



## Management Control and Covert Exploitation Issues in Food Delivery Platforms A Political Economy Study of Chinese Female Food-Delivery Drivers

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### **Abstract**

The platform economy is an important part of the Chinese economy. Female food delivery riders play a crucial role in the platform economy, creating significant labor contributions and value for society, injecting diversity and vitality into the platform economy. However, female food delivery riders face issues such as insufficient legal rights and welfare protection, management control, and implicit exploitation. From the perspective of Marxist political economy, this paper analyzes female food delivery riders in the areas of capital accumulation, capital circulation, and social reproduction, and calls for the establishment of more fair and transparent platform rules and systems, so that female food delivery riders can obtain their deserved rights and respect in the platform economy.

**Keywords:** *Platform Economy; Female Food Delivery Riders; Management Control; Implicit Exploitation*

### **Introduction**

In recent years, the progress of China's internet and the transformation of mass consumption have led to the flourishing development of the digital economy, which has in turn given rise to a large number of new industries with diverse forms and meticulous division of labor. As an important part of the new era, the platform economy has not only brought convenience and efficiency to society, but also deeply affected social reproduction and the labor process of workers. As a typical representative of the platform economy, the delivery economy has provided convenient services for the people and also created a new special labor force - delivery riders.

Delivery riders are an important part of the delivery platform, and they have made great contributions to society through their labor. Female delivery riders, as a new force in the platform economy in recent years, have injected diversity and fresh vitality into the platform economy. On the one hand, female delivery riders earn income through the delivery platform, not only sharing family pressures

and reducing economic burdens, but also repeatedly proving the important value, tenacious will and competitiveness of women to society. On the other hand, female delivery riders, with their patience and meticulousness, bring richer and more delicate high-quality services to consumers, thereby creating a new era of diversified and inclusive platform economy.

However, it should be noted that in recent years, female delivery riders have also faced many challenges and difficulties. These challenges and difficulties are not only bad weather and high-intensity work pressure, but also reflect the fact that female delivery riders have difficulty obtaining better working environments and more fair welfare benefits to ensure their legitimate rights and interests. In addition, female delivery riders face hidden control and exploitation from platform management. This hidden control and exploitation not only involves the arrangement and setting of working hours and intensity, but also reflects the fact that the platform often uses concealed management methods, such as rating female riders based on the number and timeliness of orders, which indirectly promotes their continuous pursuit of higher "acceptance rates" and "high ratings"; through constantly improving platform monitoring technology, female delivery riders' location privacy and personal rights are violated; single contracts and labor arbitration weaken women's ability to safeguard their rights and consciousness of rights, and also weaken their collective bargaining and organizational capabilities.

Therefore, this article analyzes female delivery riders from the perspective of Marxist political economy, not only from the perspective of capital accumulation and circulation, but also combines the deprivation theory in the field of social reproduction to explore the management control and hidden exploitation that female delivery riders encounter. At the same time, this article combines field survey interviews in 2022 to try to gain insight into the real-life difficulties faced by female delivery riders, and calls for the establishment of more fair and transparent platform rules and systems, in order for female delivery riders to obtain their due rights and respect in the platform economy.

### ***Literature Review***

Marx's theory of class struggle and proletarian pauperization focuses on the truth that capitalists constantly seize surplus value in capitalism through technological means. In "Capital", Marx concentrated on the intensification of the labor-capital contradiction and worker resistance caused by machinery and large-scale industrial production.

In addition, Marx criticized the modern production process, not as an innocent technical process, but as a dangerous eternal source of industry tools, which can only be avoided through scientific research and humane, rational planning that is not tainted by pursuit of power and profit (Fengberg, 2005). Marx's view of technology is not simply a phenomenon of craftsmanship, but a "social and historical factor that enters the theoretical perspective of modernity's critique" (Zheng, 2016). Marx had a dialectical understanding of technology, which may have limitations, but has infinite potential. As a liberating force, technology has become a means for capitalists to obtain surplus value in the capitalist period. However, if technology overcomes its own contradictions and plays an important role in production, it will provide unlimited possibilities for the awakening of laborers' subjectivity and their own development.

