
Youth Bulge and Gig Work: Rethinking Indonesia's Labor Market Transformation through Demographic Perspective

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Abstract

Indonesia's continuous demographic transition, characterized by a significant youth bulge, creates advantages as well as challenges to the country's labor market. This article examines the impact of demographic factors in determining the rise of gig work and reassess Indonesia's labor market transition from a demographic viewpoint. The study focuses on how the dominance of younger generations (15 to 24 years old) in the working-age population affects involvement in the gig work. The analysis analyzes age structure, educational attainment, and digital literacy as significant demographic drivers of employment patterns. This study uses a mixed method, with simple linear regression as quantitative approach and descriptive as qualitative approach, drawing on secondary data. The findings indicate that the youth bulge has contributed considerably to the growth of gig work. However, inadequate absorption into the formal labor market due to skill mismatches and delayed job growth has forced many young workers into precarious gig arrangements with little social safety and career security. The paper concludes that leveraging Indonesia's demographic advantage necessitates policy interventions that match youth characteristics with long-term employment opportunities, particularly through digital skills development, adaptive labor regulations, and inclusive social protection schemes for gig workers.

Keywords: Gig work, Indonesia, Youth Bulge

1. Introduction

Indonesia is currently experiencing one of the most significant demographic shifts in its modern history. The country's population structure is dominated by a large cohort of young people entering the labor market, a phenomenon widely known as a youth bulge (Urdal, 2004). This demographic pattern occurs when a substantial proportion of a nation's population falls within the young working-age category, generally between 15 and 24 years old. In theory, such a demographic condition represents a potential demographic dividend when a period in which a large share of productive-age citizens could boost economic growth through higher labor participation and productivity. This phenomenon can also be indicated by observed fertility rates and often occurred in developing countries (Jimenez & Murthi, 2006). Figure 1 shows that the fertility rate in Indonesia has declined year on year, reaching 2.13 in 2023 (Statista, 2025). Countries with declining fertility have more people

of working age than children and the elderly, which increases the amount of income available per dependent (Standing, 2014). However, the potential benefits of this demographic advantage are not automatic. They depend heavily on the economy's ability to provide sufficient, stable, and decent employment opportunities that can absorb this expanding pool of young workers.

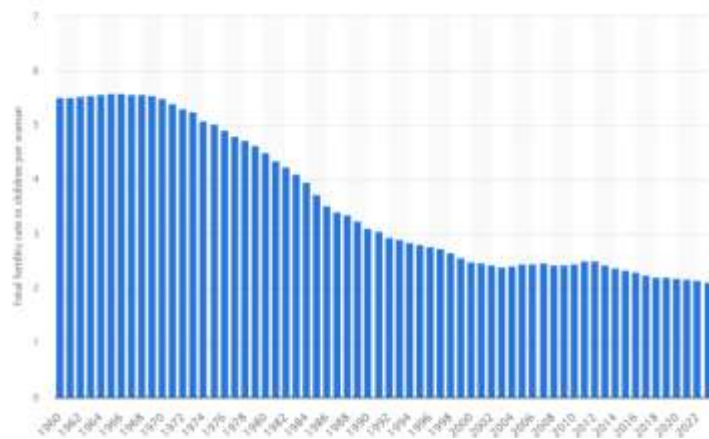


Figure 1. Total fertility rate in children per woman in Indonesia from 1960 to 2023

Source: Statista (2025)

Over the past decade, Indonesia's labor market has undergone a structural transformation driven by both technological and demographic forces. While industrialization and services have continued to expand, formal employment growth has not kept pace with the rising number of job seekers. Consequently, many young people have turned to the informal sector or gig-based work arrangements as an alternative source of income. The gig economy defined by flexible, short-term, and often platform-mediated forms of employment (Myhill et al., 2021), has rapidly emerged as a defining feature of the country's contemporary labor dynamics. Digital platforms such as ride-hailing, delivery services, and online freelancing have become increasingly popular among young Indonesians who value autonomy and flexibility, or who are unable to secure permanent positions in the formal sector (Muhyiddin et al., 2024). Yet, this flexibility often comes at the cost of security, stability, and protection, as most gig workers operate without access to social security, collective bargaining rights, or predictable income streams.

