

## GIG ECONOMY CONTRIBUTION BY GENERATION Z TO REGIONAL ECONOMY: A STUDY IN BANYUMAS REGENCY

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### Abstract

The rapid growth of the gig economy driven by digital platform expansion has created new employment opportunities, particularly for Generation Z facing structural unemployment challenges in Indonesia. However, empirical evidence on gig economy contributions at the non-metropolitan district level remains scarce. This study analyzes the contribution of gig economy activities by Generation Z to the regional economy of Banyumas Regency, Central Java, by examining the relationships between gig activity intensity, individual income, and local consumption expenditure. Using a quantitative explanatory approach, primary data were collected from 385 Generation Z gig workers in Banyumas Regency through structured questionnaire surveys using Simple Random Sampling in May 2026. Two regression models were employed: multiple log-linear regression (Model 1) to examine the effects of working hours, platform tenure, platform type, and education level on income; and simple log-log regression (Model 2) to analyze the effect of income on local consumption expenditure as an indicator of regional economic contribution. The study is theoretically grounded in Dual Labour Market Theory, Human Capital Theory, Labour Supply Theory, and Keynesian Consumption Theory. Findings reveal that Model 1 achieves Adjusted  $R^2 = 0.867$ , with working hours as the dominant determinant ( $\beta = 1.540$ ,  $p < 0.001$ ), followed by platform type ( $\beta = 0.457$ ), platform tenure ( $\beta = 0.250$ ), and education level ( $\beta = 0.101$ ). Model 2 yields  $R^2 = 0.940$  with an income elasticity of consumption of 0.873, confirming that gig economy income significantly stimulates local consumption, thereby contributing to the regional economic cycle of Banyumas Regency. These findings provide evidence for local governments to strengthen policies supporting digital labor and platform-based employment as drivers of regional economic development.

**Keywords:** gig economy, Generation Z, income, local consumption, regional economy

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### INTRODUCTION

The way people work and contribute to the economy has changed fundamentally over the past decade. The gig economy a platform-based work system characterized by flexible, non-permanent arrangements and independent service provision represents a structural transformation in global labor markets, accelerated by the proliferation of smartphones, broadband internet, and artificial intelligence. At the global level, the gig economy market was valued at USD 556.7 billion in 2024, projected to reach USD 1,847 billion by 2032 at a CAGR of 16.18% (Market Mind Partners, 2025). In Indonesia, this trend is reinforced by a digital economy GMV of USD 90 billion in 2024, the largest in South-east Asia (Google, Temasek, 2024).

Generation Z born between 1997 and 2012 stands at the center of this transformation. More than 55% of gig workers in Indonesia are under 30 years of age IDInsight & CELIOS, (2022) a tendency

driven by pressing structural unemployment challenges. The Open Unemployment Rate (TPT) for the 15–24 age group reached 19.40% in August 2023, far exceeding the national average of 5.32% (Badan Pusat Statistik, 2023). Additionally, 9.89 million youths (22.25% of the 15–24 age group) were classified as NEET not in education, employment, or training (Badan Pusat Statistik, 2023a). Consistent with Lewis, (1954) dual labour market theory, the gig economy absorbs this surplus labour through digital infrastructure, offering income opportunities outside the formal sector.

Banyumas Regency in Central Java constitutes a particularly relevant yet understudied locus for this inquiry. As a non-metropolitan district with Purwokerto as its economic and educational hub hosting Universitas Jenderal Soedirman among others Banyumas has a high concentration of Generation Z workers. Its labour structure shows that 52.96% of the workforce is engaged in informal employment Badan Pusat Statistik Kabupaten Banyumas, (2024), and an Open Unemployment Rate of 6.18% Badan Pusat Statistik Kabupaten Banyumas, (2025), creating fertile conditions for gig economy expansion. However, no prior empirical study has quantified the relationship between gig activity, income, and local consumption in this region.

This study addresses three systematic gaps in existing literature. First, research on Indonesia's gig economy has been predominantly metropolitan-focused, overlooking non-metropolitan dynamics (Arafat et al., (2025); (Permana et al., (2023). Second, no study has simultaneously modeled income determinants and the consumption effect of gig income within an integrated analytical framework. Third, Generation Z has not been treated as the sole unit of analysis in a local platform-based labour market study. This research therefore aims to: (1) examine the effect of gig activity variables working hours, platform tenure, platform type, and education level on Generation Z income in Banyumas Regency; and (2) examine the effect of gig income on local consumption expenditure as an indicator of regional economic contribution.

## LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

This study draws on four interconnected theoretical frameworks. First, Lewis, (1954) Dual Labour Market Theory provides the structural backdrop: the gig economy functions as an evolving informal sector that absorbs surplus labour excluded from the formal economy, while digital platforms extend its market reach. Sundararajan, (2016) conceptualizes this as “crowd-based capitalism,” where platforms redistribute access to productive assets across millions of individuals.

