

## Article

# The Impact Mechanism of Work Experience on the Income of Flexible Workers: Evidence from China

He Yang , Changan Li and Zhaoxing Sun

School of Government, University of International Business and Economics, Beijing 100029, China

\* Correspondence: heyang04@126.com

**Abstract:** Numerous workers have adopted the flexible working approach due to its accommodating and job-sharing features, which play a key role in easing the employment pressure and maintaining socio-economic sustainability in China. This paper will study the impact of work experience on the income of flexible workers and the characteristics of impact mechanism. We use micro survey data from CFPS2020 to analyze flexible workers in China. This study found that, firstly, while the feature of flexible employment may be very different from formal employment, its relationship with work experience and income is as significantly correlated as it is for formal employment with a rise–fall, inverted U-shaped trend, but the return on work experience is lower than the employment level in the labor market. Secondly, there is an income gap between genders, especially in physical labor-intensive forms of flexible work; women can gradually narrow the gender income gap through continuous learning. Thirdly, the return on work experience in the older age group is lower than that in the youth group of flexible workers, and this may be due to the dynamic evolution of the elimination of existing work experience and the accumulation of new work experience. Fourthly, in contrast with the findings of the labor market as a whole, the trend of work experience return in flexible employment is reversed; the low-income group’s return rate of work experience is higher than that of the high-income group, and it can be seen that flexible employment is conducive to the development of new and young workers.

**Keywords:** impact; flexible workers; employment; work experience; income



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## 1. Introduction

Employment is the most important project for people’s livelihood, which is a barometer reflecting the nation’s socio-economic sustainability and a stabilizing force for social harmony [1]. Flexible employment is an indispensable part of employment, and it makes necessary contributions to the sustainable development of society. The attainment of sustainable development is primarily attributed to high-level productivity, an efficient sectoral employment structure, flexible employment conditions, and low levels of working poverty [2–4]. China is still in the process of economic recovery from COVID-19. We are simultaneously witnessing a steady increase in college graduates, according to statistics from the Ministry of Education. The number of college graduates exceeded 10 million individuals in 2023, reaching an unprecedented total and further intensifying the expansion of the labor supply. In light of this compounded scenario involving formal employment contraction alongside these circumstances, flexible employment has arisen as an effective means for individuals to secure both an income and job prospects under the prevailing conditions. Moreover, its inherent characteristics, such as extensive flexibility and freedom, have increasingly enticed recent college graduates into embracing this form of work engagement. This is predominantly concentrated within China’s low-end service industry, which is characterized by ample capacity coupled with low entry barriers, facilitating the absorption of substantial labor resources, so it helps to ease the employment pressure and sustain the economy.

Flexible employment, which is distinguished from traditional employment rooted in industrialization and the modern factory system, encompasses various forms, such as labor dispatch, self-employed households, and emerging employment models [5]. The Chinese government has consistently emphasized the need to bolster support for flexible employment and further its development in both 2015 and 2016 [6]. By 2021, flexible employment constituted 55.68% of China's overall enterprise employment mode [7]. In 2022, out of the total workforce of 780 million employees in China, approximately 200 million people were engaged in flexible work arrangements, accounting for over a quarter of the entire workforce. With its continuous expansion in scale, flexible employment is increasingly becoming a prominent form of work favored by labor suppliers and demanders alike within the job market. Its high flexibility regarding working hours and tasks enables workers to optimally leverage their talents while earning desirable incomes; however, it may also lack specialization opportunities, systematic training programs, and predictable career prospects. It is currently concentrated primarily within low-end service industries in China, with mundane and repetitive tasks, and there are often significant disparities among the income levels of flexible workers.

Overall, the literature on flexible employment suggests that factors, such as work experience, gender, age, the urban–rural divide, immigration, marriage, income level, etc., have the potential to exert an influence on income outcomes. However, only a few scholars have explored the income issues faced by individuals engaged in flexible work from the perspective of human capital accumulation over time. The foundation of this paper lies in the burgeoning prevalence of flexible employment in China and its consequential ramifications on the labor market. We have broadened our research perspective to encompass the unique nature of flexible employment, which diverges from traditional formal employment by offering a remarkable degree of autonomy and primarily focusing on repetitive and mundane tasks. Therefore, our objective is to explore the realm of work experience associated with flexible employment and identify its disparities compared to formal employment through a meticulous examination of specific influencing mechanisms, utilizing microdata from the China Family Panel Studies (CFPS2020). Furthermore, we aim to explore potential heterogeneity based on gender, age, and varying income levels by empirically analyzing the relationship between work experience and income. By uncovering these disparities in influencing mechanisms vis-à-vis formal employment, we endeavor to propose corresponding policy recommendations that foster the development of high-quality and sustainable flexible employment in China while contributing towards overall sustainable growth in employment.

## 2. Literature Review and Research Hypothesis

### 2.1. The Concept and Role of Flexible Employment

Flexible employment is a multifaceted concept that undergoes significant variations due to diverse economic backgrounds, institutional factors, and social transformations across countries. Consequently, people's perceptions and research on flexible employment have evolved considerably. In the early 1970s, informal employment gained prominence as a significant form of work in developing nations, propelled by the advocacy of the International Labor Organization (ILO), creating numerous job opportunities [8]. The global exploration of flexible employment began with the ILO introducing the “informal sector” and “informal employment”. In the World Employment Plan, which saw employment as pivotal for development, the ILO outlined characteristics of the informal sector: low entry barriers, local resources, small-scale, labor-intensive activities using adaptive technologies. It stressed access to technology beyond formal education and participation in unregulated markets [9]. Acknowledging the importance of the informal sector in the employment landscape set the stage for subsequent definitions of both the informal sector and informal employment. Additionally, it emphasized the role of governments in fostering its growth and support.

The informal sector comprises workers linked with poverty, unemployment, and low productivity, consistently embodying a low-income, low-tech economic entity positioned between the modern urban and traditional agricultural sectors. It serves as a crucial source of employment for underemployed or unemployed individuals in both urban and rural settings. Its scope is broad, encompassing marginal socio-economic activities operating outside legal jurisdiction and even involving illegal income generation [10]. In developing countries, the informal sector engaged in the production and distribution of units exhibits characteristics, such as disorganization, a lack of structure, low levels of organizational or production capacity, and meager wages [11]. In 1993, the 15th International Labour Statistics Conference (ICLS) set a resolution to create a global standard definition for the “informal sector” in employment statistics. This definition emphasizes inclusive entities engaged in production and labor services. It is marked by limited hierarchical structures and small-scale operations, lacking distinct divisions between laborers and capitalists. The informal sector’s workforce includes those in informal, own-account enterprises or employed by informal employers during specific reference periods [12].

