	0.078***	1.082	0.572***	1.772	0.601***	1.823
Married	-0.146*	0.865	-0.165***	0.848	0.279***	1.321	0.150***	1.162
Migrant Residents	1.131***	3.098	0.066**	1.068	-0.259***	0.772	-0.300***	0.740
Java Island	-0.031	0.969	-0.472***	0.624	2.190***	8.933	0.421***	1.523
Sumatra island	-0.050	0.951	-0.198***	0.820	0.260***	1.297	0.351***	1.420
Kalimantan island	-0.025	0.975	-0.454***	0.635	1.001***	2.721	0.479***	1.615
Experience	0.729***	2.073	0.233***	1.262	0.966***	2.627	0.926***	2.524
Constant	-3.423***	0.033	-1.261***	0.283	-5.545***	0.004	-2.778***	0.062
Observations	82,300							

Standard errors in parentheses
 *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$
 (Relative to unemployment category)

how to make the program more effective. The aim is to ensure that the program not only increases employment opportunities but also provides more suitable employment options for young workers.

To increase the program's impact on the quality of employment opportunities available to young people, governments need to explore several practical approaches. First, the government must carry out a comprehensive analysis of the current labor market demand. This analysis will be very useful for the pre-employment card program by identifying new sectors and specific skills needed. As a result, the program can offer training that is directly aligned with the evolving needs of the job market. In addition, building strong partnerships with industries and stakeholders is essential to ensure that program offerings match real-world job market requirements. Through active dialogue with relevant parties, programs can better adapt their training to immediately apply the skills acquired in a real work environment. In this context, improving the quality of training is also an important aspect that needs attention. This includes developing more comprehensive training materials, engaging qualified instructors, and using an interactive and hands-on learning approach.

Regarding the control variables, the results in Table 2 show that the probability of becoming formal sector employees is higher for those living in urban areas than for those living in rural areas. This phenomenon is considered quite reasonable because urban areas tend to have high levels of commercial and government activities as well as several industrial centers with high added value. Therefore, workers in urban areas are more likely to engage in high-paying jobs than rural workers. In addition, workers in rural areas are often in agriculture-based jobs, which tend to have low added value, and often activities in them are vulnerable to bad weather and other climatic shocks. This may explain why workers in rural areas are less likely to find relatively decent jobs.

The level of education is also a crucial factor in the employment status of youth. The estimation results show that the higher the education of the youth is, the greater the chance of becoming a paid worker in formal and informal sectors compared to other employment statuses. Looking at the results presented in Table 2, youth in Indonesia with a higher education/university degree (as the highest level of formal education obtained) are more likely to become formal sector employees compared to those with a lower formal education level. Education is indeed a very important human capital in opening one's job opportunities. The higher the education taken by the individual, the higher the competence possessed. Individuals with higher skills or competencies have greater competitiveness and are able to compete for better access to the labor market. Low educational attainment and lack of experience in the labor market are strongly correlated with poor first job quality, lower wages and a higher probability of becoming unemployed at some stage later in life (O'Higgins, 2017, 2020). In this regard, they also argue that people with higher levels of education have better job prospects, and the difference is very striking between those who have attained higher education and those who have not.

Marital status is another indicator that affects the employment status of youth. Married young men have greater opportunities in all employment statuses than married young women. Meanwhile, married women are more likely to become entrepreneurs or paid workers only in the informal sectors, while married men have greater opportunities than women in all employment statuses, including formal sector employment. This result is actually in line with the previous discussion regarding gender bias that still occurs in Indonesia. Furthermore, Pratomo (2016) explains that by working as an entrepreneur or unpaid family worker, married women generally have more flexible working hours to combine with their household responsibilities, while other employment statuses usually require more commitment, including fixed working hours.

The migration status of youth as migrant workers or natives affects their employment status. Migrant residents tend to have a higher chance of becoming formal sector employees, especially for men workers. Similar results were also found for experienced workers, both males and females. They have a greater chance of becoming paid workers in the formal sector. Meanwhile, compared to the employment status of youth based on the island where they live, the island of Java is the highest provider of job opportunities compared to other islands. Youth in Java are more likely to

Table 4. Income regression results, males

	Lee's selection			OLS		
Variables	Self-Employment	Formal Paid Workers	Informal-Paid Workers	Self-Employment	Formal-paid Workers	Informal-paid Workers
Pre-Employment Card	.044	-.005	-.090	.144	-.026	-.072
Living in Urban Areas	.161***	.054***	.160***	.102***	.059***	.164***
University Graduate	.121	.233***	.043	.145*	.279***	.129***
High school graduate	.033	.059***	.094***	.052*	.088***	.162***
Migrant Residents	.204***	.077***	.048*	.241***	.095***	.117***
Java Island	.159***	-.363***	.042**	.035	-.323***	-.024
Sumatra island	.116***	-.099***	.061***	.022	-.094***	.072***
Kalimantan island	.164***	-.074***	.198***	.057	-.043**	.204***
Experience	-.046	-.033***	.013	-.003	-.029***	.030**
Constant	14.345***	15.189***	14.266***	13.755***	15.014***	13.666***
Observations	3,499	4,096	13,780	3,499	4,096	13,780
Pseudo R squared	.030	.189	.049	.010	.188	.040