Second, Human Capital Theory Becker, (1964) posits that individual productivity and earnings are functions of accumulated human capital education, skills, and experience. In the gig context, formal education, platform tenure as accumulated platform-specific experience, and working hours as a measure of active skill deployment, all constitute human capital inputs that determine income. Arafat et al., (2025) empirically confirmed that education, experience, and working hours significantly predict gig income in Jakarta, while Permana et al., (2023) found these factors protective against post-pandemic poverty among gig workers.

Third, Labour Supply Theory Borjas, (2016) holds that in output-based platform work, income is directly proportional to time devoted to labor, making weekly working hours the central predictor of earnings. This relationship is consistently confirmed in the Indonesian gig economy context by Izza et al., (2024), who identified working hours and platform type as the most consistent predictors of gig worker outcomes. Fourth, Keynesian Consumption Theory Keynes, (1963) establishes the macroeconomic linkage: consumption is primarily a function of income, and income increases generate multiplier effects on local consumption and regional economic activity (Arsyad, 2010). In log-log specification, the income coefficient yields the income elasticity of consumption, interpretable as the marginal propensity to consume (MPC).

Based on these frameworks, five hypotheses are formulated:

***H1: Weekly working hours have a positive and significant effect on Generation Z gig workers' income in Banyumas Regency.***

***H2: Platform tenure has a positive and significant effect on Generation Z gig workers' income in Banyumas Regency.***

***H3: Platform type has a positive and significant effect on Generation Z gig workers' income in Banyumas Regency.***

***H4: Education level has a positive and significant effect on Generation Z gig workers' income in Banyumas Regency.***

***H5: Gig workers' income has a positive and significant effect on local consumption expenditure in Banyumas Regency.***

## RESEARCH METHODS

This study employs a quantitative explanatory approach with a cross-sectional survey design. The population consists of Generation Z gig workers (born 1997–2012) actively registered on digital platforms in Banyumas Regency. Since the exact population size is unknown (*unknown population*), the sample size was determined using the Cochran formula, yielding a minimum of 384 respondents, rounded up to 385. A total of 385 valid respondents were obtained through Simple Random Sampling, distributed across four platform categories: online transportation ( $n = 118$ ; 30.4%), courier/food delivery ( $n = 89$ ; 23.1%), digital freelance ( $n = 91$ ; 23.5%), and content creator/digital affiliate ( $n = 89$ ; 22.9%). Respondents were distributed across 19 districts in Banyumas Regency, with the largest concentrations in Purwokerto (23.9%), Banyumas (10.4%), Ajibarang (8.8%), and Sokaraja (7.8%). Of the total, 53.0% engaged in gig work as their primary occupation and 47.0% as supplementary income. Male respondents comprised 60.3% and female 39.7%. Data were collected via structured questionnaires distributed directly (offline) and through digital platforms (online) during May 2026.

Two regression models are employed. Model 1 is a log-linear multiple regression with the natural log of monthly income (LN\_Income) as the dependent variable and four predictors: (1) natural log of weekly working hours (LN\_X1); (2) natural log of platform tenure in months (LN\_X2); (3) a dummy variable for platform type (D\_Platform, coded 1 for digital freelance and content creator platforms, 0 for transportation and courier as the reference); and (4) an ordinal dummy for education level (D\_Education, coded 1–4 from junior secondary to bachelor's degree). The log-linear specification allows coefficients on log-transformed variables to be interpreted as elasticities. Model 2 is a log-log simple regression relating the natural log of monthly consumption expenditure (LN\_Consumption) to the natural log of income (LN\_Income), directly yielding the income elasticity of consumption. Classical assumption tests including Cook's Distance outlier detection, Kolmogorov-Smirnov and Shapiro-Wilk normality tests, Glejser heteroscedasticity test, Durbin-Watson autocorrelation test, VIF multicollinearity test, and ANOVA linearity test were applied prior to regression estimation using IBM SPSS Statistics.

## RESULTS AND DISCUSSION

Classical assumption tests confirmed the validity of both models. Cook's Distance maximum values of 0.003 (Model 1) and 0.043 (Model 2) both far below the critical threshold of 1.0 indicate no influential outliers. Formal normality tests rejected normality for both models (K-S and Shapiro-Wilk,  $p < 0.001$ ); however, with  $n = 385$ , the Central Limit Theorem ensures the sampling distribution approximates normality. Skewness values of  $-0.453$  (Model 1) and  $-0.619$  (Model 2) and kurtosis of  $-0.325$  and  $0.104$ , respectively, are well within the acceptable  $\pm 2$  range. Linearity was confirmed for all predictor pairs ( $\text{Eta}^2 = 0.802$  for working hours,  $0.656$  for platform tenure,  $0.949$  for income-con-

sumption). Multicollinearity was absent in Model 1, with VIF ranging from 1.031 to 2.959. Autocorrelation was absent in Model 2 (Durbin-Watson = 1.925). Heteroscedasticity was absent in Model 1 (Glejser F = 1.515; p = 0.197), while Model 2 showed mild heteroscedasticity (F = 16.249; p < 0.001), partially mitigated by the logarithmic transformation applied.