In 1995, the World Bank introduced the concepts of “the formal sector” and “the informal sector”, thereby establishing a framework that distinguishes between these two economic sectors. The formal sector was defined as encompassing employees who receive monetary wages and engage in non-agricultural enterprises, while all the other workers were considered part of the informal sector [13]. As informal employment continued to grow, the ILO adopted “the informal economy” as a broader term to describe this group [14]. However, illegal and criminal activities, such as begging and drug trafficking, were excluded from the scope of informal employment [15]. In its World Employment Report in 1998–1999, the ILO further categorized the informal sector into three groups: small or micro businesses, family businesses, and independent service workers or freelancers [16]. In 2003, during its 17th ICLS, the ILO emphasized that legal labor relationships may not cover the actual labor relationships of informal workers lacking legal protection. Therefore, defining informal employment should consider factors such as the type of labor unit and the nature of work. This framework has since been widely adopted by countries worldwide [17]. Attention toward employment statuses and welfare has evolved to encompass both formal sectors and various facets of informality, including family-based situations. In China, flexible employment is a prominent concept with an official definition that spans diverse forms distinct from traditional ones. It is established within modern factory systems, considering working time arrangements, labor dynamics, income patterns, and workplace settings. China’s definition of flexible employment does not only cover unguaranteed and unstable informal jobs but also includes flexible yet guaranteed and stable positions within the formal employment sector [18].

According to the dual labor market theory, the urban economy comprises a formal sector and an informal sector [19]. In contrast to the formal sector, the working conditions in the informal sector are not regulated adequately, leaving workers at a disadvantage due to the lack of labor protection measures [20]. The informal labor market exhibits heterogeneity. Analyzing formal workers, informal workers, and those out of the labor market reveals the dual structure of voluntary and involuntary employment within the informal sector. This characterization better describes the characteristics of urban labor markets where more than 50% of developed countries’ workforce is engaged in informal work [21]. Macroscale data analysis on changes in the US labor market after the 1990s indicates that the continuous expansion of the service industry plays a significant role in fostering flexible employment opportunities [22]. Income levels in the informal sector are considerably lower compared to those in the formal employment sectors, revealing that informal work plays a crucial role in ensuring the subsistence of impoverished individuals [23,24]. Informal employment has become one of the primary patterns of employment across various countries and regions [25]. Flexible employment arises from competitive dynamics within developing countries’ labor markets [22,26] and possesses unique features; although it may not offer benefits that are comparable to formal employment options, it still represents an improvement over the

unemployment experiences from previous periods [27–29]. Flexible employment is referred to as “the bottom” and reflects “easy to entry” activities [30]. Scholars have noted a strong path dependence among flexible workers, where individuals’ past employment experiences significantly shape their current and future choices, irrespective of the advantages or disadvantages. As a result, those presently engaged in flexible employment are more inclined to continue pursuing such opportunities due to the lasting impact and inertia stemming from their prior experiences [31,32]. Demographic characteristics can also have indirect impacts on the choice of flexible workers by influencing their subjective attitudes, values, and employment confidence [33].

In China, flexible employment is frequently equated with informal employment, and in this study, we treat them as interchangeable. China’s definition of flexible employment is expansive and covers multiple sectors. During the 1990s economic reform, numerous rural migrants moving to cities could not secure formal sector jobs and turned to informal sector work to avoid unemployment [34]. By 2012, the number of rural migrant workers had reached a staggering 163 million [35]. In China, institutional factors, such as the household registration system, employment structures, and property arrangements, have heavily influenced the country’s dual labor market. Reforms in the household registration system and residence permits have aimed to grant rural migrant workers equal citizenship rights in urban labor markets. However, while there has been progress in equality of identity, it does not always translate into equal rights for these individuals [36,37]. There are two primary reasons why individuals opt for flexible employment in China: survival by avoiding unemployment or pursuing personal development freely. Therefore, it can be observed that engaging in flexible employment is based on voluntary choices [38,39]. Flexible employment exists not only within the informal sector but also within the formal sector in China. The country has a diverse range of informal workers with high-level skills and significant high human capital, from street vendors to self-employed individuals and from dispatched workers to freelancers such as lawyers and writers [40].

Although there is a considerable income gap between formal and flexible employment in China on average, scholars have different views on the breakdown of the income differences between them. Some argue that individual characteristics primarily contribute to this income disparity [41,42], while others believe that labor market segmentation plays a dominant role [43]. Several studies have explored the heterogeneity of flexible employment in China [26,34,44]. The prevailing perspective suggests that the entire informal sector constitutes a low-end and secondary labor market, which is distinct from the formal sector, where flexible workers are often characterized as possessing low-level skills and low human capital [45–47]. As more individuals choose flexible employment, its importance has gained recognition from the Chinese government. Limited formal job opportunities and stringent regulations have led formal workers to experience notably lower income levels than before. Consequently, many seeking higher incomes have shifted to flexible employment at the lower levels. This trend might expand and help ease unemployment pressures. Government-backed initiatives have notably enhanced China’s environment for flexible workers, ensuring a more orderly and quality-focused development in employment [48]. During China’s economic transformation and structural adjustments, informal sectors have shown rapid growth. Both macro statistical data and micro household data consistently highlight one thing: flexible employment serves as an effective solution to address current and future unemployment challenges in China [14,34,49,50].

## 2.2. Factors Affecting the Income of Flexible Workers

In 1974, the American economist, Jacob Mincer, conducted research on the impact of work experience and education on the human capital input in labor market returns. He identified laborers’ accumulation of human capital as a crucial factor influencing income while disregarding the differences and separately analyzing years of work experience and education [51]. A study examining the yield of work experience among different income groups of flexible workers revealed that the lowest 10% income group had a re-

turn 0.93% lower compared to that of the highest 10% income group, suggesting that this phenomenon is particularly unfavorable for young individuals who just entered the labor market [52]. Furthermore, it was observed that there is a continuous positive correlation between work experience and income, but the return rate of marginal work experience decreases year by year [53]. Some scholars have also discovered that their research results in flexible employment are different from the general law of the Mincer equation; the inverted U-shaped curve of experience and income exists only for flexible workers. However, in formal sectors, work experience and income monotonously increase in a linear relationship [41]. Additionally, certain scholars argue that schools can be considered specialized enterprises; thus, traditional studies fail to clearly define the influence of education on income. Work experiences during schooling should also be regarded as part of students' overall professional development since previous studies underestimate their impact on earnings [54]. Moreover, internal heterogeneity exists among migrant workers, whereby the household registration type and educational background affect their return rate on work experiences [55]. Workers with higher levels of education and skills possess a greater amount of human capital. An investigation into the association between workers' education and entrepreneurship in both the United States and European countries has revealed a strong positive correlation between educational attainment and the choice of self-employment with flexible work arrangements [56]. The educational investment yield of formal workers engaged in stable work is higher than that of those engaged in unstable, flexible work [57]. The scarcity of human capital resulting from educational deficiencies directly impacts the bargaining power and competitiveness of participants in the labor market, thereby constraining the mobility of low-level skilled workers, forcing them to choose these lower-tier flexible job opportunities [37].

