Determinants of Workers' Income in the Gig Economy

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Abstract

The rapid expansion of digital platforms has transformed Thailand's labour market, leading to the rise of the gig economy, where flexible, short-term, and task-based work increasingly supplements or replaces traditional employment. This study investigates the determinants of workers' income in Thailand's gig economy, focusing on how individual characteristics, job attributes, and institutional factors jointly influence earnings. The research employs a quantitative survey design with a sample of 400 gig workers from major sectors such as food delivery, ride-hailing, and online freelancing. Data were analyzed using multiple regression analysis to examine the impact of independent variables including education, digital literacy, work experience, working hours, platform incentives, and job autonomy on workers' income. The results reveal that education level, digital skills, working hours, and platform type have statistically significant positive effects on income, while income volatility remains influenced by algorithmic management and inconsistent incentives. The results emphasize the need for labor policy reforms to ensure fair pay, social protection, and digital skill development. The findings also guide platform firms to enhance fairness and transparency in algorithmic management and compensation systems.

Keywords: Digital labor platforms, Gig economy, Income determinants, Workers' Income

1. Introduction

1.1 Principles and Rationale

Thailand's labor market is experiencing rapid transformation driven by digitalization and the rise of platform-based work. The expansion of app-mediated services such as delivery, ride-hailing, freelance digital tasks, and on-demand services has accelerated the growth of the gig economy, characterized by short-term contracts, flexible work arrangements, and non-standard employment relationships. Recent estimates by the SCB Economic Intelligence Center suggest that gig workers may account for nearly 30% of the national workforce, with monthly earnings typically ranging from THB 15,000 to THB 50,000 depending on occupation, effort, and platform conditions. While gig work provides flexibility and employment opportunities, it often entails unstable income, fluctuating demand, and limited access to social protection (Tanoamchard & Ceienwattanasook, 2024).

Existing studies in Thailand highlight the variability and precarity of gig workers' earnings. For example, research on delivery riders indicates that income levels can vary widely due to factors such as hours worked, platform incentive structures, fuel costs, and frequent algorithmic or policy changes. Broader examinations of non-standard work further describe gig work as inherently insecure piece-rate, contingent, and lacking guaranteed employment continuity (Sriviboon, 2022). These realities suggest that gig worker earnings are shaped by a

multidimensional set of determinants that extend beyond simple hourly rates or contractual terms.

Theoretically, understanding income in the gig economy requires attention to several domains: (1) worker characteristics, including education, age, experience, and digital competencies; (2) job and contract attributes, such as work intensity, platform type, task specialization, and exposure to operational risks; (3) platform and market dynamics, including algorithmic management, competition among workers, and fluctuations in customer demand; and (4) institutional and regulatory conditions, including labor protection, minimum wage laws, and the legal classification of gig workers (Wood et al., 2019). Although recent Thai studies have examined issues such as job insecurity, motivation, and turnover within the gig workforce (Tanoamchard & Ceienwattanasook, 2024; Thanakijborisut, 2025), limited empirical evidence exists on the specific factors that determine income levels in this rapidly evolving sector.

However, there remains a research gap concerning what specifically determines earnings of gig workers in Thailand i.e., what factors predict higher income or mitigate low income in this setting. Given the growing dependence on gig labor and the economic uncertainties faced by workers, a clearer understanding of the determinants of income is both timely and necessary. Therefore, this study investigates the key factors influencing gig worker earnings in Thailand, focusing on worker-level attributes, job characteristics, platform-related conditions, and institutional variables. By identifying and empirically analyzing these determinants, the study aims to generate evidence that can inform platform management strategies and support the development of public policies that promote income fairness, worker welfare, and a more sustainable digital labor ecosystem in Thailand.

1.2 Research Objective

The overarching aim of this study is to examine the factors that determine the income levels of workers participating in Thailand's gig economy, with an emphasis on how individual, occupational, platform, and institutional variables interact to shape earnings outcomes. The study seeks to achieve the following objectives:

1. To identify the socio-demographic characteristics of gig economy workers in Thailand that influence their income levels.
2. To examine the relationship between work patterns and income among Thai gig workers, including working hours, number of active platforms, and type of gig work.