The rise of gig work, therefore, reflects a broader paradox within Indonesia's development trajectory: while digitalization and demographic growth signal modernization and opportunity, they also reinforce patterns of economic precarity. Youths who enter gig work may appear "employed" in official statistics, yet their employment quality remains uncertain. As the number of young workers continues to rise, this trend raises a critical question about whether Indonesia is successfully transforming its labor market in a way that ensures long-term, inclusive, and sustainable employment. Without strategic interventions, the youth bulge could shift from being an economic advantage to a demographic burden, particularly if a large share of the population becomes trapped in low-productivity and insecure jobs.

From a demographic perspective, analyzing the relationship between the youth bulge and labor market outcomes offers valuable insights into the structural challenges Indonesia faces. Demography

is not merely a background variable; it shapes the very foundation of economic growth and employment formation (Usman et al., 2023). A demographic surplus of youth creates pressures on the labor market, influencing wage structures, job competition, and labor informality. At the same time, technological advancements have enabled new forms of employment that redefine traditional work boundaries. The intersection between these two trends—the demographic boom and the digital transformation of work—makes Indonesia an important case for examining how societies adapt to simultaneous demographic and technological transitions.

Existing studies on youth employment in Indonesia have largely focused on unemployment rates, skill mismatches, or education quality, but relatively few have explored the intersection between demographic dynamics and the emergence of gig work. Most policy discussions remain centered on job creation in formal sectors, overlooking how young workers navigate hybrid or non-traditional employment spaces. Moreover, the informal and gig sectors have often been treated as secondary or temporary phenomena, even though they represent a growing share of Indonesia’s employment landscape. A deeper understanding of this relationship can provide a more realistic picture of how young people participate in the economy, and how demographic change interacts with labor market flexibility, precarity, and inequality.

The labor market has an important role in a country’s economy (Raihannabil et al., 2025). Thus, this research seeks to fill that analytical gap by examining the relationship between Indonesia’s youth bulge and the rise of gig and informal work within the broader transformation of the national labor market. By employing a demographic perspective, the study aims to understand whether the growing proportion of young people in the population has contributed to an expansion of informal or platform-based employment. Furthermore, it aims to evaluate whether this trend represents a form of adaptive flexibility that supports youth inclusion, or rather a symptom of limited formal sector absorption. Through this analysis, the research intends to contribute to both theoretical and policy discussions on how Indonesia can effectively harness its demographic potential while ensuring fair and sustainable employment for young workers.

2. Research method

2.1. Data and Source of Data

The data used in this research is secondary data. This research used 6 observations from 2018 to 2023.

Table 1. Data and Data Sources

Variables	Description	Unit	Data Source
PAG	Population by Age Group	People	BPS
IEA	Proportion of Informal Employment by Age Group	Percent (%)	BPS

Source: Badan Pusat Statistik Indonesia (2018); Badan Pusat Statistik Indonesia (2023); Processed

2.2. Method Design and Formulation

This research applies a quantitative methods approach combining quantitative and qualitative methods. The quantitative method was conducted through simple linear regression model analysis to measure the empirical effect of one independent variable on the dependent variable, while the qualitative method was used through descriptive analysis to interpret the findings contextually and in depth. All data were obtained from various credible and relevant secondary sources, including journal articles, books, official news reports, and websites. In this research, the author used Statistical Product and Service Solutions (SPSS) software to process data using a simple linear regression model.

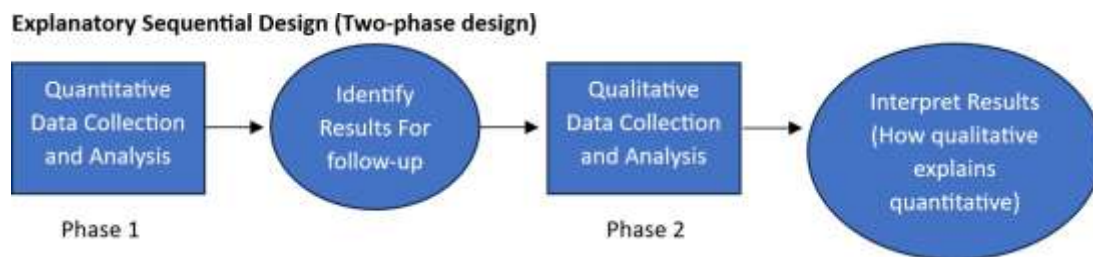


Figure 2. Explanatory Sequential Design (Two-phase design)

Source: Creswell & Creswell (2022) ; Processed

Explanatory Sequential Design with a two-phase design is a combination carried out in two consecutive stages. In the first stage, the study collects and analyzes quantitative data to identify relationships between variables, while the second stage involves qualitative analysis to explain and deepen the quantitative findings (Creswell & Creswell, 2022).