In addition to work experience and education, personal characteristics are often introduced as control variables in the employment selection model of workers. Gender, age, marriage, household registration type, etc., all of these variables have received significant attention in the existing literature. Gender is considered a core factor in studying human capital's impact on income, and scholars have extensively researched income inequality resulting from gender discrimination [58–60]. Many females in flexible work face disadvantages due to physical attributes and lower education levels, leading to lower incomes. Technological advancements have polarized job demands, favoring high and low-skilled positions, reducing opportunities for general skilled workers. This has pushed many medium or low-skilled women into lower-level flexible work [61]. The growth rate of the female labor force engaged in flexible employment has surpassed that of men. The allocation of domestic responsibilities within households requires women to dedicate more time to family care, and flexible employment offers them the opportunity for adaptable working hours and schedules [62]. From an individual perspective, women's responsibilities in family care and reproductive duties have impacted their competitiveness in the labor market, leading to a reduction in their overall human capital. From a societal standpoint, gender disparities in career opportunities and income gaps persist within the labor market [59]. The rapid growth of flexible employment also signifies a decline in men's status within the traditional labor market while women are progressively gaining ground and increasing their presence [63]. High-income groups have less gender discrimination and smaller income gaps than middle- and low-income groups. Women experience a significantly higher return on education across all income categories compared to men, attributed to changes in skill demand from technological advancements. This indicates that education can partially mitigate income inequality stemming from gender discrimination [52,64]. Notably, gender discrimination is more prevalent in China's state-owned sector compared to that in the non-state-owned sectors [65].

Age is linked to individual risk preferences and the accumulation of material and social capital, influencing workers' choices regarding flexible employment. Studies show a notable nonlinear effect of age on workers' employment decisions. There is an inverted U-shaped relationship between self-employment/flexible employment and age, typically



peaking around 45 years old. Beyond this point, the likelihood of migrant workers choosing self-employment gradually decreases in China [66]. German microdata analysis also revealed a comparable inverted U-shaped relationship between the likelihood of self-employment/flexible employment and age. Scholars identified this pattern, suggesting the inflection point might occur between 40 and 50 years old [56]. Studies on flexible work arrangements and health outcomes present a distinct focus compared to those examining health risks in traditional formal employment systems. Instead of centering on safety measures, employment pressure, and instability affecting health, these studies concentrate on the relationship between flexible work arrangements and health outcomes themselves [67,68]. Many flexible workers share similar characteristics with the unemployed group, such as possessing low-level production skills, earning a low income, and belonging to demographic groups including females, migrants, or minorities. All of these factors contribute significantly to the health issues among flexible workers. Additionally, the health of workers can be equally negatively impacted by various forms of flexible employment, just as it can be in traditional forms of employment [69].

In terms of marriage, married male workers exhibit a higher probability of opting for self-employed flexible employment. Self-employed flexible workers demonstrate enhanced risk resistance capabilities and the ability to employ their spouses, thereby optimizing their familial division of labor and maximizing their income [70]. Married medical professionals choose to engage in flexible employment within hospitals, hoping to strike a balance between family responsibilities and work commitments, which enables them to spend more quality time with their children [71]. A married couple with one partner engaged in flexible employment can optimize the division of family labor and the fulfillment of child support obligations [72]. Family background plays a crucial role in shaping individuals' social and material capital, impacting their employment choices. The financial situation and informal human capital within families notably influence workers' decisions to opt for flexible employment. Parents' business experience and financial support offer crucial backing—financially, emotionally, and through empirical knowledge—for individuals engaging in flexible self-employment [73,74]. The size of the family reflects the poverty risk faced by a household, which subsequently impacts individual workers' employment choices. It has been observed that larger family sizes are associated with increased poverty risks due to greater caregiving responsibilities for children and elderly members, consequently leading to a higher likelihood of choosing self-employed flexible employment [75].

In terms of working hours, the flexibility of working hours is considered to have a positive impact on the choice of flexible employment [76–78]; it is also believed that flexible employment does not reduce the working hours but rather extends the working hours of flexible workers [79,80]. Working hours vary significantly among urban and rural workers, different industries, and employment positions, as self-employed workers have the shortest working hours, domestic workers have longer working hours, and employers have the longest working hours [81]. Social insurance is also an important indicator influencing the choice of flexible employment. The related policies and regulations of social insurance for flexible workers are consistently addressed by the relevant departments in many countries [18,82]. Most flexible workers have been excluded from social security coverage for a long time, and low income, as well as weak insurance participation ability, are the common characteristics of China's flexible employment [83–85]. Consequently, social security benefits, including unemployment insurance, health insurance, and pension schemes, have emerged as pivotal incentives for individuals to embrace flexible employment [86,87].

In comparative terms, the floating population exhibits a higher inclination towards opting for flexible employment. When studying the entrepreneurial choices of the floating population, it was observed that compared to interprovincial mobility, floating workers in provinces and cities had a higher likelihood of opting for flexible employment. The extent of workers' mobility is negatively correlated with the preference for self-employment but positively correlated with formal employment [88]. From a regional perspective, variables,

such as socio-demographic characteristics, socio-cultural background, infrastructure development, economic structure, and local labor policies, are all important factors influencing workers' choices regarding flexible employment [89,90]. China's economic development and institutional changes are closely linked to regional characteristics. Regional disparities exist not only in terms of material resources, human resource endowment, and socio-economic development levels but also due to varying institutional factors, such as local interest protection and employment discrimination policies, and this leads to the creation of segmented labor markets across regions [91,92]. The type of property ownership and occupation, as well as the urban–rural conditions, have a significant impact on income among individuals engaged in flexible work [93]. Empirical microdata from Russia demonstrate that, while flexible employment can effectively increase income among low-income groups, it fails to reduce the poverty incidence rates [94].

On the whole, existing literature on flexible employment indicates that factors such as work experience, gender, age, urban–rural divide, immigration status, marriage, and income levels can significantly impact income outcomes. However, few scholars have explored income among individuals in flexible work regarding the accumulation of human capital over time. There is a lack of empirical analysis on its internal structure and limited comprehensive research, especially in the Chinese context. This paper aims to fill this gap. In the realm of extensive research on the profound impact mechanism of work experience on workers' income, one of the most seminal studies emerges as Jacob Mincer equation in 1974, which constitutes our primary focus. This equation firmly establishes work experience as a core explanatory variable and puts forth a general rule for its relationship with income, characterized by an elegant rise–fall, inverted U-shaped curve. Aligned with Mincer's classic approach, this paper endeavors to investigate whether his rule still holds true in the dynamic landscape of flexible employment. We will consider various influencing factors as control variables and simultaneously analyze heterogeneity, such as gender, urban–rural distribution, marriage, age, income levels, etc., in order to explore the impact mechanism of work experience on the income of flexible employment. Our aim is to examine how human capital evolves within flexible employment through the accumulation of work experience and determine whether an increase in work experience can significantly lead to higher incomes for flexible workers, while identifying its specific influencing mechanism. Ultimately, we anticipate that our research will make a valuable contribution towards sustainable and high-quality employment.

