A Study on the Employment-Generating Effects of the Short-Video Industry in the Context of the Creator Economy

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Abstract. Against the backdrop of a fragile global economic recovery, persistent structural employment imbalances, and mounting youth employment pressure, the digital economy has created new channels for flexible and platform-based work. This paper examines the effect of digital economy development on short-video employment and whether this effect differs across eastern, central, and western China. Using panel data for 31 Chinese provinces from 2019 to 2023, short-video employment is treated as the dependent variable, while a provincial digital economy index constructed using the entropy-weight method is the core explanatory variable. After controlling for urbanisation, industrial structure, population size, and human capital, the study applies pooled OLS, regional interaction models, Wald tests of regional marginal effects, and Monte Carlo sensitivity analysis. The results show that digital economy development significantly increases short-video employment. Its marginal effects are positive and significant in all three regions, while the interaction terms indicate no significant regional differences. The Monte Carlo results further confirm that the findings are robust to uncertainty in the backcasted provincial creator counts. This study provides provincial-level evidence on the employment effects of the digital economy and offers implications for expanding digital employment, improving labour protection, and strengthening workforce skills.

Keywords: digital economy; short-video employment; creator economy; regional analysis; flexible employment

1 Introduction

China's labor market continues to face structural challenges. Industrial upgrading is reshaping jobs, while young workers face growing employment pressure. Employment opportunities also remain uneven across regions. The *Employment-First Strategy Plan for the 15th Five-Year Plan Period* emphasizes balanced regional employment and the healthy development of flexible and new forms of work. In this context, short-video self-employment may expand job opportunities, ease structural pressure, and reduce regional disparities.

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The digital economy supports the growth of Internet-based occupations, including short-video creation. Digital infrastructure and online platforms lower the costs of content production, dissemination, and transactions. They also create new channels for platform work and self-employment. However, these effects may differ across regions because of disparities in economic development, digital infrastructure, and human capital.

This study examines how digital economy development affects employment in new internet-based occupations and whether this effect varies across eastern, central, and western China. Using panel data for 31 provinces from 2019 to 2023, the study uses short-video employment as a proxy for new internet-based employment and digital economy development as the independent variable. Urbanisation, service-sector development, population size, and human capital are included as control variables. The results show that digital economy development significantly expands employment in new internet-based occupations. This effect exhibits regional heterogeneity and is stronger in central and western China than in eastern China.

This study contributes to the literature by providing provincial-level evidence on how digital economy development affects short-video employment and by documenting substantial regional heterogeneity in this relationship. It also offers policy implications for expanding digital employment, designing region-specific employment policies, strengthening labour protection for new forms of employment, and improving workforce skills.

2 Literature Review and Theoretical Assumptions

2.1 Literature Review

Recent research on the digital economy and employment follows three lines. First, digitalization can expand employment and improve job quality through market growth, industrial upgrading, productivity gains, and better matching (Wang, 2023; Zhang & Gao, 2024; Jiang et al., 2025; Shi et al., 2025). Second, these benefits are uneven. Digital development may increase skill premia and improve employment outcomes for women and some disadvantaged workers, but it can also reduce demand for less adaptable groups (Qiu & Yin, 2023; He & Wang, 2024; Gao & Wu, 2025; Moncada et al., 2025; Aum & Shin, 2025). Third, digital transformation increasingly reshapes job structures, wages, and skill requirements rather than simply creating jobs (Richiardi et al., 2025). This study extends the literature by examining short-video employment at the provincial level and identifying regional heterogeneity across China.

2.2 Theoretical Assumptions

Digital economy development may expand short-video employment by improving digital infrastructure, strengthening platform connectivity, and lowering production and transaction costs. It also reduces organisational and geographical barriers to work, creating more opportunities for content creation, editing, live-streaming, digital marketing, and related services. This effect may vary with regional differences in economic

development, digital infrastructure, market demand, and human capital. We therefore propose:

H1: Digital economy development significantly increases short-video employment.

H2: Digital economy development significantly promotes short-video employment across eastern, central, and western China, with no significant regional differences in this effect.

3 Data, Models and Statistical Findings

3.1 Data Sources

This study uses a balanced panel of 31 mainland Chinese provinces from 2019 to 2023. Hong Kong, Macao, and Taiwan are excluded because comparable data are unavailable. Provincial socioeconomic and employment data are obtained from the *China Statistical Yearbook* and the *China Population and Employment Statistics Yearbook*. Short-video employment data are compiled from Chanmama, a short-video and livestream-commerce analytics platform, and TopKlout, a cross-platform creator-data and industry-research provider.