2.2.1 Quantitative through Simple Linear Regression

This study uses a quantitative method through a simple linear regression model. Simple linear regression is a statistical analysis method used to identify, measure, and explain the relationship between one independent variable (X) and one dependent variable (Y) (Seltman, 2018). The purpose of using this method is to predict the value of variable Y based on the value of variable X. In addition, this model is also used to see how much influence variable X has on variable Y.

The comparison of these variables is done to support the authors' argument. The general equation used for the simple linear regression model can be expressed as follows:

$$y = a + bx$$

In the above formula, it can be interpreted that:

y = dependent variable or influenced variable,

x = independent variable or influencing variable

a: y-intercept of the regression line, which represents the predicted value of *y* when the independent variable *x* is zero.

b: the slope of the regression line, which indicates how much change in *y* is expected for each one-unit increase in *x*

2.2.2 Data Processing Stages

The data processing stages carried out by the author are as follows.

- 1) Entering the value of variable *X*. This study uses the Youth population (15–24 years old) obtained through an official publication by the Indonesian Central Statistics Agency (BPS) titled “Jumlah Penduduk Menurut Kelompok Umur dan Jenis Kelamin”. The next step is entering the value of variable *Y*. This study uses the Proportion of Informal Employment obtained through an official publication by the Indonesian Central Statistics Agency (BPS) titled “Proporsi Lapangan Kerja Informal Menurut Kelompok Umur”.

Table 2. Variable *X* and Variable *Y*

Year	Population by Age Group (People)	Proportion of Informal Employment by Age Group (Percent)
2018	44066200	41.81
2019	44211800	39.58
2020	44995000	46.85
2021	44777600	44.77
2022	44653900	43.24
2023	44495300	44.34

Source: Badan Pusat Statistik Indonesia (2018); Badan Pusat Statistik Indonesia (2023); Processed

- 2) Formulating hypotheses and decision-making basis

Hypothesis

*H*₀: There is no significant effect between the Youth population (15–24 years old) (*X*) on the Proportion of Informal Employment (*Y*).

*H*_a: There is a significant effect between the Youth population (15–24 years old) (*X*) on the Proportion of Informal Employment (*Y*).

Confidence level 95%, alpha error value (α) = 0.05.

Basis for decision making:

- If the sig value is < 0.05, then there is a significant effect of variable X on variable Y.
- If the sig value is > 0.05, then there is no significant effect of variable X on variable Y

2.2.3 Qualitative through descriptive approach

Qualitative methods have a different approach to scientific research compared to quantitative research methods. Writing a qualitative research paper requires explaining to readers the purpose of qualitative research, specifying the design, reflecting on the role of the researcher in the study, utilizing an evolving list of data sources, using specific protocols for data recording, analyzing information through various analytical steps, as well as mentioning approaches to documenting methodological integrity, accuracy, or validity of the collected data (Creswell & Creswell, 2022).

This research emphasizes the exploration of meaning and conceptual interpretation of social phenomena through searching for relevant written sources. In the data collection process, researchers will use literature studies from various credible and relevant sources. These sources include official government publications and news media as well as academic literature in the form of journal articles and books related to the research “Youth Bulge and Gig Work: Rethinking Indonesia’s Labor Market Transformation through Demographic Perspective”.

In conducting interpretations for qualitative research, several procedures are involved: summarizing the overall findings, comparing the findings with the literature, discussing personal views on the findings, and stating limitations and future research.

3. Results and Discussion

3.1 Quantitative interpretation

Correlations			
		Population (15-24)	Informal Workers
Population (15-24)	Pearson Correlation	1	.872 [*]
	Sig. (2-tailed)		.023
	N	6	6
Informal Workers	Pearson Correlation	.872 [*]	1
	Sig. (2-tailed)	.023	
	N	6	6

*. Correlation is significant at the 0.05 level (2-tailed).

