



Platform Economy in China and Germany

Labour Law Policy Recommendations for Decent Work

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Introduction

The platform economy began to emerge in Europe in the early 2000s. Driven by rapidly-developing technological innovations, such as the internet and the widespread use of mobile devices and online applications, it has evolved dynamically, taking new forms, creating business models that go beyond previous categories while influencing the organisation of work and working conditions.

The rapid development of the platform economy has led to a speedy evolution of platform employment. In 2018, according to surveys, it was estimated that in 16 EU Member States, about 11% of workers engaged on digital platforms (percentage of the adult population).¹ An investigation conducted in 2017 in Germany showed that for the vast majority of platform workers, internet platforms are only one among several options to obtain paid work assignments.² Although the number of people working in the platform economy is not as high as in China, there is a clear upward trend. It is expected that people working on digital labour platforms in the EU will increase to 43 million platform workers by 2025.³

The platform economy has been developing faster in China than in EU countries. According to the China Sharing Economy Development Report (2020), about 78 million workers rely on internet platforms for employment.⁴ In 2021, the annual growth rate of market transactions was about 9.2%, significantly higher than in the previous year.⁵ Information from the China National Bureau of Statistics reports that by the end of 2021, flexible employment⁶ in China had reached about 200 million people (29.3% of the working population) and that 61.14% of enterprises use workers in forms of flexible employment.⁷

With the fast growth of the platform economy, platform employment has brought new challenges to the traditional labour law system. Many platform companies deny the existence of labour relationships with platform workers. Platform workers are mostly excluded from the application of labour laws, which are based on clearly defined labour relationships and provide protection for employees in many aspects, such as statutory working hours, minimum working standards, industrial injury insurance, etc.

From the perspective of labour protection, Chinese platform workers have long working hours, are exposed to serious hazards, lack organisation, and thus are in need of labour law protection. According to one survey, 65.3% of respondents worked 8-14 hours a day, and 10.8% worked more than 12 hours.⁸ Long working hours greatly increase the risk of danger at work. In the first half of 2017, in the city of Nanjing, there were 3,242 traffic accidents involving e-bikes being used for food delivery, resulting in three deaths and 2,473 injuries, of which food delivery riders were responsible for 94% of the accidents.⁹ Most platform workers are not union members, which increases their vulnerability.

In Europe and Germany, platform work is recognised in judicial practice as a labour relationship by some courts, providing workers with the protection of labour law and social insurance law.¹⁰ These judgments have been effective in curbing the denial of labour relationships by platforms, but new problems cannot be completely addressed by case-law alone in Europe and Germany. In China, the need for platform employment protection is more pressing. While the inadequacy of the existing

-
1. World Employment and Social Outlook 2021: The role of digital labour platforms in transforming the world of work International Labour Office – Geneva: ILO, 2021. p. 49.
 2. The Incidence of Platform Work in Germany, Analysis of a survey commissioned by the Federal Ministry of Labour and Social Affairs
 3. Cf. COM(2021) 762 final, 1.
 4. Sharing Economy Research Center of State Information Center: Report on the Development of China's Sharing Economy (2020), p. 8.
 5. Sharing Economy Research Center of State Information Center: Report on the Development of China's Sharing Economy (2022), p. 2.
 6. Flexible employment is a general term for one or more aspects of labour time, payment of income, workplace, social insurance, and labor relations that differ from the traditional dominant forms of employment based on the modern factory system. See Institute of Labor Science of Ministry of Human Resources and Social Security of China: A Research Report on Flexible Employment in China (2002).
 7. <http://www.chinairn.com/hyzz/20220210/085244936.shtml>.
 8. CHEN ET AL., The disembodied digital economy: Social protection for new economy employment in China, Social Policy Administration, 2020; 1-15, wileyonlinelibrary.com/journal/spol.
 9. Geng Zhichao: "There were 3,242 takeaway and food delivery traffic accidents in Nanjing in half a year, and "Meituan" accounted for nearly 50%", <http://js.people.com.cn/n2/2017/0906/c360303-30702395.html>.

system is becoming more and more obvious and a new system has not yet been formed, some employment practices of platform enterprises exist in “gray areas”, resulting in insufficient protection of workers’ rights and interests in many cases.¹¹

China and Germany are developing new policies

During the early stages of the development of the platform economy, the Chinese government actively encouraged the growth of platform employment. In 2015, The State Council issued “The Guiding Opinions on Promoting the ‘Internet Plus’ Action” (Guo Fa [2015] No.40), which proposes to “create a new form of economic and social development with the internet as its infrastructure and innovative element.” This encouragement stems from the huge employment pressure in China. The number of people joining the workforce every year in China is huge. It is estimated that in 2022 alone, the number of newly employed people reached 13 million,¹² which explains why the Chinese government has always emphasized that employment is the first livelihood of the people.

Platform employment also has certain new features. The skill requirements for employment is often low; the working hours are flexible; the workers supply their own tools; the customers pay the workers directly; the platforms provide order information and charge service fees on a per-order basis. All these are quite different from traditional employment models.

Amid the rapid development, competition among the platform companies is becoming ever more fierce. Platforms try to achieve competitive advantages by negating labour relations, reducing labour costs and extracting labour efficiency. The Chinese government is becoming aware of the problems associated with the rapid development of the platform economy and

therefore emphasises the need to reach a balance between economic growth and worker protection. In 2020, the National Development and Reform Commission and other 13 departments issued “The Opinions on Supporting the Healthy Development of New Business Forms and Models, Activating the Consumer Market and Promoting Employment Expansion”, stressing that suitable protections should be provided to workers as the platform economy develops.¹³

The Chinese government is focusing on the issue of injuries suffered by platform workers while working, and is currently conducting pilot projects in seven provinces and cities on occupational injury insurance for flexibly employed workers on platforms in an attempt to integrate it into the existing industrial injury insurance system. Except for work-related injuries, there are no policies in place for labour and social protection.

Germany has formulated some policies on the protection of platform employees, and there are judicial guiding cases. In November 2020, the German Federal Ministry of Labour and Social Affairs issued a list of key points on fair work in the platform economy, and proposed cracking down on false self-employment and reversing the burden of proof.¹⁴ On December 1, 2020, the Federal Labour Court (BAG) issued a decision, according to which crowdsourcing workers can also be categorized as employees with labour relationships under certain conditions.¹⁵

Platform work is essentially work that improves the operation of society as a whole. The workers provide services to all of society, instead of just their own families. Therefore, they should be included in essential labour and social insurance protection schemes. However, the new characteristics of platform employment require more in-depth study of its qualities and consequences, in order to be able to tailor measures to regulate it.

10. Overview by Hiebl, Christina, Case Law on the Classification of Platform Workers: Cross-European Comparative Analysis and Tentative Conclusions (September 5, 2022). Forthcoming, *Comparative Labour Law & Policy Journal*, Available at SSRN: <https://ssrn.com/abstract=3839603> or <http://dx.doi.org/10.2139/ssrn.3839603>.

11. China Sharing Economy Development Report (2022), p. 11.

12. “The 2022 Economic Blue Book” was released, and the number of new urban jobs is expected to exceed 13 million in 2022. <https://news.cctv.com/2021/12/07/ARTIzEvtW9HVGmXDhagzaPk211207.shtml>

13. National Development and Reform Commission and other thirteen ministries and commissions: “Opinions on Supporting the Healthy Development of New Business Forms and New Models and Activating the Consumer Market to Drive Employment Expansion” [2020] No. 1157.

14. https://www.denkfabrik-bmas.de/fileadmin/Downloads/eckpunkte-faire-plattformarbeit_1_.pdf

15. <https://www.bundesarbeitsgericht.de/wp-content/uploads/2021/07/9-AZR-102-20.pdf>

Technological advancement requires changes in regulation

The existing labour and social security regulation models were established in the context of the industrial revolution, with factory labour as the standard case. However, technological progress has, to a large degree, altered the traditional labour model. This can be easily illustrated by the phenomenon that the number of employees in the service sector has surpassed the number employed in industrial manufacturing. The platform economy and platform employment are new revolutions in the service sector, driven by the technological progress of recent years.

In labour law, the core criterion in identifying labour relationships is the characteristic of subordination, which means that in the process of work the worker is under the control of the employer. The worker must follow workplace rules and the employer's orders. In platform employment, the instructions received by the workers are issued by the platform system that is based on algorithmic technology that aims at maximum efficiency. The opaqueness of algorithms makes it difficult for government agencies to regulate them and even harder for workers to challenge them. Therefore, to strengthen the regulation of platform employment, we need to primarily focus on the regulation of algorithms.

Workers are generally the weaker party in the relationship with employers. The only way for workers to obtain better labour conditions and wages is to organise unions and engage in collective bargaining. In traditional companies, workers engage in collective and collaborative work, share common interests, and therefore can easily organise unions. But in platform employment, every worker works alone, having no chance to communicate with others. In addition, platform workers must compete with one another, otherwise they lose the chance to obtain jobs. Such characteristics make it more difficult for platform workers to form unions to represent their collective interests.

Rating mechanisms are an effective means commonly adopted by platform companies to control the quality of work performance. Traditional companies have internal management systems to monitor and evaluate the work performance of workers. In contrast, it is the consumers who evaluate the workers' service in the platform economy. The records and service ratings workers

have achieved constitute their digital reputation on the platform. A good reputation results in more orders and higher income, while a poor reputation will lead to a decrease in orders, or even result in job loss. However, reputations on each platform are non-transferable and incompatible. Even though a good reputation benefits workers, it also restricts their ability to move to other platforms.

Why we are writing this paper

From the history of labour law and social insurance law, it is well known that labour law came into being because labourers were excessively exploited and needed legal protection. Social insurance laws came into being because the risks arising from industrial employment required socialised legal solutions. Therefore, when discussing how to protect platform workers under the platform economy, the basic concepts of avoiding excessive exploitation and providing social protection to workers who provide labour to society are of key importance. Thus, this paper is based on the following three notions:

Labour relation harmony

Labour relations are a fundamental aspect of the relations of production and one of the most basic and important social relations. On March 21, 2015, the Central Committee of the Communist Party and the State Council of China issued The Opinions on Building Harmonious Labour Relations, which points out that whether labour relations are harmonious or not is related to the vital interests of the majority of employees and enterprises, as well as economic development and social harmony; party committees and governments at all levels are required to deeply understand the great significance of building harmonious labour relations, earnestly enhance their sense of responsibility and mission, regard the construction of harmonious labour relations as an urgent task, place great importance upon them, and take effective measures to comprehend them well.

