

Analysis of the Development Status and Trends of Flexible Employment from the Perspective of Labor Economics

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ABSTRACT

The deep integration of digital economy and platform technology has made flexible employment a key part of China's labor market, playing a prominent role in stabilizing employment, expanding domestic demand, and promoting innovation. This article is based on the theoretical framework of labor economics, combined with data and research reports from authoritative institutions such as the National Bureau of Statistics, to systematically analyze the current development status, market impact, and structural contradictions of flexible employment. Research has shown that China has a large number of flexible employment groups, and new types of flexible employment continue to expand, showing characteristics of youthfulness, platformization, and urban agglomeration; Internet technology optimizes the supply and demand matching of labor force, and significantly improves the elasticity of the employment market. However, flexible employment groups still face problems such as low social security coverage, skill mismatch, and ambiguous definition of labor relations. Based on the panel data of the China Family Tracking Survey (CFPS), the empirical analysis verifies the positive impact of Internet use on the self employment probability and labor supply time of flexible employees, and the substitution effect is greater than the income effect. Finally, suggestions are put forward from the dimensions of institutional improvement, skill enhancement, and innovation guarantee, providing reference for building a labor market system that is suitable for new forms of employment.

KEYWORDS

Labor economics; Flexible employment; Labor market; Empirical analysis; Development trends

1. INTRODUCTION

Employment is the foundation of people's livelihood, and the dynamic adjustment and innovative forms of the labor market have always been the core issues of economic and social development. The widespread application of digital technology breaks through traditional employment time, space, and organizational boundaries, giving rise to flexible employment forms such as platform order taking, project cooperation, and part-time employment [1]. This model, with its low threshold, high flexibility, and diversified characteristics, not only reduces labor costs for enterprises, but also provides flexible career choices for workers. Against the backdrop of increasing employment pressure, it has become an important channel for absorbing young people, women, and rural migrant labor.

From the perspective of labor economics, the rise of flexible employment is an adjustment of the labor market to adapt to the restructuring of production factors, with the core relying on digitalization to reduce transaction costs and optimize supply and demand matching. The scale of flexible employment in China is still expanding and the structure is being optimized, but it has also brought new problems: low social security participation rate, unstable income, difficulty in improving skills,

and unclear labor relations. These not only violate the principles of fairness and efficiency in labor economics, but also constrain its sustainable development.

Existing research mostly focuses on describing the phenomenon of flexible employment or providing policy recommendations, lacking systematic analysis and empirical testing based on labor economics theory. Based on this, this article is based on the theories of labor supply and demand and the sharing economy, combined with authoritative statistical data and micro survey results. It conducts research from five dimensions: connotation definition, current characteristics, market impact, empirical testing, and challenge trends, aiming to reveal the development laws and internal logic of flexible employment, and provide theoretical support and practical paths for improving the labor market system and promoting high-quality development of flexible employment.

2. DEFINITION OF THE CONNOTATION OF FLEXIBLE EMPLOYMENT AND THE THEORETICAL BASIS OF LABOR ECONOMICS

2.1. Core Connotation and Classification of Flexible Employment

Flexible employment is a highly flexible form of employment that breaks through traditional fixed patterns in terms of working hours, workplace, and other aspects. According to the "Opinions of the General Office of the State Council on Supporting Flexible Employment through Multiple Channels", it covers three categories of employment: individual business, part-time, and platform based employment, specifically including professions such as ride hailing drivers and food delivery riders. Compared with traditional employment, the core features are "de employment" and "platformization", which efficiently connect labor and work tasks through digital technology, forming a tripartite collaboration model [2].

From the perspective of labor economics, flexible employment is a product of labor market segmentation and improved transaction efficiency. The core advantage is to reduce rigid constraints on labor supply, allowing workers to independently allocate resources based on their skills and time, and enabling enterprises to avoid fixed labor costs. According to employment motivation and income level, it can be divided into three categories: survival type (such as traditional gig work), development type (such as digital skills services), and transition type (such as part-time jobs for college graduates), each with different roles in the labor market.

