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New forms of labor time control and imaginary freedom: a study of the labor process of food delivery workers

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Abstract

In this field study of the labor process of food delivery workers, we examine the new rules of time and new forms of labor time control in the food delivery industry. Food delivery platforms attract laborers with the flexibility of working time and place but simultaneously strictly surveil the labor process of delivery workers, thus establishing a multidimensional body of control consisting of the platform and customers. At the same time, platform mechanisms of “grab the order” and “wait for the order” help platforms subtly control delivery workers’ experience, thoughts, and emotions. These mechanisms create a sense of time characterized by “punctuality” and “speed,” making delivery workers “all-day workers.” Delivery workers come to delivery platforms in search of work freedom, but in the end, they become constrained by platforms. Helpless, they voluntarily subject themselves to the time control of the platform, while the latter obtains profit under the guise of freedom.

Keywords: Labor time, Freedom, Delivery workers, Labor process

The platform economy based on Internet technology has become a new industrial organizational form in recent years. As the platform economy developed, many new occupations arose. As one of the largest and ever-growing groups of laborers, food delivery workers have gradually attracted sociologists’ interest.

Research question and literature review

Research question

As new Internet-based technologies emerge, we see the continuous development of new forms of work. Traditional industrial production has been deconstructed, and a new platform economy has emerged. Compared to traditional industrial production, platform economy shows new characteristics in both space and time dimensions. In terms of space, the platform economy is not reliant on any physical space in the same way as industrial production. In terms of time, platform workers do not follow a strict 9–5 working schedule but can choose when and how long to work by themselves. It seems that they would enjoy more freedom in time than traditional workers do. Young

workers looking for less constraint and more freedom are attracted to such jobs. In reality, however, food delivery workers experience traffic accidents when trying to make food on time or are insulted when they fail to do so. Why would food delivery—a job that seemingly affords much freedom—instead exacerbate work pressure and intensity? The answer to this question could help us discover new characteristics of labor time and interrogate new forms of labor time control and worker autonomy in a new technological environment.

Threads from previous research

Preindustrial labor mostly consisted of agricultural work, largely relying on natural time. Then, labor time was the product of naturally formed production needs and involved very little social meaning. With industrialization and, specifically, the invention and spread of watches, time gradually became managed by a rational system of labor time. Laborers, then, have gradually become constrained by a standardized time structure (Thompson 1976).

Marx was the first to analyze industrialized labor time. In *Das Capital*, he asserts that “the atom of time is the factor of profit.” That is, the calculation of labor is tightly connected with time. As the founder of labor process theory, Marx sees “labor time” as a crucial factor through which capitalists exploit workers’ surplus value. Competition for time power is an important field in which labor and capital struggle with each other (Zheng 2018: 134). Discussions of labor time are essential for sociological studies on both industrial and postindustrial service and information workers. In the theory of the labor process, based on the time series of capitalist developmental stages, the struggle for time power between labor and capital centers around the amount, quality, and flexibility of labor time.

In the early capitalist stage of free competition, the length of workdays as the source of surplus value had always been the focus of capital control and worker contention. To extend the working time as long as possible to increase the amount of labor a great deal, capitalists wished to lengthen workdays with no limitation. They also attempted to “crack and steal” workers’ rest time and meal breaks (Marx 2004: 297). To ensure that they could exploit surplus value day and night, capitalists invented a system of alternating daywork and nightwork. As a result, workers were alienated into personalized labor time, and “all difference between individuals are turned into the difference between ‘all-time worker’ and ‘part-time worker’” (Marx 2004). These greedy behaviors put so much pressure on workers that class conflicts intensified. European and American countries, led by the UK, saw strikes that demanded the limitation of work time (Brody 1989). As workers continuously strived to demand the shortening of work time, states also tried to mediate between the two major classes, using legislation to limit workday length within a certain range. As a result of all these efforts, the length of workdays has been decreasing since the 1930s.

The struggle around work time gradually stabilized in the monopoly stage of capitalism. In 1919, the International Labour Organization passed the first treaty limiting labor time in the industrial sector to a maximum of 8 h per day and a maximum of 40 h per week. Capitalists acquiesced to the shortening of work time because advancements in productivity increased labor efficiency and surplus value and because scientific

management greatly increased labor intensity and highlighted the meaning of quality of work life. Braverman conducted a detailed analysis in *Labor and Monopoly Capital*, separating the labor process into periods. In a unit time, high-speed and high-intensity standardized production creates surplus value for capital, but the worker is forced to increase the intensity and pressure of work (Braverman 1979: 42–54). The labor process is separated into “concept” and “execution.” In contrast to Braverman’s theory, Burawoy’s study on workers’ agency finds that workers exhibit a willingness to cooperate in the process by which the labor force is turned into labor. Burawoy finds that workers engage in a “game of making out,” willingly increasing labor intensity. To obtain more labor time and increase labor efficiency to work overtime, workers maintain relationships with foremen and inspectors (Burawoy 2008: 63–99).

Since the 1970s, advanced capitalist countries have entered the postindustrial stage (Bell 2018: 115–134), with consumers taking part in the labor process. Taylor-style division of labor and strict managerial control was eliminated, and workers obtained a relatively high level of autonomy, granting them flexibility in dealing with uncertainties and diverse consumer demands. “Concept” and “execution” again converge to a certain degree. It is especially salient in service, creative, and fashion industries. In the service industry, customer demand is the core of labor. He’s study of a restaurant found that, as a response to customer demand, capital differentiated two kinds of gendered consumption—“the big sister” and “the little sister” (He 2009). At the same time, workers in the service industry can counteract capital control with their autonomy. In the triadic relationship between workers, capital, and consumers, the simultaneous coalition and separation between consumers and capital provide space for workers to assert autonomy (Li and Liu 2017).