The goals and tasks proposed in The Opinions on Building Harmonious Labour Relations include strengthening laws, systems, mechanisms and capacity-building for changing labour relations, creating more standardised labour employment, continuous improvement of labour conditions, effective protection of employee health

and safety, comprehensive social insurance coverage, effective prevention and resolution of labour disputes, and the establishment of standardised, orderly, just and reasonable, mutually beneficial, harmonious and stable labour relations. To achieve these goals, reasonable norms for platform employment should be established as soon as possible.

Decent work

In 1999, the International Labour Organization defined the concept of “decent work” in order to reflect workers’ universal labour rights and interests.¹⁶ The concept of decent work is based on a consensus that “work” is fundamental for achieving personal dignity and family stability, promoting community safety and a democracy of the people, and driving economic growth that provides more productive jobs and business development. “Decent” emphasises that work is not just about finding a job, but also about being able to earn a fair income, ensuring workplace safety and obtaining social protection for one’s family. It is clear that where there is a lack of decent work, there will be poverty, inequality, social tension or conflict.

Chinese government representatives have stated many times at the International Labour Conference that achieving decent work is the universal aspiration of workers all over the world, and China will work tirelessly for all workers to have decent jobs.¹⁷ In reality, some platform employees work long hours all year round and do not have any social insurance at all. Therefore, in order to achieve the goal of decent work, we must pay attention to and address the basic rights and interests of platform workers.

Balance among industries

According to China’s current laws and regulations, employers, no matter what industry they operate in, must abide by labour laws and regulations in the process of employing workers, and are responsible for providing social insurance coverage for workers. However, many platforms have evaded the responsibilities stipulated by labour and social insurance laws through various

ways. Such practices have created unfair competition advantages for platforms relative to traditional industries.

Labour cost differences between employers in various industries undermines fair market competition, infringes on the legal rights of workers, and creates a substantial social security risk.¹⁸ Currently, the platform economy is thriving but, at the price of unequal application of laws, which is unsustainable in the long term.

16. <https://www.ilo.org/global/topics/decent-work/lang--en/index.htm>

17. Han Fangming: Creating decent work is a dream of the Chinese workers <https://opinion.huanqiu.com/article/>.

18. Fan Wei, The Dilemma of Rights Protection of Internet Platform Practitioners and Its Analysis of Judicial Adjudication, *Journal of Chinese Resources Development*, No. 12, 2019.

1. The Platform Economy and the Social Problems That Come With It

1.1. Algorithms and Related Problems

1.1.1. Challenges to Labour Law Protection by Algorithmic Technology

Algorithms are mechanisms of interactive decision-making between humans and machines, i.e. a set of mechanisms for humans to make decisions through code setting, data computing and automated machine judgment.¹⁹ As a new economic model based on digital technology, platform enterprises commonly use algorithmic technology to continuously optimise enterprise employment management, which poses challenges to labour law protection.

(i) Discrimination Issues

Algorithmic technology may cause discrimination and inequality in the labour market due to automated decision-making.²⁰ Here, there are two main aspects to consider:

First, the bias of algorithm design, that is, the selection of parameters and the setting of weights in the design and development stages of algorithms are in the hands of algorithm designers, whose intentional or unintentional bias may be reflected in the design of algorithms.²¹

Second, the bias of data samples. The algorithm makes assumptions by continuously analysing existing data. But in this process, the algorithm can neither ensure the comprehensiveness of the data samples nor can it identify discriminatory data samples, which may lead to discriminatory results for certain groups.²²

In practice, the discrimination generated by platform companies using algorithms can occur both at the recruitment stage and during job evaluation. On the one hand, platform companies collect a large amount

of workers' data, which is fed into the algorithm system and used as the informational basis for its operation. Sensitive information such as workers' gender, age, physical condition and criminal records are also collected and processed by the algorithm system.²³ The algorithm classifies and scores workers based on the above information according to the employment preference criteria defined by the platform companies, and automatically excludes candidates who do not meet their criteria. On the other hand, the use of seemingly neutral algorithmic rating by platform companies may also indirectly lead to discriminatory results.

For example, the UK company Deliveroo offers riders a flexible self-booking system that allows riders to log into the system at different times each Monday and book the hours and areas they wish to take orders. The later a rider logs into the system, the fewer work opportunities they receive. The times during which riders are able to log into the system are determined by the platform's algorithm. The algorithm considers as an important parameter "whether the rider did not perform the job as scheduled". However, a court found that this algorithm produced discriminatory results because the worker would lose the opportunity to prioritise his work because of legitimate reasons such as participation in a strike, illness or child care. Therefore, this type of algorithm constitutes a form of indirect discrimination.

(ii) Privacy Issues

Platform enterprise algorithms operate on the basis of collected worker data, but how the data is collected entails risks concerning worker privacy.

Platform companies usually use digital tools and devices such as apps, location trackers, biometric technologies, wearable devices, implantable technologies, etc.,

19. Ding Xiaodong, "On the Legal Regulation of Algorithms," Chinese Social Sciences, Vol. 12, No. 12, 2020, p. 141.

20. Arianne Renan Barzilay, Data Analytics at Work: A View from Israel on Employee Privacy and Equality in the Age of Data-Driven Employment Management, 40 Comp. Lab. L. & Pol'y J. 421,425 (2018).

21. Zane Muller, Algorithmic Harms to Workers in the Platform Economy: The Case of Uber, 53 Colum. JL & Soc. Probs. 167,180 (2019).

22. Ignacio N. Cofone, Algorithmic Discrimination Is an Information Problem, 70 Hastings L.J. 1389,1440 (2019).

23. Xu Zhihua, Xie Caixia, "Research on the Challenges and Regulation of Platform Economy Algorithm Employment", in Ningxia Social Science, Vol. 3, No. 2022, p. 101.

to collect data and information,²⁴ while the workers themselves are often unaware of their data being collected. Workers' communication devices contain not only their work information, but also their personal data, which may also be exposed to algorithmic systems.²⁵ For example, Lieferando, Germany's largest food delivery service provider, has been accused of over-monitoring its riders' data.²⁶

(iii) Occupational Safety Issues

Algorithms, as an invisible management tool for platform companies, can negatively impact the occupational safety of platform workers if they over-prioritise economic efficiency.

First, the operational rules of some platform enterprises' algorithms excessively pursue efficiency and ignore the protection of workers' occupational safety. In the case of some takeaway platforms, the algorithm provides route navigation for the riders, and the primary goal is the shortest time at the fastest speed, which sometimes may produce impractical route planning such as riding on the wrong side of the road or taking overpasses,²⁷ leading to frequent traffic accidents.

Second, algorithmic reward and punishment mechanisms can induce workers to overwork. Some platform companies set strict criteria for working hours, workloads and work continuity in the algorithm system, and automatically rate workers' behaviours based on these criteria.²⁸ The algorithm system gives priority to workers with higher ratings and reduces the amount of work available to workers with lower ratings. In order to be rewarded with more assignments, those workers who rely on platform work to survive are forced to efficiently complete a large number of platform orders continuously for long hours, which further increases the risks of occupational safety accidents.

1.1.2. Response Strategies in China

In response to the challenges posed by algorithms to the protection of platform workers' rights, China has pursued initial responses through legislation, regulations and policies. Specific measures are as follows:

(i) Strengthening the Protection of Personal Data

China enacted the Personal Information Protection Law in 2021 to strengthen the protection of personal data. The legislation limits the illegal collection and use of workers' personal information by platform companies.

On the one hand, the law gives individuals the right to know and decide on the handling of their personal information and the right to restrict or refuse the handling of their personal information by others. Therefore, the processing of workers' personal data by platform companies is subject to their voluntary and explicit consent.²⁹ On the other hand, if the worker's personal data falls within the scope of sensitive personal information as stipulated in the legislation, such as biometric data, religious beliefs, specific identity, medical and health care data, financial accounts, physical location, etc., platform companies must comply with the requirements of "having a specific purpose and sufficient necessity", "taking strict protection measures" and "obtaining specific consent from an individual".³⁰

Therefore, Chinese platform companies are subject to the above restrictions when collecting and processing platform workers' data, especially sensitive personal information.

24. Richard A. Bales & Katherine V.W. Stone, *The Invisible Web at Work: Artificial Intelligence and Electronic Surveillance in the Workplace*, 41 Berkeley J. Emp. & Lab. L. 1,1 (2020).

25. Xu Zhihua, Xie Caixia, "Research on the Challenges and Regulation of Platform Economy Algorithm Employment", in *Ningxia Social Science*, Vol. 3, No. 2022, p. 101.

26. Josef Forster, Bericht enthüllt: Lieferando soll Fahrer ausspionieren - Datenschützer sind schockiert, <https://www.merkur.de/wirtschaft/lieferando-fahrer-datenschuetzer-deutschland-scoober-app-tracking-essen-bestellung-just-eats-takeaway-90662488.html>.

27. Yuxuan Lai, "Food delivery riders, stuck in the system," *People*, No. 8, 2020, p. 74.

28. Zheng Wenrui, *Legal Analysis and Legislative Response to the Change of Labor Relations in the Era of "Internet+" ---Qualification of Labor Relations on Internet Platforms*, *Social Science*, Vol. 1, No. 1, 2021, p. 91.

29. Articles 14 and 44 of the Personal Information Data Protection Law of PRC.

30. Articles 28 of the Personal Information Data Protection Law of PRC.

(ii) Promote the Openness and Transparency of Platform Companies' Algorithms

First, although the Personal Information Protection Law does not explicitly use the term “algorithms,” the regulations on automated decision-making are closely related to the issue of algorithms.³¹ For example, Article 24 of the law stipulates that when personal information processors use personal data to make automated decisions, they must ensure the transparency of the decisions and the fairness and impartiality of the results, and cannot apply unreasonable differential treatment to individuals in terms of transaction prices and other transaction conditions. The individual has the right to request clarification from the personal data processor about the decisions that significantly affect the rights and interests of the individual through automated decision-making, and the right to refuse to accept the personal data processor's automated decision-making.

Second, the State Internet Information Office and nine other ministries and commissions promulgated the “The Guiding Opinions on Strengthening Comprehensive Governance of Algorithms for Internet Information Services” in 2021, China's first specialised regulation of algorithms. It requires algorithms to be open and transparent, and that enterprises should be urged to disclose information on algorithm fundamentals, optimisation goals, decision criteria and other information in a timely, reasonable and effective manner, and prepare well the interpretation of algorithm results.³²

According to the above provisions, the platform enterprises must ensure the transparency of their algorithms and the non-discriminatory nature of the algorithm results. As the owners of their personal data, the platform workers have the right to know how their information is processed by the algorithm system, and have the right to request an explanation of the results; after learning about the algorithm decision results, they should have the right to agree or reject the processing of their information by the platform algorithm.