Later, Braverman (1978) focused on the introduction of machines in factory labor and proposed the view of separation between "concept and execution". At the same time, Braverman pointed out that large-scale machine production forced workers to downgrade their skills, and workers gradually became part of the machine, further weakening their labor value.

By further examining the labor process, Burawoy (1985) placed worker class consciousness and action at the level of production. Braverman criticized Braverman's separation of "concept" and "intellect" as merely a phenomenon of capitalist labor process rather than essence. He pointed out that capitalist

production is by no means an isolated economic field, but permeated with political and ideological elements, thus ensuring that capitalists further conceal the deprivation of surplus value. He described the "factory system" and pointed out that there is a "rush game" between capitalists and workers, which is a product shaped by both labor and capital.

The existing literature on the rise and application of digital technology is based on the exploration of the phenomena of technological control and labor resistance. The integration of technology into the labor process has prompted scholars to rethink traditional labor processes and labor control. With the rise of internet technology, the digital economy, characterized by platform economics, has given birth to economic models such as the sharing economy and the collaborative economy, and has propelled capitalist production into the platform capital stage (Langley & Leyshon, 2017). The logic behind platform capitalism is the privatization and commercialization of data and social relationships by platform companies (Cai, 2018). Meanwhile, due to its features such as data extraction and exploitation, algorithmic governance, and monopoly power (Srnicek, 2020), it promotes economic development while exacerbating behaviors such as inequality, exploitation, and privacy infringement.

Currently, research on the delivery riders in the platform economy mainly focuses on the field of labor processes, and uses sociological and ethnographic methods to describe this group. Many studies point out that as a new type of occupational group, delivery riders face many challenges in their development process, including weak social participation, confusion in the signing of labor contracts, the need for further improvement in user evaluation operations, and the regulation of platform punishment power, and the rational improvement of piece-rate wages (Wang & Han, 2020; Zhou, 2018; Tan, 2019). In addition, other studies start from the perspective of digital exploitation in the platform economy, pointing out that the commodification of digital labor turns user data into the property of platforms, which is a "digital enclosure" process (Andrejevic, 2007); this process weakens the subjectivity of the delivery riders themselves, causing deeper alienation and exploitation of workers (Fisher, 2012). This alienation and exploitation even cause delivery riders to increasingly rely on the platform, and try to establish long-term relationships with it. Therefore, delivery riders are more susceptible to exploitation by platform companies, and the platform may have more power to set their wages and working conditions (Sun et al., 2023).

The use of time arbitrage, fragmented work patterns, and reward and punishment methods (Chen & Sun, 2020) are used to control delivery workers, providing a source of income for people who cannot work in traditional industries while also adding pressure to them invisibly (Lehdonvirta, 2018). Compared with male riders, female riders still need to engage in more family care work in the realm of reproduction, despite changes in their family and social roles with the evolution of society. This makes them more prone to emotional anxiety and lack of corresponding social support (Jia et al., 2017).

Through a review of the literature, it can be seen that research on female delivery riders is still insufficient, and there is still relatively little research on their survival reality from the perspective of Marxist political economy. Therefore, from the perspective of Marxist political economy, paying attention to the survival status of female delivery riders and revealing the management control and hidden exploitation they face has theoretical and practical significance.

## **Control and Hidden Exploitation from The Perspective of Capital Circulation and Capital Accumulation**

### **Control and Hidden Exploitation from the Perspective of Capital Accumulation**

Marx's theory of capital accumulation holds that capitalists can continuously increase their scale of production and market share through capital accumulation, capturing more profits and establishing a

strong base for capital expansion. It should be highlighted, nevertheless, that this type of capital accumulation is only possible with ongoing labour cost compression and production efficiency improvements. The working class consequently becomes a significant source of wealth creation for capitalists.