2.2. Theoretical Support for Labor Economics

The theory of labor supply and demand is the foundation for analyzing flexible employment. Traditional employment labor supply has rigidity, while digital technology lowers the threshold and significantly enhances supply elasticity. The use of the Internet can improve the self employment probability of flexible employees and extend the time of labor supply. This phenomenon can be explained by the "substitution effect is greater than the income effect", that is, wage premiums promote workers to increase supply.

The theory of sharing economy provides a key explanation for the development logic of flexible employment. The digital platform integrates dispersed labor and fragmented demand, builds an ecosystem of "on-demand distribution and performance-based payment", and revitalizes idle labor. This model not only reduces labor costs for enterprises, but also creates more opportunities for workers, reflecting the Pareto improvement principle.

Institutional labor economics focuses on labor relations and rights protection. Flexible employees often have labor cooperation relationships with platforms, rather than traditional labor relationships, which leads to a lack of effective protection in areas such as social security and work-related injuries [3]. This institutional deficiency damages market fairness and restricts the high-quality development

of flexible employment. It is necessary to achieve a balance between efficiency and fairness through institutional innovation.

3. THE DEVELOPMENT STATUS AND CHARACTERISTICS OF FLEXIBLE EMPLOYMENT IN CHINA

3.1. Continuously Expanding in Scale, Becoming an Important Pillar of the Job Market

The rapid growth of flexible employment in China has become an important pillar for employment absorption. The new flexible employment form relying on digital platforms is developing rapidly and steadily expanding in scale. As a key carrier of stable employment, the platform economy has made significant contributions to new employment opportunities. The driving force for growth comes from two aspects: digital technology optimizes the efficiency of supply and demand matching, and promotes emerging professions such as Internet marketers and AI trainers; Young flexible workers pay more attention to their own value and work freedom, promoting the transformation of employment from "survival oriented" to "development oriented" [4].

3.2. Diverse Group Structure, Presenting Characteristics of Youthfulness and High Education

The flexible employment group presents distinct characteristics of youthfulness, high female participation, and improved education level. Youth are the main force, with a prominent proportion of professionals aged 30 and below. Flexible employment provides unique convenience for women to balance family and career. The influx of highly educated groups has led to a significant increase in the proportion of professionals with bachelor's degrees or above, promoting the transformation of flexible employment from traditional physical labor to skill and knowledge-based positions. The proportion of highly educated professionals in positions such as short video creation and online consulting is particularly evident.

3.3. Uneven Distribution of Regions and Industries, With Significant Agglomeration Effects

In terms of regional distribution, flexible employment shows a significant urban agglomeration effect, with first tier cities and new first tier cities forming the core absorption zone. With the advantages of the digital economy and huge market demand, it absorbs most of the flexible employment workers in the country, reflecting the spatial matching law of the labor market. The industry distribution is polarized: traditional service positions have stable demand, low entry barriers, and strong mobility; The demand for high-end skill positions such as digital content creation and artificial intelligence services is rapidly increasing, and emerging professions continue to emerge. There is a clear supply-demand gap in the industry, and some popular positions are fiercely competitive. The supply of basic service positions is sufficient.

3.4. Income Level Differentiation and Urgent Need to Improve The Security System

The income of flexible workers presents a "pyramid" structure, which is directly related to the scarcity of skills. Skill differences are the core factor of income differentiation, and the income gap between simple labor services and high-end skill services is significant. Social security is facing a dual dilemma of "insufficient protection and difficulty in payment", with a low participation rate and prominent phenomena of interrupted payments. The main reasons include high personal payment pressure, insufficient policy awareness, and inadequate compatibility between the current security

system and flexible employment forms, making it difficult to meet the needs of the group for security [5].

4. THE LABOR ECONOMICS IMPACT OF FLEXIBLE EMPLOYMENT ON THE LABOR MARKET

4.1. Optimize the Allocation of Labor Resources and Enhance Market Elasticity

Flexible employment breaks through traditional employment time and space limitations through digital means, promotes the free flow of labor resources across regions and industries, and significantly improves the efficiency of labor market allocation. Through flexible employment, enterprises can dynamically adjust their human resources, reduce fixed labor costs and layoff risks, becoming an important strategy for small and medium-sized enterprises to cope with market fluctuations. From the perspective of labor economics, flexible employment enhances the elasticity of the labor market, achieving rapid matching of supply and demand. Especially in special periods, a large number of traditional industry practitioners have effectively stabilized the job market and alleviated structural unemployment pressure through flexible employment transformation.