(iii) Clarify Algorithm Use in Employment

In addition to the general rules for algorithms, China has also defined special requirements for algorithm use in employment. On July 10, 2021, the State Administration of Market Supervision issued “Guidance on the Implementation of the Responsibility of Online Catering Platforms to Effectively Safeguard the Rights and Interests of Take-away Food Delivery Workers”, which defines provisions for the use of algorithms in the online food delivery industry, incorporating the requirements for the protection of rights and interests of workers. Specifically, food delivery platforms should optimise their algorithms, and should not use the strictest algorithm possible for assessments. They should take a middle way, and reasonably determine the number of orders, online customer ratings and other assessment elements, and proportionately relax the delivery time limit. At the same time, the food delivery platforms should use data technology, so as to further improve the order assignment mechanism, optimise routes and reduce labour intensity. Order saturation should be determined scientifically. Safety should be fully taken into account when assigning concurrent orders to food delivery workers. Working hours should be reasonably controlled. After the continuous delivery of orders for more than four hours, the system should issue a fatigue alert, and no orders should be dispatched for 20 minutes.³³

In July 2021, the Ministry of Human Resources and Social Security of China and other ministries and commissions issued the “Guiding Opinions on Safeguarding Labour Security Rights and Interests of Workers in New Employment Forms”, which makes provisions for the use of algorithms in new employment forms from a macro perspective, i.e. “to supervise enterprises to develop and revise system rules and platform algorithms directly related to workers' rights and interests such as platform entry and exit, order allocation, piecework unit price, draw ratio, compensation composition and payment, working hours, rewards and punishments, etc., to fully listen to the opinions and suggestions of trade unions

31. Tian Ye, The Progression of Labor Law in the Regulation of Platform Employment Calculation Law, Contemporary Law, Vol. 5, No. 2022, p. 140.

32. Guidance on Strengthening the Comprehensive Governance of Internet Information Service Algorithms (State Information Office Document [2021] No. 7.

33. Guidance on the Implementation of the Responsibility of Online Catering Platforms to Effectively Safeguard the Rights and Interests of Take-away Food Delivery Workers (Issued by National City Supervision and Net Supervision [2021] No. 38.

34. Guiding Opinions on Safeguarding the Labor Security Rights and Interests of Workers in New Employment Forms, Issued by Ministry of Human Resources and Social Security, No. 56 [2021].

or workers' representatives, and publicise the results and inform the workers".³⁴ De facto, this treats the "algorithm" as an enterprise regulation.³⁵ Workers have the right to be informed and to propose new algorithmic rules on matters of significant interest to them.

In December 2021, the State Internet Information Office and four other departments promulgated the "Regulations on the Administration of Algorithmic Recommendation of Internet Information Services" to strengthen the obligation of algorithms to protect the rights and interests of workers at the regulatory level. According to the document, if an external service provider uses algorithms to determine work schedules, it should protect workers' legitimate rights and interests, such as ensuring fair labour compensation, rest and leave, and establishing and improving algorithms related to platform order distribution, compensation calculation and payment, working hours, rewards and punishments.³⁶

Thus, in general, China is trying to regulate platform algorithms by strengthening the protection of personal data, promoting algorithm transparency and integrating the protection of workers' rights into algorithm design. Driven by the introduction of such policies and legislation, some platform companies have also taken the initiative. For example, Meituan has made public the algorithmic rules that determine order distribution via its official WeChat account, explained the algorithm's logic and principles of order distribution, and launched a functional innovation around "post-order adjustment" and "rider-activated reassignment" in response to problems in the algorithm's operation.³⁷ However, because the legislation and policy documents do not stipulate detailed rules for platforms' algorithm disclosure and transparency, so far much depends on voluntary disclosure by platforms. Additional legislation is still necessary.

1.1.3. Response Strategies in Germany

Regarding the challenges arising from platform algorithms with respect to the protection of workers, the EU and Germany have primarily responded with the following rules:

(i) *Prohibiting Discrimination Against Platform Workers*

On the issue of discrimination, the German General Equal Treatment Act (Allgemeines Gleichbehandlungsgesetz, or AGG) is applicable to platform workers. Specifically, the Act includes "employee-like workers" in its definition of employee and stipulates that the prohibition of discrimination in recruitment and promotion is equally applicable to self-employed persons.³⁸ Thus, from the perspective of German anti-discrimination legislation, platform workers, regardless of their status, are at least able to claim discrimination protection.

However, the AGG also has some problems with regards to new types of discrimination originating from the use of algorithms. On the one hand, direct and indirect discrimination on the basis of race, ethnicity, gender, religion and other beliefs, disability, age and gender identity are prohibited under the AGG regulations.³⁹ However, algorithms may circumvent these explicit grounds of discrimination by analysing political views, biometric features, etc.⁴⁰ The platform companies may look at other variable factors, such as work experience, to exclude older workers.⁴¹ On the other hand, AGG does not provide a collective redress mechanism, and individual redress may be difficult to implement because of the difficulty of obtaining evidence of algorithmic discrimination.⁴² For this reason, the questions of how to expand the scope of application of AGG and improve the remedy mechanism

35. Xie Zengyi, The Legislative Approach to the Protection of Labor Rights and Interests of Platform Workers, Chinese and Foreign Law, Vol. 1, No. 1, 2022, p. 121.

36. See Regulations on the Administration of Algorithmic Recommendation of Internet Information Services (State Internet Information Office, Ministry of Industry and Information Technology of the People's Republic of China, Ministry of Public Security of the People's Republic of China, State Administration of Market Supervision and Administration Order No. 9.

37. See Regulations on the Administration of Algorithmic Recommendation of Internet Information Services (State Internet Information Office, Ministry of Industry and Information Technology of the People's Republic of China, Ministry of Public Security of the People's Republic of China, State Administration of Market Supervision and Administration Order No. 9.

38. § 6 Persönlicher Anwendungsbereich, AGG.

39. § 6 Persönlicher Anwendungsbereich, AGG.

40. Orwat, Carsten: "Risks of Discrimination through the Use of Algorithms", Berlin: Federal Anti-Discrimination Agency (2020), p74.

41. Algorithm Watch: Algorithmic Discrimination – How to adjust German anti-discrimination law, <https://algorithmwatch.org/en/algorithmic-discrimination-law/>

42. Orwat, Carsten: "Risks of Discrimination through the Use of Algorithms", Berlin: Federal Anti-Discrimination Agency(2020), p72.

are the focus of reform regarding algorithmic discrimination in Germany.

(ii) Restricting Access to Workers' Data and Establishing Basic Privacy Guidelines

Data protection in Germany is mainly regulated by the EU's General Data Protection Regulations (GDPR) and the Federal Data Protection Act of Germany (Bundesdatenschutzgesetz, or BDSG), legislation which is, to some degree, conducive to the data protection of platform workers.⁴³

Article 4 No. 1 of GDPR defines "personal data" as any information relating to a data subject, including name, social security number, geographic data, IP address or a range of physical, genetic, psychological, economic, cultural or social factors of the natural person that can be used to identify that person. Article 7 of GDPR establishes the rules for data processing based on the principle of consent, emphasising that the voluntariness of the intention given by the data subject should be taken into account. Although GDPR does not explicitly mention labour relations as a special case, given the unequal status of the parties in labour relationships, a higher standard of scrutiny is usually required for the expression of consent by workers.

Germany's BDSG makes special provision for data issues related to employment purposes, further limiting the processing of employee data by employers. According to Article 26 of BDSG, personal employee data including employee-like persons may only be processed for employment purposes when the following circumstances exist: (1) when it is necessary to make an employment decision, to conclude or terminate an employment contract, to exercise or perform the rights and obligations of employee representatives; (2) when there are written reasons to believe that the data subject has committed a crime in the course of employment and the employee's personal data is used for crime detection. In addition, if

the employer processes the employee's personal data on the basis of the employee's consent, it should also assess whether the consent was given on the basis of free will.

(iii) Enhancing the Transparency of Platform Algorithms

Chapter 3 of GDPR sets out the rights of data subjects to achieve fairness and transparency in algorithms by giving them the right to information, access, correction and deletion, and freedom from automated decision-making. Under GDPR, when the algorithms for evaluating workers or assigning jobs are not transparent, platform workers have the right to access the evaluated data and to request corrections if the evaluation is inaccurate. For algorithmic systems that automate decision-making, platform workers have the right to request human intervention in the decision-making process, to express their views, and to challenge decisions.⁴⁴

German domestic trade union organisations are also actively advocating for greater transparency in platform algorithms to safeguard workers' right to know. In a position paper on the platform economy, the Deutscher Gewerkschaftsbund (DGB) said that platform evaluation systems should be transparent, and that both the DGB and its member unions believe that platform workers, regardless of their status, should have the right to know which data is collected by the platform and the degree of algorithmic worker supervision. The platform companies should be transparent in classifying, ranking and rating workers, and the personal data collected that falls within the scope of GDPR must be provided and explained to platform workers, and the platform companies should not refuse to disclose the above information on the grounds of commercial confidentiality.⁴⁵ Therefore, enhancing the transparency of algorithms is also a strategy that the EU and German trade unions are actively promoting, but it remains to be seen how it will be implemented in practice.⁴⁶

43. Wu Wenfang, "Application and Limitation of Consent in the Processing of Workers' Personal Information," Chinese Jurisprudence, 2022, No. 1, p. 231.

44. Michael 'Six' Silberman and Hannah Johnston, Using GDPR to Improve Legal Clarity and Working Conditions on Digital Labour Platforms: Can a Code of Conduct as Provided for by Article 40 of the General Data Protection Regulation (GDPR) Help Workers and Socially Responsible Platforms? Working Paper 2020.05, ETUI, p.8.

45. Deutscher Gewerkschaftsbund: "The German Trade Union Confederation's Position on the Platform Economy", available at <https://www.dgb.de/downloadcenter/++co++6a41577e-a1ea-11eb-bae1-001a4a160123>, last accessed on 10th September, 2022.

46. For the Proposal for a DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on improving working conditions in platform work, COM(2021) 762 final, see below sub 2.