Although such unification shows that workers, to a certain extent, regain control over the labor process, it does not mean that capital has given up control over labor time. In contrast, capital keeps pressuring workers through various methods to ensure time power. For instance, in the domestic service industry, capital regulates workers through controlling their time, thereby dominating the labor process (Su 2011). Another example is the Internet industry, where capital sets tasks and deadlines in the form of projects, and projects themselves contain considerable time pressure (Liang 2016). Key time power remains in the hands of capital while, in the qualitative perspective, labor time starts to emphasize worker autonomy.

As productivity and technology continue to develop, electronic devices enable remote working. The constant desynchronization of time and space brings about broad social transformations (Glennie and Thrift 1996). Traditional standardized industrial time starts to exhibit diversity, variance, and individualization (Morioka 2019: 20–30). New labor time institutions, such as flexible working time, emerge (Steward 2000). New forms of labor time have a common characteristic—workers can control their own working time (Rosenblat and Stark 2016). The flexibility of workers’ labor time is obviously improved. In the era of individualization, laborers develop a strong sense of autonomy and start to demand labor time freedom. Labor time flexibility is an adaptation to that. As Internet technology progresses, platform labor gradually enters people’s lives. Flexible working time is widely used in platform labor, inciting scholarly discussions. While eliminating the boredom and strictness of traditional labor, it also increases workload

and safety concerns in the labor process. At the same time, the low income of such jobs also counterbalances the advantage of flexibility (Russell et al. 2009; Atkinson and Hall 2011; Wood et al. 2018; Flanagan 2019). As such, work flexibility does not necessarily reduce labor intensity.

By reviewing the existing research on labor process and labor time, we see changes in three aspects. First, there has been a turn from studying the quantity of labor time to studying its quality and then to its flexibility and autonomy. In the early stage of free competition capitalism, the struggle between capital and labor centered around the amount of labor time. In the stage of monopoly capital, the focus turned into the quality of labor time, represented by labor intensity. In postindustrial society, the emphasis turns to worker autonomy. Second, workers' agency was introduced into the research. Third, the dichotomy between capital and labor gives way to the triad of labor, capital, and consumers. In these three turns, we find that the field of labor time is constantly expanded by the continuous struggle between labor and capital overtime control. At the same time, although workers have been fighting for more control in different historical periods, labor time has been the key accomplice of capital in labor control. Extending labor time, increasing labor intensity, and making labor time flexible to satisfy consumer demand are all methods through which capital extracts profit from workers by controlling labor time power.

Surely, existing studies provide a solid basis for our understanding of labor time and its transformations. However, in the platform economy, what is the implication of new flexible labor time institutions that transcend traditional industrial labor time? Even when existing research pays attention to the flexibility of new labor time, it is mostly a brief cost-and-benefit analysis around that flexibility itself. Instead, we need a deeper investigation of capital's ideology and new forms of time control behind that flexibility, as well as workers' attitude and action in response to that. The platform economy reflects a unique combination of labor time control, countercontrol, and work autonomy with great consumer participation. To understand that, we have to bring workers back to the center of the analysis (Burawoy 1985: 5–12). By analyzing the new form of labor time and labor process under the platform economy, we can explain the nature of labor time "freedom" that workers have seemingly obtained and the contradiction between the freedom in choosing the working time and being controlled over leisure time.

Research method and introduction of the field

Research method and data source

This study is a single-case field study. Through the fieldwork of Station E—a delivery station of food delivery platform A—we investigate the research question under a specific time–space background. Our main research method is the interview. On the one hand, the research concerns subjective emotional cognition and detailed labor processes, and the qualitative method is fit to obtain detailed data. On the other hand, the research subject is relatively scattered and niche, and interviews provide flexibility with studying the scattered individual workers. Considering the difference in interviewees' understanding and cooperation, the author adopted semistructured interviews. Interviews contained close-ended questions that interviewees simply answer and open-ended questions that

allow interviewees to talk freely. There were also follow-up questions depending on the characteristics of each interviewee.

At the same time, we investigated the order and *modus operandi* of the station following three basic principles. First, we should expand our scope in understanding “society.” Starting from the work and life details of delivery workers, we try to understand the daily management and operation of the station from a bottom-up point of view. We discover the overall characteristics of food delivery platforms through a micro-foundational lens. Second, we prioritize delivery workers’ narratives. We identify key information hidden increases of time, which often reflects details of labor relations and power structures. Finally, rooting deeply in theory, we construct the concept of “imagined freedom” to push for the expansion and upgrade of theory.

The author conducted three fieldwork at Station E, from October to December 2017, March 2018, and October 2019. Because our research topic concerns the nature of the “freedom” that workers in the platform economy seemingly obtain, we need to find patterns in the platform’s regulation and workers’ understanding of it. Since all stations are homogenous in terms of labor time patterns, observations in a selected station can be generalized to reveal the pattern of the entire food delivery industry in this area. At the same time, Station E is representative because it is located in the central business district (CBD) of a provincial capital in Central China. It is located on Street J, the origin of the food delivery industry in City W. Ever since food delivery platform A entered City W, Station E has seen the development of platform A in the city. With a large demand and a great number of delivery workers, Station E reflects the labor characteristics of this industry historically and holistically.

During field observation, the author interviewed 12 delivery workers and two station managers based on marital status, time of work in the industry, work experience, and educational background. The selection made sure to cover as much heterogeneity as possible. The author also performed multiple rounds of follow-up interviews¹ of five of the 12 delivery workers.

To compensate for the lack of large-scale quantitative research data, this study will refer to existing large-scale survey data and conduct second-hand analysis when necessary.

Station E and its labor control institution

Food delivery platforms manage delivery workers in two ways—online and offline. Online management consists of various rules to regulate and motivate workers, while offline administration designates workers in a certain area to the same station for management. Two basic employment patterns exist in the food delivery industry of City W—direct delivery and outsourcing. The main difference concerns the relationship between delivery workers and stations. Direct delivery stations directly manage workers, imposing daily morning meetings, fixed working time, responding to accidents or abnormalities, and setting order pricing. In outsourcing delivery services, delivery workers need to download the application (app), register to join, and not answer the station directly.