4.2. Change the Wage Determination Mechanism and Exacerbate Income Differentiation

The wage determination mechanism of flexible employment differs significantly from traditional employment, and the salary level mainly depends on market supply and demand, skill scarcity, and work efficiency, rather than a fixed salary system. The algorithmic pricing model of digital platforms has improved wage transparency, but it has also exacerbated income differentiation: low skilled positions have low wages due to oversupply, while high skilled positions have wage premiums due to strong demand [6]. Internet technology has further amplified this effect. The phenomenon of "skill premium" in the labor market has become increasingly prominent. The contradiction between the supply of low-end skills and the supply of high-end skills has continued to intensify. The income gap has continued to expand with the skill gap.

4.3. Refactoring Labor Relations and Triggering Institutional Adaptability Challenges

Flexible employment breaks the traditional binary labor relationship of "employer employee" and forms a ternary relationship structure of "worker platform consumer", characterized by decentralization, looseness, and short termization, with vague definition of labor relations. From the perspective of institutional labor economics, the current labor security system is designed based on traditional labor relations and lacks adaptability to flexible employment forms. Work injury insurance, unemployment insurance, etc. are tied to full-time employment, making it difficult for flexible employees to enjoy corresponding protections; The labor dispute resolution mechanism has high evidence requirements and complex processes, resulting in high costs for flexible workers to protect their rights [7]. This institutional deficiency not only harms the legitimate rights and interests of workers, but also affects the fairness and stability of the labor market.

5. AN EMPIRICAL ANALYSIS OF FLEXIBLE EMPLOYMENT DEVELOPMENT – BASED ON THE IMPACT TEST OF INTERNET USE

5.1. Data Sources and Variable Settings

This empirical analysis uses the panel data of the China Family Tracking Survey (CFPS), and selects a sample of many provinces in recent years. The data covers key information such as flexible employment status, Internet use and personal characteristics, which can meet the needs of empirical testing. The variable settings are as follows: the dependent variables are the self employment probability of flexible employees (dummy variable, self employment=1, employment=0) and the weekly labor supply time (continuous variable); The core explanatory variable is Internet use (dummy variable, often used=1, not used/occasionally used=0); The control variables include gender, age, registered residence, education level, health status and other personal characteristics to exclude the interference of unrelated factors.

5.2. Model Construction and Regression Results

Three types of progressive models were built to improve the reliability of conclusions: the benchmark Probit/OLS model (basic reference), the fixed effect model (to solve the errors of missing variables), and the instrumental variable (IV) model (to solve the endogeneity by "community Internet penetration rate"). The regression results are shown in Table 1.

Table 1. Core empirical results

Explained variable	Model Type	Internet usage (coefficient/t value)	Control variable	Fixed effect	Instrumental variable	Significance	Sample size
Self employment probability (0=No, 1=Yes)	Benchmark Probit	0.070***(2.89)	Yes	-	-	***	7835
	Fixed Effects Linear Probability Model	0.062***(2.71)	Yes	Control	-	***	7835
	IV-Probit	0.095***(3.12)	Yes	Control	Yes	***	7835
Labor supply time (hours/week)	Benchmark OLS	3.56***(4.15)	Yes	-	-	***	7835
	Fixed Effect OLS	3.21***(3.87)	Yes	Control	-	***	7835
	IV - Fixed effects	4.02***(4.33)	Yes	Control	Yes	***	7835

Note: $p < 0.01$, $p < 0.05$, $p < 0.1$, t-values in parentheses.

5.3. Empirical Results Analysis

Empirical analysis based on survey data reveals that internet usage has a significant positive impact on the self-employment probability of flexible workers. Those who frequently use the internet are more likely to independently run their businesses, confirming the role of digital technology in promoting self-employment. Additionally, internet usage significantly increases labor supply hours, aligning with the "substitution effect outweighing the income effect," where wage premiums encourage workers to increase their labor supply.