Figure 3. Table of Correlation

Source: Processed

The correlation analysis shows a strong positive and statistically significant relationship between the youth population (aged 15–24) and the proportion of informal workers, with a Pearson correlation

coefficient of $r = 0.872$ and a significance level (p-value) of 0.023 ($p < 0.05$). This indicates that as the youth population increases, the proportion of informal workers also tends to increase. The strength of this relationship suggests that demographic changes, particularly the expansion of the youth population, may be strongly associated with the growth of informal employment.

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.872 ^a	.761	.701	1.37866

a. Predictors: (Constant), Population (15-24)

Figure 4. Table of Model Summary

Source: Processed

The results of the regression analysis, as presented in the *Model Summary* table (Figure 4), indicate that the model demonstrates a relatively strong explanatory power. The correlation coefficient (R) value of 0.872 shows a strong positive relationship between the youth population (aged 15–24) and the proportion of informal workers. The R Square value ranges from 0 to 1, with 1 indicating that the model can explain all data variations. The coefficient of determination (R Square = 0.761) implies that approximately 76.1% of the variation in informal employment can be explained by changes in the youth population, while the remaining 23.9% is influenced by other variables not included in the model. The Adjusted R Square value of 0.701 confirms that even after adjusting for sample size, the model maintains substantial explanatory capability. This finding suggests that fluctuations in the youth population are closely associated with variations in informal employment levels across the observed periods or regions.

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	24.200	1	24.200	12.732	.023 ^b
	Residual	7.603	4	1.901		
	Total	31.803	5			

a. Dependent Variable: Informal Workers

b. Predictors: (Constant), Population (15-24)

Figure 5. Table of ANOVA

Source: Processed

The *ANOVA* results (Figure 5) further support the model's validity. The calculated F-statistic of 12.732 with a significance value (Sig.) of 0.023 indicates that the regression model is statistically significant at the 5% level ($p < 0.05$). This means there is sufficient evidence to reject the null hypothesis that the youth population has no effect on informal employment. In other words, the

independent variable (youth population aged 15–24) contributes meaningfully to explaining the variation in the dependent variable (informal workers).

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1					
	(Constant)	-236.979	78.587		
	Population (15-24)	6.297E-6	.000	.872	3.568
					.023

a. Dependent Variable: Informal Workers

Figure 6. Table of Coefficients

Source: Processed

The *Coefficients* table provides further insight into the nature of the relationship between the two variables. The unstandardized coefficient (B) for the youth population is 6.297E-6, with a t-value of 3.568 and a significance level of 0.023, indicating that the relationship is both positive and statistically significant at the 5% level. This suggests that as the youth population increases, the proportion of informal workers tends to rise correspondingly. The standardized coefficient (Beta = 0.872) reinforces this finding, showing a strong positive standardized effect of the youth population on informal employment. The constant value (B = -236.979) represents the predicted level of informal employment when the youth population is zero, although in practical terms this value holds limited interpretive meaning. Overall, the regression results imply that demographic dynamics, particularly the size of the youth population are a significant determinant of the prevalence of informal work in Indonesia.

3.2 Relevance Between Youth Bulge and Gig Work in Labor Market Perspective in Indonesia

Indonesia's youth bulge has profound implications for the country's labor-market trajectory. Unlike many aging societies, Indonesia is at a point where its demographic composition theoretically offers a window of accelerated economic growth. However, such a dividend is never automatic (Inayatullah, 2016). It depends on how effectively the labor market absorbs, trains, and utilizes its young working-age population. Over the past decade, the pace of new labor entrants has consistently outstripped the creation of stable formal-sector jobs, resulting in a persistent condition where hopes for upward mobility intersect with the harsh realities of limited opportunities. The increase in the number of job seekers accelerates competition in an economy still marked by uneven productivity gains and structural imbalances (Lu & Luo, 2025). This mismatch between demographic pressure and economic absorption creates fertile ground for the rapid expansion of gig work, platform-mediated labor that is often flexible, task-based, and semi-formal (Warren, 2021). As a result, the youth bulge does not merely coexist with the rise of the gig economy; it actively shapes and intensifies the conditions under which gig work becomes a mainstream labor option.