1.1.4. Summary

Algorithmic technology has posed risks to the protection of platform workers in terms of discrimination, privacy and occupational safety. The common focus of both China and Germany is to limit the use of platform workers' data by platform companies from the perspective of personal data protection and to enhance algorithmic transparency to ensure fair and reasonable algorithmic decision-making. However, the relevant measures are still too imprecise and require further refinement.

1.2. Definition of "Employee"

1.2.1. Definition of "Employee" in China and Germany

(i) Definition of "Employee" in China

In Germany and other European countries a labour relationship is established between an employer and an employee, while in China it is between an employing unit [用人单位] and a labourer [劳动者]. For convenience, the concepts of employer and employee are used consistently in this paper.

In accordance with the current laws in China, only employees who have labour relationships with employers are protected by labour and social insurance laws. However, there is no definition of employee under China's current labour law, and employee status is established through the existence of a labour relationship, and a labour relationship is established through a written labour contract. In accordance with Article 16 of the Labour Law of China (1995), an employee and an employer shall enter into a written labour contract when establishing a labour relationship.

In the Labour Contract Law of China (2008), the requirement of a written contract is further strengthened. Article 10 of the Labour Contract Law of China (2008) stipulates that a written labour contract shall be concluded for the establishment of a labour relationship, otherwise, an employer who has not concluded a written labour contract with an employee for more than one month and less than one year from the date of employment, must pay the employee twice the monthly

wage according to Article 82 of Labour Contract Law of China (2008).

In practice, many employers did not sign written contracts with employees before 2008 when the severe double-wage penalties for not signing written contracts were introduced. In 2005, the Ministry of Labour and Social Affairs issued the "Notice on Matters Related to the Establishment of Labour Relations"⁴⁷ (hereinafter referred to as the "2005 Notice"). Article 1 of the 2005 Notice stipulates that if an employer recruits a worker and does not enter into a written labour contract, but meets the following conditions at the same time, a labour relationship is considered to be established: (1) the employer and the worker meet the qualifications prescribed by laws and regulations; (2) various work rules and regulations formulated by the employer in accordance with the law are applicable to the worker, and the worker is subject to the management of the employer, and engages in the paid labour arranged by the employer; (3) the labour provided by the worker is integral to the employer's business.

In current judicial adjudications of China, Article 1 of the 2005 Notice has been the main basis for determining labour relationships. The reason is that the provision includes two important criteria: personal and economic subordination, which are considered the most important attributes of labour relationships in many countries. It is explained that work rules applicable to the worker embody the criterion of personal subordination and that the worker engaging in paid labour that is an integral part of an employer's business embodies the criterion of economic subordination.

In labour arbitration and lawsuits in China, in cases where there are no written labour contracts, or written contracts with other classifications such as co-operative contracts, civil labour service contracts or entrusting contracts, etc., labour relationships are judged by the criteria in the 2005 Notice. If a labour relationship is confirmed, employee status is confirmed, thus giving employees the protection of labour laws and social insurance laws.

However, it is not easy to conclude that there is a unified judicial standard for identifying labour relationships in China. Although Article 1 of the 2005 Notice covers a

47. Notice on Matters Related to the Establishment of Labor Relations, Office of Ministry of Labor and Social Affairs (2005) No. 12.

variety of external features of labour relations, including work rules, labour management and paid labour etc., different courts may have different interpretations. Without following precedents, it is difficult to form a single unified interpretation.

(ii) Definition of “Employee” in Germany

In Germany, the concept of employee is also very important for workers to obtain the protection of labour and social insurance law. The three most important social insurance laws in Germany, the Sickness Insurance Law, Accident Insurance Law and the Disability and Retirement Insurance Law, are aimed at employees.⁴⁸

In Germany, there was no definition of employee in legislation for decades. The famous labour law expert Alfred Hueck provided an academic definition for “employee” in his classic Textbook of Labour Law, which stated that “an employee is a person who provides service to others under a private contract and is obligated to provide labour service” and that definition is widely accepted.⁴⁹

Paragraph 611a of the German Civil Code (BGB), which came into force on April 1, 2017, contains a definition on when a worker can be classified as “an employee”, and stipulates: “According to the employment contract, the employee is obliged to serve others in the case of personal dependence, be bound by instructions and be determined by others.” Being bound by instructions and determined by others (external determination) are two characteristics that each have an independent meaning.⁵⁰

The criterion of external determination covers “in particular contractual arrangements deviating from the normal type of employment contract” and shows itself in particular in the integration into the work organisation created by the employer.⁵¹ Whether integration alone is sufficient to establish the status of employee remains a

little unclear, as it is stated shortly before that only if there is no obligation to follow instructions is there “as a rule” no employment relationship. Exceptions are therefore permitted.⁵²

In fact, such criteria reflect changes in the organisation of production. In traditional societies, the family was the most basic unit of production, and its members bound by kinship ties could work autonomously or collaboratively. In industrial societies, the enterprise becomes the most basic production unit. As modern enterprises are both highly differentiated, workers are dependent on the orders of their employers and are subject to external control over the process of their work, and are not able to work autonomously.

Traditionally, family members worked harmoniously together to their common benefit. However, modern enterprises are organisations established by employers with the express purpose of generating profit. Naturally, there are conflicts of interest between employers and employees, which were the main reason for the creation of labour laws aiming at the protection of employees.

The German Imperial Labour Court proposed that the key to distinguishing between labour contracts and labour service contracts should be whether or not the service provider is “personally dependent” on the service recipient. The Federal Labour Court of Germany mainly considers the following factors as the criteria for determining status: whether the worker is incorporated into the enterprise’s organisation, whether the service that the worker provides is under the instruction of the employer, and whether the time and place of work are determined by the employer instead of the worker. The court emphasises that the degree and extent of subordination should be judged based on the overall situation of the case, so as to determine whether it is the basis of a labour relationship.⁵³

48. Lin Gengsheng: Recent Discussion and Legislation on the Concept of Labor in German Law, Chief Editor: Cai Dunming, Selected Judgments in the Labor Law (III), Taiwan Yuanzhao Publishing Company, 2000 Edition, page 2.

49. Wang Qian: The Determination of Labor Relations in German Law, Jinan Journal (Philosophy and Social Sciences Edition), No. 6, 2017.

50. Sittard/Pant, jM 2021, 416, 418; Söller, NZA 2021, 997, 1000; MünchArbR-Temming, § 18 Rn. 19, from Wolfgang Däubler, “Crowdworker als Arbeitnehmer”, p. 10. <https://www.daeubler.de/wp-content/uploads/2022/10/2204Crowdworker-als-Arbeitnehmer.pdf>, accessed 12th April 2023.

51. BAG (Fn. 28) Tz. 31, from Wolfgang Däubler, Crowdworker als Arbeitnehmer? p. 10.

<https://www.daeubler.de/wp-content/uploads/2022/10/2204Crowdworker-als-Arbeitnehmer.pdf>, accessed 12th April 2023.

52. Wolfgang Däubler, Crowdworker als Arbeitnehmer? p. 10.

<https://www.daeubler.de/wp-content/uploads/2022/10/2204Crowdworker-als-Arbeitnehmer.pdf>, accessed 12th April 2023.

53. Lin Gengsheng: Recent Discussion and Legislation on the Concept of Labor in German Law, Chief Editor: Cai Dunming, Selected Judgments in the Labor Law (III), Taiwan Yuanzhao Publishing Company, 2000 Edition, p. 3.

Economic subordination is not the primary focus of the distinction because in German labour law the characteristic of the quasi-labour relationship is that the “employee-like person” is only subject to economic subordination. Therefore, in German law, the definition of employment is only based on personal subordination and not on economic subordination.⁵⁴

The norm defined in Paragraph 611a of the German Civil Code (BGB) is based on German judicial experience. It is clear from the legislative history of the provision that the legislature intended to codify the case-law of the BAG. Unfortunately, however, the legislator did not take advantage of the opportunity to include new forms of employment, especially in the platform economy.⁵⁵ The regret has been compensated for to some extent, because on 1 December, 2020 the BAG issued a decision under which crowd-workers can be defined as employees under certain conditions, which will be discussed later in this paper.

In accordance with current, generally accepted theory in Germany, the employee with a labour relationship is not a concept, but actually a type, and its scope cannot be clearly defined in a single, abstract way. Judgments are wholly based on the facts of each case and the degree to which relevant characteristics apply. The Federal Labour Court of Germany emphasises that the degree of personal subordination of workers should be taken as the judgment standard, and that there is no universally applicable standard, and that judgments should be based on the details of the specific employment contract in question.⁵⁶

From looking at specific labour law cases, we can see the factors that judges consider when deciding whether a worker is an employee with a labour relationship. For example, a driver who owns a truck registers as an individual businessman but he transports goods for a transportation company. According to the requirements of the company, the driver’s truck is painted with the logo and colours of the company, and the driver is required

to wear the company uniform while working for the company. The company also has the right to inspect the cleaning and equipment of his truck, the goods transported, and decide when the vehicle should be refueled and repaired. And the goods must be delivered within the timeframe specified by the company, meaning, for example, that the driver and the truck must be ready to provide services between 6:00am and 4:00pm. In fact, it is almost impossible for the driver to deliver goods for other customers. The company prohibits the driver from transporting goods for other customers while transporting goods for the company. In general, the above restrictions imposed by the transport company have severely limited the driver’s autonomy when providing labour services. Therefore, the driver is considered to be an employee of the transportation company.⁵⁷

Conversely, if the driver only transports goods on behalf of a single transport company, but the amount and time of work can be determined by the driver, and it is actually possible for the driver to transport goods for other customers, then the driver is not an employee of the transport company. The question of whether he actually delivers goods for other customers is not that important.⁵⁸

In Germany, there is an academic point of view that, due to factors such as the adoption of new production methods, management techniques, operational organisation, enterprise transformation, market competition pressure, and the need to relax labour laws, if we still take the traditional “subordination” standard for blue collar workers in factories as the standard to distinguish employees from other workers, proper protections will not be provided to those who are not subjected to personal subordination but still require the same social and economic protections that traditional employees need.⁵⁹

In this regard, some scholars advocate a redefinition of the terms “labour” and “subordination”. According to that opinion, in principle, those who display the following

54. Ibid, p. 3.

55. Henssler/Pant, RdA 2019, 322; Sittard/Pant, jM 2021, 416, from Wolfgang Däubler, *Crowdworker als Arbeitnehmer?* p. 9. <https://www.daeubler.de/wp-content/uploads/2022/10/2204Crowdworker-als-Arbeitnehmer.pdf>, accessed 12th April 2023.