¹ In 2017, there were approximately 100 delivery workers in Station E. From 2017 to 2019, the platform kept adjusting station size and service area. The number of workers in Station E was reduced to 40 in 2019.

Stations indirectly administer workers by analyzing data on delivery workers of a certain area and adjusting rules in the app based on the data, including order pricing, delivery time, rewards, and punishments.

Compared to direct delivery workers, outsourcing delivery workers are not under the direct management of stations and therefore enjoy a higher level of labor freedom. However, there is no significant difference between direct delivery and outsourcing workers in labor time. It is because the platform sets up many kinds of limitations to converge the labor time of outsourcing and direct delivery workers to ensure enough operation during rush hours; for example, if workers do not get online during a specific period, they will be fined or have their rewards taken away. At the same time, the direct delivery system is more complicated than outsourcing in terms of organizational ecology and profit chain. Therefore, to present a more comprehensive picture of the labor time institution of the food delivery industry, this article focuses on the direct delivery pattern.

To reduce managerial costs, Platform A outsources its delivery service to outside agencies, who then hire managers for each delivery station to administer its daily operation. It is a rather flat organizational structure. Station E is a direct delivery station established in the CBD of City W in 2014. Station E has station managers, dispatchers, delivery team captains, and common delivery workers. One station manager administrates delivery workers. Two dispatchers adjust orders during rush hours or when there is a problem to ensure the order of delivery service. Delivery workers are assigned to six teams, with each team having one captain. Approximately 90% of all delivery workers in Station E are young men aged 20–35 from rural areas of Province H, and most of them have middle school or high school education.

Station E utilizes the Internet, platform advertisement, and the recommendation of senior workers to hire new workers. The hiring process is quite simple, consisting of only one round of brief interviews. The hiring standard is, therefore, quite low. As long as workers are healthy and know how to ride electric bicycles and use GPSs on smartphones, they normally get jobs. After being hired, the worker goes through simple training on the app, including how to use the app, the work process, and the basic manners of delivery. Before October 2017, Station E had used manual order dispatch. The platform later required stations to change to computer dispatch to reduce costs. However, the lack of human involvement caused many problems so that stations eventually settled on a dispatch model consisting of mainly computer dispatch with human adjustment. The calculation of a delivery workers' salary is itemized with no baseline salary. How much each worker earns depends on the number of orders delivered, fines for problematic orders, and a variety of rewards. Workers at Station E earn six *yuan* per order² are fined 20 *yuan* for each bad review and 50 *yuan* for each complaint. The amount of rewards depends on various factors, such as market conditions and the ranked level of delivery workers.

² Unit price for an order changes. Agencies and station managers make detailed adjustments. In 2017, Station E paid 6 *yuan* for each order. This number has dropped to 5.4 in 2019 after several adjustments.

The pattern of labor time and labor choice of delivery workers

The pattern of labor time in the food delivery industry

Computer-assisted data-based performance evaluation effectively manages millions of delivery workers in many agencies and stations. In the organizational structure of Platform A, performance evaluation centered around Key Performance Indicators (KPI) is the core of the whole management system. Based on the different responsibilities of agencies and stations, the platform sets up different and ever-adjusting KPI. Following the platform's rules, Station E adopts a labor time pattern that combines fixed and flexible working time. Its business hours are separated into rush hours and normal hours. Delivery workers have to work in the lunch rush hours—10 am to 2 pm—and the dinner rush hours—5 pm to 8 pm. At the same time, all other periods are flexible working time, when workers can choose to rest or keep working. Theoretically, as long as the delivery workers want, they can work 24 hours a day. Workers at Station E have four rest days each month. Should special situations arise, they need to submit a leave request at least 24 hours in advance. The procedure is as simple as asking the station manager and obtaining approval. However, if too many orders need to be delivered due to rainy weather or worker shortages, delivery workers on break will be asked to return to work temporarily.

Punctuality is the key to high-quality food delivery services (Sun 2019). Because of the unique nature of the industry, platforms have extremely harsh requirements for punctuality and speed of delivery. In the delivery worker's labor process, time is measured in minutes. At the same time, the platform continues increasing its speed. Station E shortened the baseline delivery time from the original 45–30 min. To ensure punctuality, Platform A utilizes the organizational structure of direct delivery to pass the pressure down level-by-level. Through KPI evaluation, the platform supervises agencies and station managers for punctuality, who then pass down that pressure to delivery workers by fining late delivery or limiting the number of orders they can take on. The manager of Station E fines workers 1–3 *yuan* for each late delivery, depending on how long the order is late. If a delivery worker is late a certain number of times in a week, the manager will manually reduce the number of orders they obtain. Moreover, late orders significantly increase the odds that customers give bad reviews or complain. The fine for bad reviews and complaints about delivery workers is a considerable financial loss. Under multiple punishments for late delivery, workers have to try to ensure a punctual delivery to avoid loss.

Why I become a delivery worker: labor choice based on the meaning of "freedom"

According to the *2018 Report on Delivery Workers* published by Ele.me, the average age of delivery workers is 29 years old, with the "85-gen" and the "95-gen" being a major force, with 77% of them coming from rural areas. These characteristics show that most of them belong to the new generation of migrant workers. As the food delivery industry develops rapidly, an increasing number of young migrant workers have become delivery workers. What is it about the food delivery industry that attracts many new-generation workers? The answer should be sought in their generational characteristics and the unique nature of the food delivery industry.

The new generation differs from the old generation regarding occupational choices, lifestyle, value, and emotional belonging. Influenced by modernist individualism, their labor choice is largely guided by the value of “living for yourself,” a strong will to strive for individual freedom (Beck and Beck-Gernsheim 2011), and a solid sense of individual rights. The emergence of a platform economy provides an opportunity for these new-generation laborers to fulfill such self-actualization. Take food delivery platforms as an example. Delivery workers are attracted to this job by slogans about “freedom to work” and “monthly income over 10,000” that platforms put out when hiring. Reports from platforms such as Meituan and Ele.me³ show that income and freedom of work time are what attract delivery workers to the industry. The latest report from Ele.me, *2020 Survey Report on Ele.me Delivery Workers*, shows that over 80% of delivery workers who used to be other types of workers, company employees, or individual business owners were attracted to the food delivery industry by freedom of work time.