Female food delivery drivers have just entered the food delivery market as a new type of labour force, and they have since grown in importance as a source of profit for business owners. In order to supervise and control female riders and further exploit their surplus value covertly, capitalists employ the food delivery platform.

The initial capital of the investor is  $C$ , the cost of goods used in production is  $c$ , the cost of one product is  $p$ , the cost of labour is  $v$ , and the total quantity of goods produced is  $q$ , the profit  $W$  that investors can earn through the platform can be expressed as follows:

$$W = pq - (c + v)q$$

Among them,  $pq$  refers to the total value obtained by capitalists through product sales, and  $(c + v)q$  represents the total additional cost of capitalists, including raw material costs and labor costs that need to be paid, which in the context of food delivery platforms are manifested as wages paid to female riders and the operating costs of the platform itself.

In examining the production process of female food delivery riders through the food delivery platform, we can see that their dynamic value is usually reflected in the income from each delivery. However, according to a survey conducted by "China Entrepreneur" magazine on food delivery station managers and riders, food delivery platforms often use strict assessment and management systems to manage and control female riders, requiring them to complete tasks within a specified time in order to further obtain good customer ratings and rankings. As a result, the pressure on female food delivery riders increases sharply, making their labor value more easily underestimated.

Here we should pay attention to one issue, which is why it is said that the labor value of female food delivery riders is more easily underestimated. In fact, compared to male riders, female food delivery riders are more likely to suffer from the problem of underestimated labor value, which is due to traditional gender roles and stereotypes in society.

Generally speaking, women are more likely to be perceived as a vulnerable and less competitive group compared to men. This stereotype leads to female riders being more easily subjected to work pressure, higher uncertainty, and more safety risks and uncertain working environments in food delivery work. In addition, food delivery platforms may also have gender discrimination against female riders, further reducing their labor value.

Female food delivery riders face more hidden exploitation compared to male riders. This exploitation manifests in the fact that food delivery platforms may not provide the same insurance and welfare benefits to female riders as they do to male riders due to their lack of resistance awareness. In addition, if there is gender discrimination on certain platforms, female riders may have lower wages and be subject to certain restrictions compared to male riders, who may have more delivery opportunities.

It can be seen that the capital management and control, as well as hidden exploitation, faced by female food delivery riders are a specific manifestation of Marx's theory of capital accumulation, which emphasizes the continuous compression of labor wages, cost-cutting, and increasing production efficiency in order to obtain greater profits. In order to achieve this goal, capitalists must take a series of measures to strengthen their management and control over food delivery riders, and through more advanced

technology, expand market share on the one hand, and control and exploit workers on the other hand.

### **The Control and Hidden Exploitation from the Perspective of Capital Circulation**

According to Marx's theory of capital circulation, it can be expressed using the following formula:

$$M - C - M'$$

In this text,  $M$  represents initial capital,  $C$  represents commodities, and  $M'$  represents expanded capital. In "Capital," Marx cleverly reveals how capitalists convert capital into more capital by purchasing commodities and hiring labor. Through the circulation of capital, capitalists continuously use a portion of  $M$  to buy commodities ( $C$ ) and produce more commodities, which they sell to consumers to obtain more capital ( $M'$ ). Through this cycle, capitalists can acquire more profits.

By using delivery platforms and hiring a large amount of labor (*i.e.*, delivery riders), capitalists ensure their competitiveness and profitability in the market. Female delivery riders, as part of the labor force, become the objects exploited by capitalists.

It should be noted that delivery platforms not only cooperate with merchants to place their goods (such as food and daily necessities) on the platform and provide delivery services, but they may also purchase goods themselves for sale. When it is difficult for the platform to find suitable merchants in certain areas or time periods or when the goods offered by the merchants cannot meet the demands of consumers, the platform will engage in self-operated mode and purchase goods to meet consumer demands.

