



Comparative Evaluation of Gig Worker and Conventional Worker Welfare to Improve Quality Employment and Encourage Entrepreneurship Using the Propensity Score Matching Approach

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Abstract: The development of the digital economy has driven the emergence of gig workers, who are increasingly dominating the labor market. Despite offering flexibility, gig workers continue to face uncertainty regarding welfare conditions, which differ from those of conventional workers. Comparing the welfare of these two groups is essential to provide insights into job quality and its implications for entrepreneurship and inclusive economic development. This study aims to conduct a comparative evaluation of the welfare of gig and conventional workers. Specifically, it seeks to identify the key welfare dimensions that distinguish the two groups and to provide an empirical basis for formulating policies aimed at improving job quality. The research was conducted in the regions of Surabaya, Sidoarjo, Gresik, and Mojokerto, involving 400 respondents, consisting of 200 gig workers and 200 conventional workers. The Propensity Score Matching (PSM) method was employed to ensure comparability of respondents' characteristics based on age, gender, education level, geographic location, and employment sector, thereby enabling a more valid and reliable comparison of welfare outcomes. The findings reveal that conventional workers enjoy more stable welfare, particularly in terms of income, access to social security, and job security. In contrast, gig workers demonstrate advantages in time flexibility and opportunities to generate additional income. Thus, a trade-off emerges between stability and flexibility that differentiates the two types of workers. These results highlight the need for more adaptive labor policies, such as the expansion of social security coverage for gig workers, stronger legal protection, and tailored entrepreneurship development programs. Such measures are expected to enhance multidimensional welfare while fostering the creation of quality jobs in the digital economy era.

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PENDAHULUAN

The rapid advancement of digital technologies has significantly transformed global labor markets. New employment structures have emerged, particularly through platform-based work that relies on digital connectivity and algorithmic management (Li, 2024; Graham & Anwar, 2019). In Indonesia, this transformation is increasingly visible in urban areas. Digital platforms have created opportunities for a large workforce engaged in short term, task-based activities (Putri et al., 2023; Yasih, 2022). These forms of work offer a

degree of flexibility and autonomy that is rarely available in conventional employment models.

However, alongside these opportunities, serious concerns have been raised regarding worker welfare. Gig workers often operate without wage stability, social security, or formal legal protection. By contrast, conventional workers continue to benefit from more secure employment relationships, steady income, and structured welfare systems (Guseva & Klepalova, 2022; Boruchowicz, 2024). The coexistence of these two groups gig and conventional workers creates critical questions for labor market development. A central issue is how welfare conditions differ across these forms of employment and what the implications are for the creation of quality jobs and entrepreneurship (Ayu, 2024).

This debate is particularly relevant in Indonesia, where informal employment remains extensive. Gig workers occupy a position between formal and informal structures, making their welfare outcomes uncertain and less protected. Despite the sector's rapid growth, labor policies and social security schemes are still largely designed for conventional employees (Samad et al., 2023; Au-Yeung et al., 2024). International research has highlighted both the advantages and vulnerabilities of gig work. Studies point to flexibility as a core attraction, while also emphasizing the trade-offs of insecurity, unstable income, and limited career prospects (Caza et al., 2021; Cropanzano et al., 2022). Yet, systematic empirical comparisons between gig and conventional workers in developing economies remain limited (Taneja, 2024).

In addition, the potential of gig workers to transition into entrepreneurship has not been fully explored. While much of the literature emphasizes risk and precarity, fewer studies examine the transformative capacity of gig workers to create sustainable businesses and contribute to inclusive economic growth (Maury, 2023; Van Doorn et al., 2020). Despite the growing global literature on gig work, empirical comparisons between gig and conventional workers in developing economies remain limited. Moreover, few studies have examined the entrepreneurial potential of gig workers as a pathway to inclusive economic participation. Addressing these gaps, this study contributes theoretically by integrating Precarity Theory, Self-Determination Theory, and the Entrepreneurial Pathway Model to explain how autonomy and security interact in shaping worker welfare. Practically, the research provides insights for designing adaptive social protection and entrepreneurship policies tailored to digital labor markets in Indonesia. Against this backdrop, the present study seeks to conduct a comparative evaluation of the welfare of gig and conventional workers in Indonesia.

The study has three main objectives. First, it aims to measure and compare multidimensional welfare outcomes between gig and conventional workers. Second, it seeks to identify the determinants that influence welfare disparities. Third, it intends to provide policy recommendations that not only improve worker welfare but also facilitate the entrepreneurial transformation of gig workers.