Compared to traditional factory labor, the food delivery industry has two obvious advantages. First, delivery workers enjoy relative flexibility in working time. Unlike the fixed working time in factories, flexibility in the food delivery industry affords workers a certain degree of autonomy. Second, compared to other industries that they could choose, delivery workers earn more by delivering food. Income in the food delivery industry mostly comes from the number of orders fulfilled. Since there is no limitation on what time workers can take orders, they can be laboring 24 h a day. As long as the worker is willing to, they can earn a decent income by working more. Most delivery workers are young men between 20 and 40 years old, with an average age of 30 years old (Zheng et al. 2020). At this age, they face pressure to build or support a family. Some of them also have mortgages to pay. A relatively high-income job means a lot to them.

Moreover, salary withholds are rare in the food delivery industry. As soon as an order is delivered, the worker receives payment. These advantages fulfill the needs of this group. The two advantages point to freedom in two core labor rights. The first is freedom in working time during the labor process. The second is financial freedom to complete labor force reproduction, earning a decent income while enjoying relative working time flexibility. With relatively flexible working time and high income, the food delivery industry fits their individualist lifestyle and becomes their preferred job choice.

New forms of time control under the guise of freedom

In machine production, scientific management controlled the labor process through control over time and action. Workers were constrained on assembly lines based on the division of labor and specialization. In the platform economy, work is not constrained in the traditional physical space, and workers escape the narrow space of operation and constant supervision by foremen. Just as platforms advertise in their hiring announcements, “freedom” in working time is the most obvious characteristic that distinguishes

³ Data come from Ele.me. 2019. *2018 Report on Delivery Workers*, extracted from Sohu (https://www.sohu.com/a/285591384_170557) and Meituan. 2019. *2018 Report on the Employment of Delivery Workers*, extracted from Sohu (https://www.sohu.com/a/299679204_99900352).

the food delivery industry from traditional industries. It is also the primary reason why delivery workers choose this job.

However, this does not mean that workers enjoy real freedom in work. Instead, it is but a new strategy of time control that the platform adopts under the framework of “responsibility autonomy.” With the aid of new technology, the labor of delivery workers is subjected to a stricter and more detailed supervision system. The “new” in “new forms of time control” is reflected not only in advanced control technology but also in the fact that capital—the platform—manufactures an illusion of “freedom” through working mechanisms such as adding supervision entities and internalizing the sense of time, thereby exacerbating the subjection of laborers to the platform.

Electronic panoptic control and adjustment of the labor process

Digital technology is the critical condition for the emergence of the platform business model (Rahman and Thelen 2019). In contrast to Foucault’s panoptic supervision (Foucault 1977: 90–112), supervision in the food delivery industry is a typical “electronic panoptic control,” in which data and algorithms construct the rules of behavior and interactions for participants. A new mode of management has been born through the online virtual platform. This mode of management reconstructed the form of supervision, subjecting delivery workers who have left the traditional factory space to a stricter and more detailed supervision system.

Delivery workers are connected to the platform’s back end through the app. As soon as the worker gets online, the back end completely controls their working status. The back end uses time as the unit and the threshold to accurately record the worker’s labor process in detail. Having instantaneous information on the worker’s delivery process, the station manager and the dispatcher monitor each order’s status and each worker’s labor status. Dispatchers can react immediately and adjust workers’ labor process should chaos or problematic orders occur.

For the platform, technology helps to transition the work process of the food delivery industry from non-standardized to standardized. However, information and power asymmetry born out of virtual platforms become the basis on which capital structurally controls workers (Chen 2018). With the help of digital technology and the Internet, the huge digital gap between capital and labor exacerbates the inequality between the two parties. Compared to manual supervision in factory production, electronic panoptic supervision immediately collects delivery workers’ labor time, amount, and content. Moreover, under the pressure of KPI evaluation, station managers and dispatchers instantaneously adjust workers’ labor processes to avoid delays and bad reviews. Therefore, they maintain control power over the labor process.

Compared to traditional factory labor, even though the working space of delivery workers has escaped the limitation of fixed physical places, the platform replaces space with time using technological measures. The importance of space to capital is greatly reduced vis-à-vis time. Supervision is conducted without reliance on physical space. Delivery workers have escaped the supervision of foremen but not from that of capital. This kind of technological supervision is instantaneous, and it can also be adjusted at the capital’s will.

The expansion of supervising bodies

Instantaneous data supervision and recording make possible the participation of consumers in supervision. Unlike traditional factory labor, the service industry, especially food delivery platforms that promote a “customer first” principle, cannot help but anticipate and strive to fulfill customer needs to provide a better consumer experience. In addition to delivering orders as quickly and punctually as possible, platforms turn order delivery into an expected service by making the labor process of delivery workers transparent, thus effectively increasing customers’ sense of control over their orders. The platform willingly shares order status with customers through the app to put them in touch with delivery workers’ movements, and it undoubtedly adds to delivery workers’ work pressure. At any point, any delay could invite rushing, bad reviews, or complaints from impatient customers. As we can see, with the help of new technology, the range of labor control has expanded with supervising bodies. Platforms claiming to provide customers with a better experience involve customers fighting for control over delivery workers’ labor process. Workers, then, are rushed to deliver orders as fast as possible.

For delivery workers, manual supervision from customers is more important than data supervision from the platform. As customers have the power to review the quality of delivery workers’ service, one bad review can result in losses for workers. In the industrial era, laborers work in the same time–space and experience social events together. The simultaneous presence of labor and capital makes conflicts real and apparent. On the contrary, in the food delivery industry, common labor space has disappeared, hiding the labor–capital contradiction, while the participation of consumers elicits conflicts between the server and the served, further masking actual labor–capital contradiction. For consumers, the delivery platform is a hidden employer. It is delivery workers from whom customers think they are receiving service. The platform hides behind delivery workers and plays the role of peacemaker when customers and delivery workers clash. Therefore, the platform becomes the one safeguarding customers’ rights and satisfying customers’ preferences. Not only is the conflict between the platform and customers weakened, but customers also unknowingly become allied with the platform, making delivery workers the absolute weakest party of the three.