3.2 Econometric Models

3.2.1. Analysis of Total Effects.

To examine the impact of the short-video industry's development on employment in new internet-based professions, the following baseline model has been established:

$$lnEmp_{it} = \alpha_0 + \alpha_1 lnDige_{it} + \sum_{k=1}^{4} \gamma_k Control_{kit} + \varepsilon_{it} \quad (1)$$

In Equation (1), i and t denotes province and year, $lnEmp_{it}$ is the logarithm of short-video employment, while $lnDige_{it}$ represents digital economy development, measured by the logarithm of the provincial digital economy index. The control variables include urbanisation, service-sector development, population size, and human capital. Urbanisation and service-sector development are measured by the urban population share and the tertiary-industry share of GDP, respectively. Population size is expressed in logarithmic form, and human capital is measured by the share of residents with a college education or above. Finally, ε_{it} is the error term.

3.2.2 Analysis of Regional Heterogeneity.

Regional differences in economic development, digital infrastructure, human capital, industrial agglomeration and market demand may lead to heterogeneous employment effects. To test H2, this study adds regional dummy variables and their interactions with short-form video industry development to the baseline model:

$$lnEmp_{it} = \beta_0 + \beta_1 lnDige_{it} + \beta_2 Central_i + \beta_3 West_i + \beta_4 (lnVideo_{it} \times Central_i) + \beta_5 (lnVideo_{it} \times West_i) + \sum_{k=1}^{4} \gamma_k Control_{kit} + \varepsilon_{it} + \lambda_t \quad (2)$$

In Equation (2), $Central_i$ and $West_i$ are regional dummy variables, with eastern China as the reference group. They equal 1 for provinces in the corresponding region and 0 otherwise. The remaining variables are defined as in Equation (1). The employment effects in the eastern, central and western regions are represented by β_1, $\beta_1 + \beta_4$and $\beta_1 + \beta_5$, respectively.

3.2.3 Robustness Analysis.

To address uncertainty in the backcasted provincial creator counts, this study conducts a Monte Carlo–based probabilistic sensitivity analysis (Blackwell et al., 2017; Banack et al., 2021). Provincial growth rates are randomly varied around the reported national rate while preserving the national growth constraint. The simulated rates are used to reconstruct short-video creator counts for 31 provinces over 2019–2023. Equation (1) is then re-estimated 1,000 times using a fixed random seed. Robustness is assessed from the distribution, sign consistency, and significance of the estimated coefficient on digital economy development. Stable results indicate that the baseline findings are not driven by the common-growth-rate assumption.

3.3 Variable Content

3.3.1 Dependent Variable.

The dependent variable is short-video employment, measured by the number of creators in each province. Provincial creator counts are obtained from Chanmama, while historical values are backcast using annual KOL growth rates reported by TopKlout. The resulting series is expressed in natural logarithms.

3.3.2 Explanatory Variables.

The core explanatory variable is provincial digital economy development. Following the indicator framework of Zhao et al. (2020), the index includes broadband penetration, ICT employment share, per-capita telecommunications volume, mobile-phone penetration, and digital financial inclusion. After standardisation, the indicators are weighted and aggregated using the entropy-weight method. Data are obtained from the *China Statistical Yearbook*, the *China Population and Employment Statistics Yearbook*, and the Peking University Digital Financial Inclusion Index (Guo et al., 2020).

3.3.3 Control Variables.

The control variables include economic development, urbanisation, industrial structure, population size, and human capital(Table 1). Economic development and population size are measured by the logarithms of provincial GDP and resident population, respectively. Urbanisation is measured by the urban population share, industrial structure by the tertiary-sector share of GDP, and human capital by the proportion of residents with a college education or above.

Table 1. Main Variables and Descriptive Statistics

Variable	Meaning	Observations	Mean	SD	Min	Max
ln Employ	Short-Video Employment	155	4.070	1.200	0.751	5.988
Dige	Digital Economy Development	155	0.000	1.368	2.220	4.878
Urban	Urbanisation	155	0.649	0.106	0.345	0.895
Service_Share	Industrial Structure	155	0.528	0.086	0.098	0.848
ln Population	Population Size	155	8.145	0839	5.889	9.450
Human Capital	Internet-Industry Development	155	0.188	0.077	0.053	0.505

4 Benchmark Regression and Analysis of Results

4.1 Baseline Regression Results

Table 2 reports the baseline results. The coefficient on digital economy development is 0.253 and significant at the 1% level. Because employment is expressed in logarithms while the digital economy index is in levels, a one-unit increase in the index is associated with an approximately 28.8% increase in short-video employment, holding other factors constant. This positive relationship supports Hypothesis H1.

