

A Study on the Phenomenon of Overtime Work in Chinese Society

-- Analysis of factors affecting working hours

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Abstract: In recent years, changes in the employment landscape have led many workers to extend their working hours, either due to competitive pressures or at the request of employers. Overtime has thus become a widespread phenomenon in society and has sparked considerable public debate. Despite this, the extent to which this phenomenon has developed, as well as its justification, remain under-explored and warrant further attention and discussion. This paper utilizes data from the Chinese General Social Survey (CGSS) to analyze the current state of overtime work in Chinese society. Through this analysis, the study aims to deepen our understanding of the phenomenon of overtime work and inform policy recommendations to improve the employment environment.

Keywords: Overtime, Working hours, Educational attainment.

1. Introduction

Employment has long been a critical issue of societal concern. It not only reflects the socio-economic structure and development of the economy but is also intimately connected to the basic livelihood and well-being of the population. The challenges surrounding employment are not solely reflected in the employment rate, but also the quality of employment and the protection of workers' rights and interests.

According to the "Workplace Overtime Status Survey Report 2022", 91.6% of workers engage in overtime to varying degrees. Among them, nearly 60% work more than one additional hour per day on average, and 84.7% continue to monitor work-related information after their official working hours. Furthermore, 40.5% of workers receive no compensation for overtime, whether in the form of overtime pay or time off in lieu. Alarming, 31.2% report that overtime has negatively impacted their health. These findings underscore that overtime work has become a norm in contemporary society.

Labor Law of the People's Republic of China stipulates that workers are entitled to a standard five-day workweek with two days of rest, with daily working hours not exceeding eight hours and an average weekly work limit of 44 hours. However, data from the National Bureau of Statistics indicates a steady rise in average weekly working hours. Between 2018 and 2020, the increase was approximately one hour per week, but between 2020-2021 and 2022-2023, the rise surged to over two hours per week. By 2023, 737 million workers in China set a new record for average working hours, reaching 49 hours per week, or 9.8 hours per workday. This figure not only exceeds the legal limit but is also a rare occurrence on a global scale.

In addition to formal overtime, many Chinese workers are also subjected to "invisible overtime", which is difficult to quantify. This type of overtime often lacks a formal negotiation process and may be driven or encouraged by employers, willingly accepted by workers, or implicitly

agreed upon by both parties. Due to its informal nature, invisible overtime is challenging for labor laws to regulate, and workers typically receive no direct compensation for this additional labor [1].

A preliminary analysis suggests that the increasing number of college graduates, coupled with an already saturated labor market, has contributed to the overtime phenomenon. According to statistics from the Ministry of Education, the number of college graduates in 2024 reached 11.79 million, compared to 11.58 million in 2023 and 10.76 million in 2022. In earlier years, this figure was below 10 million. The expansion of the labor force has intensified competition, causing many graduates to experience a devaluation of their human capital. As a result, they are compelled to accept longer working hours and lower wages to secure employment, which has dampened the work motivation of young workers. A study found that while young people reported high job satisfaction in subjective evaluations, they expressed low ratings for career prestige and prospects [2]. In the private sector, business owners, driven by profit maximization, often seek to extend workers' labor hours and increase their workload to the greatest extent possible [3]. This situation has been further exacerbated by the shrink of employment opportunities, as the slowdown in economic growth—partly due to the impact of the COVID-19 pandemic—has led to business closures and job losses. If left unchecked, this trend could destabilize labor market dynamics and erode societal confidence. Therefore, analyzing the causes and impacts of this pervasive overtime culture, and considering potential solutions, is of great significance.

2. Rationale and Literature Review

Labor supply elasticity refers to the degree of responsiveness of labor supply to changes in wage rates. Based on the extent of changes in labor supply in response to variations in wage rates, labor supply can be categorized into several types: perfectly inelastic, perfectly elastic, unit elastic, elastic, and inelastic. From the perspective of this, the large

workforce in China, coupled with generally low wage levels and high wage elasticity, has fostered intense competition among workers, leading to a severe "inward spiral". According to the findings of Meng Xuduo and Wang Xin (2015), beyond mandatory overtime, the primary motivation for workers to work for additional hours is the prospect of career advancement. Additionally, Zhu Yun, Lai Meiyi, and Wang Shuyan's (2024) study revealed that excessively long working hours and frequent weekend overtime significantly reduce rest time, heightening work-family conflicts and negatively impacting job satisfaction.