A deeper examination of this phenomenon reveals that the youth bulge interacts with longstanding socioeconomic disparities in Indonesia. A large proportion of young workers, especially from lower- and middle-income households, experience a form of "delayed inclusion" within the formal labor market. While the state has expanded access to education over the past decades, quality remains uneven across regions, school types, and socioeconomic contexts. Many young people emerge from the

education system without the level of skill specialization, technological proficiency, or language competence that high-value formal sectors increasingly demand. This situation produces a structural bottleneck: young people are educated but often not in ways that align with labor-market needs. Gig work—particularly ride-hailing, delivery services, online reselling, and digital freelancing—fills this vacuum by providing immediate access to income without stringent credential requirements. For a young person coping with economic pressure, the responsibility to support family income, and the expectation to be self-reliant, gig work becomes more than employment; it becomes a coping mechanism in an environment where traditional career pathways are narrowing.

Yet beneath its accessibility, gig work reveals layers of precarity that are amplified by the youth bulge. When a disproportionately large young population turns to gig platforms simultaneously, the labor supply grows faster than the availability of tasks or client demand. This results in more intense competition among workers on the same platforms, declining earnings per worker, and increased vulnerability to algorithmic decision-making (Pruitt, 2020). For young individuals who enter gig work with aspirations of autonomy and swift financial gain, the reality of fluctuating income, absence of employer-employee protections, and exposure to occupational risks can erode their long-term economic stability. The demographic reality intensifies this outcome: a larger youth population does not only mean more gig workers, but also a system where platforms can capitalize on abundant labor to suppress costs and maintain flexibility. Thus, the youth bulge indirectly reinforces the structural precarity of gig work by ensuring a constant supply of young, motivated, but economically vulnerable workers.

At the same time, it would be inaccurate to interpret youth participation in the gig economy solely through the lens of vulnerability. Many young Indonesians engage with gig work in ways that demonstrate agency, resilience, and creativity. Digital-native youth often navigate multiple platforms simultaneously, learning to optimize hours, manage personal branding, or combine offline skills with online marketplaces. The rise of social commerce, micro-entrepreneurship on e-commerce platforms, freelance design or writing, and influencer-based income indicates that the gig economy is not monolithic; it is a spectrum. For some ambitious young workers, gig work becomes a stepping stone to building entrepreneurial identities or cultivating networks that later translate into formal employment or independent business formation. These youth-driven adaptations suggest that gig work is embedded not only in economic necessity but also in shifting cultural attitudes toward work—attitudes that prioritize flexibility, autonomy, and multiple income streams. This cultural transformation is itself a product of the youth bulge, which magnifies generational preferences and amplifies the presence of young workers in digital spaces.

Viewing all of these interactions through a labor-market lens underscores an urgent policy challenge. Indonesia risks consolidating a dualistic labor structure in which an expanding group of young workers remains concentrated in gig-based, low-protection, algorithmically managed labor, while a smaller subset enjoys the stability and benefits of formal employment. Without targeted intervention, the youth bulge may inadvertently entrench labor informality rather than reduce it. At the same time, gig work cannot simply be dismissed as an inferior sector. Its rapid growth reflects the dynamism of Indonesia's digital economy, the adaptability of its youth, and the structural gaps within

its formal labor market. The critical task, therefore, lies in reconciling these realities: protecting young gig workers without stifling innovation; improving social protection mechanisms without misclassifying flexible work models; upgrading the skill base of youth while acknowledging the economic role that gig work currently plays in sustaining household livelihoods. Strengthening vocational education, improving regional labor-market alignment, expanding portable social security mechanisms, and regulating platform labor in a way that balances fairness with flexibility are essential steps toward ensuring that Indonesia's demographic advantage translates into a meaningful and inclusive economic future. Ultimately, the relevance of the youth bulge to gig work lies not only in statistical correlation, but in the lived experiences of millions of young Indonesians who stand at the intersection of demographic promise and labor-market uncertainty, using gig work to navigate, survive, and occasionally thrive within a rapidly transforming economy.

Indonesia's demographic configuration, characterized by a substantial youth bulge, has generated a complex set of labor-market dynamics that increasingly align with Guy Standing's theorization of the precariat. The persistent influx of young entrants into the labor force exerts structural pressure on an economy that has not expanded its capacity for stable, secure employment at a commensurate rate. Consequently, a significant proportion of young Indonesians encounter barriers to accessing formal-sector employment, including limited availability of long-term contracts, sectoral constraints, and pronounced mismatches between the skills produced by the education system and those demanded by employers. This structural incongruence has facilitated the proliferation of gig-based labor as an alternative mode of labor absorption. In this context, gig platforms function not merely as technological innovations but as labor-market institutions that capitalize on demographic surplus. The youth bulge creates an abundant, pliable labor supply, rendering young workers especially susceptible to the conditions of insecurity that Standing identifies as constitutive of the precariat.