Regardless of whether delivery platforms cooperate with merchants or operate independently, female delivery riders are the labor force that these "operators" must hire. By purchasing commodities and hiring labor, delivery platforms realize the production and exchange of products, thereby continuously obtaining expanded capital. Through this cycle, capitalists control the production and exchange of commodities through delivery platforms, while female delivery riders are forced to sell their labor in exchange for wages.

In the process of capital circulation, female delivery riders face comprehensive management and control by the platform regarding their work time, delivery routes, and other aspects, limiting their labor rights. Female riders have difficulty freely allocating their delivery time and cannot choose their delivery routes, which not only reduces their production efficiency and enthusiasm but also makes them more susceptible to technological control and exploitation, causing their commission and welfare benefits to be squeezed and their wages to be lower than the market level. This type of exploitation is not expressed as direct exploitation but rather as hidden exploitation launched by capitalists through the platform in order to obtain greater profits.

### **Female Food Delivery Riders Face More Severe Exploitation Issues in the Reproductive Field**

Think about the subsequent mathematical model: Assume that the combined incomes of a male and a female food delivery rider are  $I_M$  and  $I_F$ . The total income is derived from the wage income  $W_M$  and  $W_F$  from the platform economy, as well as the payment  $E_M$  and  $E_F$  from the household in the reproductive field. The following model can so be used to express the total income:

$$I_M = W_M + E_M$$

$$I_F = W_F + E_F$$

Assuming that the required childcare time for the two people is  $T_M$  and  $T_F$  respectively, and their labor productivity per hour is  $V_M$  and  $V_F$  respectively, and their fixed capital is  $F_M$  and  $F_F$  respectively, and their working hours per hour are  $H_M$  and  $H_F$  respectively. At this time, the production payment of the family can be expressed as:

$$E_M = (V_M - F_M) \cdot T_M$$

$$E_F = (V_F - F_F) \cdot T_F$$

At this time, both individuals need to spend time and energy taking care of their children, which leads to a certain degree of decrease in their labor productivity in the platform economy, thereby affecting their total income.

Additionally, through food delivery companies, capitalists exploit and control both male and female delivery riders. Assuming that the platform economy's rates of exploitation for male and female delivery riders are  $S_M$  and  $S_F$ , respectively, their respective wage levels can be expressed as:

$$W_M = (1 - S_M)[V_M \cdot (H_M - T_M)]$$

$$W_F = (1 - S_F)[V_F \cdot (H_F - T_F)]$$

It can be seen that if the working hours are reduced, the wage level will inevitably decrease; at the same time, if the exploitation rate increases, the wage level will also decrease. Comparing  $I_M$  and  $I_F$ , it can be seen that female food delivery riders face more severe exploitation and labor control issues in the field of household production than male riders. This is because women need more time and experience to take care of children, and depreciation causes women's labor productivity to decline more in the platform economy, resulting in faster income reduction. In addition, due to their own disadvantages and lower competitiveness, women are more likely to be discriminated against and restricted in the platform economy, and compared to men, women face a higher exploitation rate, resulting in lower wages for women in the platform economy.

The significant problem that female food delivery riders face in the field of household reproduction is a more hidden exploitation problem compared to male riders. The social responsibility that female food delivery riders themselves bear, including raising children and doing housework, although not conflicting with their work, requires them to invest additional time and energy, which seriously affects their rest and living rhythm.

In addition, it should be noted that exploitation problems in the field of reproduction are more easily overlooked. As a non-market area, women's labor often does not receive sufficient economic compensation in the field of reproduction. For example, "housework" is often considered a natural family responsibility and not an economic issue in people's subconscious. People often overlook that women work in both production and non-production fields at the same time, resulting in women food delivery riders' rights and interests being more neglected. Therefore, paying attention to the control and hidden exploitation problems faced by female riders has extremely strong social value and practical significance.