A deeper look into the platform’s oppression of delivery workers reveals that the platform even cheats them to appease customers. The author once ordered food delivery on Platform A and observed interesting details. The app provides an “estimated time of arrival (ETA),” calculated based on distance and other factors. However, this ETA is more than what it seems—it is a “trap” that the platform has designed into the delivery workers’ labor process.

“When you order, the ETA it [platform] gives you is different than what we see on our app. If your end shows 30 minutes, our end shows 36. The platform wants the customer to think they can get their food as soon as possible. However, the 6-minutes⁴ difference often makes the customer think we are late and give us a bad review. Sometimes, if the customer is bad-tempered, they would even put in a complaint. Therefore, the only solution is to run faster to meet what is shown on the customer’s end (DKZ-20180315).”

⁴ Depending on orders, the system algorithm may adjust this time difference. It could be more or less than six minutes.

Most customers certainly want the estimated delivery time to be as short as possible. How long it will take to come directly affects their decision to place the order. If the estimated delivery time is too long, the customer may choose other dining options. Therefore, all food delivery platforms strive hard to reduce delivery time. Platform A introduced the “on-time” program in April 2016, in which the platform would give customers vouchers if the delivery time exceeded what was promised. The value of the voucher would partly reflect the punishment of the stations’ KPI evaluation. Station managers then have to cooperate with the platform and rush their delivery workers to be punctual to ensure good KPI. The platform makes unrealistic promises to customers about the delivery time, while delivery workers are the ones who fulfill those promises. Under great time pressure, the meaning of the quality of labor time is further extended.

“Time competition” and internalized sense of urgency

In traditional factory production, the emphasis on speed and punctuality is often exogenous—supervision from foremen or limitation from regulations. However, in the food delivery industry, platforms mold delivery workers through the “order grab” mechanism, implanting the value of speed and punctuality into individual delivery workers’ minds, manufacturing their consent, and making them self-train into “speedy riders.”

The lack of human consideration often leads the computer system to assign orders to delivery workers who find it difficult to deliver on time. When that happens, the worker can return this order to the system through their app and let other workers “grab” this order. A competition over time thus begins. In the short period between the new order opening up and someone grabbing it, delivery workers occupy different physical spaces but compete in the same virtual space, resulting in a silent but intense fight. Grabbing a good order is like a huge victory in finance. Therefore, delivery workers often pay attention to their app even when commuting, risking traffic accidents.

Why are delivery workers willing to take risks and participate in this competition? First, the number of orders delivered directly influences the delivery worker’s income under the piecemeal wage system. The worker who delivers the most orders receives a reward from the station—as such, grabbing as many orders as possible is a rational consideration after balancing risk and income. Second, order grabbing is also a rational action under the influence of group sentiment, and it tests delivery workers’ sense of control over time. Like the popular slogan “Speed is what we compete with” shows, delivering the most orders effectively tests individual ability and can attract respect and envy from peers. Order grabbing induces competitiveness in delivery workers, pushing them to increase their labor intensity willingly. The group’s operative efficiency is greatly increased by this kind of competition and the sentiment it fosters, and the labor process is accelerated.

Although the food delivery industry relies on new technology that transforms both labor space and time patterns, at its core, it is still a labor-intensive industry relying on a large labor force. Take the order, get the food from the restaurant, deliver the order, and tap “delivered” in the app. This labor process has little difference from the tedious assembly line work in the factory. On the other hand, order grabbing adds a “game” component to the boring labor. The game of making out what Burawoy describes in

Manufactured Consent is reflected here, too. To a certain extent, the gaming component counters the hardship of high labor intensity, makes delivery workers overlook the risk in the labor process, and fosters a collective unconscious. In a highly competitive working environment, workers turn into efficient food delivery machines that focus on grabbing and delivering orders.

In the entire food delivery industry, the sense of time is a significant factor. Punctual and fast delivery is the golden standard. Platforms and their leaderships know very well that winning in delivery time equals winning customers' hearts. Thus, they use various methods to push workers to accelerate delivery. For instance, late deliveries are punished by withholding a certain amount from wages. Even though punishment is an effective method, the internalization of the sense of time makes delivery workers willingly accelerate their speed, creating another assurance of punctual delivery. In the order grabbing mechanism, it appears that the platform has done nothing and just watched workers compete among themselves. The cunning platform tempts workers to participate in the competition, creating a sense of urgency and fostering a positive, exciting work sentiment. It further ensures the punctuality of order delivery. When delivery workers internalize "punctuality" and "speed," capital enjoys more implicit control over workers' labor time.

All-day work: blurred work-life boundary

Time domination is the result of the careful operation of capitalist logic. A typical characteristic of the platform economy is workers' autonomy over working time. Compared to the traditional factory, labor time in the platform economy is more flexible. Station E adopts such an arrangement as well. To cope with customer demand throughout the day, Station E sets up fixed working time (rush hours) and flexible working time (non-rush hours). During the flexible period, delivery workers can take a break or keep working to earn more income. Like other industries with flexible working time, this setup blurs the boundary between work and life. The flexible time structure obscures working time and leisure time, which are supposed to be dichotomous. As the work-life boundary becomes increasingly blurry, the separation of work and life becomes increasingly unobvious. Outside of fixed working time could either be leisure time or working time. Under the seemingly liberal model of flexible time, "all-day work" is born that transcends the boundary between work and life. The platform claims to have provided more working opportunities to delivery workers while invading their time outside of work.