Integrating Standing's framework makes evident the multi-dimensional nature of precarity experienced by young gig workers. Standing (2014) conceptualizes the precariat as a class habituated to insecure labor, marked by the absence of seven forms of security—labor market security, employment security, job security, work security, skill reproduction security, income security, and representation security. These dimensions of insecurity resonate strongly with the employment realities of young Indonesians in the gig sector. Gig work, by design, detaches workers from employer-employee relationships, positioning them as independent contractors devoid of social protection, job stability, or institutional representation. Algorithmic management further exacerbates this insecurity by controlling task allocation, performance evaluation, and income potential, while maintaining opacity regarding operational mechanisms. Young workers are therefore subjected to fluctuating earnings, unpredictable working hours, and heightened vulnerability to sudden suspensions or deactivation. The convergence of demographic surplus and platform-mediated labor thus operationalizes Standing's argument: the precariat is structurally produced, not merely circumstantially formed.

Moreover, the youth bulge intensifies the socio-psychological dimensions of precarization. Standing notes that the precariat experiences chronic uncertainty, a condition that simultaneously affects economic stability and subjective well-being. Young Indonesian gig workers often articulate

ambivalence toward their work: they value its temporal flexibility and the perception of autonomy, yet consistently express apprehension about long-term security, income volatility, and the lack of upward mobility. This “freedom under constraint” mirrors Standing’s observation that the precariat is a class-in-the-making, characterized by a deficit of occupational identity and a fragmented relationship with work. Young workers cannot easily envision sustainable career trajectories within gig labor, yet structural constraints impede their transition to more stable forms of employment. The youth bulge amplifies this phenomenon by expanding the population cohort exposed to these conditions. As more young people enter a labor market dominated by non-standard forms of employment, precarity becomes normalized at the generational level rather than confined to marginal groups.

From a broader labor-market perspective, the intersection between Indonesia’s youth bulge and the expansion of gig work signifies a shift toward a dualistic employment regime in which the boundaries between formal and informal labor become increasingly porous. Standing’s conceptualization of the precariat provides a useful analytical lens for interpreting this transformation. The gig economy, while often framed as a flexible and meritocratic alternative to traditional employment, in practice reproduces many characteristics of informal labor—absence of protections, limited skill development pathways, and unstable remuneration. As the youth population continues to expand, these characteristics risk becoming structurally embedded in Indonesia’s labor markets, potentially constraining the country’s ability to harness its demographic dividend (Lin, 2012). Without deliberate policy interventions, such as expanded social protection mechanisms, regulatory oversight of platform labor, and alignment of education and vocational training with evolving labor-market demands, the youth bulge may reinforce rather than mitigate labor precarity.

In sum, applying Guy Standing’s labor precarity framework to Indonesia’s demographic context reveals that the relationship between the youth bulge and gig work is both systemic and mutually reinforcing. The demographic surplus supplies the labor that enables the expansion of precarious gig-based employment, while the structural features of gig work intensify the insecurities that define the lived experiences of young workers. This intersection underscores a critical analytical premise: that Indonesia’s demographic advantage cannot be realized without addressing the deepening precarization of youth labor.

4. Conclusion and Recommendations

In conclusion, based on the findings generated in a 6-year observational study, it appears that the variable youth population (15-24 years old) can explain the variable of informal employment in Indonesia. These quantitative findings also show that there is an effect between the variable of youth population and the variable of informal employment in Indonesia. Indonesia needs to broaden opportunities for the young generations to increase human capital quality. There are some ways Indonesia could implement, such as strengthening vocational education, improving regional labor-market alignment, expanding portable social security mechanisms, and regulating platform labor in a way that balances fairness with flexibility are essential steps toward ensuring that Indonesia’s demographic advantage translates into a meaningful and inclusive economic future. Ultimately, the

relevance of the youth bulge to gig work lies not only in statistical correlation, but in the lived experiences of millions of young Indonesians who stand at the intersection of demographic promise and labor-market uncertainty, using gig work to navigate, survive, and occasionally thrive within a rapidly transforming economy. Without deliberate policy interventions, such as expanded social protection mechanisms, regulatory oversight of platform labor, and alignment of education and vocational training with evolving labor-market demands, the youth bulge may reinforce rather than mitigate labor precarity. A limitation of this study is that longer-term observation is needed, given that the structure of the labor market cannot be assessed over a period of only a few years.