Table 1. Descriptive Statistics of Key Variables (n = 385)

| Variable                   | N   | Min     | Max       | Mean      | Std. Dev. |
|----------------------------|-----|---------|-----------|-----------|-----------|
| Weekly Working Hours (hrs) | 385 | 12      | 98        | 51.82     | 17.11     |
| Platform Tenure (months)   | 385 | 3       | 96        | 21.46     | 10.25     |
| Monthly Income (IDR)       | 385 | 300,000 | 6,500,000 | 2,696,005 | 1,597,366 |
| Monthly Consumption (IDR)  | 385 | 275,000 | 5,750,000 | 2,038,649 | 1,162,297 |
| LN_Income                  | 385 | 12.61   | 15.69     | 14.594    | 0.710     |
| LN_Consumption             | 385 | 12.52   | 15.56     | 14.347    | 0.641     |

Source: Primary data, processed (2026)

Descriptive statistics in Table 1 reveal that gig workers in Banyumas Regency work an average of 51.82 hours per week higher than the national standard 40-hour work week reflecting the intensive time commitment characteristic of platform-based work. Mean monthly income stands at IDR 2,696,005 (median: IDR 2,500,000), comparable to the 2024 Banyumas Regency minimum wage (UMK), affirming that gig work has evolved into a viable primary livelihood for this group. The mean saving rate of 20.6% (mean income minus mean consumption divided by mean income) is further confirmed by the mean LN\_Consumption (14.35) being lower than mean LN\_Income (14.59).

Table 2. Income by Platform Type

| Platform Type               | N          | %           | Mean Income (IDR) | Mean Consumption (IDR) |
|-----------------------------|------------|-------------|-------------------|------------------------|
| Online Transportation       | 118        | 30.4%       | 2,716,949         | 2,056,949              |
| Courier / Food Delivery     | 89         | 23.1%       | 3,015,730         | 2,253,483              |
| Digital Freelance           | 91         | 23.5%       | 2,442,308         | 1,864,835              |
| Content Creator / Affiliate | 89         | 22.9%       | 2,621,348         | 1,990,225              |
| <b>Total / Average</b>      | <b>385</b> | <b>100%</b> | <b>2,696,005</b>  | <b>2,038,649</b>       |

Source: Primary data, processed (2026)

Table 2 shows that courier and food delivery workers earn the highest mean income (IDR 3,015,730), likely reflecting the high demand and intensive order volume in this segment. Online transportation follows (IDR 2,716,949), while digital creative platforms freelance (IDR 2,442,308) and content creator (IDR 2,621,348) show comparatively lower means. This finding is somewhat counterintuitive relative to the regression results, which show digital-creative platforms having higher log-income, likely due to compositional differences in working hours and tenure within each platform group.

Model 1 achieves an Adjusted R<sup>2</sup> of 0.867, indicating that the four variables jointly explain 86.7% of income variation among gig workers. The F-statistic of 626.882 (p < 0.001) confirms overall model significance. The regression equation is:

$$LN\_Income = 7.617 + 1.540 LN\_WorkHours + 0.250 LN\_Tenure + 0.457 D\_Platform + 0.101 D\_Education \dots\dots\dots (1)$$

Table 3. Model 1 Regression Results: Determinants of Gig Workers' Income

| Variable          | B     | Std. Error | Beta  | t      | Sig.  | VIF   |
|-------------------|-------|------------|-------|--------|-------|-------|
| (Constant)        | 7.617 | 0.167      | —     | 45.502 | 0.000 | —     |
| LN_WorkHours (X1) | 1.540 | 0.056      | 0.880 | 27.487 | 0.000 | 2.959 |
| LN_Tenure (X2)    | 0.250 | 0.035      | 0.206 | 7.163  | 0.000 | 2.385 |
| D_Platform        | 0.457 | 0.031      | 0.321 | 14.575 | 0.000 | 1.399 |
| D_Education       | 0.101 | 0.027      | 0.070 | 3.710  | 0.000 | 1.031 |

$R^2 = 0.868$ ; Adjusted  $R^2 = 0.867$ ;  $F = 626.882$ ;  $p < 0.001$ . Source: Primary data, processed with SPSS (2026)

Weekly working hours (LN\_X1) is the most dominant predictor with a coefficient of 1.540 ( $\beta = 0.880$ ;  $p < 0.001$ ), indicating that a 1% increase in working hours yields a 1.54% increase in income a supra-elastic relationship. This confirms H1 and is consistent with Labour Supply Theory: in output-based platform work, earnings scale directly with time invested. This result corroborates Izza et al. (2024) and reflects the active-hours-driven income structure of gig platforms. Platform type (D\_Platform) ranks second ( $\beta = 0.321$ ;  $B = 0.457$ ;  $p < 0.001$ ), confirming H3. Workers on digital freelance and content creator platforms earn log-incomes 0.457 higher than those on transportation and courier platforms, *ceteris paribus*. This premium reflects the higher per-task remuneration in knowledge-based and creative work.

