

The Missing Middle: Gig Workers and Unequal Access to Social Protection in Indonesia

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Abstract

Notwithstanding Indonesia's advancements in universal health care, female gig workers continue to be insufficiently safeguarded within the Badan Penyelenggara Jaminan Sosial (BPJS) framework. This study analyzes the factors and impacts of gig employment on health insurance enrollment, utilizing data from the 2017 Indonesia Demographic and Health Survey (IDHS) for women aged 15 to 49. Logistic regression and propensity score matching (PSM) were utilized to assess both correlational and causal effects on two BPJS schemes: the government-subsidized BPJS-PBI and the contributory (self- or employer-financed) program. Findings demonstrate that gig workers are markedly less likely to be enrolled in either program, exhibiting an average treatment effect of -0.023 for BPJS-PBI and -0.098 for BPJS-Contributory, even when accounting for age, education, wealth, and household attributes. The data indicate that inconsistent income, bureaucratic obstacles, and insufficient employer affiliation systematically restrict women's access to health protection. The study shows that Indonesia's existing dual-track insurance policy inadvertently excludes individuals in precarious and flexible work. Policy improvements, including flexible premium methods, digital platform integration, dynamic eligibility procedures, and gender-sensitive design, are crucial to closing this protection gap. In the absence of such changes, universal health coverage may exacerbate inequality instead of eradicating it.

Keywords: gig economy, social protection, propensity score matching, women

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1. Introduction

The emergence of the gig economy has significantly transformed conventional labor practices, characterized by a growing frequency of temporary, flexible, and on-demand work arrangements (Alauddin et al., 2025; Oranburg & Palagashvili, 2018). This transition has established a novel category of gig workers who generally undertake temporary tasks or projects,

with digital platforms significantly facilitating the worldwide proliferation of this labor force (Alauddin et al., 2025; G, 2024; Malik et al., 2021). The swift proliferation of the gig economy, propelled by digital platforms, has fundamentally transformed conventional employment relationships, frequently resulting in gig workers lacking sufficient access to social protection mechanisms (Chatterjee & Sengupta, 2024).

The gig economy offers flexibility and new income opportunities, although it also subjects workers to vulnerabilities, including income instability, lack of health insurance, and the absence of employer-sponsored benefits, highlighting the necessity for comprehensive social safety measures (Behrendt et al., 2019; Chatterjee & Sengupta, 2024). The initiatives seek to reduce health risks linked to psychological stress due to job insecurity and insufficient health and social insurance, especially in nations without a robust public health infrastructure. The initiatives seek to reduce health risks linked to psychological stress due to job insecurity and insufficient health and social insurance, especially in nations without a robust public health infrastructure (Bajwa et al., 2018). Extending social safety coverage to encompass gig workers is increasingly acknowledged as vital for mitigating inequality and fostering inclusive economic growth (Chatterjee & Sengupta, 2024; Ostry et al., 2014).

Indonesia has witnessed a swift proliferation of platform-based gig employment, especially in the transportation and delivery sectors, fueled by the extensive utilization of mobile applications. The rapid expansion of platform-based work in Indonesia, including online transportation services, has transformed traditional employment relationships into partnership-based arrangements that often exclude workers from basic labor rights and social protection schemes (Annazah et al., 2023). However, its comprehensive BPJS social protection framework encounters institutional obstacles in enrolling gig workers categorized as independent contractors, leading to continuous policy deliberations regarding portable benefit schemes and taxation models to more effectively incorporate these workers into the national protection system (Himani Srihita et al., 2025).

Indonesia is among developing countries with a significant proportion of temporary employment, including 80 to 90 percent of all contracts, underscoring the imperative for policymakers to enhance labor standards and provide sufficient social security for non-standard and gig workers (Zeid et al., 2024). Indonesia has undertaken substantial initiatives to provide social protection via the BPJS programs, encompassing self-employed and informal workers. Nonetheless, the nation persists in encountering difficulties in providing sufficient coverage and occupational safety for platform-based and gig workers, especially in swiftly expanding areas like transportation and delivery services (ILO, 2025).

The global and national reorganization of labor markets increasingly demonstrates that female workers occupy some of the most precarious positions within flexible or "gig" employment. In Indonesia, female workers frequently encounter a combined burden of earning revenue while concurrently handling unpaid domestic and caregiving duties, which limits their capacity to sustain steady social insurance coverage. A recent study by Laksono et al., (2022)

revealed that women of lower socioeconomic position were markedly less likely to possess national health insurance (JKN) than men, underscoring gender as a pivotal factor in social protection engagement within Indonesia's labor market.