Standard errors in parentheses

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table 5. Income regression results, female

Variables	Lee's selection				OLS		
	Self-Employment	Informal-paid Workers	Formal-paid Workers	Self-Employment	Formal-paid Workers	Informal-paid Workers	
Pre-Employment Card	-0.200	0.221	0.040	-0.129	-0.028	0.064	
Living in Urban Areas	0.191***	-0.200***	0.220***	0.179***	0.096***	0.284***	
University Graduate	0.263***	-1.315***	-0.347***	0.269***	0.178***	0.230***	
High school graduate	-0.022	-0.892***	-0.076	-0.005	0.024	0.263***	
Migrant Residents	0.001	-0.062*	0.101***	0.006	0.032	0.151***	
Java Island	-0.107*	-1.160***	0.076***	-0.125**	-0.239***	0.114***	
Sumatra island	0.085	-0.022	-0.013	0.068	-0.017	0.032	
Kalimantan island	0.051	-0.412***	0.151***	0.044	-0.041	0.237***	
Experience	0.062	-0.017	0.024	0.074	-0.018	0.021	
Constant	13.560***	18.963***	14.547***	13.233***	14.934***	13.261***	
Observations	2,091	2,173	7,966	2,772	2,570	8,204	
Pseudo R squared	0.023	0.151	0.078	0.022	0.145	0.077	

Standard errors in parentheses
 *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

work as paid workers in both formal and informal sector. This coefficient is much higher than those on the island of Sumatra and the island of Kalimantan.

Furthermore, related to the second objective, Table 4 and Table 5 shows the effect of the pre-employment card program on youth income. The results show that there is no significant difference in income for youth who use pre-employment cards, and this is true for both males and females in all employment status, suggesting that income effect for pre-employment cardholders might show with time lag effect. Additionally, the Pre-Employment Card program is a relatively new training program; hence, the long-term impact is uncertain. Conducting impact measurements over an extended period may provide more meaningful and significant results. However, it needs to be explored more in future studies. In addition, this phenomenon can also occur due to the selection of training programs that might not align with the primary needs of workers in their work activities. Selecting an inappropriate training program might result in a lack of productivity among workers, which may ultimately not affect their income positively.

This result is different from previous studies conducted by Choi (2015) and Lee et al. (2019). Choi (2015) assessed the impact of worker training on wages in the Philippines using data from the 2014 labor force survey and found a significant effect on increasing income. Likewise, the study by Lee et al. (2019) examined the impact of training on wages and employment in the Republic of Korea. The results show that there is a positive correlation between training and higher wages.

In a study conducted in Romania, Malamud and Pop-Eleches (2010) found that there was no significant impact of training programs on workers' income levels. The failure is thought to have occurred due to a mismatch of skills with job requirements. This phenomenon will have an impact on the level of productivity that is not optimal. These results are also in line with the research of Attanasio (2015) in Colombia, Card et al. (2011) in the Dominican Republic, and Cho et al. (2013), which revealed that there was no substantial effect of job training on increasing income.

6. Conclusion

Using data from the 2020 National Labor Force Survey (Sakernas), the results show that the participation of youth in the pre-employment card program increases the level of youth participation in the labor market, especially for self-employment (entrepreneurs) and informal-paid employment. The results of this study also show that the pattern of youth participation in the labor market still dwells in the low-wage sectors. The government needs to increase the possibility of youth becoming workers in better sectors or jobs, especially formal sector employment, by offering more placement assistances to industries and other formal sector jobs. The program's impact on income is not significant and may require longer-term analysis due to economic conditions and potential lag effects since its launch in March 2020. Further studies are needed to analyze the longer term job outcomes of individuals participating in the pre-employment card program since the program is launched.

Based on the findings of this study, several policy recommendations can be made. First, the Pre-Employment Card program has shown a significant impact on youth participation in the labor market, particularly in self-employment and informal sector jobs. The government needs to strengthen partnerships with companies, industries, or training centers in terms of job placement, increasing the opportunities for young workers to find better jobs, particularly in the formal sectors, through mapping the demand for the formal labor market or through strategic collaboration between industry or related parties. In addition, the government needs to enhance monitoring of the training and job placement processes to ensure that program participants are truly benefiting from the training and are being placed in jobs that are aligned with their acquired skills. This will lead to an increase in the program's effectiveness and a decrease in unemployment rates.

The limitation of this paper is that young workers have a probability to systematically choose to participate into the program due to the availability and literacy of digital technology as the program is conducted only online during the pandemic. In fact, internet access and digital literacy

are still uneven in the case of Indonesia (Faizah et al., 2021). This also potentially affects the employment status and earnings received. Another limitation of this paper is that it does not examine the long-term impact of training programs on youth labor market outcome, as the current results suggest that the program may have lagged effects or may not fully address the challenges faced by young workers in the current economic climate. Further studies might analyze the long-term job outcomes of individuals participating in the pre-employment card program. In addition, the utilization of other research methods such as Instrumental Variable (IV) regression or Randomized Controlled Trial (RCT) might be a valuable follow-up to this study as they may help address some of the limitations of the research methods used in this study by using a single year of study. The longitudinal data set could also be hardly found in the case of Indonesia as the National Labor Force Survey is basically a cross-sectional data set. These suggested methods might provide additional insights and strengthen the validity of the findings.

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