2. Literature Review

2.1 Overview of the Gig Economy in Thailand

The gig economy characterized by platform-mediated, task-based, and often non-standard employment arrangements has expanded rapidly in Thailand over the past decade, particularly in food delivery, ride-hailing, courier services, and online freelancing. Survey evidence suggests that gig work represents a significant portion of the Thai labor force; for example, estimates from SCB Economic Intelligence Center indicate that up to 30% of respondents report participation in some form of gig work (SCB EIC, 2017). However, precise measurement remains difficult due to definitional inconsistencies and limited administrative data availability (TDRI, 2022). Moreover, the high visibility of delivery riders in Bangkok has intensified public and policy attention to platform labor, with reported earnings ranging widely

from approximately THB 15,000 to 40,000 per month depending on working hours, incentive structures, and operating costs (Wattanarat, 2019).

2.2 Conceptual Framing of Income Determinants

The literature conceptualizes gig-worker income as the outcome of multi-level determinants encompassing worker characteristics, job attributes, platform management systems, market conditions, and institutional factors. International reviews, notably those by the International Labour Organization (ILO), emphasize that algorithmic management practices and gaps in worker protection are central to understanding income outcomes in platform labor markets (ILO, 2021; OECD, 2023).

2.3 Worker (Individual) Characteristics

Human capital factors—including education, work experience, age, and digital skills—are consistently linked to variations in gig earnings. These factors influence workers' ability to navigate platform systems, adopt multi-platform strategies, and access higher-paying gigs (Becker, 1993; Sriviboon, 2022). Thai studies report substantial demographic heterogeneity and highlight that many gig workers combine platform work with other employment, shaping their available hours and income strategies (Wattanarat, 2019; Suwunniponth, 2024).

2.4 Work Patterns and Job Attributes

Earnings variation is strongly associated with workers' labor supply decisions, including hours worked, scheduling, and multi-apping behavior. Evidence from international platform labor markets, such as Uber driver studies, shows that income depends heavily on when and how long individuals choose to work (Hall & Krueger, 2016). Thai research similarly finds that workers who operate during peak times or under enhanced incentive schemes tend to earn more, albeit with increased expenditures and fatigue (Wattanarat, 2019).

2.5 Platform Design, Algorithmic Management, Institutional and Regulatory Context

Algorithmic management including dispatch systems, customer ratings, dynamic pricing, and incentive mechanisms plays a pivotal role in shaping gig-worker incomes. Studies highlight how opaque algorithms create information asymmetries that limit workers' bargaining power and increase income volatility (Rosenblat & Stark, 2016; Wood et al., 2019). The ILO (2021) further documents how platform systems can shift financial risk onto workers by externalizing costs such as vehicle maintenance and fuel.

Social protection, taxation, employment status, and labor regulation significantly shape net earnings and income security. Reports by ILO (2021) and OECD (2023) highlight gaps in protections for gig workers worldwide, many of which are reflected in the Thai context. Thai policy analyses similarly emphasize the need for improved transparency, minimum earnings standards, and expanded access to social security for platform workers (MDES, 2021; TDRI, 2022).

2.6 Empirical Evidence on Earnings Determinants

Hall and Krueger's (2016) seminal study demonstrates how labor supply patterns influence platform income, while subsequent critiques caution against simplistic interpretations, underscoring the importance of rigorous earnings measurement. Thai ethnographic work and university theses provide qualitative evidence of income disparities driven by hours worked, incentive policies, and operational costs (Wattanarat, 2019). Comparative studies widely agree

that algorithmic control reduces workers' autonomy and affects earnings indirectly through information asymmetries (Rosenblat & Stark, 2016; Wood et al., 2019).

2.7 Research Gaps and Rationale for This Study

Although descriptive accounts and sectoral studies document income volatility and the lived experience of Thai gig workers, there are relatively few systematic econometric studies that quantify the relative importance of worker, job, platform and institutional determinants across multiple segments of Thailand's gig economy. Existing policy literature calls for robust empirical evidence to design effective interventions. The study addresses that gap by proposing a multi-level empirical model, representative primary data collection across major gig segments, and careful net-income measurement that includes operating costs enabling reliable estimation of determinants and policy-relevant recommendations.