56. Lin Gengsheng: *Recent Discussion and Legislation on the Concept of Labor in German Law*, Chief Editor: Cai Dunming, *Selected Judgments in the Labor Law (III)*, Taiwan Yuanzhao Publishing Company, 2000 Edition, p. 4.

57. Ibid, p. 4.

58. Ibid, p. 5.

59. Ibid, p. 7.

characteristics are workers with labour relationships: (1) long-term employment, (2) providing labour services for only one counterpart; (3) providing labour services in person without other assistants, (4) no investment-relevant capital, and (5) no important production organisations. On the contrary, if a worker (1) voluntarily bears the business risks of his enterprise, (2) participates in market competition, and (3) there is a reasonable balance between the benefits and risks of the enterprise's operation, he or she is defined as an independent businessperson. This opinion has been confirmed by some lower courts.⁶⁰

(iii) Employee-like person in Germany

In German labour law, the big difference to China is the concept of the "employee-like person", a third category of workers other than employees and non-employees. The original term, "arbeitnehmerähnliche Person", can also be translated as "worker-like employees". According to Paragraph 12a (1) of the Collective Contract Law (TVG), "employee-like persons" refer to those who are subject to economic subordination and require preferential protection like employees.⁶¹ Generally, employee-like workers display the following characteristics:

First, unlike an employee, an employee-like person is not integrated into the business organisation of the other party of the contract, and he or she does not have to submit or is rarely subject to its control-and-command structure, and there is no personal dependency between the employee-like person and the other party of the contract.⁶²

Secondly, an employee-like person must be economically dependent on the opposite party of the contract, that is, the income obtained by the employee-like person from the contractual relationship must constitute his main source of income. If an employee-like person serves several customers at the same time, as long as his cooperation with one of them is indispensable and

his income from it accounts for more than half of his total income, he can also be considered as economically subordinate to the other party of the contract.⁶³

Finally, an employee-like person requires specific protection which differs to the protection provided to an employee, which means that the specific circumstances of the case should be taken into account, such as the level of income, whether others help him or her in the process of work, and whether the worker can complete his or her own work tasks alone, in which case the legal decision should be made based on the concept of social transactions. If the worker's dependence on the other contract party usually only occurs within the scope of the labour relationship, and the same work is generally performed by regular employees, then it is certain that he or she is an employee-like person.⁶⁴

The scope of employee-like persons.

According to Article 12a (1) of the German Collective Agreement Law, there are several types of employee-like persons. The first type are those who are only employed by one employer in principle. "In principle" means most of the time, i.e. for more than half of the worker's working hours. In this case, when the worker loses the job, it will endanger the basis of his or her economic survival.⁶⁵

The second type is one where more than half of his or her total income on average is received from a specific employer. Besides, Article 12a (3) of the German Collective Agreement Law has a relatively loose special provision for those who are engaged in the production of art, literature or journalism. On average, at least a third of their total income must be received from a specific employer in order to be considered economically dependent with a need for social protection, such as freelance journalists, writers, photographers or video editors. In line with the income standard of this type, even if workers provide labour services for multiple institutions, it does not hinder

60. Lin Gengsheng: Recent Discussion and Legislation on the Concept of Labor in German Law, Chief Editor: Cai Dunming, Selected Judgments in the Labor Law (III), Taiwan Yuanzhao Publishing Company, 2000 Edition, p. 7.

61. Qiu Yufan: A Preliminary Analysis of Labor Protection and "like-employee" Legislation of Self-employed Workers—Taking German Law as Reference, Journal of Yuedan Law, No.314, 2021.7.

62. Wang Qian: The Determination of Labor Relations in German Law, Jinan Journal (Philosophy and Social Sciences Edition), No. 6, 2017.

63. Ibid.

64. Ibid.

65. Qiu Yufan: A Preliminary Analysis of Labor Protection and "like-employee" Legislation of Self-employed Workers—Taking German Law as Reference, Journal of Yuedan Law, No.314, 2021.7.

the establishment of their economic dependence and the recognition of the necessity for social protection.⁶⁶

The third type is an employee-like status as recognised by the German courts in individual cases. For example, accountants in tax consulting firms, employees in customer service centres, lecturers in training centres or in private teaching institutions, freight drivers, freelancers in radio and television production companies, broadcast fee collectors, etc. can be qualified employee-like persons, depending on the specific circumstances.⁶⁷

What protections could employee-like persons have?

On the one hand, the relationship between an employee-like person and the other party is regulated by the corresponding legal provisions according to the type of contract under which they fall. On the other hand, employee-like persons can also enjoy the protection of some labour laws and regulations. There are some laws in which employee-like persons are explicitly included, including: (1) employee-like persons have the right to four weeks of statutory paid annual leave under the Federal Vacation Act (BurlG); (2) they have the right to join the enterprise pension system in accordance with the Law on Improving Supplementary Endowment Insurance for Enterprises (Be trAVG); (3) they can enjoy the protection granted by the Labour Safety Protection Act (ArbSchG) and the General Equal Treatment Act (AGG); (4) the Labour Court Law (ArbGG) stipulates the jurisdiction of the labour court over disputes between employee-like persons and the other contractual party; (5) both parties can also sign a collective agreement applicable to employee-like persons in accordance with the Collective Agreement Law.⁶⁸

The German courts are very cautious about the analogous application of the provisions originally applicable only to employees. At present, the only rules that can be analogically applied are the rules of non-competition and the employer's obligation to issue a reference letter after termination of the labour relationship. In addition, labour laws and regulations are mostly not applicable to employ-

ee-like persons, such as the Termination Protection Act (KSchG) and the Continuing Wage Payment Act (EFZG).⁶⁹

Employee-like persons are essentially excluded from the statutory social insurance system, but there is one exception: According to Item 9 of Article of Part VI of the Social Insurance Code (SGB VI), if employee-like persons themselves do not employ any other persons and primarily serve only one customer for a long period of time, then such employees are obliged to participate in statutory pension insurance, but they need to pay all the premiums themselves, and their clients are not required to bear half of the costs as they would in a typical employer-employee relationship.⁷⁰

1.2.2. New Features of Platform Employment

The platform economy is a new economic system based on digital technology and composed of data-driven, platform-supported and network-coordinated economic activity units. Against the backdrop of the "internet of things", the platform economy has become a new economic model which comprehensively integrates the industrial chain and optimises the efficiency of resource allocation.

The platform economy creates a large number of work opportunities. Platform work refers to the fact that workers obtain work tasks via electronic data from the platforms, and then provide services to end customers. There are different kinds of platform work in China: (1) food delivery services, like Meituan and Ele.Me; (2) postal services, such as EMS, Shunfeng, Yunda, Zhongtong, Shentong, Yuantong, etc.; (3) taxi services, such as Didi, Gaode, T3, Caocao and dozens of other similar platforms; (4) freight services, Yunmanman, Huolala, etc.; (5) social network broadcasting platforms, such as Tik Tok, Huya, Kuaishou; (6) microwork platforms, such as Zhu Bajie, 58 Tongcheng.

Around 2008, with the development of digital technology and equipment, takeaway delivery platforms such as Ele. Me (2008), Order Me (2009), Meituan Takeaway (2013),

66. Ibid.

67. Ibid.

68. Wang Qian: The Determination of Labor Relations in German Law, Jinan Journal (Philosophy and Social Sciences Edition), No. 6, 2017.

69. Ibid.

70. Ibid.

and Baidu Takeaway (2015) emerged and expanded rapidly.⁷¹ In the early development period of takeaway platforms, the platform companies established labour relations directly with riders or adopted labour dispatching to form employment relationships with riders. Therefore, in judicial decisions, platform enterprises are required to bear sole responsibility as employers⁷² or joint responsibility with dispatching companies.⁷³

However, with the continued development of the platform economy, the competition between platforms became increasingly fierce. In order to reduce costs, takeaway platforms have been adjusting contractual arrangements for riders since around October 2015.⁷⁴ Subsequently, almost all platform employers tried their best to adopt various legal designs to avoid the formation of labour relationships with platform workers. Among such efforts, labour relationships were confirmed in some specific judicial cases, while in other cases they were denied, which has brought about confusion in judicial practice and controversy in academic circles.

The reasons that the platforms say that their workers are not in labour relationships are based on new characteristics of platform employment and that the responsibilities of employers have shifted in many respects: (1) from organising production elements to connecting production elements; (2) from the employer providing work tools to the workers bringing their own tools; (3) from providing work to employees to grabbing orders by workers; (4) from paying wages to employees to service fees paid to the workers directly by customers; (5) from labour risks in closed workplaces to labour risks in outdoor areas. These new features have also led to disputes over the determination of labour relationships.

1.2.3. Practices of Avoiding Labour Relationships in Platform Employment

In developed Western countries, the practice of avoiding labour relationships with platform workers is comparatively straightforward. For example, in the relationship between Uber and its drivers, Uber emphasises that Uber drivers are independent contractors and that its operating characteristics are different from traditional enterprises, and thus hopes to avoid entering into labour relationships with Uber drivers.⁷⁵ The practices of avoiding labour relationships with platform workers in China are more diverse and complex, and include the following:

First, cooperative employment by multi-employers. Workers take orders through the platform, but they need to sign a labour contract or civil labour service contract with a labour service company or a labour dispatch company designated by the labour service company. Their insurance may be purchased by the labour service company or another company entrusted by the labour service dispatch company, and their wages may be paid by another entrusted company or an individual person. In judicial practice, courts are constrained by the relativity of the labour contract and only recognise the company that signed the contract as the employer,⁷⁶ but the company may not be capable of assuming the employer's responsibility.

Under such arrangements, the platforms have set up "firewalls" against direct employment responsibility. The research group of Beijing Zhicheng Migrant Workers' Legal Aid and Research Center analysed 1,907 case decisions of different courts, and found that the legal segregation effect of this approach is significant in judicial practice: Less than 1% of food delivery platforms have been shown to enter labour relationships with riders.⁷⁷

The second pattern is a cooperative contract, which is very popular between online live broadcast platforms

71. Yongjun: The Evolution Practice of Meituan Distribution System, <https://tech.meituan.com/2018/07/26/peisong-sys-arch-evolution.html>, 2022年9月17访问。

72. Beijing Zhicheng Migrant Worker Legal Aid and Research Center: An Analysis of Labor Relations of Cooperative Employment Model under Platform Economy: An Example of Takeaway Platform, <https://zgnmg.org/wp-content/uploads/2021/09/zhicheng-report-on-food-delivery-workers.pdf>.