With the advancement of Internet technology, the phenomenon of "invisible overtime" has become increasingly prevalent. Invisible overtime refers to workers continuing to handle work-related tasks after official working hours, during holidays, and on non-working days. The widespread use of mobile devices and the Internet has transformed how businesses manage their employees. Instead of traditional face-to-face oversight, companies now assign tasks via mobile communication apps. This shift toward digital management has placed workers in unconscious overtime, where they continue working outside formal hours [4]. According to An Wenye and Fan Xiaoyan (2024), invisible overtime not only monotonizes workers' daily lives, negatively impacting their sense of well-being and fulfillment, but also severely undermines their right to fair compensation, as they are less likely to receive corresponding rewards for their efforts.

These studies demonstrate that workers in Chinese society are under increasing work pressure and frequently engage in overtime. However, there is a lack of empirical analysis on the potential factors influencing this phenomenon. Therefore, this paper aims to analyze the determinants of workers' hours by employing empirical research methods, including descriptive statistics and regression analysis.

3. Research Design

3.1. Data Sources and Sample Selection

The data used in this paper are sourced from the Chinese General Social Survey (CGSS), the country's first national, comprehensive, and continuous academic survey program. The CGSS systematically collects data on various aspects of Chinese society and its population through scientifically rigorous sampling and annual surveys of over 10,000 households nationwide. For this study, data from the 2021 CGSS were selected for analysis, and after excluding missing values, the final sample size was 1,262.

3.2. Variable Design

Dependent Variable: The dependent variable in this study is overtime work. Given that different occupations afford varying degrees of freedom in time allocation, overtime is measured using weekly working hours. Additionally, to account for "invisible overtime", the analysis will consider the proportion of the sample on call during non-working hours and those who receive assignments via WeChat or telephone at any time.

Independent Variables: The independent variables in this study include gender, age, and educational attainment. Gender is a dummy variable (0 = female, 1 = male). Educational attainment is categorized based on the "highest level of education completed", coded from 1 to 12, with 1 representing "no education" and 12 representing "graduate

school and above". A higher score indicates a higher level of educational attainment.

3.3. Descriptive Statistics

Frequency statistics for the gender distribution and educational attainment of the sample are presented in Tables 1 and 2. The sample consisted of 53.37% males and 46.43% females, indicating a relatively balanced distribution. In terms of educational attainment, the data show a concentration on junior high school education and undergraduate degrees (formal higher education). Overall, 32.25% of the sample had an education level of junior high school or below, 24.01% had completed secondary education, and 43.74% had attained a university education, representing nearly half of the sample.

Table 1. Frequency distribution of gender

	(1)	(2)
gender	Freq.	Percent
male	676	53.57
female	586	46.43
Total	1,262	100

Table 2. Frequency distribution of highest level of education

	(1)	(2)	(3)
Highest level of education	Freq.	Percent	Cum.
secondary schools	92	7.290	7.290
junior high school	315	24.96	32.25
vocational high school	42	3.330	35.58
general high school	160	12.68	48.26
technical secondary school	101	8	56.26
Junior college (adult higher education)	71	5.630	61.89
Junior college (regular higher education)	105	8.320	70.21
Bachelor's degree (Adult Higher Education)	81	6.420	76.62
Bachelor's degree (regular higher education)	247	19.57	96.20
Graduate students and above	48	3.800	100
Total	1,262	100	

Descriptive statistics on weekly working hours and age are presented in Table 3. The average age of the sample was approximately 40 years, with the majority falling within the 30 to 50 age range (as the standard deviation falls at about 11.7). Weekly working hours varied widely, ranging from as little as 1 hour to as much as 24 hours per day. The average weekly working time was around 49 hours, exceeding the 44-hour upper limit prescribed by China's Labor Law, highlighting the prevalence of overtime work in the sample.