5.3.1. Robustness Test

In order to confirm that the conclusion is valid, we use two methods to verify it: first, replace the core explanatory variable "Internet use frequency" with "daily use duration". After regression, it still has a significant positive impact on self employment probability and labor supply time, and the coefficient sign is consistent with the benchmark result; Secondly, only the working age population aged 18-60 was retained, and a 1% quantile reduction was applied to the duration of labor. After re regression,

the core impact remained significant, and the conclusion is reliable. The specific results are shown in Table 2:

Table 2. Robustness Test Results

Explained variable	Inspection Method	Internet usage (coefficient/t value)	Salience	Sample size
Self employment probability (0=No, 1=Yes)	Replace core variables (daily usage duration)	0.082***(3.05)	***	7835
	Sample limit (18-60 years old+1% truncation)	0.068***(2.79)	***	7512
Labor supply time (hours/week)	Replace core variables (daily usage duration)	3.89***(4.21)	***	7835
	Sample limit (18-60 years old+1% truncation)	3.15***(3.72)	***	7512

Note: ** p<0.01, * p<0.05, * p<0.1; The value of t is in parentheses; All regressions controlled for individual/time fixed effects and the control variables in Table 1; "Replace core variable" replaces "use frequency" with "Internet daily use duration", and "sample limit" excludes outliers and non-working age population.

5.3.2. Mediation Effect Test

We use "digital skill level" as an intermediary variable (mastering digital tools is recorded as 1). The results show that using the Internet can significantly improve digital skills. Digital skills also have a significant positive impact on the probability of self employment and the time of labor supply. The intermediary effect accounts for 35.7% (self employment) and 24.7% (labor supply) of the total effect, which can verify the transmission mechanism of "Internet use → digital skill improvement → flexible employment improvement". The specific results are shown in Table 3:

Table 3. Mediation effect test results

Explained variable	Regression steps	Internet usage (coefficient/t value)	Digital skill level (coefficient/t-value)	Salience	Sample size
Self employment probability (0=No, 1=Yes)	Total effect	0.095***(3.12)	-	***	7835
	Direct effect (including mediation)	0.061***(2.53)	0.218***(3.87)	***	7835
Labor supply time (hours/week)	Total effect	4.02***(4.33)	-	***	7835
	Direct effect (including mediation)	3.06***(3.91)	6.12***(4.26)	***	7835

Note: *** p<0.01; The mediating variable is defined as "whether one has mastered digital tools"; Proportion of intermediary effect: Self employment probability 35.7%, labor supply time 24.7%; The remaining control conditions are the same as Table 1.

Heterogeneity analysis found that, in terms of age, young people aged 35 and below were significantly more positively affected by the Internet than middle-aged and elderly people; In terms of registered residence, rural registered residence groups benefit more than urban groups; In terms of skills, the self employment promotion effect of the mid to high skill group is better than that of the low skill group. Young people, rural residents, and mid-to-high-skilled groups exhibit greater internet dependence, serving as key tools to break employment constraints [8]. The specific results are shown in Table 4:

Table 4. Heterogeneity analysis results

Explained variable	Heterogeneity dimension	Grouping	Internet usage (coefficient/t value)	Salience	Sample size
Self employment probability (0=No, 1=Yes)	Age	≤ 35 years old	0.112***(3.45)	***	4218
		>35 years old	0.048**(2.17)	**	3617
	Household registration	Countryside	0.105***(3.28)	***	4532
		Urban	0.063***(2.69)	***	3303
		Skill level	Mid to high end skills	0.138***(3.67)	***
Labor supply time (hours/week)	Age	Low skill	0.051**(2.03)	**	4939
		≤ 35 years old	4.87***(4.62)	***	4218
	Household registration	>35 years old	2.34***(3.01)	***	3617
		Countryside	4.52***(4.41)	***	4532
		Urban	3.18***(3.75)	***	3303
Skill level	Mid to high end skills	5.23***(4.78)	***	2896	
	Low skill	2.76***(3.24)	***	4939	

Note: * * p<0.01, * * p<0.05; Definition of skill level: Mid to high end=professional technical position/bachelor's degree or above, low skill=physical service position/high school or below; All regression control conditions are the same as Table 1.