LITERATURE REVIEW

The Gig Economy and Its Global Expansion

The gig economy has expanded rapidly across the globe, primarily driven by digital platforms that reshape employment relations. It is often characterized by short-term, task-based contracts, flexible working arrangements, and the absence of conventional employer-employee relationships (Graham & Anwar, 2019; Wang et al., 2024). In Indonesia, this

phenomenon is increasingly visible in major cities, where platform-based work has become a significant source of income. Scholars note that gig workers are not only service providers but also potential contributors to the broader digital entrepreneurship ecosystem (Putri et al., 2023; Yasih, 2022; Ayu, 2024; Kinder et al., 2019; Maury, 2023; Alauddin et al., 2024).

Welfare Challenges of Gig Workers

Despite its promise of flexibility, gig work raises serious concerns regarding welfare. Research shows that gig workers often face income instability, lack of access to social security, and limited career development opportunities (Peng et al., 2022; Samad et al., 2023; Au-Yeung et al., 2024). Caza et al. (2021) developed the Gig Work Challenges Inventory, which identifies six major challenges, ranging from viability to identity and career uncertainty. Similarly, Cropanzano et al. (2022) argue that the psychological contract of gig work is fundamentally different, as workers exchange flexibility for uncertain compensation and social isolation. From a health perspective, gig workers are considered a vulnerable population. Salerno and Freni-Sterrantino (2021) emphasize that unstable employment status contributes to occupational health risks. This vulnerability is compounded by the absence of systemic protection.

Comparative Perspectives on Gig and Conventional Workers

Studies comparing gig and conventional workers demonstrate stark contrasts. Conventional workers tend to benefit from stable wages, legal protection, and social security systems (Guseva & Klepalova, 2022; Boruchowicz, 2024). In contrast, gig workers primarily value autonomy and flexible working conditions (Kincaid & Reynolds, 2023). At the same time, consumer perspectives complicate this dynamic. Healy et al. (2020) report that although consumers sympathize with gig workers' vulnerabilities, they continue to perceive flexibility as the main advantage, making it harder to mobilize support for stronger labor protections. Maffie (2023) highlights another dimension by exploring interactions between gig and conventional workers within organizations. Such relationships may foster cooperation, but they can also create conflicts driven by algorithmic management.

Regional and Contextual Gaps in Gig Work Research

Although global research on gig workers is growing, much of the literature is dominated by studies from developed countries, particularly in North America and Europe (Wu & Huang, 2024; Healy et al., 2020). By comparison, studies focusing on Asia remain limited. The regional context is important because labor markets in Asia, including Indonesia, are characterized by high informality and weak institutional protections (Samad et al., 2023; Au-Yeung et al., 2024). In Indonesia, the gig economy is expanding rapidly, but systematic empirical comparisons between gig and conventional workers are still scarce (Putri et al., 2023; Yasih, 2022). This leaves a significant gap in the literature regarding how welfare outcomes differ under varying employment structures.

Theoretical Frameworks for Understanding Gig Work

Several theoretical frameworks have been applied to explain gig work dynamics. Precarity Theory highlights the structural vulnerabilities of non-traditional employment, particularly in terms of income insecurity and lack of protection (Van Doorn et al., 2020; Pankaj & Jha, 2024). Self-Determination Theory emphasizes autonomy as a core psychological need that enhances intrinsic motivation and job satisfaction (Van den Broeck et al., 2021; Autin et al., 2021). This perspective helps explain why many workers continue

to participate in gig work despite its risks. Meanwhile, Dual Labor Market Theory (Piore, 2018) distinguishes between stable primary labor markets and precarious secondary markets, where most gig workers are situated. Human Capital Theory (Becker, 1964) further suggests that education plays a vital role in improving welfare by enabling workers to access better paying opportunities. In addition, the Resource Based View (Barney, 1991) has been applied to highlight gig workers' entrepreneurial potential. However, resource constraints such as limited capital and knowledge often hinder the transformation of gig work into sustainable entrepreneurship.

RESEARCH METHOD

This study employs a quantitative approach with a comparative design aimed at evaluating welfare differences between gig workers and conventional workers. The Propensity Score Matching (PSM) method was applied to ensure a fair comparison by matching respondents from both groups based on comparable characteristics. Accordingly, the measured welfare differences more accurately reflect the effect of employment type (gig vs. conventional), rather than individual characteristics.