In the expansive framework of the gig and informal economy, cross-national studies indicate that women predominate in flexible employment while encountering compounded institutional obstacles—stemming from the characteristics of such work and from social insurance systems structured around male, full-time job paradigms. A Chatham House analysis highlights that informal and platform-based workers, especially women, are predominantly excluded from contributory health and employment insurance programs due to income instability, administrative intricacies, and domestic caregiving responsibilities (Sabatini, 2021).

Notwithstanding the comprehensive policy initiatives and international dialogues, empirical data about the effective integration of contract workers inside Indonesia's social protection framework remains scarce, especially with the assessment of policy design efficacy and coverage inequalities. Under specific circumstances, gig workers, especially women, are more susceptible to wage discrimination (Benach & Muntaner, 2007; Tran & Sokas, 2017). In Indonesia, platform workers are primarily male, and a significant gender wage disparity exists, with male workers earning roughly 9% higher gross hourly wages and 31% higher net hourly wages than female workers (Royono et al., 2025). Women in Indonesia experience structural labor market disadvantages—lower participation, heavier domestic burdens, and lower access to quality jobs (Raihannabil et al., 2025). This signifies that female gig workers encounter heightened employment uncertainty relative to their male colleagues.

This study focuses specifically on BPJS Kesehatan, Indonesia's national health insurance program and the foundation of the nation's universal health coverage initiative. BPJS Kesehatan, as a compulsory social insurance program, aims to ensure fair access to vital health services for the public; however, its institutional framework is predominantly connected with conventional employer–employee structures. This system presents intrinsic issues for gig and other non-standard workers, as their unpredictable income, uncertain employment status, and inadequate administrative support hinder consistent membership and contribution. This study analyzes the effectiveness of BPJS Kesehatan in accommodating platform-based and informal labor, identifies ongoing coverage gaps—especially among female gig workers—and evaluates the broader implications for providing meaningful and inclusive health protection to a more flexible workforce.

Comprehensive This study seeks to evaluate the effectiveness of Indonesia's national health insurance plan (BPJS Kesehatan) in providing coverage for gig and non-standard workers. This study aims to (i) evaluate disparities in health insurance ownership between female gig and non-gig workers, (ii) identify socioeconomic and demographic factors influencing enrollment, and (iii) assess policy implications for extending universal health coverage to encompass informal and platform-based workers.

2. Research method

This study employs microdata from the 2017 Indonesia Demographic and Health Survey (IDHS) to examine disparities in health insurance coverage between gig and non-gig workers. The investigation employed a binary logistic regression model to evaluate the likelihood of BPJS Kesehatan ownership in relation to employment status and individual socioeconomic factors. Robustness checks utilizing multinomial logit and Propensity Score Matching (PSM) specifications are conducted to differentiate between BPJS-only, private, and uninsured categories, while mitigating selection bias arising from observable factors.

2.1. Model

The dependent variable Y_i equals 1 if an individual owns *BPJS Kesehatan* and 0 otherwise, where "otherwise" refers to persons lacking any health insurance or those insured through non-BPJS schemes, including private or employer-sponsored plans.

The key explanatory variable Gig_i identifies self-employed workers without paid employees, based on IDHS variables. In line with ILO definitions, *gig workers* are operationalized as respondents who report being self-employed and do not employ others.

Control variables include age and age squared, education, residence (urban/rural), household wealth quintile, marital status, and household size. The main model is a weighted logistic regression specified as follows:

$$\Pr(Y_i = 1|X_i) = \delta(\beta_0 + \beta_1 Gig_i + X_{i\gamma} + u_i)$$

Where $\delta(z) = 1/(1 + e^{-z})$

The coefficient β_1 denotes the marginal impact of gig employment on the probability of BPJS Kesehatan ownership. All estimates use survey weights, clustering, and stratification, with results displayed as average marginal effects (AME) with robust standard errors.

2.2. Propensity Score Matching (PSM)

Due to potential disparities in visible traits between gig and non-gig workers, Propensity Score Matching (PSM) is employed as a robustness check to mitigate selection bias. The propensity score denotes the anticipated likelihood of being a gig worker, derived from the subsequent logistic model:

$$\Pr(Gig_i = 1|Z_i) = \beta(\alpha_0 + Z_i'\alpha + e_i)$$

Where Z_i includes observable covariates such as age, education, residence, marital status, and household wealth.