Hou (2010) asks "When the worker is waiting for a job assignment, should this time be counted as working time?" Generally, there is no need to discuss this issue under the flexible time system, under which work is task-oriented, and capital assigns clear tasks and conditions for implementing them. In the food delivery industry, despite high flexibility in delivery workers' working time, the unique nature of this industry forces workers to wait for orders during non-rush hours. During non-rush hours, delivery workers face considerable task uncertainty and time costs as they wait for orders. Rinderspacher asserts that a flexible time structure subjects us into a "three-kind time society" consisting of working, leisure, and managing time. Better time management helps us reduce working time and extend leisure time (cited in Zheng 2018: 55–56). As seen in the food delivery industry, the fourth dimension of time has been differentiated—waiting for

work. It, plus the piecemeal wage system, constrains delivery workers in the order-waiting process during their flexible working time.

Undoubtedly, platforms set up an order-waiting mechanism to successfully transfer the labor cost risk to delivery workers. The unique nature of the food delivery industry means that numerous workers are needed in rush hours, while much fewer are needed during non-rush time. By combining a fixed and flexible working time system, Station E manages to ensure enough operation capacity during rush hours and, at the same time, avoids wasting labor costs during non-rush hours. Delivery workers, however, become all-day workers as the capital endlessly stretches their working time.

Controlled freedom and limited action

Under such a new form of work, workers seemingly acquired freedom in arranging their own working time and more leisure time for personal development. However, such “freedom” is controlled, and flexibility is nothing more than an illusion.

Helpless to time control

Labor in the food delivery industry can be randomly distributed throughout the day. Delivery workers choose “whether to work” and “when to work.” Flexibility in choice gives workers an experience of freedom, which is very attractive to delivery workers who seek freedom under the influence of individualism. Numerous young workers “run away” from their previous job to join the team of delivery workers. When asked “why did you become a delivery worker” in the interview, many answered “freedom.” For a group of people actively seeking to “live for yourself,” it is extremely important to “freely” choose their working time and not be subjected to a fixed time arrangement in the factory. It is the only way to show their personality and to feel that they are working for themselves and not others.

However, that seemingly liberating labor choice, in turn, strengthens the confinement of delivery workers as platforms control the conditions of labor time. In the consumption economy, satisfying and stimulating consumption is the key for capital to increase value. Capitalist profit logics highlight the dominant role of consumption in society. To satisfy customers, platforms set up strict requirements regarding punctuality and speed, forcing delivery workers to choose between safety and late delivery. At the same time, the piecemeal wage system forces delivery workers to willingly extend their working time and accept an all-day work arrangement, sometimes even working day and night. Freedom in labor time turns into a tool by which workers pile pressure on themselves. Hardship from long working time and working day and night, plus fear of late delivery, mask the advantage of “freedom.” Once worker enters this job, they are immediately enveloped in an intense sense of time. With no exaggeration, several delivery workers told the author that they had nightmares about being late with a delivery. Under such a strict punctuality rule, it is common for workers to break traffic rules.

“For us, it is so normal to run a red light or go in the opposite direction. The order in my hands is about to be late, or the impatient customer has called you. If you don’t run faster, you will get a bad review. We get fined for lateness and bad reviews. Then, with this order, I lose money. With all of this, how can I wait for the red light? (JN-20180317)”

Facing a powerful platform, delivery workers have no bargaining power. Compared to traditional factory labor, the atomization of labor in the platform economy greatly reduces its organizing capacity. The fact that food delivery is unskilled work further weakens their bargaining power against management (Cai and Shi 2016; Wu and Li 2018; Yang and Wang 2018). Delivery workers know well that a seller's market is impossible in their industry, and they have very little bargaining room. At the same time, atomized labor makes delivery workers even more lonely in an individualized society. It is difficult for individuals scattered across different spaces to form a unified group. When facing platform regulations and supervision from the station manager and customers, the only way for a powerless worker to prove their value is to deliver as many orders as fast as possible. Delivery workers' lives spin out of control under such a fetish speed. Life pressure means they have to cooperate with the platform's time control, willingly extend labor time, and increase labor intensity. It is similar to Gramscian "consent" (Burawoy 2012). Even if delivery workers recognize the platform's control, they have to obey its time arrangement because there is no better alternative.

Emotional labor in practice

To avoid late delivery punishment, delivery workers actively adopt a practical, emotional labor strategy to understand consumers and managers. "Emotional labor" is a form of exchangeable value in the non-material production sector. Capital utilizes a series of rules and technologies for emotional management, achieving the commercialization of personal emotion in the service industry (Hochschild 2012: 89–136). In the food delivery sector, platforms and managers do not fully control emotions. Delivery workers' subjective emotional labor is also used to fight against capital and labor time control.

First, delivery workers ally with customers to weaken the control of the platform. Even though customers participate in platform monitoring, delivery workers can use practical, emotional labor to avoid monitoring, buy time for delivery, and accomplish self-empowerment by effectively influencing customers. Even experienced delivery workers cannot guarantee every order to be delivered on time because they could always encounter surprise circumstances, such as being stopped by traffic police for running a red light, having a flat tire, and short delivery time due to slow cooking by the restaurant. In the delivery process, delivery workers can interact online or offline with a polite and sincere attitude, establishing connections and shortening the distance between them and customers to reduce the time pressure of "delivery on time" induced by platforms.

"Once I find that an order cannot be delivered on time, I can call the customer and explain the situation. During the call, I will have a good attitude and try to understand them as much as possible. Usually, they will understand. After all, they know that doing this job is not easy (CT-20171216)."

Second, workers partner with station managers to reduce the punishment. Unlike the traditional service industry, which consists of workers, capital, and consumers, the food delivery sector also involves an intermediary force—the merchant middlemen. Big station managers work as agents of merchant middlemen to arrange the traditional relations among workers, capital, and consumers, making relationships in the food delivery sector more nuanced and complicated. Although station managers, as agents

of merchant middlemen, are obligated to monitor and supervise delivery workers, they find that strict control and management are not the best ways to run the team effectively. Doing so might cause resentment or even mass resignations. Station managers must pay attention to the balance of authority and conciliation. Thus, informal actions within the range of formal management must be taken to increase management flexibility. Doing so will effectively establish station managers' authority within the team and build trust with delivery workers. Station managers might selectively ignore delivery workers' violations in platform monitoring, increase the subjectivity of the labor process, and appeal to platforms in the case of malicious complaints. Reciprocity is fundamental for station managers to join the partnership. Delivery workers need to obey the manager in daily work and actively establish good relationships with the manager by utilizing emotional labor.