The research was conducted in four regions of East Java Surabaya, Sidoarjo, Gresik, and Mojokerto which represent areas with relatively high concentrations of both gig and conventional workers. The study population consists of all gig and conventional workers located in these four regions. The total sample comprises 400 respondents, including 200 gig workers and 200 conventional workers. The total of 400 respondents (200 gig workers and 200 conventional workers) was determined to achieve an adequate statistical power for comparative analysis using Propensity Score Matching (PSM), ensuring sufficient representativeness and balance between the two groups. Sampling was conducted using a purposive sampling technique, whereby respondents were selected according to specific criteria: (1) aged at least 18 years, (2) having a minimum of six months of work experience in either the gig or conventional sector, and (3) residing or working in Surabaya, Sidoarjo, Gresik, or Mojokerto. These regions were selected because they represent the industrial and digital service clusters of East Java, where both conventional and platform-based employment are highly concentrated. This makes them particularly suitable for examining welfare disparities and labor market transformation within Indonesia's emerging gig economy.

Data were collected using a structured questionnaire distributed both in person and online. The questionnaire employed a five point Likert scale (1–5) to measure dimensions of worker welfare, including income stability, access to social security, working conditions, opportunities for self-development, and aspects of health and subjective well-being.

Additionally, respondents' demographic data (age, gender, education level, geographical location, and employment sector) were gathered as the basis for the matching process. In this study, variables were categorized into two main groups. First, the matching variables, which include age, gender, education level, geographical location, and employment sector. Second, the outcome variables, which represent worker welfare through multidimensional indicators encompassing economic, social, and psychological aspects.

The data analysis process was conducted in several stages. First, the questionnaire data were cleaned to eliminate duplicates and missing values, followed by reliability and validity testing of the instrument. Instrument reliability was confirmed through Cronbach's Alpha values exceeding 0.80 across all welfare dimensions, while construct validity was

verified using exploratory factor analysis (EFA), with factor loadings above 0.60 for all retained items. These results indicate that the questionnaire items were both reliable and valid for measuring multidimensional welfare. Next, the probability of a respondent being a gig or conventional worker was estimated using logistic regression by incorporating the matching variables. The subsequent stage involved the matching process using the Nearest Neighbor Matching method to obtain the most comparable pairs between gig and conventional workers. After matching, a balance test was performed to ensure that no significant differences remained in the matching variables between the two groups. The differences in welfare levels between gig and conventional workers were then analyzed using the Average Treatment Effect on the Treated (ATT) approach to assess the extent to which employment type influences welfare outcomes. As an extended analysis, multivariate regression was applied separately to the subsamples of gig and conventional workers. This analysis aimed to identify the key determinants influencing welfare within each group, thereby providing a deeper understanding of the factors contributing to worker welfare across the two different employment forms. It is important to note that while PSM effectively reduces observable bias, it cannot fully address unobserved heterogeneity. Therefore, the findings should be interpreted as indicative rather than strictly causal, emphasizing associations conditional on the matched characteristics.

RESULT AND DISCUSSION

Before conducting the matching process, the characteristics of respondents from both groups (gig and conventional workers) were examined. A total of 400 respondents participated, comprising 200 gig workers and 200 conventional workers. The descriptive statistics revealed differences in the characteristics between the two groups, indicating the necessity of employing the Propensity Score Matching (PSM) technique to minimize selection bias.

Table 1. Characteristics of Respondents Before Matching

Characteristics	Gig Workers	Conventional Workers	p-value
Age (Average years)	31.2	35.8	0.004
Gender (% Male)	85%	65%	0.001
Education Level (% Diploma/Bachelor's Degree)	45%	60%	0.002
Location (% Urban)	92%	78%	0.001
Sector (% Services/Transportation)	88%	52%	0.000

Source: Processed data, 2025

As shown in Table 1, there are significant differences between the two groups. Gig workers tend to be younger, predominantly male, have slightly lower levels of education, and are more concentrated in urban areas as well as in the services/transportation sector. These differences justify the application of PSM to create more balanced comparison groups.

Results of Propensity Score Matching and Data Balance

The PSM procedure was conducted using the Nearest Neighbor Matching algorithm (1:1) with a caliper of 0.01. The variables used to generate the propensity scores

included age, gender, education level, location (urban/rural), and employment sector. Following the matching process, 158 pairs (158 gig workers and 158 conventional workers) were obtained, exhibiting highly similar observable characteristics. Data balance after matching was confirmed by a substantial reduction in bias and non significant p-values (> 0.05).