### **A Qualitative Study: The Hidden Exploitation Situation of Female Food Delivery Riders**

To further illustrate this issue, this article conducted a detailed investigation based on literature

reading and theoretical analysis, and provided a comprehensive explanation of the current situation of female food delivery riders in China. The field investigation was conducted in the form of objective questions, and the questionnaire survey was conducted from February 15, 2022 to March 29, 2022. Due to the COVID-19 pandemic, 109 questionnaires were distributed, and 97 valid responses were collected. Due to privacy concerns and limited interviewing staff, most of the respondents refused to be recorded, but the reasons were recorded by the interviewer. Based on the analysis of the validity and reliability of the questionnaire, this article aims to reveal the hidden exploitation situation that female food delivery riders are currently facing.

### **Awareness of Rights Advocacy is on the Rise, But Rights Protection is Still Insufficient**

The general view is that female food delivery riders have a huge problem with low awareness of their rights and insufficient advocacy skills. They often consider work remuneration and salary levels as their primary pursuit. Compared to men, some women have a determination to "prove themselves" despite facing a lack of protection for their rights, but still find it difficult to establish a strong sense of self-rights awareness and advocacy.

However, according to the results of a survey, female food delivery riders have gradually moved from satisfying basic personal needs to higher levels of development. But this does not mean that economic factors are no longer the main factor. As shown in the questionnaire, about 61% of female riders surveyed still consider "supporting the family" as their primary motivation for working in the food delivery industry, while "seeking opportunities for self-development in the food delivery industry" and "earning money for a better future and career" account for 35%. When asked about their career concerns, most female riders expressed that while they focus on wages, they also pay extra attention to basic facilities, labor welfare, and management norms provided by the platform.

LZX is from Shandong and has been working as a food delivery rider for two and a half years, even during the severe pandemic. When asked about her current work situation and career prospects, she said that she has no plans to give up this job for the time being.

*"In fact, compared to other professions, I feel that working as a food delivery rider can give me a rare sense of calm... now it's not just about making money... I'm more concerned about the welfare and treatment of this job, whether it can make me more comfortable... And over the past few years, I have consciously learned about some legal content, not just by reading legal books, even when playing with my phone, I will consciously read... after all, the rights that need to be fought for must be fought for!"*

The awakening of self-rights awareness and the popularization of self-rights advocacy have spread throughout the female food delivery rider team. The awakening of self-rights awareness and the popularization of self-rights advocacy can help women realize their own value and rights, thereby encouraging them to strive for better treatment and opportunities for themselves.

*"In fact, due to the problem of local food delivery route settings, some remote orders were always received by some of us sisters without our consent. For safety reasons, those sisters had previously reported this issue to the station manager, but it was not resolved because the route setting was a machine behavior and could not be manually modified... However, this issue was later resolved. On the one hand, the sisters consulted legal advice, and on the other hand, this matter, thanks to the cooperation of us female riders, successfully attracted the attention of other riders and the public. Finally, the route was optimized, and the mobile network and safety positioning functions were strengthened."*

It is evident that the stories of the interviewees above clearly demonstrate the awakening of self-

awareness and the improvement of rights awareness among female food delivery riders. On the one hand, female food delivery riders learn and understand relevant laws and regulations, and protect their legitimate rights and interests through labor laws and other legal provisions. On the other hand, female food delivery riders can continuously strengthen their self-protection, actively report issues to relevant departments and platforms when encountering problems, and strive for a reasonable resolution of their own rights and interests. In this way, such a strong sense of rights not only promotes social progress, but also influences more female food delivery riders to improve their own rights awareness, gender equality, and feminist awakening. This is an important measure to safeguard women's interests and fight for self-rights.

However, it is still worth noting that in recent years, according to reports of past labor disputes, female food delivery riders on platforms still face problems such as unclear or even unsigned labor contracts, and errors in signed contracts. Once a labor dispute occurs, the lack of mutual understanding of the labor relationship and difficulty in confirming the relationship will lead to difficulties in protecting the legitimate rights and interests of female riders.