### 3. Data and Methodology

#### 3.1. Data Source

The data in this paper are derived from the China Family Panel Studies (CFPS), which represents a continuous follow-up survey of families nationwide conducted by the China Social Sciences Survey Center of Peking University. The data encompass 25 provinces, autonomous regions, and municipalities directly controlled by the central government, providing a representative sample that covers approximately 95% of the country's population, including details about economic, population, employment information, and other aspects. These are categorized into three levels: individual, family, and community. Considering the timeliness of the data, the latest CFPS2020 microdata were selected for empirical analysis.

The sample data screening method employed in this study adheres to a common practice in academic research [86,95], and utilizes a reverse exclusion selection approach. The specific practices include deleting the agricultural workers (agriculture, forestry, animal husbandry, fishery, and water conservancy), eliminating the formal workers according to these four areas: “nature of work”, “whether to sign the contract”, “whether to agree on the contract term”, “whether to sign the contract with the labor dispatching unit/intermediary agent”, retaining the flexible employees and self-employed workers, and selecting the working-age population aged 16–65 years. Ultimately, a total of 2688 samples were reserved for analysis.

### 3.2. Model Setting

The empirical study in this paper employs the classical empirical model Mincer equation integrated with the human capital theory. Assuming the explained variable is the logarithm of annual income ( $\ln(\text{Income})$ ), the core explanatory variable is work experience ( $\text{Exp}$ ,  $\text{Exp}^2$ ), the control variable is  $z_i$  ( $i = 1, 2, \dots, t$ ),  $t$  is the number of control variables, and work experience refers to the number of working years. The Mincer equation suggests that the effect of work experience on income is an inverted U-shaped curve, so the square of work experience is introduced to measure this nonlinear relationship. The established regression equation is as follows:

$$\ln(\text{Income}) = a_0 + a_1 \text{Exp} + a_2 \text{Exp}^2 + \sum a_i * z_i + \varepsilon \quad (1)$$

Considering that the impact of work experience on income may be influenced by the characteristics of flexible workers, such as gender, age, marriage, etc., sample regression was conducted to examine the heterogeneity of the impact of work experience on the income of flexible workers.

The accumulation of human capital is often closely associated with income, thus leading to variations in the return rate of work experience among different income groups of flexible workers. Therefore, it is essential to examine the deviation in the return rate of work experience across different income groups. Quantile regression offers two distinct approaches: unconditional and conditional quantiles. While the conditional quantile is influenced by individual characteristics within the data sample, it exhibits a significant bias between the high and low points, the unconditional quantile regression method can address the aforementioned shortcomings, making the results more accurate. Hence, this study adopts this method for analysis. This method uses Re-centered Influence Function (RIF) for regression:

$$\text{RIF}(Y; q\tau) = q\tau + [\tau - I(Y \leq q\tau)] / f_Y(q\tau) \quad (2)$$

$q\tau$  in the above equation satisfies  $P(Y \leq q\tau) = \tau$  ( $0 < \tau < 1$ ),  $P(\cdot)$  is a probability distribution;  $I(Y \leq q\tau)$  is an indicator variable, when  $Y \leq q\tau$ ,  $I$  is 1, and in other cases,  $I$  is 0;  $f_Y(q\tau)$  is the marginal density function of labor income ( $Y$ ) of flexible workers around  $q\tau$ . The unconditional quantile regression model established using the RIF function is as follows:

$$\text{RIF}(\ln \text{income}; q\tau) = \beta_0 + \beta_1 \text{Exp} + \beta_2 z_i + \varepsilon_i \quad (3)$$

### 3.3. Variable Setting

As can be seen in Table 1, the core explained variable of this paper is the natural logarithm of the annual income of flexible workers; it is a continuous variable measured using the data that correspond to the question “annual work income” in the questionnaire. The core explanatory variable is work experience, which is measured by the duration of employment calculated as 2021 minus “the year of commencing flexible work”. In order to ensure the accuracy of model setting, a series of individual and family-level control variables were selected to reduce bias, according to the relevant literature pertaining to human capital’s impact on individuals’ income. Specifically, we have incorporated the following elements: age, gender, nation, marriage, education, urban–rural distribution, health, family size, weekly working hours, contract, etc.

**Table 1.** Variable definition description.

Variable Property	Variable Name	Variable Definition
Explained Variable	Income	Annual work income (Take the logarithm)
Explanatory Variables	Work experience (Exp.)	The current working years
	Square of Work experience (Exp. <sup>2</sup> )	The square of current working years



Table 1. Cont.

Variable Property	Variable Name	Variable Definition
Controlled Variables	Age	Personal age (years)
	Gender	Male = 1; Female = 0
	Nation	Non-minority = 1; Minority = 0
	Marriage	Unmarried = 0; Cohabitation = 1; Married = 2
	Urban	Village = 0; Urban = 1
	Education	Illiteracy/Semi-illiteracy = 1; Primary school = 2; Junior high school = 3; High school/Technical Secondary school/Technical school = 4; Junior college = 5; Bachelor's Degree = 6; Master = 7; Doctor = 8
	Health	Very healthy = 1; Good healthy = 2; Comparative Health = 3; General = 4; Unhealthy = 5
	Family Size	The number of family population
	Week Work	Weekly working hours
	Contract	Signed a contract = 1; No contract = 0

### 3.4. Descriptive Statistics

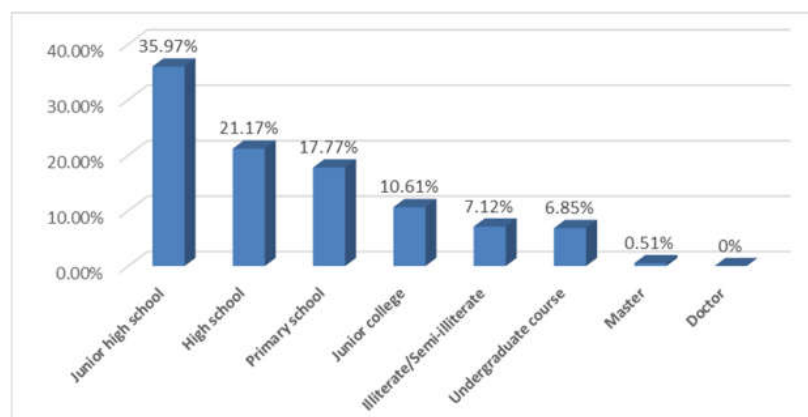
Descriptive statistics were conducted to analyze the key variables involved in this study, as presented in Table 2, providing a rough overview of the sample subjects. There were 2688 valid samples of flexible employment, among which 1162 (43.23%) were female, and 1526 (56.77%) were male. The focus of this study was on individuals engaged in flexible work arrangements, ranging from 16 to 65 years old, with a mean age of 36.55 years. As per the classification of youth age by the World Youth Federation, there were a total of 1766 (65.70%) samples categorized as youth below the age of 40, and there were 922 (34.30%) middle-aged and elderly individuals above this threshold, thus indicating that young people constituted a significant proportion within this sample group and making it representative of flexible workers. The average annual income was CNY 35,265.61, while the average work experience was 2.96 years, revealing the high frequency of job transitions among individuals engaged in flexible employment. Despite the less-than-ideal income for flexible workers, particularly those engaged in low-level skilled occupations with high adaptability and flexibility, they often resort to working overtime for additional earnings. Nevertheless, their subjective satisfaction with their current work typically falls within the moderate to high range, indicating an overall contentment with their employment arrangement. This suggests that while flexible employment may not directly address the employment challenges faced by many job seekers, it does offer a high level of autonomy. Enhanced personal fulfillment for flexible workers resulting from this autonomy potentially contributes to their overall satisfaction.