73. Beijing Xicheng District People's Court (2017), Beijing 0102 Minchu No. 27267 Civil Judgment.

74. Beijing Zhicheng Migrant Worker Legal Aid and Research Center: An Analysis of Labor Relations of Cooperative Employment Model under Platform Economy: An Example of Takeaway Platform, <https://zgnmg.org/wp-content/uploads/2021/09/zhicheng-report-on-food-delivery-workers.pdf>.

75. Wang Tianyu: On the Identification of Labor Relations Based on the Internet Platform to Provide Labor Services-Based on the Judgments of the Courts of "e-Driving" in Beijing, Shanghai and Guangzhou, Law Science, No.6, 2016.

76. Huang Hongtao: Rider died accidentally, complicated labor relations are difficult to identify, Workers' Daily, July 28, 2022, p. 7.

77. Beijing Zhicheng Migrant Worker Legal Aid and Research Center: An Analysis of Labor Relations of Cooperative Employment Model under Platform Economy: An Example of Takeaway Platform, p. 3. <https://zgnmg.org/wp-content/uploads/2021/09/zhicheng-report-on-food-delivery-workers.pdf>.

and anchors. Platforms formulate standard cooperative contracts in advance and sign them with workers in an attempt to prevent the establishment of labour relationships between the two parties. Under this kind of contract, the platform agrees to fulfil some obligations, such as training anchors and promotion, providing live broadcast equipment, guidance in the process of live broadcasting, etc. The contract specifies the obligations of the anchor, such as the minimum number of hours of live broadcast and the service period; in addition, it also specifies the share ratio between the two parties and the damages for violating the service period.

Cooperation agreements are, on the surface, civil contracts. In disputes between live broadcast platforms and anchors, labour relationships were only confirmed in a low percentage of cases. From 2015 to 2017, through research on a lawsuit case net named “Wusong Net” [无讼网], there were a total of 28 cases of dispute between live broadcast platforms and anchors. Of the 28 cases, only 5 cases adjudicated by the courts were found to be labour relationships.⁷⁸

The third pattern are outsourcing contracts. In China, the franchise system is commonly applied in the express delivery industry. A franchise can fall under three categories: the franchisee at the receiving end, the franchisee for main-line transport and the franchisee at the delivery end. The franchisee may be a company, an individual industrial and commercial entity, or an individual person.⁷⁹

Express delivery companies sign contracts with franchisees to avoid the establishment of labour relationships with delivery people. Although in some arbitration or litigation cases, the “contractors” are identified as employees of express delivery companies, most workers are denied labour relationships. Therefore, most workers in the express delivery

industry cannot be protected by labour laws and social insurance laws.

The fourth pattern is the entrusting contract. In the driving-service industry, the service platforms generally sign an “entrusting driving agreement” with drivers. For example, in the labour dispute cases of Zhuang Yansheng v. Beijing Yixin Yixing Automobile Technology Development Service Co., Ltd⁸⁰, Sun Youliang v. Beijing Yixin Yixing Automobile Technology Development Service Co., Ltd⁸¹ and Wang Zheshuan v. Beijing Yixin Yixing Automobile Technology Development Service Co., Ltd⁸², the drivers sued the platform company and asked the court to determine that labour relationships existed between the platform and the drivers. The evidence provided by the drivers included the platform company uniforms, company identity cards, entrusting driving agreements and service confirmation sheets, etc. The courts, based on the facts that the drivers did not have a fixed workplace and working hours, and did not receive wages from the company on a monthly basis, held that the evidence submitted by the drivers alone was not enough to confirm that the two parties had a labour relationship.⁸³ Also, there are other cases where the companies sued the drivers and claimed that there was no labour relationship, and the courts denied the labour relationship. For example, in Jiangxi Yi Zhi Zhi Xing Auto Operation Service Co. v. Li Wanyin.⁸⁴

However, in cases where traffic accidents occurred in the process of driving, some courts held there were labour relationships even in the case of entrusting contracts. For example, in the case of Beijing Yixin Yixing Automobile Technology Development Service Co., LTD v. Zhao Baochun concerning a liability dispute arising from a traffic accident, the Second Intermediate People’s Court of Beijing held that the fact that the driver received the driving information through the internet platform showed that the driver accepted the work “assigned

78. Pan Jianqing: Reflections on Online Livestreaming Employment Relations from the Perspective of Labor Law, *Journal of China Institute of Labor Relations*, No. 4, 2018.

79. Yang Xin: Regulating “new business formats”? The Impact of the Industrial Model of Express Delivery Industry on Labor Relations and the Adjustment of Legal Control, *Chinese Resources Development*, No. 2, 2018.

80. Beijing First Intermediate People’s Court, (2014) Min Zhong Zi No. 6355.

81. Beijing First Intermediate People’s Court, (2015) Min Zhong Zi No. 176.

82. Beijing First Intermediate People’s Court, (2015) Min Zhong Zi No.01359.

83. Wang Tianyu: On the Identification of Labor Relations Based on the Internet Platform to Provide Labor Services-Based on the Judgments of the Courts of “e-Driving” in Beijing, Shanghai and Guangzhou, *Law Science*, No.6, 2016.

84. Nanchang Economic and Technological Development Zone People’s Court, (2020) Gan 0192 Civil Minchu.No. 1221.

by the company”, therefore the company should bear liability for compensation.⁸⁵ However, there are also cases in which the labour relationship was denied even if the drivers were injured in a traffic accident. For example, in the case of *Li Yongzhong v. Beijing Yixin Yixing Automobile Technology Development Service Co., LTD*, the People’s Court of Haizhu District of Guangzhou City held that there was an “entrusting driving agreement”, so the traffic accident belonged to a “service contract dispute”; that the platform company only provided the driving information as a third party, therefore, the platform was not liable.⁸⁶ In the similar case of *Tian Min v. Beijing Yixin Yixing Automobile Technology Development Service Co., LTD*⁸⁷, Beijing Shijingshan District People’s Court held the same opinion. In dealing with a similar case, Shanghai Pudong New Area Court applied the standards stipulated in the Notice and held that the driver was controlled by the company during working hours, and the driver’s work performance was based on the company’s instructions; and that the platform had a labour relationship with the driver.⁸⁸

In addition, a popular type of platform work is crowdsourcing work. There is no statutory definition of crowdsourcing work, which literally means outsourcing work tasks through a platform and having members of the public complete the posted tasks.⁸⁹ There are various crowdsourcing platforms in China, such as Zhu Bajie.com, Ganji.com and 58 Tongcheng, which post small tasks or provide information about professionals, forming a bridge between work seekers and work suppliers. This kind of labour service consists mostly of one-time assignments, and according to Chinese law, it is a civil contract for labour service.

However, in China’s food delivery industry, “crowdsourcing” refers to registered riders grabbing orders through a mobile phone app to complete the corresponding

delivery tasks.⁹⁰ This type of crowdsourcing differs from that described above in that riders must register through an app and generally provide full-time or part-time labour for a specific platform on a regular basis. Currently, the platforms only sign electronic civil labour service contracts with riders. “In the crowdsourcing app, every other quarter, the app system will ask riders with a pop-up notice to confirm whether they wish to continue to work during the next quarter, full-time or part-time?”⁹¹

Essentially, such crowdsourced workers who provide labour services on a specific platform could be full-time or part-time employees with a labour relationship. However, in practice, few claim the existence of labour relationships, and almost none claim the existence of part-time labour relationships. The reason why few claim the existence of part-time labour relationships is that protection for part-time workers is very limited in China. Apart from the requirement of being included in industrial injury insurance, they do not enjoy more special rights and interests than civil labour providers. This is worthy of reconsideration with regards to the legal framework of China’s part-time employment system.

1.2.4. Reasons for Confusion in Labour Relationship Identification in China

(i) *Reasons in legislation and legal practice*

It can be seen from the above introduction that the employment mode of the internet platforms has posed new challenges to the identification of labour relationships, which has caused confusion in judicial practice and resulted in many contradictory judgments, which is an urgent problem to be solved. The reasons for this confusion are manifold.

First, the definition of employee is unclear in Chinese legislation, so there is no legal standard to be followed

85. Beijing Second Intermediate People’s Court, (2014) Min Zhong Zi No. 07157.

86. Wang Tianyu: On the Identification of Labor Relations Based on the Internet Platform to Provide Labor Services-Based on the Judgments of the Courts of “e-Driving” in Beijing, Shanghai and Guangzhou, Law Science, No.6, 2016.

87. Beijing, Beijing Shijingshan District People’s Court, 2022, Minchu, 7320.

88. Wang Tianyu: On the Identification of Labor Relations Based on the Internet Platform to Provide Labor Services-Based on the Judgments of the Courts of “e-Driving” in Beijing, Shanghai and Guangzhou, Law Science, No.6, 2016.

89. Wolfgang Daubler, *Digitalization and Labor Law: Internet, Labor 4.0 and Crowdsourcing*, translated by Wang Jianbin, Lou Yu, et al., China University of Political Science and Law Press, 2022, pp. 253-254.

90. Yu Hui, *The Dilemma of Labor Rights Protection of Platform Workers in China and the Path to Improvement*, China Youth Social Sciences, No. 4, 2022.

91. Mei Jing and Chen Mei (reporter of Financial News): Riders under the Icy Algorithm, Do the Meituan Treat Them as Employees? https://www.sohu.com/a/417564135_387251

judicially. The Labour Contract Law of China requires the employer and the worker to sign a written labour contract.⁹² However, this is essentially an external, formal standard of recognition, which is, to a certain extent, one of the reasons why many platform companies have evaded labour relationships by signing written contracts under other names, a phenomenon which is analysed in 1.2.3. of this paper.

Second, although the Notice established the criteria for determining labour relationships without signing a written labour contract, the Notice is actually only a referable policy, because according to the Legislation Law of China, the Notice is not a law and does not have legally binding power. Even if a decision of a labour arbitration or a court directly ignores or violates the Notice, it does not constitute a violation of law per se.

Third, the legal system for dealing with labour disputes in China is sometimes referred to as “one arbitration and two trials”, which means that a labour dispute case must first be arbitrated, and a lawsuit can be filed if the arbitration result is not satisfactory, and an appeal can be filed for a second trial if the first trial decision is not satisfactory. The labour cases in China mostly end in the intermediate people’s court. Only a very small number of cases are granted the opportunity of retrial. This trial system makes each intermediate court an independent jurisdiction with final adjudication, resulting in trial standards that vary widely from place to place.