Each gig worker is then matched with one or more non-gig counterparts with similar propensity scores using the nearest-neighbor and kernel matching algorithms. The *Average Treatment Effect on the Treated (ATT)* is computed as:

$$ATT = E[Y_i(1) - Y_i(0) | Gig_i = 1] = \frac{1}{N_{treated}} \sum_{i \in treated} (Y_i - \sum_{j \in control} \omega_{ij} Y_j)$$

Where w_{ij} denotes the matching weight for control unit j matched to treated unit i . This approach ensures that differences in *BPJS Kesehatan* ownership reflect disparities associated with gig employment rather than confounding socioeconomic characteristics.

The analytical sample consists of currently employed women aged 15–49, excluding unpaid family workers and respondents with missing insurance data. Sampling weights are applied. The methodological framework combines weighted logistic regression and propensity score matching to accurately assess the likelihood of *BPJS Kesehatan* ownership among gig workers, while mitigating selection bias and complexity in sample design. This combination strengthens the validity of findings and offers more trustworthy information regarding discrepancies in health insurance ownership across work kinds in Indonesia.

3. Results and Discussion

3.1. Descriptive Statistics

Table 1 displays the descriptive statistics of the primary variables utilized in the investigation. It presents a summary of the demographic and socioeconomic attributes of respondents, encompassing age, education, domicile, wealth quintile, marital status, and household size. The table additionally presents the percentage of individuals classified as gig workers. These statistics provide an initial insight into the sample makeup and serve as the foundation for the ensuing empirical study investigating the relationship between work status and social protection coverage.

Table 1. Descriptive Statistics of Main Study Variables

Variable	Percentage (%)	Mean
BPJS-PBI		
1: Yes	1: 32.41	
0: Other	0: 67.59	
BPJS-Contributory		
1: Yes	1: 25.82	
0: Other	0: 74.18	
Gig Worker		
1: Gig worker	1: 58.11	
0: Non-gig	0: 41.89	
Age		34
Education		
1. ≤ Primary	1: 28.93	
2. Secondary	2: 49.26	
3. Higher	3: 21.81	
Residence		
1. Urban	1: 53.45	
0. Rural	0: 46.55	
Wealth		
1. Poorest	1: 21.93	

Variable	Percentage (%)	Mean
2. Poorer	2: 18.05	
3. Middle	3: 18.74	
4. Richer	4: 19.88	
5. Richest	5: 21.40	
Marital Status		
1. Married	1: 73.07	
0. Single	0: 26.93	
Household Size		
1. 1-3	1: 23.59	
2. 4-9	2: 72.87	
3. 10+	3: 3.54	
Observation	29,647	

Source: Author's calculation based on the 2017 Indonesia Demographic and Health Survey (IDHS) individual women dataset

Table 1 shows the attributes of women encompassed in the analytical sample derived from the 2017 Indonesia Demographic and Health Survey (IDHS). Approximately 32.4 percent of respondents were registered in the government-subsidized BPJS-PBI program, while only 25.8 percent participated in the contributory system. This disparity illustrates the ongoing fragmentation in Indonesia's health insurance system, where a significant proportion of informal or semi-formal workers rely on subsidized coverage or are completely uninsured.

Over fifty-eight percent of the sample were identified as gig workers, signifying the increasing prevalence of flexible and non-traditional employment among women. The mean age of respondents was 34 years, indicating that the majority of participants are within their prime working and reproductive years—an age demographic where access to social protection is very significant.

Educational achievement demonstrates a little increase: almost fifty percent of women completed secondary education, while twenty percent achieved further education. Nonetheless, around 29 percent have only primary education or less, underscoring persistent educational inequalities. The majority of participants lived in urban regions (53.5 percent), aligning with the demographic composition of the IDHS sample, and wealth distribution was rather uniform across quintiles.

Approximately seventy-five percent of respondents were married, and the majority resided in modestly sized homes consisting of four to nine people. These patterns highlight the economic and caring obligations shouldered by women within Indonesia's working-age demographic elements that may affect both labor participation and health insurance enrollment choices.