Unstable labor relations caused by frequent staff turnover

The core of labor relations is the coordination of interests. The flexibility and elasticity of the food delivery sector can attract freedom-loving young workers; however, the sector has high mobility due to the high frequency of staff turnover. According to a survey, the average job tenure for delivery workers is only one year, and 24.7% of them quit at least once (Zheng et al. 2020). Delivery workers have low career identity because of high intensity, high labor risk, unstable employment conditions, limited promotion opportunities, and significantly low benefits and security in the delivery job (Zhao and Yang 2018). As precarious labor, delivery workers are at a particularly structural disadvantage. Without their professional organization or union, tolerating or leaving is the only way to fight against the platforms. In our interview with Mr. Peng, a station manager, we learned that platform A would assign extra delivery workers to delivery stations in W city to fill the vacancy caused by resignations after the Chinese New Year.

Frequent staff turnover reflects precarious labor relations in the food delivery sector. This precarity is manifested by both labor and capital accepting workers entering or leaving the sector at will. Unlike the formal employment relationship in industrial production, nearly half of delivery workers do not sign labor contracts (Zheng et al. 2020). From a Marxist perspective, platforms increase laborers' relative surplus value using advanced computer technology and reinforce their subordination to the platforms, structurally tearing down the labor–capital relationship (Zhou and Wu 2021; Zhou 2001). On the surface, delivery workers seem to join and choose their labor time voluntarily, but such a “voluntary” choice of increasing labor time and intensity is the choice under desperation caused by living and development pressure. Delivery workers are likely to quit once such pressure and desperation exceed their benefits, creating frequent staff turnover in the sector.

For capital, even though platforms hope to establish a stable labor force, by reducing labor time and labor intensity to support delivery workers' personal and family needs and a stable pace of life, doing so will force them to pay more to ensure delivery workers' basic rights and benefits, which contradicts the logic of profit maximization of capital. Meanwhile, the low bar of the entering and leaving functions as a “safety valve,” allowing workers to express their resentment by leaving, which to some extent reduces the possibility of labor–capital conflict. Moreover, the insufficiency of relevant laws and social

security creates an external environment for platforms to dodge their responsibility, intensifying staff turnover in the sector.

Conclusion and discussion

There is a long-lasting debate over labor time between labor and capital, and the focus of the debate has changed. During the age of *laissez-faire* capitalism in which Marx lived, it was about the amount of labor time. In the age of monopoly capitalism in which Braverman lived, it was about the loss and desperation of craftsmen who were hurt by technology. Under Taylorism, it was about the increasing labor intensity and labor time forced upon workers. From Burawoy's perspective, it was about subjective consent from workers. Across space and time, we have lived past Marx's age of *laissez-faire* capitalism and Braverman and Burawoy's ages of monopoly capitalism, and the emerging platform-based economy has become a lens for investigating the politics of labor time. It makes us think about the structural changes in labor time in contemporary society and how those changes shape the politics of labor time.

In labor time control, workers' focuses shift from the amount of labor time and quality of labor time to the autonomy of labor time, and they hope to control their labor time, free from compulsive restrictions autonomously. For Marx, free time means "discretionary spare time," which is "time for sufficient self-development" (The Compilation Translation Bureau 1980: 221–226). According to Marx's definition, delivery workers' free labor time is far from free time, and it is the autonomy of choice. From this perspective, whether or not one has the liberty of labor time depends on whether the subject possesses the dominant position. Delivery workers in this relationship cannot control their labor time.

Ostensibly, delivery workers are free; however, they are helpless and forced to make choices under the platforms' time arrangement. Even though flexible labor time is attractive, labor time also brings one-sided or even fake autonomy, which is the opposite of real liberty. Delivery workers thought they escaped the physical space of factories and the option of labor time, but given platform monitoring technologies, delivery workers are still under severe labor monitoring. Consumers' participation further erodes the quality of time, increasing work insensitivity and time pressure. The medal won by risking and speeding is merely a game manipulated by capital.

Using sporadic orders, platforms lure delivery workers into prolonged working time and voluntary acceptance of full-time labor, transferring the labor cost by adopting flexible time designs. Delivery workers freely choose autonomous working time; however, they immediately feel strong time pressure under severe monitoring and industry's pursuit of punctuality. Delivery workers' labor choice only appears to be self-determining, but they have no alternative. The result is that they have to comply with technically hard working conditions during the autonomous time, and delivery workers' "freedom of choice" cleverly covers profits.

Delivery workers' subjective demands express their good intention to obtain labor liberty by controlling labor time. It indicates that delivery workers express subjectivity in a society that values freedom, individuality, and a self-fulfilling "life politics" (Giddens 2016: 80–98) by reflectively arranging work and lifetime. However, given the existing labor environment in China, labor time is not controlled by workers and becomes

an important source of obtaining and covering profits. We need to discuss further the potential options for labor coordination in the new labor model empowered by the platform economy.

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SL contributed to writing and methodology. LJ was involved in funding. All authors read and approved the final manuscript.

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The authors declare they have no competing interests.