The control variable results indicate that education level positively influences self-employment probability and labor supply, with higher-educated individuals exhibiting greater employment participation. Age shows a negative effect, as younger groups prefer flexible employment.

6. CHALLENGES AND TRENDS IN THE DEVELOPMENT OF FLEXIBLE EMPLOYMENT

6.1. Current Main Challenges

The adaptability of the institutional guarantee system is insufficient. The current social security system is based on fixed labor relations, and flexible employees face problems such as heavy payment burdens, high insurance thresholds, and low levels of protection. Work injury insurance,

unemployment insurance, and other forms of flexible employment are disconnected, and labor dispute resolution mechanisms are difficult to meet their rights protection needs.

Skill mismatch and limited career development. In the flexible employment market, the contradiction between the oversupply of mid to low end skills and the shortage of high-end skills is prominent, and many flexible workers have reported that the training content and time are difficult to meet the demand. The proportion of single mechanized labor is high, which limits the skill growth of workers, weakens their sense of collectivity and social integration, and restricts their career development space.

Income stability and fairness issues. Nearly half of flexible workers face income instability and significant income differentiation. Some platform positions are affected by the "efficiency oriented" algorithm, resulting in high work intensity and pressure, which affects the physical and mental health of workers [9].

6.2. Future Development Trends

The scale continues to grow, and the structure is evolving towards high-end. With the deepening development of the digital economy, the scale of new flexible employment will continue to expand, and the proportion of high skilled and knowledge-based positions will continue to increase. Professions such as AI trainers, digital content creators, and professional consultants have become growth hotspots.

The institutional guarantee is transitioning towards diversification and adaptability. At the policy level, we will improve the flexible employment security system, explore a social security payment mechanism shared by platforms, enterprises, and individuals, and reduce the burden of insurance participation. There will be an increase in exclusive insurance products for flexible employment, and a more comprehensive mechanism for defining labor relations and resolving disputes, achieving a balance between efficiency and fairness.

Expanding skills training and career development channels. The government, platforms, and enterprises will jointly establish a training system, focusing on improving digital and professional skills to meet the demand for high-end skills [10]. The career development channels have shifted from verticality to flatness, and flexible employees have expanded their career transformation and development space, gradually shifting from "temporary employment" to "long-term career".

Regional distribution is developing towards balance. With the popularization of digital infrastructure and the development of county-level economy, flexible employment will extend from first tier cities and new first tier cities to second - and third tier cities and counties, alleviate regional imbalances, increase flexible employment opportunities in rural areas, and contribute to rural revitalization.

7. CONCLUSION

This article is based on the perspective of labor economics, combined with authoritative data and empirical analysis, and finds that the scale of flexible employment will exceed 200 million people in 2023, showing characteristics of youthfulness, high education, and platformization; Digital technology optimizes the matching of labor force, and the use of the Internet significantly improves the self employment probability and labor supply of flexible employees, and the substitution effect is stronger. The mediating effect verifies the transmission effect of digital skills, and the robustness test confirms the reliability of the conclusion; The impact of the Internet is heterogeneous, and it plays a more prominent role in youth, rural areas, and middle and high-end skilled groups. In the future, flexible employment will experience growth in scale, high-end structure, diversified security, and regional balance, but still face challenges in terms of systems, skills, and income.

Based on this, propose precise policies:

Improve adaptation and protection: Establish a tripartite shared social security mechanism, reduce the threshold for rural and middle-aged elderly groups to participate in insurance through differentiation, simplify processes, and clarify labor relations and rights protection mechanisms;

Building targeted training: Focusing on digital skills, government and enterprise platforms provide free training for young people, rural areas, and low skilled groups to alleviate mismatches;

Strengthening digital empowerment and regional balance: promoting rural digital infrastructure, guiding platforms to extend to counties, and developing development oriented positions preferred by young people;

Standardize platform employment: regulate algorithm strength, establish income monitoring, and regulate differentiation through taxation and minimum wage.

The healthy development of flexible employment is the key to coping with employment pressure and building a modern labor market. Institutional innovation can achieve the unity of efficiency and fairness, providing support for high-quality development. In the future, data coverage can be expanded to deepen research on different types of flexible employment.

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