3.2. Marginal Effect from Logistic Model

Table 2. displays the marginal effects derived from two distinct logistic regression models assessing the factors influencing participation in BPJS Kesehatan schemes. Model 1 analyzes the probability of enrollment as a BPJS-PBI (government-subsidized) member, while Model 2

investigates the likelihood of coverage under the BPJS–Contributory scheme (self-financed or employer-financed). The findings indicate divergent socio-economic patterns between the two schemes, illustrating the dual-tier structure of Indonesia's health insurance system.

Table 2. Determinants of BPJS Participation: Marginal Effects from Logistic Regression Models

Variable	BPJS-PBI (Subsidized Social Health Insurance for the Poor)	BPJS-Contributory (Self-Financed or Employer-Paid National Health Insurance)
Gig Worker	-0.0190**	-0.11874***
Age	-0.0174***	0.0082
Age Square	0.00026***	0.0001
Education		
(Base Group:		
≤ Primary		
Secondary	-0.0739***	0.15363***
Higher	-0.1585***	0.31661***
Residence (Base Group: Rural)	0.01377	0.0405***
Wealth (Base		
Group:		
Poorest)		
Poorer	-0.0672***	0.0868***
Middle	-0.1644***	0.1569***
Richer	-0.2324***	0.2442***
Richest	-0.3312***	0.3245***
Marital Status (Base Group: Single)	-0.0149	0.0754***
Household		
Size (Base		
Group: 1-3)		
4-9	0.0809***	-0.0266***
10+	0.1047***	-0.0236

Significance: *** $p < 0.01$, ** $p < 0.05$

Source: Author's estimation using DHS 2017 (female sample, $N = 29,647$)

Table 2 presents the marginal effects derived from logistic regression models analyzing the factors influencing membership in the two primary BPJS schemes. The government-subsidized BPJS–PBI and the contributory program funded either individually or via employers. The findings consistently indicate a statistically significant disadvantage for women participating in gig labor across various models. Gig workers have a 1.9 percentage point lower likelihood of enrollment in BPJS–PBI and an 11.9 percentage point lower likelihood of possessing contributing coverage in comparison to similarly comparable non-gig workers. The extent of the latter consequence is notably significant, highlighting a systemic deficiency in social protection for women whose employment arrangements are not encompassed by conventional pay systems. These women do

not qualify for subsidies nor receive employer-based contributions, exemplifying Indonesia's "missing middle" in health insurance coverage.

Age exhibits a predicted non-linear trajectory concerning PBI participation. The negative linear and positive squared components indicate that the probability of obtaining subsidized coverage diminishes in early adulthood but experiences a slight increase in later years, mirroring shifts in economic vulnerability throughout the life span. In contrast, no notable age gradient is seen for contributory membership, which corresponds with the reality that formal employment prospects in Indonesia do not necessarily escalate with age, particularly for women in informal or flexible roles.

Educational attainment stands up as a significant differential between the two plans. Women with secondary or tertiary education are significantly less inclined to depend on PBI compared to those with primary education or less, however they are considerably more likely to engage in contributory BPJS. The educational gradient reflects the stratification of Indonesia's labor market, wherein formal employment with consistent contributions is predominantly held by persons with higher education.

Spatial and economic disparities continue to endure. Urban inhabitants and affluent households are disproportionately represented in contributing coverage, whereas rural and impoverished populations continue to rely on PBI. The coefficients illustrate a distinct socioeconomic gradient: each subsequent wealth quintile decreases the probability of PBI enrollment while increasing the likelihood of contributory participation — a predictable yet policy-significant observation that underscores the robust income correlation inherent in BPJS's dual-track framework.

Marriage and household structure offer more understanding of gendered dynamics. Married women are more inclined to be enrolled in the contributing plan, typically via a spouse's job or combined economic resources. Larger households are associated with increased PBI involvement and decreased contributory membership, aligning with the idea that larger families encounter stricter financial limitations, leading to a heightened need on government assistance.

These results illustrate a distinct socioeconomic stratification within Indonesia's universal health coverage system: the impoverished are safeguarded by PBI, the formally employed by contributory insurance, while gig workers occupy an intermediary position—underinsured and institutionally overlooked.

3.3. Propensity Score Matching

Initially measuring the average treatment effects, a balancing test and common-support analysis were conducted to assess the efficacy of the matching technique. Table 3 depicts the distribution of propensity scores for treated (gig) and untreated (non-gig) workers, highlighting the extent of overlap between the groups.