Table 3. Descriptive statistics

	(1)	(2)	(3)	(4)	(5)
variable	Obs	Mean	Std. dev.	Min	Max
Working hours (per week)	1,262	48.98	15.08	1	168
age	1,262	40.72	11.68	18	77

4. Empirical Analysis and Results

4.1. Baseline Regression Results

In this study, multiple linear regression was employed to examine the relationship between weekly working hours and factors such as gender, educational attainment, and age. The baseline model is represented by the following equation:

$$y = \beta_0 + \beta_1x_1 + \beta_2x_2 + \beta_3x_3 + \varepsilon_i$$

In the model, the dependent variable y represents weekly working hours, while the independent variables are x_1 (gender), x_2 (highest level of education), and x_3 (age). The standard errors of the regression coefficients have been adjusted for robustness against heteroskedasticity.

The results of the Ordinary Least Square (OLS) regression based on this model are presented in Table 4. The findings indicate a highly significant positive correlation between gender and weekly working hours and a significant negative correlation between both educational attainment and age with weekly working hours. All else being equal, men's weekly working hours are approximately 5 hours higher than those of women. For each increase in educational level, weekly working hours decrease by about 1 hour. Additionally, for every one-year increase in age, weekly working hours decline by roughly 0.1 hours. The model was tested for multicollinearity and robustness, and the results remained statistically significant.

Table 4. Baseline regression results

	(1)
variable	Working hours (per week)
gender	5.067*** (0.811)
Highest level of education	-1.005*** (0.127)
age	-0.0987** (0.0437)
Constant	57.91*** (2.418)
Observations	1,262
R-squared	0.072

Robust standard errors in parentheses

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

4.2. Analysis of Results

According to the regression results, gender, age, and highest level of education are all significantly correlated with weekly working hours.

Gender: There are notable differences in weekly working hours between men and women. The family-work balance theory suggests that the distribution of time between men and women in unpaid and paid labor is unequal. Under time constraints, women tend to allocate more time to unpaid family labor, while men spend more time in paid work (Craig, 2007). Consequently, women's family labor hours are often not included in the total hours worked, resulting in a lower average weekly working time for women compared to men. However, the data indicate that the average weekly working hours for both genders exceed 44 hours, implying that both male and female workers are generally required to work overtime, with men logging longer hours than women.

Age: Working hours tend to decline with increasing age. This may be attributed to younger workers, who often have

less experience and may feel pressured to work overtime in hopes of being "regularized" or "promoted". In contrast, older workers, with their greater experience, often adopt a more stable work pattern and avoid staying up late and long working hours, considering their health. Nonetheless, middle-aged and older workers may also face what is commonly referred to as the "35-year-old crisis", where they feel the risk of job loss increases with age, prompting them to work longer hours. This dynamic contributes to the overall trend of increased overtime work across society.

Educational Attainment: The analysis reveals that higher levels of education are associated with fewer weekly working hours. This may be because highly educated workers are often employed in higher-paying positions that do not require additional labor to meet basic living needs. Although they may have more job opportunities and are less likely to be compelled to work overtime, many highly educated workers in sectors like the Internet industry—known for its "996" work culture—still encounter significant work pressure.

However, the selection of fewer explanatory variables in the model may introduce endogeneity issues. Furthermore, relying solely on working hours to reflect the current conditions of workers is insufficient. For example, some enterprises may require employees to work continuously for specific periods and offer time off as compensation. While this may not reflect significant overtime in terms of hours, such work patterns can still lead to increased stress and health risks, warranting further concern.

4.3. Analysis of the Current Situation of "Invisible Overtime"

"Invisible overtime" refers to a situation where workers continue to handle work-related tasks after regular hours, on holidays, and during non-working times. With the advancement of Internet technology, communication regarding work matters and new assignments is no longer restricted to designated working hours. Some companies even mandate a "24-hour available" policy for their employees. However, because this type of invisible overtime occurs outside of the workplace and is often fragmented in nature, it is challenging to quantify and seek compensation for.