According to the sample data on the household registration status of flexible workers, 74.89% of flexible workers were registered in rural areas, while residential and non-agricultural workers accounted for only 25.11%. This indicates the predominant representation of flexible workers of rural origin in China. Moreover, it should be noted that individuals categorized as residential and non-agricultural workers may also reside in rural areas, suggesting that the actual proportion of migrant rural workers could potentially exceed the estimation provided by this study. Given the high mobility exhibited by flexible workers, their positive career development significantly impacts social harmony and stability to a certain extent.

**Table 2.** Descriptive statistics of primary variables.

Variable Name	Mean	S.D.	Min	Max
Income	35,265.61	32,093.49	0	418,000
Exp.	2.961152	4.530997	1	43
Age	36.21968	11.48426	16	65
Gender	0.56696445	0.496598	0	1
Family Size	4.051942	2.061587	1	13
Nation	0.9122654	0.2829703	0	1
Marriage	2.155391	1.34954	0	3
Contract	0.1676124	0.3736033	0	1
Week Work	54.64657	20.80451	0.1	168
Urban	0.5469227	0.4979021	0	1
Health	2.641641	1.100375	1	5
Education	3.330423	1.300129	1	7

As depicted in Figure 1, the educational level of the sample is generally low. A total of 82.03% of academic qualifications were obtained at or below the high school level; college degrees or above accounted for a mere 17.97%, with no presence of doctoral degrees. The distribution of education among flexible workers closely correlates with the distribution of flexible employment in China, which is primarily concentrated in low-end service industries that do not require extensive knowledge reserves. Despite recent vigorous encouragement from the Chinese government to promote flexible employment, it fails to attract highly educated talents who exhibit a clear preference for formal employment. This may be due to the stereotype and negative evaluations associated with flexible employment, such as instability and poor conditions, etc.

**Figure 1.** Education distribution of flexible workers.

According to the data from the questionnaire item, “Type of your current organization/employer”, it is evident that 94.08% of flexible workers are employed by private enterprises, individual industrial, and commercial households, while only 5.92% opt for self-employment as individuals or within families, which is significantly lower than the former. Self-employed flexible workers often possess a specific material capital or advanced knowledge and skills, so they account for a relatively small proportion, aligning with the overall preference of China’s flexible employment towards low-end service industries.

According to gender, the annual working income and weekly working hours were sorted out and analyzed. It is evident that male workers have a significantly higher average annual income of CNY 44,939.89, compared to females with an average of CNY 28,869.78. Women work for approximately 51.49 h per week, while men work for around 56.80 h per week, resulting in a marginal difference of only 5.31 h. However, it is essential to note that women’s work intensity does not significantly differ from that of men. Rather, the overall remuneration per unit of time for men is markedly higher than for women.

Given that flexible employment in China largely comprises physically demanding labor tasks, it is plausible that men and women may accumulate varying levels of experience within similar job roles over time. Hence, it would be premature to directly conclude the existence of gender discrimination solely based on these findings related to flexible employment practices. Nevertheless, this highlights that income disparity significantly influences female workers' inclination towards formal employment, potentially leading to a higher engagement in cognitive tasks compared to their male counterparts. As a result, it indicates that men constitute a larger proportion of flexible workers in China.

The income distribution based on the overall average income of flexible workers was further examined (Figure 2). As depicted in the income density function map, the annual work income of the sample of flexible workers is densely distributed around CNY 30,000 and predominantly distributed within a range below CNY 50,000. The proportion of individuals with an annual income exceeding CNY 100,000 is relatively small, and the density function plot presents a unilateral long-tailed distribution pattern on the density function map.

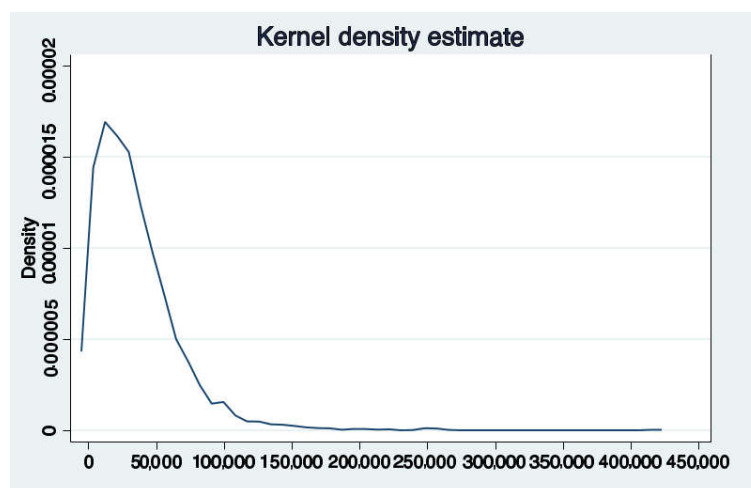


Figure 2. Kernel density estimate of annual income.

In economics, the middle-income group is defined as the income group between “the average income of members within a society” and those with “higher than twice the average income”. In this study, we define the middle-income group based on the per capita disposable income standard for national residents released by China’s National Bureau of Statistics in 2021, with an income range of CNY 35,128 to CNY 70,256. Furthermore, we categorize flexible workers into low-, middle-, and high-income levels and present the statistical descriptions in Table 3. Our findings reveal that approximately 60% of China’s flexible workers fall into the low-income category, aligning with the general trend of lower incomes among flexible employment concentrated in low-end service industries. Additionally, there is still a considerable number of individuals engaged in flexible employment earning an annual income of up to CNY 410,000, which serves as evidence for the recent robust support and encouragement towards flexible employment and highlights significant room for improvement regarding both quality and income levels within flexible employment. The socio-economic status of flexible workers is being improved in an orderly manner, and flexible employment is gradually being recognized and approved by society.

According to data analysis, the average weekly working hours of flexible workers amount to 54.50 h, significantly surpassing the legal provisions of an average of 44 h stipulated in China’s Labor Law. Only 28.83% of the flexible workers worked within the national statutory limit. Furthermore, according to the “frequency of night shift in the past year” statistics, 63.78% of flexible workers never need to work on night shifts, while other individuals engaged in flexible work do so on a weekly or occasional basis. The overall intensity of night shifts for flexible workers remains moderate.