Table 3. Covariate Balancing Test Before and After Matching

Sample	$P_s R^2$	$LR \chi^2$	$P > \chi^2$	Mean Bias (%)	Median Bias (%)	B (%)	R	% Var Different
Unmatched	0.078	2365.03	0.000	27	35.5	68.7*	0.79	60
Matched	0.000	5.01	0.659	0.7	0.3	3.3	1.04	20

* Note: A good balance is achieved when Mean Bias < 5%, B < 25%, and R ∈ [0.5,2].

Source: Author's calculation based on the 2017 *Indonesia Demographic and Health Survey (IDHS)*.

Table 3 presents the covariate balancing diagnostics prior to and after to matching. The average standardized bias among variables diminished from 27.0% to 0.7%, the covariates ceased to elucidate treatment assignment post-matching. The likelihood ratio chi-square test ($p = 0.659$) is not significant, indicating that observable features between the treated and control groups are statistically balanced. The bias ratio ($B = 3.3\%$) and variance ratio ($R = 1.04$) are also within the permitted limits, indicating a well-balanced matched sample appropriate for causal interpretation of the ATT estimations.

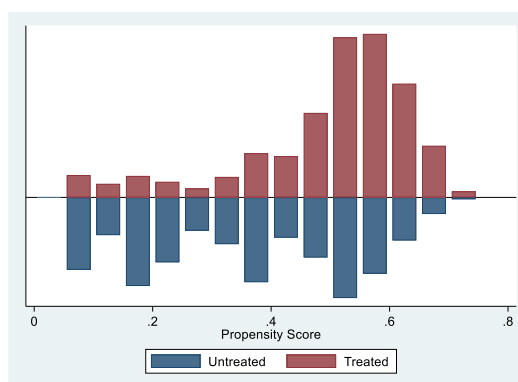


Figure 1. Distribution of Propensity Scores between Treated (Gig Workers) and Untreated (Non-Gig Workers)

Source: Author's calculation based on the 2017 *Indonesia Demographic and Health Survey (IDHS)*

Figure 1 demonstrates substantial overlap in the region of common support, particularly between scores 0.3 and 0.7, implying that most treated observations have comparable counterparts among controls. This confirms that the propensity-score matching successfully balanced observable characteristics between gig and non-gig workers.

A propensity score matching (PSM) approach was employed to ascertain if the observed inequalities are solely compositional or indicative of authentic structural exclusion. The PSM analysis evaluates gig and non-gig workers with comparable demographic and socioeconomic characteristics to ascertain the cause disparity in BPJS enrollment probabilities. Table 3 displays the expected Average Treatment Effect on the Treated (ATT) for both BPJS-PBI and BPJS-Contributory participation. This stage enables the study to discern the impact of gig work itself— independent of variations in age, education, wealth, or location—and to assess whether job

precarity independently contributes to the absence of insurance coverage among women in Indonesia's changing labor market.

Table 4. Propensity Score Matching Results: Effect of Gig Work on Health Insurance Coverage

Outcome Variable	Sample	Treated (Gig Workers)	Control (Non-Gig Workers)	Difference (ATT)
BPJS-PBI (Government Subsidized)	Unmatched	0.3035	0.2763	0.0272***
	Matched	0.3035	0.3269	-0.0233**
BPJS-Contributory (Self-employee / Employer)	Unmatched	0.2064	0.3860	-0.1796***
	Matched	0.2064	0.3043	-0.0979***

Significance levels: $p < 0.05^{**}$, $p < 0.01^{***}$

Source: Author's calculation based on the 2017 Indonesia Demographic and Health Survey (IDHS)

The findings from the propensity score matching study (Table 4) confirmed and enhance the trends identified in the logistic models. Despite comparing women with similar socioeconomic backgrounds, membership in both subsidized and contributory BPJS remains diminished due to employment in the gig economy. The -0.023 effect for BPJS-PBI indicates that women involved in gig or non-standard employment are significantly less likely to obtain government-subsidized health insurance when background variables are controlled for. Initially, this may appear contradictory, as numerous gig workers look economically precarious.

In practice, their wages frequently fluctuate too significantly to dip below local poverty standards, while the administrative constraints of PBI—restricted quotas, domicile verification, and periodic recertification—establish a structural impediment. Numerous female gig workers relocate between districts or provinces for temporary employment and forfeit eligibility due to Indonesia's health insurance system being linked to residency and formal identification. Consequently, mobility, informality, and inadequate administrative enforcement collectively preclude their access to subsidies despite their evident financial need.