References

- Badan Pusat Statistik Indonesia. (2018). *Jumlah Penduduk Menurut Kelompok Umur dan Jenis Kelamin*. Bps.go.id; Badan Pusat Statistik Indonesia. <https://www.bps.go.id/en/statistics-table/3/WVc0MGEyMXBkVFUxY25KeE9HdDZkbTQzWkVkb1p6MDkjMw==/jumlah-penduduk-menurut-kelompok-umur-dan-jenis-kelamin--2023.html?year=2018>
- Badan Pusat Statistik Indonesia. (2023). *Proporsi Lapangan Kerja Informal Menurut Kelompok Umur - Tabel Statistik*. Bps.go.id; Badan Pusat Statistik Indonesia. <https://www.bps.go.id/id/statistics-table/2/MjE1NiMy/proporsi-lapangan-kerja-informal-menurut-kelompok-umur.html>
- Creswell, J. W., & Creswell, J. D. (2022). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. SAGE Publications.
- Inayatullah, S. (2016). Youth Bulge: Demographic Dividend, Time Bomb, and other Futures . *Journal of Futures Studies*, 21(2), 21–34. [https://doi.org/10.6531/JFS.2016.21\(2\).A21](https://doi.org/10.6531/JFS.2016.21(2).A21)
- Jimenez, E. Y., & Murthi , M. (2006). Investing in the youth bulge. *Finance & Development*, 43(3).
- Lin, J. Y. (2012, January 5). *Youth Bulge: A Demographic Dividend or a Demographic Bomb in Developing Countries?* World Bank Blogs. <https://blogs.worldbank.org/en/developmenttalk/youth-bulge-a-demographic-dividend-or-a-demographic-bomb-in-developing-countries>
- Lu, Y., & Luo, Z. (2025). Age structure and democratic development: the nonlinear and conditional role of youth bulges. *World Development*, 195, 107132. <https://doi.org/10.1016/j.worlddev.2025.107132>
- Muhyiddin, Annazah, N. S., Tobing, H., Habibi, N., Fauziyah, F., & Hasiwi, R. I. P. (2024). The Ambiguity of Employment Relationship in Indonesia's Gig Economy: A Study of Online Motorcycle Taxi Drivers . *Jurnal Ketenagakerjaan*, 19(3), 262–280. <https://doi.org/10.47198/naker.v19i3.416>
- Myhill, K., Richards, J., & Sang, K. (2021). Job quality, fair work and gig work: the lived experience of gig workers. *The International Journal of Human Resource Management*, 32(19), 4110–4135. <https://doi.org/10.1080/09585192.2020.1867612>
- Pruitt, L. (2020). Rethinking youth bulge theory in policy and scholarship: incorporating critical gender analysis. *International Affairs*, 96(3). <https://doi.org/10.1093/ia/iaaa012>
- Raihannabil, S. D., Ghaista, I., Susiawati, N. L. P. A., & Kartiasih, F. (2025). Analysis of

- Socioeconomic and Demographic Characteristics of Female Participation in The Labor Market in Indonesia. *Jurnal Ketenagakerjaan*, 20(1), 77–93. <https://doi.org/10.47198/naker.v20i1.464>
- Seltman, H. J. (2018). Analysis of Covariance. In *Experimental Design and Analysis* (pp. 241–266). Carnegie Mellon University.
- Standing, G. (2014). The Precariat. *Contexts*, 13(4), 10–12. <https://doi.org/10.1177/1536504214558209>
- Statista. (2025, April). *Indonesia - fertility rate 2020*. Statista. <https://www.statista.com/statistics/319151/fertility-rate-in-indonesia/>
- Urdal, H. (2004). The devil in the demographics : the effect of youth bulges on domestic armed conflict, 1950-2000. *Social Development Papers Conflict Prevention & Reconstruction*, 14, 1–31.
- Usman, M., Naveed, Dr., & Yaqub, M. (2023). Impact of Youth Bulge on Governance and Employability . *Pakistan Journal of Law, Analysis and Wisdom* , 2(2), 242–256.
- Warren, T. (2021). Work–life balance and gig work: “Where are we now” and “where to next” with the work–life balance agenda?. *Journal of Industrial Relations*, 63(4), 522–545. <https://doi.org/10.1177/00221856211007161>