*"I think these things are still quite common...I have also understood these things, but I only remember them when something goes wrong. I usually think that these contracts are insignificant...the protection is still inadequate. Most of the time, I have to bear the consequences myself, or there is some platform subsidy, but the relevant instructions are not clear, and I also hold the attitude of 'making a mountain out of a molehill'..."*

The above interview content shows that there are still certain issues regarding the infringement of rights for female food delivery riders. Although the awareness of rights among Chinese female food delivery riders has increased in recent years, the existence of food delivery platforms still forces female riders to face significant problems in confirming their labor relationships and identities. Therefore, even though they sometimes have a strong sense of rights awareness, it is difficult for them to fight for a more comprehensive and effective level of rights protection. Thus, female food delivery riders, despite the rise in their awareness of rights, still remain in a passive and disadvantageous position when fighting for their rights.

### Further Deepening of Exploitation in Family Care

Referring to the basic formula  $M - C - M'$  in Marx's "Capital," where  $M$  represents money,  $C$  represents commodity, and  $M'$  represents surplus value, the issue of women's family care can be examined as follows:

Firstly, women's family care requires a certain amount of labor and material resources, including time and energy investment, as well as material resources needed by the family (such as clothing, daily necessities, and food purchases), which constitute the cost of family care,  $C$ .

However, the housework and child-rearing activities performed by women in family care are unpaid. This "unpaid" feature means that the value of women's labor is deprived because they do not receive any monetary return from their household labor. However, the value created by this labor is consumed by family members, rather than given to women in monetary form. This value production is a form of surplus value,  $M'$ .

Therefore, in this sense, family care conforms to the basic logic of Marx's theory of surplus value. The value of women's labor is deprived, creating surplus value, which is one of the reasons why Marx believed that family care is a form of exploitation against women.

*"My daughter is in the third grade of elementary school this year. According to the study schedule, the*



*usual time for school dismissal is also the busy time when I deliver takeout. Usually, I will pick up my child on the way to deliver takeout."*

*"Yes, in addition to picking up and dropping off children, there are also elderly people who need care. These are also normal, after all, we have been living like this for these years. Moreover, it's not easy to find a job now, and takeout is relatively stable. There may be some safety issues at times, but at least it can help alleviate family pressure."*

The above interview is not a single case. In fact, most female takeout riders are facing problems currently. In addition to sharing the economic pressure of the family, female takeout riders also face exploitation in the realm of domestic production. They need to take care of children, the elderly, and spend energy to undertake housework, which takes away their time for working in the takeout industry and affects their career and development plans.

*"The child's father works almost all day and won't have time to pick up and drop off the child. After all, the work time is earlier than the child's school time."*

*"In fact, there are some differences between men and women in terms of family care. After all, most people believe that women are the main caregivers in the family... After all, the view of 'men work outside, women work inside' has existed for a long time."*

*"In recent years, things have been improving, after all, there have been slogans of gender equality and some policies and laws have been implemented... Nowadays, the status of women in various industries is constantly improving, and there are also men who undertake more family care work... This is a good phenomenon... Moreover, I think family care can also be beneficial for spousal communication and cooperation, and it is also beneficial for shaping the family atmosphere!"*

From the perspective of Marx's historical materialism, the problems that female takeout riders face in the realm of reproductive production are precisely the result of the fact that the domestic and private realm is often seen as non-market labor. Due to private ownership of the means of production and the development of commodity production, women's work in the family cannot obtain social and fair remuneration and rights certification, which leads to control and hidden exploitation of women in the realm of reproductive production. Compared with men, the realm of reproductive production is often seen as the natural "battlefield" and responsibility of women, so female takeout riders bear more housework, caregiving, and nurturing responsibilities, which leads to their relatively low economic and social status and income.

But it is heartening to see that in recent years, modern society has shown a clear trend of breaking away from traditional patriarchal structures and building a new era of gender equality. As women's social status continues to rise in the workplace, more and more men are beginning to take on greater responsibilities in household chores and childcare. However, the hidden exploitation that female delivery riders face in the realm of reproductive labor has not been completely eradicated. The transformation of these ideas requires progress and development in society, with more attention paid to gender equality and women's rights in the superstructure, in order to sincerely promote equal rights and fair opportunities for men and women in the economic and social realms.