Platform tenure (LN\_X2) yields a coefficient of 0.250 ( $\beta = 0.206$ ;  $p < 0.001$ ), supporting H2. Each 1% increase in platform tenure raises income by 0.250%, affirming that accumulated platform-specific experience generates measurable income returns consistent with Human Capital Theory (Becker, 1964) and with Arafat et al. (2025). Education level (D\_Education), while significant ( $\beta = 0.070$ ;  $B = 0.101$ ;  $p < 0.001$ ), is the weakest predictor, supporting H4 only modestly. This pattern indicates that in the gig economy, formal credentials matter less than practical labor inputs such as working hours and platform experience a finding consistent with Sundararajan, (2016) that platform-based capitalism rewards skill deployment and time investment over academic qualifications.

Model 2 results are presented in the equation below:

$$LN_{Consumption} = 1.612 + 0.873 LN_{Income} \dots\dots\dots (2)$$

$$R^2 = 0.940; F = 5,983.535; p < 0.001 \dots\dots\dots (3)$$

The  $R^2$  of 0.940 confirms that income alone explains 94% of consumption expenditure variation among gig workers, strongly supporting H5. The income elasticity of consumption of 0.873 ( $t = 77.353$ ;  $p < 0.001$ ) indicates that for every 1% increase in income, consumption increases by 0.873% an inelastic but highly significant response. This is consistent with Keynesian Consumption Theory, where the MPC is positive but below unity, with the remaining proportion directed to savings (MPS = 0.127). The average saving rate of 20.6% observed in the raw data corroborates this interpretation.

This saving-consumption balance has positive macroeconomic implications: gig workers simultaneously contribute to local consumption circulation and accumulate private savings, potentially reducing economic vulnerability in the long term.

The two models together establish a coherent empirical chain: gig economy activity variables (working hours, platform tenure, platform type, education) significantly determine income, which in turn is the dominant driver of local consumption expenditure. With a mean monthly income of IDR 2,696,005 across 385 workers, the total monthly income injected by this sample alone into the Banyumas local economy amounts to approximately IDR 1.038 billion, of which approximately IDR 784 million is directed to consumption demonstrating the scale of economic contribution even at the sample level. Extrapolated to the full population of gig workers in Banyumas, these contributions represent a meaningful, quantifiable stimulus to the regional economic cycle, consistent with Arsyad's (2010) regional multiplier framework.

## CONCLUSION

This study provides rigorous empirical evidence that gig economy activity by Generation Z makes a significant and measurable contribution to the regional economy of Banyumas Regency through two linked mechanisms: income generation and local consumption expenditure. Model 1 establishes that weekly working hours, platform tenure, platform type, and education level jointly explain 86.7% of income variation (Adjusted  $R^2 = 0.867$ ), with working hours as the dominant determinant (elasticity = 1.540). Model 2 demonstrates that income is the overwhelming predictor of local consumption ( $R^2 = 0.940$ ), with an income elasticity of consumption of 0.873, revealing an inelastic but consistent consumption-savings pattern ( $MPC = 0.873$ ;  $MPS = 0.127$ ) indicative of financially prudent behavior.

Theoretically, this study extends the empirical scope of Human Capital Theory, Labour Supply Theory, and Keynesian Consumption Theory to a platform-based, non-metropolitan labour market context previously absent from the literature. Practically, the dominance of working hours as a predictor implies that policies stimulating demand for platform services thereby enabling gig workers to increase active working hours would yield significant income and consumption multiplier effects at the regional level. The significant platform type differential further suggests that upskilling programs to transition workers from physical-delivery to higher-paying digital-creative platforms could substantially amplify income and consumption effects. Formalization of gig worker protections and income stabilization measures would further strengthen their contribution to the regional economic cycle.

This study has several limitations. The cross-sectional design precludes strict causal inference. Self-reported income and consumption data carry measurement risk. Mild heteroscedasticity in Model 2 and mild positive autocorrelation in Model 1 (cross-sectional context), though contextually acceptable, represent technical caveats. Future research should employ longitudinal or panel designs, integrate objective digital transaction data for consumption measurement, and extend comparative analysis to other non-metropolitan regencies to assess the generalizability of these findings.

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