The CGSS questionnaire explored this issue through two key questions: "In the past month, were you required to be on call by phone?" and "In the past month, were work tasks assigned at any time via WeChat or phone?" The statistical analysis of the responses revealed that 59.59% of respondents were required to be on call, while an even higher percentage, 75.04%, reported being asked to complete tasks remotely.

Table 5. Invisible overtime

Invisible overtime	On call by phone		WeChat or call anytime to arrange	
	frequency	frequency	frequency	frequency
yes	752	59.59	947	75.04
no	510	40.41	315	24.96
Total	1,262	100	1,262	100

Since workers' salaries, promotions, and various other aspects are often heavily influenced by their employers, it becomes nearly impossible to defer work tasks until after regular working hours. This necessity arises from a desire to maintain their current salary or out of a sense of responsibility for their duties. Consequently, this form of hidden overtime significantly exacerbates the phenomenon of overtime work

in Chinese society.

5. Conclusions and Policy Recommendations of the Study

At this pivotal moment of social and economic transformation, it is crucial to focus on the employment situation to promote high-quality economic development. Utilizing data from the 2021 China General Social Survey, this paper empirically examines the work pressures faced by contemporary workers, using weekly working hours as a measure of overtime. The findings indicate that, first, there is a widespread trend of overtime work across Chinese society, which varies by gender, age, and educational level. Second, the phenomenon of "invisible overtime" is prevalent, further exacerbating the burdens on workers.

It is important to note that China's economic growth is decelerating amid this transformation, compounded by the impacts of the COVID-19 pandemic. The excessive demands placed on laborers have not resulted in a proportional increase in societal value; at the individual level, such work pressure can significantly affect both physical and mental health. Consequently, the government must consider the following recommendations when formulating relevant policies:

Firstly, government agencies should enhance supervision and more rigorously enforce labor laws. This includes monitoring enterprises to prevent forced and invisible overtime, ensuring can enjoy their non-working time free from excessive demands. This would help mitigate the health problems and declines in efficiency associated with overwork. Additionally, the government should encourage enterprises to provide reasonable compensation for overtime, promoting a framework where overtime pay and time-off exchanges motivate workers to engage more actively in the labor market. This approach can foster a mutually beneficial relationship between employers and employees, thereby supporting the overall health of China's economy.

Secondly, government departments should establish

channels for workers to safeguard their rights and enhance the system for protecting workers' interests. Communities can conduct regular outreach to raise awareness of workers' rights, while the government should innovate monitoring and reporting mechanisms for violations. By leveraging digital technology to simplify procedures and improve the efficiency of rights enforcement, the government can ensure that unlawful overtime practices are investigated and addressed. Furthermore, relevant departments should establish legal aid organizations to provide workers with legal counseling and assistance.

Lastly, government agencies should focus on raising wage levels and promoting the goal of common prosperity in China. Given the large size of China's labor force and the elasticity of labor supply, there remains substantial room for increasing wages despite the heightened work pressures. By raising workers' wage levels and meeting the basic survival needs of those at the bottom of the labor market, we can better address social "involution" and prevent the widening income gap. This not only improves the labor market environment but also contributes to achieving the goal of common prosperity in China more swiftly.

References

- [1] Gao, J.D. (2022) On Hidden Overtime and Its Legal Regulations. *Journal of China University of Labor Relations*, 64-74.
- [2] Qin, G.Q., Lin Y.Y. (2024) An Analysis of the Employment Quality of Emerging Youth Groups and Its Influencing Factor. *China Youth Study*, 111-119.
- [3] Liu, Z.G., Luan, R.H. (2020) The Causes and Governance of "996" Working Mode in China—An Analysis Based on Marx's Working Day Theory. *Economic Forum*, 137-146.
- [4] An, W.Y., Fan X.Y. (2024) Analysis of the Phenomenon of Invisible Overtime from the Perspective of Marx's Workday Theory. *Theoretic Observation*, 65-70.