**Table 3.** Statistical description of income level.

Income Level	Frequency	Proportion
Low-income group	1577	58.67%
Middle-income group	723	26.90%
High-income group	338	12.57%
Observations	2688	100%

According to the statistics of “weekend work frequency”, 75.19% responded that they need to work on the weekends every week, only 8.35% responded that they never do so. The remaining individuals (16.46%) responded that they have a periodic requirement to work on weekends multiple times within a month, indicating that working on weekends is a normal practice. This also reflects the high degree of freedom of flexible employment. Flexible workers are free to control and select their working hours, enabling them to extend their workload over Saturdays and Sundays in pursuit of additional income. Notably, when they work 7 days a week, flexible workers maintain an average daily working duration of 7.78 h, which aligns with the Labor Law’s stipulation of 8 h per day; the absence of vacations mitigates the intensity of daily work.

Paying attention to the questionnaire item “whether it is necessary to be on duty at any time due to job needs, and the mobile phone is on 24 h a day to ensure standby” is worthwhile. A significant proportion of respondents (45.47%) said that they need to constantly be available, highlighting the intertwined nature of their personal and daily work and shedding light on the lack of labor rights, such as daily rest time for flexible workers.

In terms of job promotion, 44.35% said that they did not have any promotion opportunities or channels, resulting in limited career development. The majority of flexible workers are typically employed in physically demanding, highly repetitive, and low-skilled roles within the lower-tier service sectors. These positions offer limited opportunities for career advancement and income growth due to their low marginal contribution value.

In summary, the current status and sustainability of flexible workers in China reveal several challenges. Firstly, these workers earn lower wages and have longer working hours than their counterparts in traditional employment arrangements do. Many jobs require them to be available at any time, and most of them do not have a formal labor contract, which means the absence of the protection of their rights and interests. Secondly, there is a clear occupational ceiling for flexible workers. The majority of the flexible workers have no promotion opportunities, although most of them are younger individuals. Due to aging and declining physical health, the likelihood of numerous flexible workers being rendered redundant or experiencing unemployment is high. The career development problem of flexible workers is closely related to their own human capital characteristics, with a low average education level and limited professional skills, which hinder them from competing for more complex management or technical roles with higher pay scales. It is noted that flexible employment is an important channel for absorbing low-skilled and low-educated individuals into the workforce in China. Therefore, accumulating work experience through continuous employment is crucial for improving the human capital accumulation of flexible workers.

## 4. Empirical Results

### 4.1. Regression Results

Table 4 showcases regression results of work experience and income among flexible workers, aligning with the Mincer equation. The overall statistical significance confirms this relationship, indicating that despite their concentration in low-skilled roles, flexible workers enhance income through accumulated experience, mirroring the Mincer equation. Interestingly, a rise-fall, inverted U-shaped curve characterizes this relationship. Initially, a positive return rate of 11.9% diminishes to negativity in the mid to later career stages. The inflection point occurs at approximately 19.83 years of work experience, offering deeper

insights compared to existing research [96]; the inflection point for flexible workers occurs around a decade later than the broader Chinese workforce, with physically labor-intensive jobs facing slower elimination compared to other roles. The return on work experience within flexible employment stands at 32.5%, lower than the average, reflecting societal preference for mental work in income improvement. This inflection point, estimated at around 56 years old (possibly starting at 36), stems from technological advancements and restricted personal growth opportunities. As income rises, the influence of work experience diminishes, potentially becoming obsolete. Declining physical strength with age limits skill acquisition, reducing output and competitiveness. Re-employment prospects for flexible workers in low-end service industries are bleak due to insufficient social security, intensifying post-unemployment concerns. Despite technological progress, the  $-0.3\%$  income reduction in flexible workers is minor, attributed to China's manual labor-oriented industries, limiting technology's impact and replacement speed, resulting in a modest negative effect on income.

**Table 4.** The regression results.

Variable Name	Income Logarithm
Exp.	0.119 *** (10.01)
Exp. <sup>2</sup>	−0.003 *** (−7.88)
Age	−0.005 ** (−2.05)
Gender	0.539 *** (12.98)
Nation	−0.117 (−1.60)
Marriage	0.069 *** (3.81)
Education	0.118 *** (6.74)
Urban	0.111 ** (2.57)
Health	−0.084 *** (−4.40)
Families Size	−0.020 * (−1.96)
Constant	9.499 *** (66.52)
Observations	2688
Prob. > F	0.000

Note: \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ .

According to the empirical results, the income of flexible workers is significantly influenced by various individual characteristics: age, gender, marriage, education, urban–rural distribution, health, and family size. Aging shows a negative correlation with income, typical in China's skewed income distribution within flexible employment concentrated at lower levels. Advancing age affects physical strength, diminishing labor efficiency, and income potential. Male workers tend to earn more than females, highlighting a gender income gap linked to physiological and labor division differences. Marriage positively impacts income, as family-oriented labor decisions increase social labor activities for higher income. Education correlates positively with income, following human capital theory, addressing occupational limitations by investing in education. Urban workers typically earn more than their rural counterparts, reflecting wider urban–rural income gaps. Health positively influences income, while larger family sizes tend to decrease work hours and income due to increased caregiving responsibilities.



#### 4.2. Heterogeneity Analysis

The gender gap in employment has long been a focal point in academia. Exploring the varying influencing factors across genders among flexible workers is crucial. The regression outcomes, detailed in Table 5, confirm a gender income disparity in flexible employment. It is intriguing to note that the return rate of work experience for females exceeds that of males. This suggests that women tend to accumulate work experience more efficiently per unit of time, potentially alleviating income differences stemming from physiological or household-related factors [53]. In the later stages of flexible careers, women face a higher probability of termination compared to men. Both genders experience an income trend shaped like a rise-fall inverted U-shaped curve concerning their work experience, reaching a turning point around age 55. Gender-specific regression outcomes for individual traits echo those of the overall analysis, though with some differences in significance levels. In flexible employment, women's income is less influenced by health and more influenced by education compared to men [41,54]. This suggests that women rely less on physical attributes, place greater emphasis on acquired mental factors such as work experience and education, and a higher return rate of these factors compared to that of men. From this point on, implementing systematic vocational training on the basis of work experience accumulation can narrow the gender income gap within flexible employment.

**Table 5.** Heterogeneity analysis between genders.

Variable Name	(1) Female	(2) Male
Exp.	0.175 *** (0.0202)	0.100 *** (0.0120)
Exp. <sup>2</sup>	−0.00462 *** (0.000787)	−0.00264 *** (0.000394)
Age	−0.00365 (0.00323)	−0.00591 ** (0.00254)
Nation	−0.129 (0.106)	−0.0851 (0.0809)
Marriage	0.0182 (0.0251)	0.117 *** (0.0211)
Education	0.157 *** (0.0239)	0.0997 *** (0.0198)
Urban	0.0817 (0.0622)	0.0873 * (0.0493)
Health	−0.0430 (0.0269)	−0.0899 *** (0.0217)
Families Size	−0.0214 (0.0146)	−0.0230 * (0.0119)
Constant	9.304 *** (0.216)	10.13 *** (0.150)
Observations	1162	1526
R-squared	0.165	0.119

Note: \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ .

The work experience and income among flexible workers follow an inverted U-shaped pattern, while age shows a significant negative correlation with income. As China's flexible employment centers on low-end service roles involving manual labor, older flexible workers face a gradual devaluation of accumulated experience due to technological advancements. With lower rehiring costs, older workers encounter higher unemployment risks, necessitating continual performance improvement to boost output. Addressing the severe survival and employment challenges of this group is crucial. To tackle this, this study categorizes flexible workers aged 16–40 as the youth group and those over 40 as middle-aged and elderly for targeted regression analysis, aiming to explore secure development paths tailored to older flexible workers.

Table 6 shows that young flexible workers gain work experience income 2.5 times higher than middle-aged and elderly counterparts. However, as workers age, the impact of experience on income declines, forming an inverted U-shape pattern later in life. This decline in efficiency with age, combined with the devaluation of prior experience due to tech advancements, contributes to this trend. Marriage does not notably affect income among middle-aged and elderly individuals, contrasting with health's impact. Gender and education remain consistently significant in income dynamics.

**Table 6.** Heterogeneity analysis between ages.

Variable Name	(1) 16–40	(2) Over 40
Exp.	0.256 *** (0.0207)	0.100 *** (0.0156)
Gender	0.536 *** (0.0450)	0.450 *** (0.0644)
Nation	0.00605 (0.0741)	−0.177 (0.133)
Marriage	0.0727 *** (0.0165)	0.0325 (0.0356)
Education	0.108 *** (0.0177)	0.151 *** (0.0287)
Urban	0.104 ** (0.0470)	0.0510 (0.0669)
Health	−0.0378 * (0.0214)	−0.107 *** (0.0272)
Families Size	−0.0307 *** (0.0106)	−0.00371 (0.0184)
Constant	9.050 *** (0.136)	9.464 *** (0.212)
Observations	1766	922
R-squared	0.211	0.185

Note: \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ .

In general, income is closely tied to an individual's human capital, reflecting varying levels of accumulation. Studies suggest an asymmetrical income disparity between formal and flexible workers in China, contributing to income group segmentation, particularly disadvantaging low-income flexible workers [97]. This study explores how work experience, income, and individual traits relate based on different human capital levels. Table 7 reveals significant differences in work experience returns across income levels, showing higher returns for lower-income groups. The connection between work experience and income at each level mirrors the inverted U-shaped pattern of the Mincer equation [51]. High-income flexible workers accumulate more human capital but struggle to see substantial gains due to their already elevated income levels. This contrasts with lower-income groups, where the impact of work experience on income is more pronounced [52], and lower-income levels show a higher return on work experience in flexible employment, benefiting young workers. The alignment with China's unique employment landscape and distribution is evident here. The low threshold of flexible employment meets current employment demands in China, where young individuals have an edge in accumulating work experience [48,49]. As income rises, gender's impact on income lessens, while other individual traits align with the overall findings.

**Table 7.** No-difference quantile regression results.

Variable Name	(1) QR_10	(2) QR_50	(3) QR_90
Exp.	0.208 *** (0.027)	0.093 *** (0.011)	0.048 *** (0.012)
Exp. <sup>2</sup>	−0.007 *** (0.001)	−0.002 *** (0.000)	−0.001 ** (0.000)
Age	−0.002 (0.005)	−0.006 *** (0.002)	−0.004 * (0.002)
Gender	0.689 *** (0.097)	0.429 *** (0.039)	0.375 *** (0.042)
Nation	−0.079 (0.169)	−0.102 (0.069)	−0.127 * (0.073)
Marriage	0.139 *** (0.042)	0.057 *** (0.017)	0.033 * (0.018)
Education	0.133 *** (0.040)	0.129 *** (0.016)	0.141 *** (0.017)
Urban	0.094 (0.101)	0.076 * (0.041)	0.095 ** (0.044)
Health	−0.079 * (0.044)	−0.058 *** (0.018)	−0.041 ** (0.019)
Families Size	−0.023 (0.024)	−0.014 (0.010)	−0.016 (0.010)
Constant	7.758 *** (0.330)	9.786 *** (0.134)	10.621 *** (0.144)
Observations	2688	2688	2688

Note: (1) \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ . (2) QR10, QR50, and QR90 represent the partial least squares estimation method based on quantile regression estimation when the quantile level is 0.10, 0.50, and 0.90, respectively.

## 5. Discussion

The present employment landscape in China poses significant challenges, with employment holding a pivotal role in people's livelihoods. Flexible employment has emerged as a distinct departure from traditional work arrangements, offering the capacity to absorb and accommodate a substantial labor force. This flexibility presents a vital avenue for easing the strain on employment. In China, flexible employment predominantly thrives within low-end service sectors, characterized by pronounced degrees of adaptability and autonomy [7]. To cultivate the sustainable progression of flexible employment, it becomes crucial to grasp the correlation and attributes linking human capital, embodied by work experience and income among individuals engaged in flexible work arrangements. This study specifically centers on scrutinizing the influence of work experience on the income of flexible workers. Leveraging microdata extracted from CFPS2020, we meticulously curated 2688 matched samples using specific questionnaire criteria. The principal conclusions drawn from this study are as follows.

Firstly, China's flexible employment diverges significantly from traditional formal employment, predominantly concentrating within low-end service industries dominated by manual labor. These sectors are defined by high levels of repetitive and monotonous tasks [5]. The correlation between work experience and income among flexible workers adheres to a familiar pattern observed in other traditional employment forms. It aligns with the overarching principle of the Mincer equation, displaying an inverted U-shaped curve. Based on the age distribution within the samples, our estimates indicate that the relationship between work experience and income reaches an inflection point. It transitions from a positive correlation to a negative correlation at a minimum age of 36 years old, with an average age of 56 years old. Notably, the inflection point for flexible workers occurs later than it does for other categories of employees [96]. In the latter phase of flexible workers' careers, there is a marginal negative impact of −0.3% attributed to work experience on income. This phenomenon could be attributed to the nature of flexible

employment primarily situated in manual-labor-focused industries. These sectors typically do not demand extensive knowledge or specialized skills, and the turnover rates in these jobs are relatively slower, hence resulting in a modestly weak negative effect on income [37].

Secondly, the gender income gap prevalent in the flexible labor market often results in female earners receiving comparatively lower compensation. This disparity may indeed be influenced by several factors. For instance, women's potentially reduced physical involvement in certain types of flexible employment could contribute to this gap. Additionally, the distinct division of labor within families, where women often take on more domestic responsibilities, might limit their availability for higher-paying or more physically demanding flexible work opportunities, consequently impacting their earnings [61–63]. Moreover, the gender heterogeneity analysis findings indicate an intriguing trend among female flexible workers: They exhibit higher returns on work experience and greater accumulation efficiency compared to their male counterparts. Consequently, as work experience accumulates, there is an anticipated trend of the gender income gap within flexible employment narrowing over time [52,64].