Table 2. Overall baseline regression results

Variable	Y
Gige	0.253***(5.53)
Urban	-4.463***(-6.42)
Service_Share	-2.265***(-2.94)
ln Population	1.344***(33.49)
ln Internet Idustry	2.911(-2.60)
Constant	-3.329***(-6.81)

Robust t-statistics in parentheses; *** p<0.01, ** p<0.05, * p<0.1

4.2 Heterogeneity Analysis

Table 3 reports the regional results. The estimated effect of digital economy development is 0.216 in eastern China and is significant at the 5% level. The corresponding effects are 0.327 in central China and 0.286 in western China, both significant at the 1% level, based on Wald tests of the regional marginal effects. The regional marginal

effects are positive and statistically significant in eastern, central, and western China. Meanwhile, the interaction terms are insignificant, indicating no significant regional differences in the employment-promoting effect of digital economy development. Therefore, Hypothesis H2 is supported.

Table 3. Results of Regional Benchmark Regression

Variable	Y
East	0.216**(2.460817)
Central	0.327***(9.417364)
Western	0.286***(4.803255)

Robust t-statistics in parentheses; *** p<0.01, ** p<0.05, * p<0.1

4.3 Robustness Analysis

The Monte Carlo results confirm the robustness of the findings. Across 1,000 simulations, the mean coefficient is 0.2264, close to the baseline estimate of 0.2340, and the 95% simulation interval [0.1878, 0.2682] excludes zero(Fig.1). All estimates are positive and significant at the 5% level. The mean regional effects are 0.2111, 0.3186, and 0.2789 for eastern, central, and western China, respectively, with all 95% intervals excluding zero (Fig.1). Thus, the positive effect of digital economy development on short-video employment remains robust to uncertainty in provincial growth rates and across regions.

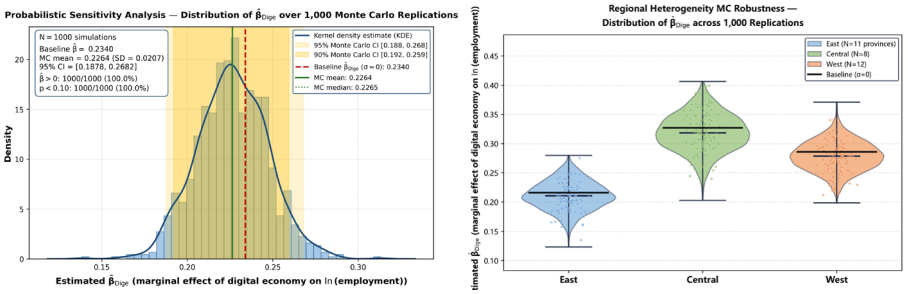


Fig. 1. Regional Marginal Effects of Digital Economy Development on Short-Video Employment

5 Conclusions and Policy Implications

5.1 Main Conclusions

Using panel data for 31 provinces from 2019 to 2023, this study finds that digital economy development significantly promotes short-video employment. The regional effects are positive in eastern, central, and western China, while the interaction terms show no significant differences across regions. Monte Carlo simulations further confirm that the

national and regional estimates are robust to uncertainty in creator-growth rates. These findings support H1 and H2.

5.2 Policy Recommendations

he findings suggest three priorities. First, governments should improve digital infrastructure and creator-support services, especially where digital foundations are weaker. Second, platforms and local agencies should connect short-video production with tourism, agriculture, manufacturing, and local commerce while providing training in content creation and platform operations. Third, labour governance should clarify platform and MCN responsibilities, standardise payment and account-management rules, and expand portable social insurance for flexible workers. A common national framework can be combined with local adaptation.

5.3 Limitations and Outlook

This study has three limitations. Provincial creator counts are partly backcast from national growth rates, which may understate local variation despite the Monte Carlo analysis. The short sample period limits long-run inference, and creator counts measure employment scale rather than job quality. Future research should use platform-level longitudinal data and examine income, stability, creator types, and city-level differences.

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