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References

- Atkinson, C., and L. Hall. 2011. Flexible Working and Happiness in the NHS. *Employee Relations* 33(2): 88–105.
- Beck, U., and E. Beck-Gernsheim. 2011. *Individualization: Institutionalized Individualism and its Social and Political Consequence* (trans: Li, Rongshan, Fan, Yuan, and Zhang, Yiqiang). Beijing: Peking University Press.
- Bell, D. 2018. *The Coming of Postindustrial Society* (trans: Gao, Xian, Wang, Hongzhou, and Wei, Zhangling). Nanchang: Jiangxi People's Press.
- Braverman, H. 1979. *Labor and Monopoly Capital: The Degradation of Work in the Twentieth Century* (trans: Fang, Sheng et al.). Beijing: The Commercial Press.
- Brody, D. 1989. Time and Work During Early American Industrialism. *Labor History* 30(1): 5–46.
- Burawoy, M. 1985. *The Politics of Production*. London: Verso.
- Burawoy, M. 2008. *Manufacturing Consent: Changes in the Labor Process Under Monopoly Capitalism* (trans: Li, Rongrong). Beijing: The Commercial Press.
- Burawoy, M. 2012. Roots of Domination: Beyond Bourdieu and Gramsci. *Sociology* 46(2): 187–206.
- Cai, He., and Yuting Shi. 2016. The Deskilling of Labor Process, Spatial Production Politics and Overtime Working. *Journal of Northwest University (philosophy and Social Science Edition)* 1: 14–22.
- Chen, J.Y. 2018. Thrown Under the Bus and Outrunning It! The Logic of Didi and Taxi Drivers' Labour and Activism in the on-Demand Economy. *New Media & Society* 20(8): 2691–2711.
- Foucault, M. 1977. *Discipline and Punish: The Birth of the Prison*. Harmondsworth: Penguin.
- Flanagan, F. 2019. Theorising the Gig Economy and Home-Based Service Work. *Journal of Industrial Relations* 61(1): 57–78.
- Giddens, A. 2016. *Modernity and Self-Identity: Self and Society in the Late Modern Age* (trans: Zhao, Xudong and Fang, Wen). Beijing: China Renmin University Press.
- Glennie, P., and N. Thrift. 1996. Reworking E. P. Thompson's "Time, Work-Discipline and Industrial Capitalism." *Time and Society* 5(3): 275–299.
- He, Mingjie. 2009. Labor Process and the Differentiation of Sisterhood: A Case Study on Female Migrants in China. *Sociological Studie* 2: 149–175.
- Hochschild, A.R. 2012. *The Managed Heart: Commercialization of Human Feeling*. Berkeley: University of California Press.
- Hou, Yuehong. 2010. The Development and Inspiration of Determining Working Time and Stand-By Time in Japan. *Taipei University Law Review* 75: 175–204.
- Li, Xiaojing, and Aiyu Liu. 2017. Capital Control and Self Determination: An Empirical Study on Domestic Female Flight Attendants. *Women Studies Review* 5: 24–35.
- Liang, Meng. 2016. The Labour Process Study from the Technology Transition Perspective: A Case Study of the Internet Virtual Team. *Sociological Studies* 2: 83–100.
- Marx, K. 2004. *Capital* (trans: The Central Compilation and Translation Bureau). Beijing: People's Press.
- Morioka, Kōji. 2019. *The Age of Overwork* (trans: Mi, Yanjun). Beijing: Nova Publishing House.
- Rahman, K.S., and K. Thelen. 2019. The Rise of the Platform Business Model and the Transformation of Twenty-First-Century Capitalism. *Politics & Society* 47(2): 177–204.
- Rosenblat, A., and L. Stark. 2016. Algorithmic Labor and Information Asymmetries: A Case Study of Uber's Drivers. *International Journal of Communication* 10: 27.
- Russell, H., P.J. O'Connell, and F. McGinnity. 2009. The Impact of Flexible Working Arrangements on Work–Life Conflict and Work Pressure in Ireland. *Gender, Work & Organization* 16(1): 73–97.

- Steward, B. 2000. Changing Times: The Meaning, Measurement and Use of Time in Teleworking. *Time & Society* 9(1): 57–74.
- Su, Yihui. 2011. Labor Control and Resistance: The Dynamics between Employers and Home Workers in the Labor Process of Domestic Work. *Chinese Journal of Sociology* 31: 178–202.
- Sun, Ping. 2019. Digital Labor Within the Logic of Algorithms: A Study of Food Delivery Workers in Platform Economy. *Thinking* 6: 50–57.
- The Compilation Translation Bureau. 1980. *Marx and Engels Collected Works*, vol. 46. Beijing: People's Press.
- Thompson, E.P. 1976. Time, Work-Discipline, and Industrial Capitalism. *Past & Present* 38: 56–97.
- Wood, A.J., M. Graham, V. Lehdonvirta, and I. Hjorth. 2018. Good Gig, Bad Gig: Autonomy and Algorithmic Control in the Global Gig Economy. *Work, Employment and Society* 33(1): 56–75.
- Wu, Qingjun, and Zhen Li. 2018. Labor Process Control and Job Autonomy in Sharing Economy: A Case Study of Online Car-hailing Drivers' Work. *Sociological Studies* 4: 137–162.
- Yang, Weiguo, and Qi. Wang. 2018. Patterns and Determinants of Labor Supply of Digital Platform Workers: An Analysis based on U Car-hailing Platform Drivers. *Population Research* 4: 78–89.
- Zhao, Xiuli, and Zhi Yang. 2018. The New Form of Labor-Capital Relations: The Formation and Development of Elastic Labor-Capital Relational Network. *Economist* 11: 55–61.
- Zheng, Zuoyu. 2018. *Social Time: Genesis, Changes and Problems*. Beijing: Social Sciences Academic Press.
- Zheng, Guanghuai, Jie Liu, Changyu Fan, Zhitian Guo, Haitao Wei, Ou Wang, Xiaopan Xu, Shenglan Li, Miao Zhu, Haijuan Liu, Xinyi Zhang, and Pingnan Xing. 2020. Platform Workers and Download Labor: Characteristics and Labor Process of Fast Food Delivery Worker Community in Wuhan. China Jikan Net: www.jikan.com.cn/infodetail/article/300000002. Access 30 Mar.
- Zhou, Xinjun. 2001. Marxist Labor-Capital Relations Theory and Contemporary Society. *Economic Review* 5: 22–27.
- Zhou, Shaodong, and Tiansen Wu. 2021. Individual Freedom and Collective Imprison: A Study on Labor-Capital Relationship of Online Ride-hailing Platforms. *Journal of Hebei University of Economics and Business* 2: 43–54.

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