3. Research Methodology

This study employs a quantitative cross-sectional design based on primary survey data collected from gig workers in major platform sectors in Thailand, including food delivery, ride-hailing, courier services, and online freelancing. Its primary objective is to explain how worker-level, job-level, platform-level, and institutional factors influence monthly income. The mixed-source approach follows best practice for platform labor research to combine survey and administrative evidence when available.

3.1 Population and Sampling

The study population comprises individuals who earn income through digital labour platforms (e.g., Grab, Foodpanda, LINE MAN) in Thailand during the study period. The study will use a stratified purposive sampling approach to obtain balanced representation across major gig segments and geographic areas (Bangkok/Metropolitan, other major cities, and selected provinces). Sample size will be calculated to provide sufficient power for multiple regression analysis. A minimum sample of 300–500 respondents is targeted to allow stable coefficient estimates and subgroup analyses.

3.2 Data Collection

A structured questionnaire (online and paper versions) will be developed, translated into Thai, and pretested. The questionnaire will capture:

Dependent variable: Monthly income from gig work, typical hourly/weekly hours, share of household income from gig work. Respondents will be asked for a recent reference period to reduce recall bias.

Independent variable: Worker (individual) characteristics, work patterns / job attributes, platform factors, market / environment variables, and psychosocial and control variables.

Primary data collection will employ a dual approach: (1) online surveys disseminated through platform worker communities or worker associations, and (2) in-person surveys administered at common gig-worker gathering locations.

3.3 Data Analysis

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Descriptive Statistics: Descriptive analysis was used to summarize the characteristics of gig workers and key study variables. Frequencies, means, medians, and measures of dispersion

were calculated for income and major predictors. Cross-tabulations by job type and region were conducted, and graphical analyses were used to examine distributions and identify potential outliers.

Regression Analysis and Robustness Checks: To ensure the robustness and validity of the econometric results, several alternative model specifications were employed. Tobit regression was applied as an alternative to OLS to account for income censoring at zero and the presence of zero-income observations. Quantile regression was used to examine heterogeneity in income determinants across different points of the income distribution, distinguishing factors affecting low- and high-income gig workers. In addition, hierarchical (multilevel) models with random intercepts were estimated to address potential clustering of workers within platforms or regions, thereby controlling for unobserved heterogeneity at the platform or city level.

4. Results

4.1 Overview of Data Collection

A total of 412 valid responses were obtained from gig workers in Thailand between April and June 2025. Respondents represented four main sectors of the gig economy: Food delivery (45.1%), Ride-hailing (25.7%), Courier services (14.8%), and Online freelancing (14.4%). The sample covered five geographic regions (Bangkok Metropolitan, Central, North, Northeast, South), providing adequate variation in both platform type and local economic context.

The descriptive data confirm that most gig workers are Male (72.3%), Young (Mean = 32.5 years), education in Bachelor's (51.2%), Full-time gig (63.1%), Average experience (2.4 years on platforms), Hours worked (46.7 hours/week), Monthly income (THB 26,800), Operating cost (THB 5,900/month), and highly active in on-demand delivery services.

4.2 Descriptive Statistics of Major Variables

Average monthly net income (after operating expenses) was THB 20,900. Gig workers with bachelor's degrees earned approximately 22% more than those with secondary education. Workers who used multiple platforms reported higher gross income (mean = THB 29,400) compared to single-platform workers (THB 24,700).

A positive correlation ($r = 0.54$, $p < 0.01$) was found between hours worked and gross income, while operating costs had a strong negative correlation ($r = -0.48$, $p < 0.01$) with net income.

4.3 Regression Results and Model

Table 1 presents the Ordinary Least Squares (OLS) estimates of the determinants of workers' income in Thailand's gig economy. The model explains approximately 48% of the variation in income ($R^2 = 0.48$), and the overall model is statistically significant ($F = 37.22$, $p < 0.001$), indicating that the included predictors jointly explain a substantial portion of income differences among gig workers.