Fourth, there is no precedent system in China’s judicial system, which means that prior decisions are not legally binding with respect to subsequent decisions, and the decisions of the higher courts are not judicially binding for the lower courts. Under this system, even if a few cases are granted retrials, the judgments rendered are not necessarily binding in the lower courts. The Chinese retrial system is designed to correct the cases that have been wrongly decided, not to create new standards of judicial discretion for the lower courts. Therefore, there is a need to establish clearer, more detailed and legally effective criteria for determining labour relationships in Chinese jurisprudence.

(ii) Reasons in the social context

Of course, there are deep-seated reasons for such confusing and contradictory judicial decisions that makes China reluctant to change the status quo of platform employment.

One is that China’s platform economy boosts employment. The judiciary may worry that if a judicial ruling is too strict, it may completely reverse the status quo of employment in platform enterprises, and may also lead to the unsustainable operation of platforms, resulting in job losses and a rise in unemployment and other social problems, which will go against the concept of “employment is the first livelihood” advocated by the government.

Secondly, platform employment in China is very much welcomed by young workers. One of the most important aspects of its attractiveness is the opportunity to earn a “high salary” not available in other industries. On Tik Tok, a popular social network, one finds many videos shot by delivery people and taxi drivers, in which they narrate that they have realised their “dream of earning more than 10,000 yuan a month”.

Thirdly, Chinese society as a whole has enjoyed the benefits of the platforms that are not subject to labour law. China’s platform services are among the best in the world in terms of price and efficiency. Strict application of labour law control would have negative social effects, resulting in the loss of the price and efficiency advantages in China’s platform services. The constraints of labour law, if applied, would result in the cost of platform services rising. In other words, society would have to pay higher fees to use the services of the platforms.

The current tolerance of unregulated platform employment might bring to mind that China is originally a “dual social and economic structure of urban and rural areas” [二元城乡社会经济结构], and that migrant workers enter the market with the means of production provided by the state, and that they receive free agricultural land, free homesteads, as well as the corresponding medical and pension protection systems in rural areas. Even if the majority of those employed on the platforms as

92. In judicial practice, though the labour relationship could be recognised where the factual labour relationship exists without a written contract, it is very difficult for the worker to prove the fact that the factual laborship relation exists.

migrant workers are not protected by labour and social insurance laws, they can always return to the countryside if necessary. However, studies have shown that this line of thinking is incorrect. The younger generation of migrant workers, who have no experience in farming and no affinity to the land, are unwilling and unable to return to rural areas.⁹³

China's urbanisation rate has increased from 17.9% in 1978 to 64.7% in 2021, and is expected to reach about 75% by 2035. The overall acceleration of urbanisation and the high mobility of the population between urban and rural areas and regions are forcing China's social security system to move towards uniformity and equity.⁹⁴ With the unstoppable trend of urbanisation, we should provide platform workers with the protection of labour and social insurance laws so as to prevent future potential risks and unbearable burdens.

(iii) Controversies over the regulation of platform employment in China

At present, there are two main views concerning platform employment among Chinese scholars:

One is that, although platform employment has certain new qualities, they are only superficial, not essential, and thus there is no need to establish partial labour relationships.⁹⁵ The opposing view is that some scholars believe that, since platform employment has new qualities, a new kind of partial labour relationship status should be established, and special regulations can be applied in terms of working hours, wages and social insurance, but workers should enjoy the same rights as those in traditional labour relationships in terms of fair employment and labour protection.⁹⁶

With regard to the protection of platform workers, official statements by the Chinese government tend to talk about "incomplete labour relationships", which is similar to the concept of employee-like persons. We believe that the choice of this path must be taken very carefully.

First, in Germany, even where employee-like persons exist, platform employees have not been recognised as employee-like persons by any German courts. Judging from the existing judicial precedents around the world, existing labour relationship standards are used to make decisions on whether platform workers are considered employees with labour relationships.

Second, if the "incomplete labour relationship" is introduced rashly, and if control is not strict, it may be abused and result in workers with actual labour relationships being pushed into "incomplete labour relationships". The experience of countries with a third type of worker in legislation, such as Italy and the United Kingdom, also shows that it is more difficult for workers to obtain recognition of a labour relationship after the introduction of "quasi-labour relationships" into law. On April 1, 2017, the German Civil Code implemented the newly added Paragraph 611a, which clarifies the definition of labour, and also aims to combat the problem of pseudo-self-employment (*Scheinselbstständigkeit*), though this step has shown itself to be ineffective.⁹⁷

Third, the current focus is on the idea that platform workers should be protected from the consequences of work-related injuries. On the one hand, it is favourable to the platform workers as far as industrial injury insurance is concerned. On the other hand, it is worried that this may result in the unfavourable side-effect that the status of the labour relationship of the platform workers may become more difficult to identify.

We believe that despite the new qualities of platform enterprise employment, this does not deprive platform enterprises as economic organisers of the ability to be included in labour law protection and social insurance coverage. The characteristics of platform enterprises are not a convincing reason for their non-compliance with labour and social insurance laws. On the contrary, because the platforms' electronic algorithm management capacity is more refined and accurate than general manpower

93. Li Peilin, Tian Feng: The New Generation of Migrant Workers in China: Social Attitudes and Behavioral Choices, *Society*, No.3, 2011.

94. Zheng Gongcheng: China's Social Security: Current Situation, Challenges and Future Development, *China Social Security*, No. 9, 2022.

95. See also: Chang Kai, Zheng Xiaojing: Employment relationship or cooperation relationship? -- Analysis of the Nature of Employment Relations in Internet Economy, *Journal of Renmin University of China*, No. 2, 2019.

96. Zhang Jing: Discussion on the Nature and Legal Application of "Incomplete Labor Relations", *Jiangsu Workers Daily*, January 24, 2022, p. 7.

97. Qiu Yufan: A Preliminary Analysis of Labor Protection and "like-employee" Legislation of Self-employed Workers—Taking German Law as Reference, *Journal of Yuedan Law*, No.314, 2021.7.

management capacity, it has the potential to even more effectively provide legal protection for workers.

The current toleration of deregulation of labour and social security law has caused problems in at least two aspects. One is that it has created an imbalance in labour costs between industries, resulting in a large number of young people employed in the manufacturing industry leaving to work for platforms, which has caused an undue loss of manufacturing talent. Even if platform employment has seen impressive development, its development is perverse, and is not worth encouraging and advocating. The law seeks justice and cannot favour one industry over another at the expense of fairness. The other is that the “high salaries” are the result of overtime, the result of sacrificing labour law protection, and the result of violations of rules on overtime, all of which, in essence, are harmful to workers and contrary to the goal of “decent work”.

1.2.5. Summary

In both China and Germany, the status of an employee is determined by considering his or her relationship with the employer. This consideration requires reference to judicial and theoretical standards. The new characteristics of platform employment have brought new challenges to the determination of labour relationships, especially in China, where various types of non-labour relationships have emerged. Therefore, the criteria for determining labour relationships need to be refined to meet the challenges of platform employment.

1.3. Social Security

Social security means “social safety”, and is a safeguard measure to provide help in the onset of old age, sickness, disability, unemployment and life difficulties. For society as a whole, social security is a safety net constructed to maintain social stability.

1.3.1. Emergence and Development of Social Security

Social security was created and developed as a response to changes brought about by industrialisation. Industrialisation overturned the way production and life was organised in traditional agricultural and nomadic societies where families and clans lived together naturally. Families worked together and social risks were borne by the family (including the clan). The industrialised mode of production has broken up work cooperation by family members and replaced it with employers organising strangers to provide the labour required by society. The social risks of vulnerable individuals or small families demanded social assistance,⁹⁸ which led to the establishment and development of the social security system.

The social security system first emerged in Germany, which was subsequently followed by various industrialised countries. Germany introduced medical insurance in 1883, industrial injury insurance in 1884, pension insurance in 1889, and unemployment insurance in 1927. China’s social security system emerged much later, and was only gradually established after the founding of the PRC in 1949. Until the 1990s, China’s social security system was built on the basis of the planned economy. With the advancement of reform and opening-up, China’s has seen greater market liberalisation and the original social security system had to be reformed. Therefore, it was only in the 1990s that China initially established a social insurance system adapted for the market economy.

China today is a “dual” society, meaning that the Chinese social security system has distinctive “dual” features. In rural areas, there are rural medical and pension insurance systems for rural residents based on land distribution, while in urban areas, there are urban medical and living guarantee systems for urban residents apart from social insurance.

The social security system in China has been improving. Because of its short history, China’s vast territory and the large differences in the level of economic and social development of different regions, the current social security system faces many problems. The two main problems are the localisation and fragmentation in the

98. Li Kungang, Qiao Anli: The Difference between Labor Contracting and Labor Relations: Based on the Analysis of Employment History Development, China Labor, 2015 (3).

99. Liu Huan, Xiang Yunhua. Social Security System Reform Based on Common Prosperity: Internal Mechanism, Existing Problems and Practical Path, Social Security Research, No. 4, 2022.

management of social insurance.⁹⁹ Except for pension insurance, which was coordinated at the provincial level in 2020, other kinds of social insurance operate at the municipal or county level.

1.3.2. Challenges to Social Security Brought by Platform Employment

As mentioned above, social insurance is a response to changes in the patterns of social labour in industrial society. In countries around the world, social insurance covering industrial injury, unemployment and pensions are linked to labour relationships. Where there are labour relationships, social insurance premiums are paid. However, with the rise of platform employment and so-called “flexibility” in employment, many platforms in China and abroad deny that they are employers and emphasise that they are providers of job information, which makes it challenging to include platform employees in the social insurance system.

This situation is not yet very serious in Germany, where the number of people employed by platforms has remained at a relatively low share of the overall employed population. In addition, the German Federal Labour Court has already played a role in reversing the practice of platforms’ negation of labour relationships through the determination of labour relationships between people employed by platforms and platforms in individual cases. In China, however, it is a much more serious problem that people employed by platforms are not covered by social insurance.