Thirdly, the return rate on work experience among older flexible workers tends to be lower than that of their younger counterparts. This observation suggests a potential decline in learning abilities and the acquisition of work experience as flexible workers age [67–69]. Building on this inference, as an individual's age and the rate of acquiring new work experience slows down, particularly in comparison to the elimination of existing work experience, the relationship between work experience and income is likely to undergo a shift. This transition could manifest from a positive correlation to a negative correlation, illustrating an inverted U-shaped curve.

Fourthly, across various income levels, the correlation between work experience and income consistently aligns with the overall regression findings. However, an interesting trend emerges: As income levels rise, the rate of return on work experience gradually diminishes. This phenomenon could be attributed to a potential limitation in the appreciation of human capital accumulation among flexible workers situated in higher-income brackets [56]. This discrepancy leads to a lower return rate on work experience among higher-income individuals compared to their lower-income counterparts. Remarkably, the cohort of low-income flexible workers primarily comprises young individuals who are just commencing their careers. This highlights the suitability of flexible employment in fostering the career development of young people in China while concurrently mitigating employment pressures [37]. China exhibits a preference for traditional employment culture and contends with substantial urban–rural and regional disparities, formal jobs are favored for their perceived security; however, limited job availability and varying human capital levels restrict formal employment access. Economic downturns notably affect young entrants to the workforce, individuals with diverse human capital tend to naturally transition to flexible employment, characterized by reduced entry barriers and comparatively lower income attainment [48,91,92]. Our research supports and validates this trend, showcasing how flexible employment significantly benefits young, low-income workers by offering a more efficient pathway for accumulating work experience and fostering professional development.

## 6. Policy Suggestions and Limitations

Firstly, it is crucial to continue to support and enhance flexible employment forms to alleviate the employment pressure. China should persist in advocating and promoting flexible employment, encouraging both society and individuals to reshape their traditional perceptions of work. Simultaneously, there is a pressing need to strengthen social security measures, particularly by expanding the scope of unemployment insurance coverage. Additionally, implementing increased tax relief and transfer payments can enhance the overall support system. The increasing number of college graduates combined with a challenging economic landscape has led to a rapid expansion of China's labor force, nearing saturation. Focused initiatives should be directed towards creating employment opportunities

tailored to the characteristics of flexible workers, especially addressing the unique needs of college graduates. By tailoring policies to the specific circumstances of flexible workers, China can effectively address their concerns and provide a more conducive development space and environment. Meanwhile, tackling unemployment has become progressively challenging; however, flexible employment has emerged as a significant mitigating factor, given its ability to absorb labor. Amid the enduring trend of sluggish economic growth, it is imperative for the government to proactively take on its guiding role within market mechanisms, especially concerning flexible employment. This proactive approach will foster coordinated development within the labor market, harnessing the potential of flexible employment to absorb the labor force. Moreover, by fully utilizing China's abundant unskilled labor resources through these measures, more individuals can find pathways to escape unemployment and secure stable incomes. This not only enhances their personal dignity but also elevates their social status incrementally.

Secondly, it is indeed critical to boost human capital investment for flexible workers to foster their development and enhance the overall labor force quality in China. Given the limitations in human capital accumulation among flexible workers, especially concerning age and gender-related constraints and restricted career advancement opportunities, addressing these barriers becomes pivotal. Exploring additional strategies to improve the human capital level and overcome career development barriers is essential. Education and vocational training stand out as key solutions, yet they are often overlooked within flexible employment, marking a significant deficiency compared to formal employment. Increasing subsidies for higher education and professional training directed at flexible employment groups and enterprises would be highly beneficial. Broadening access to these resources can cater to the specific needs of flexible work arrangements, aiding in skill development. Collaboration across sectors to provide comprehensive career support, including mentorship programs, networking opportunities, and skill enhancement resources, can significantly bolster the adaptability and capabilities of flexible workers. Enhancements in the vocational training system for flexible workers are crucial, especially in addressing deficiencies in promoting human capital growth during later stages of work experience. Emphasizing the integration of "Internet+" technologies and intelligence within vocational education and higher education can further augment skill development and adaptability for those engaged in flexible work arrangements.

Thirdly, prioritizing diversified and differentiated cultivation strategies for flexible workers is crucial. Tailoring approaches to address the unique needs and skill levels within this workforce can significantly enhance their effectiveness and contribution to the labor market. Adapting vocational education and training objectives to accommodate the diverse needs of different levels of flexible workers is important. For flexible workers with a low human capital concentration predominantly in the low-end service industry, the government's foremost aim should be to promote sustainable employment. It becomes imperative to emphasize enhancing their labor skills while ensuring their long-term employability remains a priority. Furthermore, for flexible workers possessing a certain educational background yet lacking in professional skills, the government could implement a variety of skill-strengthening and re-engineering initiatives. These might encompass a range of options, such as offering online courses, night classes, or short- to medium-term professional skills training programs, among others. Moving on to flexible workers with medium human capital accumulation, their focus on leveraging the latest Internet technology achievements and accumulating practical experience makes them suitable candidates for utilizing big data technology. By establishing an efficient employment matching platform, these workers can achieve precise and swift person-post matching, enhancing their efficiency in job placements. Lastly, for flexible workers with high human capital accumulation, the pivotal focus lies in promoting their overall development. This involves attaching significant importance to their achievement conversion rates in relevant fields. It also necessitates creating a conducive scientific research environment, implementing policies that incentivize and introduce talent, and harnessing subjective initiative and creativity among high-end



talents. These comprehensive measures are instrumental in ensuring the sustainability and high-quality development of flexible employment opportunities.

#### *Limitations and Suggestions for Future Research*

On the whole, this paper delves deeply into the intricate dynamics that shape experience and income among flexible workers while also highlighting the growing trend of flexible employment in China. Our research carries substantial theoretical and practical implications. The emphasis on human capital underscores its pivotal role in steering the contours of employment. This understanding is foundational for navigating the evolving labor landscape, providing a theoretical bedrock to comprehend the changing nature of work and its implications for individuals and societies. Moreover, from a practical standpoint, our study offers actionable insights into policymaking and the development of workforce strategies. However, a more comprehensive exploration is necessary to fully understand the enduring impact of our findings on employment practices and societal structures. We acknowledge the inherent limitations within our study, which form the cornerstone of our future research objectives. Firstly, our reliance on working years as a gauge for professional expertise, while recognizing the importance of time in experience cultivation, warrants further substantiation through additional micro survey indices. However, constraints imposed by available survey data limited our ability to pursue this aspect in-depth within the scope of this study. Secondly, expanding our investigation to include a broader spectrum of relevant literature from various disciplines, such as sociology, history, and geography, holds the potential to fortify and deepen the reliability of our research. This multidisciplinary approach promises a more holistic and robust exploration of flexible employment. To chart a more nuanced path forward, future research endeavors will concentrate on refining precision and conciseness in our literature, elevating the scholarly discourse on the subject. Addressing these limitations will anchor our future pursuits. Our aim is to identify intricate microdata variables and engage extensively with the available literature, fostering an enriched and profound understanding of the intricate landscape of flexible employment and its implications for the labor market.

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