### **Group resistance ability strengthened, Gender conflict still exists**

*"There are conflicts. I once had a customer who didn't want to accept food delivery from a female rider, reasoning that female riders were slower and couldn't do the job well... I personally think this is a stereotype, as female riders now have no problem picking up orders and completing deliveries."*

*"Well... personally, I think this conflict may be related to some safety issues. Especially when working at night or in remote areas, female riders are more likely to encounter potential sexual harassment or even violent attacks... compared to male riders, this situation is more common for females."*

*"I personally think it's possible that they are facing some social prejudice... This is possible, after all, some people are still stuck in the old ways of thinking and always believe that this job (referring to delivery) requires physical strength, so it should be done by men; on the other hand, female riders may receive negative evaluations, feeling that this is not a very formal job... sometimes some people always think that working in a white-collar job is more 'formal' than the delivery industry, which is also a reason why some female riders are troubled."*

*"I think female delivery station owners or managers are rare! I personally think this is a gender conflict issue... compared to male riders, male riders may have more opportunities for career advancement, such as becoming a station owner or manager... It's not that women cannot do it, but maybe subconsciously people think that men are more leadership-oriented and have stronger resilience..."*

The above interview reflects the intense gender conflict that female delivery riders face. This conflict is manifested in gender discrimination, unfair treatment, safety issues, equal opportunities, and social reputation. It can be seen that female delivery work faces more obvious risks and challenges. However, in recent years, this article also noticed that female delivery riders have shown considerable enthusiasm and personality charm in fighting for their rights and maintaining fairness. Although gender conflict still exists, female delivery riders have united and their group resistance ability has been strengthened, which has also become one of the bright features of female delivery riders in the delivery industry in recent years.

In recent years, with the boom of social media, female food delivery riders have dared to expose the unfair treatment they have experienced through social media. They are especially brave in confronting issues of sexual harassment and gender discrimination in the workplace, and have sparked social attention through posting and sharing videos. They have received widespread support and strong backing from society.

Additionally, in recent years, female food delivery riders have organized and participated in collective actions for their rights. They have especially participated in events such as Women Delivery Riders' Public Welfare Day and Public Welfare Cycling Day, which not only publicize the gender conflicts and hidden conflicts faced by female food delivery riders, but also spread measures to ensure their safety and rights throughout society. They have actively communicated with platform companies to legally and reasonably protect their own rights.

Furthermore, female riders regularly hold self-defense skill and safety defense group activities, demonstrating that female food delivery riders have begun to learn self-defense skills through the power of the group, and to raise awareness of self-protection to avoid gender-based violence. These group activities have accumulated courage and fighting ability for female food delivery riders to resist gender violence. They have become more and more courageous in standing up to defend their legitimate rights, and have received further attention and support from society.

*"We regularly hold self-defense knowledge activities and lectures. Sometimes we spontaneously share our experiences, and sometimes we invite teachers to share with us... We have also set up mutual assistance groups to communicate and contact each other in a timely manner. Self-protection awareness must be established, and we are not afraid of any difficulties when we are united together!"*

Marxist political economy holds that social existence determines social consciousness. The gender conflicts faced by female food delivery riders and their corresponding awareness and resistance are actually influenced by a combination of material living conditions, the level of productivity, and social consciousness, which can be expressed as follows:

Gender conflict = relations of production + level of productivity + social consciousness

Where relations of production refer to the gender discrimination that female food delivery riders face in the labor market, the level of productivity is reflected by the proportion of women in employment, and social consciousness is manifested in the long-standing stereotypical impressions and labeling of women in society. It can be seen that, influenced by traditional social norms, female riders are more likely to face greater difficulty in employment and unequal pay due to gender discrimination. Although the proportion of women in employment is increasing, the food delivery rider industry still has relatively low female representation, and coupled with long-standing gender stereotypes, women face greater gender discrimination and violence.