Table 2. Balance of Characteristics After Matching

Characteristics	Standard Bias Before	Standard Bias After	%Bias Reduction	p-value After
Age	32.50%	4.80%	85.20%	0.562
Gender	45.10%	6.20%	86.30%	0.487
Education Level	30.20%	5.50%	81.80%	0.503
Location	38.70%	3.90%	89.90%	0.621
Sector	79.50%	7.10%	91.10%	0.432

Source: Processed data, 2025

Table 2 indicates that PSM successfully reduced the bias of all covariate variables. All p-values after matching became non significant ($p > 0.05$), suggesting that no systematic differences remained between the two groups. Therefore, the 158 matched pairs were retained for the comparative welfare analysis.

Comparison of Multidimensional Welfare (After Matching)

With the respondent groups balanced following the matching process, a comparison of multidimensional welfare scores between gig workers and conventional workers was conducted. The score for each dimension was calculated as the average of the items in Section D of the questionnaire, measured on a 1–5 scale. The results presented in Table 3 show that the average overall welfare score of gig workers was 3.18, lower than that of conventional workers at 3.58, with a mean difference of -0.40 and a p-value of 0.002, indicating a statistically significant difference.

Table 3. Comparison of Mean Welfare Scores Between Groups

Dimension of Welfare	Gig Workers	Conventional Workers	Difference (ATE)	p-value
Economic Well-being	3.12	3.45	-0.33	0.015
Job Security & Safety	2.05	4.2	-2.15	0.000
Working Conditions & Autonomy	4.25	3.1	1.15	0.000
Satisfaction & Self-development	3.3	3.55	-0.25	0.058
Overall Well-being Average	3.18	3.58	-0.4	0.002

Source: Processed data, 2025

These results substantiate Precarity Theory, confirming that gig workers experience systemic instability compared to conventional employees (Van Doorn et al., 2020). Simultaneously, higher autonomy among gig workers reinforces Self-Determination Theory's assertion that autonomy enhances intrinsic motivation (Van den Broeck et al., 2021). In the economic welfare dimension, gig workers scored 3.12, while conventional

workers scored 3.45. The difference of -0.33 with a p-value of 0.015 indicates that gig workers have a lower level of economic welfare compared to conventional workers. The calculation illustrates that the total economic dimension score for gig workers was 492.96, whereas conventional workers reached 545.10. Thus, being a gig worker results in an average decrease of 0.33 points in economic welfare compared to working as a conventional worker with similar characteristics.

The job security and protection dimension revealed the most striking difference, with gig workers scoring only 2.05, far lower than the 4.20 scored by conventional workers. This gap of -2.15 is statistically significant ($p = 0.000$), reflecting the reality that conventional formal workers almost always receive labor social security protection, while coverage for gig workers remains highly limited.

Conversely, in the working conditions and autonomy dimension, gig workers reported a higher average score of 4.25 compared to only 3.10 among conventional workers. The difference of 1.15 with a p-value of 0.000 demonstrates a significant advantage for gig workers in terms of time flexibility and freedom at work. This highlights a clear trade off, whereby gig workers sacrifice income stability and employment protection to gain greater autonomy.

In the job satisfaction and self-development dimension, gig workers scored 3.30, while conventional workers reached 3.55. The difference of -0.25 was not statistically significant ($p = 0.058$), suggesting that job satisfaction and the sense of self-development are more strongly influenced by individual factors and the specific nature of the work, rather than solely by the employment status of being a gig or conventional worker.

Overall, these findings underscore significant differences in several aspects of multidimensional welfare between gig and conventional workers. Conventional workers outperform in economic welfare as well as job security and protection, whereas gig workers benefit more from working conditions and autonomy. However, job satisfaction and self-development do not appear to be significantly influenced by employment status, but rather by internal factors and the particular characteristics of the job.

Determinants of Well-being and Entrepreneurship Analysis

The extended regression analysis conducted on the sub sample of gig workers revealed several key determinants influencing their level of well-being. The most critical factor is income stability, with a coefficient of $\beta = 0.402$ and a significance level of $p = 0.000$, underscoring that stable income flows are a fundamental prerequisite for improving gig workers' well-being. In addition, access to social security was also found to exert a significant effect, with a coefficient of $\beta = 0.355$ and $p = 0.001$, indicating that social protection is a highly desired necessity in this sector. Educational attainment further contributed significantly, with a coefficient of $\beta = 0.188$ and $p = 0.022$, suggesting that education enhances gig workers' ability to secure higher paying projects. The regression results support Dual Labor Market Theory (Piore, 2018), suggesting that gig workers occupy the secondary segment characterized by lower job security. Furthermore, the positive role of education aligns with Human Capital Theory (Becker, 1964), emphasizing the importance of skill accumulation for welfare improvement.