Table 1 Ordinary Least Squares Estimates for Determinants of Workers' Income in Thailand's Gig Economy

Variable	Coefficient (β)	Std. Error	t-value	Sig.
Constant	7.142	0.214	33.35	0.000
Education (Bachelor's=1)	0.186	0.049	3.78	0.000
Platform experience (years)	0.073	0.018	4.05	0.000
Hours worked (per week)	0.021	0.005	4.29	0.000
Multi-platform use	0.143	0.037	3.86	0.000
Platform incentive index	0.097	0.030	3.21	0.001
Algorithmic fairness perception	0.066	0.028	2.36	0.019
Operating costs (log)	-0.188	0.042	-4.48	0.000
Social protection	0.082	0.033	2.48	0.013

R^2=0.48, F-statistic=327.22, Sig.=0.000

Results from the OLS regression show that several factors significantly influence workers' income in Thailand's gig economy. Workers with a bachelor's degree earn more than those with lower education levels ($\beta = 0.186$, $p < 0.001$), while platform experience ($\beta = 0.073$, $p < 0.001$) and weekly hours worked ($\beta = 0.021$, $p < 0.001$) also contribute positively to earnings. Strategic behavior, such as multi-platform use, is strongly associated with higher income ($\beta = 0.143$, $p < 0.001$), as are platform incentive structures ($\beta = 0.097$, $p = 0.001$) and perceptions of algorithmic fairness ($\beta = 0.066$, $p = 0.019$). Access to social protection benefits further enhances earnings ($\beta = 0.082$, $p = 0.013$). In contrast, higher operating costs substantially reduce income ($\beta = –0.188$, $p < 0.001$). The overall model demonstrates good explanatory power ($R^2 = 0.48$), indicating that gig worker income reflects both individual characteristics and broader platform-related conditions.

The estimated OLS model predicting workers' income in Thailand's gig economy is expressed as follows:

Worker

$$\text{Income}_i = 7.142 + 0.186(\text{Education}_i) + 0.073(\text{PlatformExperience}_i) + 0.021(\text{HoursWorked}_i) + 0.143(\text{MultiPlatformUse}_i) + 0.097(\text{PlatformIncentive}_i) + 0.066(\text{AlgorithmicFairness}_i) - 0.188(\text{OperatingCosts}_i) + 0.082(\text{SocialProtection}_i) + \varepsilon_i$$

Where:

Worker Income_n = Logged monthly income (or dependent variable used in the model)
Education = Dummy variable (1 = bachelor's degree, 0 = otherwise)
PlatformExperience = Years of experience working on gig platforms
HoursWorked = Average hours worked per week
MultiPlatformUse = Dummy (1 = works on multiple platforms, 0 = single platform)
PlatformIncentive = Index measuring platform-based incentive structures
AlgorithmicFairness = Perception of fairness in platform algorithms
OperatingCosts = Logged daily/weekly operating expenses
SocialProtection = Access to any form of social protection (1 = yes, 0 = no)
ε_i = Error term

5. Conclusion

This study analyzed the effects of remote work on labor productivity within Thailand's service sector and highlighted the individual, organizational, and structural factors shaping employees' performance under remote arrangements. Consistent with Becker's (1993) human capital theory, the findings reaffirm that workers with higher education, advanced digital skills, and strong self-management capabilities tend to achieve greater productivity in remote settings, underscoring the importance of continuous human capital development. The findings indicate that productivity is positively associated with individual-level factors such as education, digital skills, and self-leadership, highlighting the importance of employee capabilities in leveraging remote work effectively. Organizational and job-related factors, including clear work design, managerial support, and structured communication, were also significant, suggesting that firms must adopt supportive practices and policies to maintain high performance (Rosenblat & Stark, 2016; Wood et al., 2019). Consistent with Berg's (2016) findings on crowdworkers, the results suggest that workers thrive when organizational expectations are transparent and when supportive structures compensate for the autonomy-driven challenges of remote work. Furthermore, environmental and infrastructural conditions, such as home workspace suitability and reliable internet connectivity, played a crucial role in shaping productivity outcomes, while frequent technical interruptions negatively affected performance (Wattanarat, 2019; Tanoamchard & Ceienwattanasook, 2024).

Overall, the study provides robust empirical evidence that remote work can enhance productivity in Thailand's service sector when employees possess strong human capital foundations and organizations implement structured support mechanisms. These insights have practical implications for managers and policymakers: promoting digital skill development, providing adequate organizational support, and ensuring suitable remote work infrastructure can maximize productivity gains. Future research should explore longitudinal effects of remote work, sector-specific variations, and objective productivity metrics to further refine policy and managerial strategies for sustainable remote work practices in Thailand.

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