However, the above formula also indicates that when female riders become aware of and fully recognize that their rights and interests are being infringed upon, they will stand up and unite to resist and defend themselves through various means. Relations of production (gender discrimination in the labor market) and social consciousness (gender stereotypes) will inevitably stimulate female riders to reflect on reality and awaken their personal consciousness when they face injustice and hidden exploitation. Furthermore, with the improvement of the level of productivity, female riders will have more opportunities and development platforms, making it easier for them to unite, organize and jointly defend their legitimate rights and interests.

### ***Conclusions and Policy Recommendations***

Food delivery riders are a unique group of workers in the process of China's digital and platform economy transformation and development. They are not only the focus of public opinion and academic research but also a research object in the field of social development and governance. The study of female food delivery riders is not only of theoretical significance but also has far-reaching practical implications.

For a long time, research in Chinese labor economics, sociology, and ethnography has focused on the daily lives and risks of food delivery riders, but it has been difficult to form a profound and effective problem consciousness. This has led to descriptions of labor processes without being able to move beyond the "abstract laborer" to the "concrete laborer" or to analyze management control and hidden exploitation from a Marxist political economy perspective.

This paper not only analyzes the survival difficulties of female food delivery riders from the perspective of Marx's "Capital" but also deepens our understanding of the platform's domination and exploitation of female workers using the theory of capital circulation, accumulation, and social reproduction. In addition, based on field research and interviews, it reconstructs the choices, self-transformation, and group consciousness awakening of female food delivery riders in their current predicament. The study of female food delivery riders in the new era is not just about gender equality or "labor protection" for the working class. The self-awareness and subjectivity of this special group are in line with Marx's vision of "rebuilding personal ownership" and embody the naive values of "one's own labor creating something beneficial to others". Female food delivery riders embody the spirit of hard work and perseverance of working women in China, but they are also limited by their era and their own skills and are unable to truly pursue their own rights and protect their personal legitimate interests. However, their pursuit of self-legitimate rights and subjectivity is a microcosm of female workers' struggles against the control and hidden exploitation of labor by capital.

Therefore, this paper proposes the following policy recommendations to protect the legitimate rights and interests of female food delivery riders in China and to get rid of the platform economy's management control and hidden exploitation through capital:

Firstly, the government should introduce relevant laws and regulations to reasonably regulate the labor relationship of food delivery riders, including labor contracts, wage payments, and social insurance contributions. At the same time, relevant protection measures should be set up for common issues faced by female workers such as maternity insurance and maternity leave to ensure that female food delivery riders are not subjected to unfair treatment due to gender issues. The reproductive field is the area where female food delivery riders are most easily neglected. The government should establish a relatively complete supporting care and service mechanism to help female food delivery riders establish reasonable and flexible working hours and rest mechanisms. At the same time, the government should increase publicity efforts, encourage men and women to share childcare responsibilities, and enhance mutual understanding and support for family responsibilities.

Secondly, the government should introduce laws and policies to strictly punish gender-based violence, especially gender inequality, workplace sexual harassment, and gender discrimination faced by female food delivery riders. Effective and punitive mechanisms must be established, and publicity efforts should be strengthened to promote positive concepts such as gender equality and mutual respect. This will raise awareness and vigilance among all members of society, including female riders, regarding gender-based violence.

Finally, the self-awareness and pursuit of legitimate rights by female food delivery riders still face significant challenges. On the one hand, female food delivery riders must strive to improve their own skills and not be confined to the control and hidden exploitation of the platform economy. They should proactively explore their own strengths and potential, continuously educate and re-educate themselves, and promote self-development and economic independence. On the other hand, female food delivery riders should actively integrate into the digital age and explore new service methods. While continuously improving work efficiency and service quality, they should also have the energy and time to invest in various social organization activities, seek group strength, and continuously strive for broader social resource support. In this way, female food delivery riders can not only make important contributions to the industry's development but also lay a solid foundation for future career development.

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