In terms of entrepreneurial potential, 68 percent of gig workers reported agreement or strong agreement with the intention to engage in entrepreneurship. Nevertheless, they face several barriers, including limited access to capital (reported by 75 percent of respondents) and lack of knowledge on how to start a business (reported by 52 percent).

The most urgent policy support identified was the expansion of access to financing, desired by 80 percent of gig workers, followed by the provision of entrepreneurship training, as expected by 65 percent of respondents. These findings indicate that while gig workers demonstrate a strong inclination toward entrepreneurship, their success is highly contingent upon structural support in the form of financial accessibility and capacity building through training.

These results lend support to Precarity Theory, which emphasizes the inherent uncertainty embedded in gig work. This study successfully quantifies the trade off, where flexibility is exchanged for security. The PSM results provide stronger causal evidence that the observed well-being disparities are indeed attributable to employment status, rather than solely to individual background characteristics.

The substantial gap in the dimension of social security forms the basis for advocating the expansion of flexible and affordable social protection schemes for non traditional workers. On the other hand, the strong entrepreneurial aspirations and autonomy among gig workers constitute valuable assets for facilitating the transition from “gig workers” to “platform entrepreneurs” or independent entrepreneurs employing others. This aligns with the broader research objective of fostering the creation of quality employment opportunities.

Differences in Well-being Between Gig and Conventional Workers

The findings indicate that gig workers exhibit lower overall well-being scores (3.18) compared to conventional workers (3.58), with a significant gap of -0.40 points. The most striking disparity lies in the dimension of job security and protection, where gig workers lag considerably behind. This outcome lends support to Precarity Theory, which emphasizes that atypical forms of employment including the gig economy tend to generate unstable working conditions, lack protection, and are prone to social exclusion (Van Doorn et al., 2020; Pankaj & Jha, 2024; MacDonald & Giazitzoglu, 2019).

However, the results regarding working conditions and autonomy present a contrasting picture. Gig workers scored higher (4.25) than their conventional counterparts (3.10). This finding aligns with Self-Determination Theory, which posits that autonomy constitutes one of the basic psychological needs that enhances intrinsic motivation and job satisfaction. Accordingly, the study highlights a structural trade off: gig workers exchange security for freedom (Van Den Broeck et al., 2021; Autin et al., 2021; Battaglio et al., 2021).

Relation to Previous Literature and Research Gap

This study enriches academic discourse by offering several key contributions to existing research gaps. First, it both confirms and extends the findings of Cropanzano et al. (2022) and Salerno & Freni-Sterrantino (2021), who underscore health risks and weak protection mechanisms for gig workers. Through quantitative evidence based on Propensity Score Matching (PSM), this study demonstrates that job security and protection represent the most significant vulnerabilities of gig workers in Indonesia.

Furthermore, the study emphasizes the trade off between autonomy and security, as highlighted by Myhill et al. (2021). The analysis reveals that although gig workers experience lower economic well-being and weaker social protection, they enjoy substantially higher levels of work autonomy. Thus, this study offers new theoretical insights into the duality of well-being, which can be understood as a flexibility premium versus a security deficit.

The subsequent contribution lies in the research context, which focuses on a developing country. While much of the gig economy literature remains dominated by studies conducted in advanced economies (Healy et al., 2020; Wu & Huang, 2024), this study provides empirical evidence from Indonesia a nation characterized by a strong informal labor market and rapid digital platform penetration. From a methodological standpoint, the study further contributes by employing Propensity Score Matching (PSM) as the analytical approach, in contrast to earlier works that predominantly relied on descriptive methods or simple regression models (Taneja, 2024). This approach enables more robust causal estimation of the impact of employment status on well-being, while simultaneously minimizing bias arising from individual heterogeneity.

Moreover, the study contributes to the literature on the intersection of the gig economy and entrepreneurship. Whereas prior research such as Van Doorn et al. (2020) and Samad et al. (2023) primarily emphasized the vulnerabilities and potential exploitation of gig workers, this study uncovers a more transformative dimension. The data reveal that as many as 68 percent of gig workers express an interest in entrepreneurship, thereby opening new conceptual avenues to view the gig economy not solely as a precarious form of work but also as a potential pathway toward entrepreneurship.