The significant adverse impact (-0.098) on BPJS-Contributory participation indicates a dual dimension of exclusion: financial accessibility and organizational structure. Women engaged in gig employment seldom receive regular salaries; they are responsible for their own premiums, typically paid via digital platforms with monthly deadlines and stringent penalties for late payments. When income varies—frequently observed among online vendors, ride-hailing partners, and home-based freelancers—premium payments are the initial expenses postponed.

Upon defaulting on payments, a member must make a lump-sum payment and endure a waiting period for reinstatement, thereby excluding them from coverage. The extent of this effect suggests that around one in ten otherwise similar women forfeit contributing coverage just due to the unstable nature of their employment. This aligns with the overarching Indonesian trend where the social-insurance framework was constructed for wage earners and only marginally modified for the informal sector.

These findings directly address the realities of gendered labor. The majority of female gig workers engage in positions that integrate money generating with caregiving duties—such as selling, tutoring, or content creation—allowing them to accommodate unpaid domestic chores. Their "flexibility" is a requirement rather than an option, and it is achieved at the expense of stable social protection. In rural and peri-urban regions, where household sustenance relies on diverse revenue sources, the administrative and financial rigor mandated by BPJS–Contributory is fundamentally incongruent with women's employment patterns. The results underscore both economic and institutional gender bias: a system that tacitly presumes continuous, male-pattern work fails to appropriately insure women whose labor is intermittent, fragmented, and geographically mobile.

These findings correspond with an expanding literature of empirical research in developing contexts. Behrendt et al., (2019) identify comparable deficiencies in contributory social insurance for self-employed and platform-based workers, mostly attributable to income volatility and administrative disarray. Similar findings are seen in India, where Chatterjee & Sengupta, (2024) indicate that bureaucratic verification and domicile-based eligibility hinder gig workers from participating in subsidized health programs. Similarly, Zeid et al., (2024) emphasize that Indonesia's dual-track BPJS system exemplifies a wider "missing middle" phenomenon, also seen in Thailand and the Philippines, where flexible and semi-formal workers are situated between social assistance and formal insurance. These analogies strengthen the validity of the current findings and highlight that the exclusion of female gig workers is not simply an economic oddity but a systemic design problem prevalent in developing social insurance frameworks.

Policy responses must acknowledge this fundamental discrepancy. Incremental subsidy expansion will be inadequate without the implementation of streamlined re-enrollment, arrears forgiveness, and premium flexibility for irregular earnings. Incorporating BPJS payment methods into platform revenue streams—minor automatic deductions with grace periods—may enhance coverage stability. The decoupling of eligibility from fixed domicile is also significant, enabling women who relocate for caregiving or temporary employment to retain uninterrupted protection. In the absence of these measures, Indonesia's pursuit of universal health care threatens to solidify a dual system: the formally insured and the informally unprotected, with female gig workers predominantly in the latter category.

4. Conclusion and Recommendations

The research indicates that female gig workers are consistently marginalized from Indonesia's universal health care, trapped between the subsidized BPJS–PBI and the contributory system. Their exclusion stems not from ignorance but from structural and institutional discrepancies—income volatility, inflexible premium schedules, domicile-based verification, and the lack of job affiliation. To address this disparity, the government must reform BPJS by incorporating flexibility and digital integration: facilitating micro-premium or percentage-based

payments via gig platforms, connecting enrollment with national ID and income databases to ensure mobility, and providing partial subsidies for near-poor informal earners.

Complementary changes, including arrears amnesty, installment payback, and gender-sensitive protections for women managing caregiving and income, would mitigate dropout risks. Universal health care in Indonesia will be truly "universal" only when the policy framework accommodates the realities of women's informal and digital labor, guaranteeing that flexible employment does not equate to inadequate protection.

This study has several limitations. First, using the 2017 IDHS confines the analysis to an early phase of Indonesia's gig economy, which does not reflect the rapid post-2019 evolution of informal and flexible work arrangements (Raihannabil et al., 2025). Second, the classification of gig workers relies on a simplified self-employment definition, whereas national evidence shows that platform-based work involves distinct vulnerabilities stemming from partnership contracts and the absence of standard labor protections (Annazah et al., 2023). Third, the dataset lacks key dimensions of gig work such as income instability, working hours, platform fees, and occupational risks despite empirical findings that informal workers consistently face worse employment conditions than formal workers (Aqil, 2023). Lastly, because the sample is limited to women aged 15–49, the findings cannot be generalized to male gig workers or older populations who may experience different barriers to social protection access.

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