Determinants of Welfare and Entrepreneurial Potential

The regression results identify income stability and access to social protection as the strongest determinants of gig workers' well-being. This finding is consistent with Dual Labor Market Theory (Piore, 2018), which posits that workers in the secondary labor market (gig) are more likely to encounter unstable employment, low wages, and limited social protection. In addition, the role of education underscores the relevance of Human Capital Theory (Daniere, 1965). Gig workers with higher levels of education have greater opportunities to secure better paying projects, thereby enhancing their overall well-being. In the context of entrepreneurship, the findings reveal that gig workers exhibit a relatively high entrepreneurial orientation; however, they face significant barriers, including limited access to capital (75%) and insufficient knowledge of how to start a business (52%). These conditions align with the Resource Based View (Barney, 1991), which emphasizes that resource constraints hinder the transformation of potential into competitive entrepreneurship.

Theoretical and Practical Implications

The theoretical implications of this study lie in the integration of three key conceptual frameworks. First, Precarity Theory is employed to explain the vulnerabilities faced by gig workers, particularly in relation to income instability and limited employment protection. Second, Self-Determination Theory provides insights into the importance of autonomy as a fundamental work value that shapes well-being and intrinsic motivation among gig workers. Third, this study advances the Entrepreneurial Pathway Model, emphasizing that the gig economy not only represents an alternative form of employment but also serves as a potential pathway toward sustainable self-employment and entrepreneurship.

From a practical perspective, this study highlights three significant policy implications. First, in the realm of public policy, there is an urgent need to expand inclusive and flexible social protection schemes to accommodate non-traditional workers who have long remained underserved by formal protection systems. Second, within labor policy, the provision of financial management training, income stabilization programs, and enhanced

digital literacy is crucial to strengthening gig workers' capacity to navigate the dynamics of the modern labor market. Third, in terms of entrepreneurship policy, access to microfinance and structured business incubation programs must be systematically developed to support the transition of gig workers into entrepreneurs capable of generating quality employment and contributing to inclusive economic development.

Contribution of the Study to Its Objectives

The findings of this study successfully address the stated research objectives by demonstrating that multidimensional well-being, as measured through Propensity Score Matching (PSM), reveals that gig workers lag in economic and security dimensions but possess advantages in terms of autonomy. Furthermore, the study identifies key determinants of well-being, namely income stability, social protection, and educational attainment. Another notable finding concerns policy pathways for entrepreneurial transition: the high level of entrepreneurial interest among gig workers despite constraints related to capital and capacity underscores the necessity of targeted policy interventions to enable the gig economy to function as a stepping stone toward the creation of higher-quality employment opportunities.

CONCLUSION

This study aims to evaluate and compare the well-being of gig workers and conventional workers in Surabaya, Sidoarjo, Gresik, and Mojokerto using the Propensity Score Matching (PSM) approach. The findings reveal that although gig workers benefit from greater work flexibility, they continue to face limitations in income stability, access to social protection, and labor security compared to conventional workers. In contrast, conventional workers tend to experience more consistent levels of well-being, supported by stable wage systems, legal protection, and clearer access to welfare benefits. Accordingly, the study achieves its objective of providing a comparative understanding of the well-being of the two worker groups, while highlighting significant differences across various dimensions of well-being. Based on these findings, policies should prioritize strengthening social and economic protection for gig workers without undermining the flexibility that constitutes the main attraction of this sector. Governments may design inclusive and adaptive social protection schemes for non formal workers, including access to health insurance, pensions, and labor protection. Furthermore, regulations promoting transparency in digital platforms regarding work arrangements and payment schemes are essential to ensure fairness for workers. At the same time, companies and platform providers are encouraged to foster a more sustainable work ecosystem by offering skills development programs and access to microfinance. Such measures are expected to enhance the well-being of gig workers while simultaneously supporting the creation of quality employment opportunities that can strengthen the entrepreneurial base at both local and regional level. Theoretically, this study extends Precarity and Self-Determination perspectives by empirically illustrating the autonomy–security trade-off in the Indonesian labor context. However, several limitations must be acknowledged. First, the analysis is based on cross-sectional data, which limits causal inference over time. Second, unobserved heterogeneity may persist despite the PSM approach. Future research should adopt longitudinal or mixed-method designs to capture dynamic welfare transitions among gig workers and examine how digital platforms mediate entrepreneurial transformation. Overall, the findings contribute to both theoretical discourse and policy formulation by

underscoring that improving gig worker welfare requires not only protective regulation but also empowerment through skills and entrepreneurship development.

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