First, in China, platform employment accounts for a high proportion of the total working population. Approximately 3.987 million riders received income through Meituan in 2019,¹⁰⁰ and as of December 2019, the number of China’s online registered taxi drivers reached 38.09 million.¹⁰¹ The proportion of full-time employment in platform employment is high, and in 2021, the Ele.Me

platform reported 65.3% of riders engaged in full-time rider work.¹⁰² At the end of 2018, the number of couriers in China reached 3 million,¹⁰³ and the platform Huolala added 900,000 new drivers in 2020.¹⁰⁴ So if more and more workers are left out, it will not only be detrimental to the protection of workers’ rights and interests, but also to the sustainable, healthy development of the platform economy.¹⁰⁵

1.3.3. Reasons for Exclusion From Social Insurance

The reasons that platform workers are currently excluded from social insurance are complex.

First, unclear labour relationships hinder the payment of social insurance. Under the Chinese legal system, social insurance premiums must be paid only when there is a full-time labour relationship. But platform companies employ various measures to attempt to deny that labour relationships exist, which is a great obstacle to the inclusion of platform employees in social insurance systems.

Secondly, under the fragmented social insurance system, the enforcement of social insurance relies mainly on the local labour inspection administration. But the local governments in labour-importing cities may not pay much attention to the social insurance issues of the migrant workers; in addition, there is competition among cities to attract more investment, and too strict enforcement could discourage enterprises from investing, which is also the reason that even if labour relationships are established, some platform employees will remain excluded from the social insurance system.

Third, in the case of part-time labour relationships, only industrial injury insurance must be paid, and other social insurance does not have to be paid, which results in both part-time workers and employers paying no attention to the issue of social insurance for part-time employees.

100. Meituan Research Institute, Meituan Rider Employment Report during Epidemic Period in 2019 and 2020, <https://mri.meituan.com/research/report>.

101. Sohu.com: Ride-hailing Encyclopedia: 2019 Ride-hailing Market Analysis Report 70% Drivers’ Monthly Average Income Is below 6000 Yuan, <https://www.sohu.com/a/361610299j80395>.

102. Lan Dingxiang, Zhu Qi, Wang Jin: A Study on Labor Relations of Platform Flexible Employment: A Case Study of Outsourcing Riders, *Chongqing Social Sciences*, No.10, 2021.

103. Ibid.

104. Huolala Official website: Xinhua News Agency Client and Huolala Jointly Released 2020 Urban Freight Data Report <https://www.163.com/tech/article/FVR3IP6400097U7R.html>.

105. Zheng Gongcheng: China’s Social Security: Current Situation, Challenges and Future Development, *China Journal of Social Security*, No. 9, 2022.

Some enterprises simply buy commercial accident insurance to cover the employment risks of part-time workers.

Fourth, instead of facing punishment for evading social insurance obligations and violating the law, employers can save labour costs and gain advantages in market competition, causing more platform employers to evade their legal responsibilities and ignore the baseline of legality.

It is important that the difficulties of social insurance collection are overcome. Whether social insurance is paid or not is a vital matter that affects social stability and social security. Local governments can ignore it, but the central government should act decisively and should not pursue immediate short-term benefits at the expense of social security and long-term benefits. The central government's policy has always been oriented toward social stability and has always emphasised that people should have a sense of being rewarded. The policies of the central government are not well implemented if the social security issues of the hard-working platform employees are neglected.

Of course, paying social insurance will increase the operating costs of the platform companies, which may affect the operating efficiency of the platform economy, and may even lead some platforms to stop operating, but this is the price of social security. Dr. Johanna Wenckebach, head of Germany's Hugo Sinzheimer Institute for Labour Law, said in an interview: "The departure of such a company from the market that cannot keep the bottom line, that enjoys rights without fulfilling its obligations and that does not create a safety net, is not regrettable."¹⁰⁶

The law intends to create a fair market, for the benefit of society as a whole, not for the benefit of a few companies. Exactly this function needs to be strengthened.

1.3.4. Summary

The purpose of social security is to include the working population in social insurance. In China, platform

employment has led to a large number of workers not being covered by social insurance through the denial of labour relationships, the use of part-time employees and multi-platform employment, etc. This phenomenon creates a great deal of social risk and a public finance risk, and should be solved by improving the system.

1.4. Reputation

1.4.1. Consumer Rating-Driven Reputation Systems

The platform labour market is typical of "transactions with strangers", which is distinctly different from traditional employment management. During the transaction, the platform identifies itself as a "market" or "information service provider", while the worker is depicted as an "independent contractor", a "freelancer", or a "self-employed person" rather than an employee. As a result, in the world of the digital economy, real-life and constant interpersonal communication are being replaced by instant human-computer interactions devoid of personal emotion.

Thus, traditional evaluation and motivation mechanisms are no longer suitable to platform labour management. The long-term incentive methods such as internal promotion and employee stock ownership plans, which are common in traditional employment, cannot be applied in the case of on-demand platform work featuring short-term micro-tasks. Since online workers are atomised individuals in social relationships with scarcely any communication with one other, informal group norms cannot be formed to regulate individual behaviours either.¹⁰⁷

In order to effectively control moral hazard and overcome information asymmetry, consumer-based reputation systems are adopted by the overwhelming majority of platforms.¹⁰⁸ A far cry from traditional labour control, in the platform labour market, consumers are assigned with the power of supervising and rating online work

106. <https://www.bund-verlag.de/aktuelles~Eine-wichtige-Entscheidung-fuer-die-digitalisierte-Arbeitswelt~.html>

107. Anne M. Farrell, Jonathan H. Grenier & Justin Leiby, "Scoundrels or stars? Theory and evidence on the quality of workers in online labor markets," *The Accounting Review*, no.1 (2017): 93-114, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2424718, accessed on 6th September 2022.

108. Lukac, Martin & André Grow, "Reputation Systems and Recruitment in Online Labor Markets: Insights from an Agent-Based Model," *Journal of Computational Social Science*, no. 1 (2020): 207-29, <https://link.springer.com/article/10.1007/s42001-020-00072-x>, accessed on 6th September 2022.

performance. After receiving services, it is the consumers who give scores or grades and provide comments or complaints. Thus, the reputation systems are based on digital information including consumer ratings and comments, worker profiles, historical service records and so on. Such digital reputation is the foundation of trust in “transactions with strangers” in the platform labour markets. By virtue of reputation systems, the platforms can effectively regulate labour behaviours and efficiently match supply and demand.

1.4.2. Intangible Assets of Online Work

The digital reputations formed out of consumer ratings in the process of online work are intangible assets for platform workers, highly correlated with their income levels and opportunities.¹⁰⁹ In the location-based platforms with a high degree of labour process control, such as Meituan and Uber, the platforms supply rewards and punishments, and allocate orders according to consumer ratings. On the web-based platforms with a low-degree of labour control, such as MTurk and Upwork, the platforms disclose the workers’ historical service records and prior clients’ feedback, thus potential clients could compare and choose the workers with comparatively good reputation records. The major reputation systems adopted by the platforms are illustrated below.

Meituan is one of China’s largest internet companies providing food delivery, travel booking, movie reviews, restaurant reviews and various other lifestyle services. Once an order is received, the platform discloses live to the customer the location and status of the delivery worker known as the “rider”. The customer can monitor the whole service process, for instance, whether the rider takes a break. After each delivery, the customer is prompted to review the rider’s performance on a scale of one to five stars, ranging from “very bad” to “very good”. The better reviews a rider has, the more rewards he or she receives, giving him or her higher rankings. High-ranked riders are privileged and receive more orders, and might receive a greater share of service fees.¹¹⁰

Uber is a well-known transport company, nearly ubiquitous in North America and Europe. Passengers are encouraged to rate drivers’ service on a scale of one to five stars and write detailed comments. Rewards and punishments in Uber are based on this feedback, including acceptance rate, cancellation rate and scoring. The drivers with sufficiently low scores are suspended or fired, a process known as “deactivation”.¹¹¹ In order to receive good feedback, drivers must voluntarily accept passengers’ control over services, such as adjusting the temperature and music in the car according to passengers’ tastes, and by providing other amenities like phone-charging and tissues, etc.

As one of the largest freelancer platforms globally, Upwork discloses relevant key information about the freelancers, such as personal information (including educational background, work experience, etc.), work history (including number of completed jobs, hours worked and total earnings, etc.), and prior clients’ reviews (including up to 5-star rating, specific comments, etc.). Such personal profiles, especially client feedback therein, play a crucial role in whether freelancers receive more jobs in the future. Upwork even calculates freelancers’ Job Success Score, which comprehensively reflects clients’ satisfaction with their overall work history. Clients assign or algorithmically funnel more tasks towards freelancers who have built up strong reputations by receiving positive client feedback. Upwork also certifies the top 10% ranked talents with a dedicated “Top Rated” badge.¹¹² This badge not only helps a freelancer stand out from others and attract more clients, but also brings a package of benefits including reduced fees, faster payments, premium support, etc.

1.4.3. Distorted Systems Unfriendly Towards Workers

In the typical two-sided market of online work, with the platforms systematically handing over to consumers the power of surveillance and evaluation of workers’ service process, the workers have become the most vulnerable party, even compared to the consumers. At

109. Alessandro Gandini, Ivana Pais & Davide Beraldo, “Reputation and trust on online labour markets: the reputation economy of Elance,” *Work organisation, labour & globalisation*, no.1 (2016): 27-43, https://www.jstor.org/stable/10.13169/workorglaboglob.10.1.0027#metadata_info_tab_contents, accessed on 6th September 2022.

110. Irene Zhou, “Digital Labour Platforms and Labour Protection in China,” ILO Working Paper, October 2020, https://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/---ilo-beijing/documents/publication/wcms_757923.pdf, accessed on 6th September 2022.

111. Alex Rosenblat & Luke Stark, “Algorithmic Labor and Information Asymmetries: A Case Study of Uber’s Drivers,” *International Journal Of Communication*, no.10 (2016): 3758-3784, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2686227, accessed on 6th September 2022.

112. Upwork, “Top Rated,” <https://support.upwork.com/hc/en-us/articles/211068468-Top-Rated>, accessed on 6th September 2022.

present, consumer ratings-driven reputation systems play a prominent role in all types of platforms. However, a range of problems emerge when platforms rely heavily on these reputation systems, which means that the reputation systems have failed the most vulnerable party – the workers.

Consumer ratings are becoming a source of potential employment discrimination. This kind of rating is quite subjective and nearly uncontrollable. Consumers are highly likely to post negative comments about online workers merely because of their biases regarding gender, nationality, religion, race or ethnic origin. Such consumer prejudice can hurt a worker's digital reputation, and can even lead to deactivation, in other words, absolute employment discrimination. Thus, reputation systems have provided a facially neutral channel for consumer discrimination dictating workers' employment environment. Worse still, platforms may implement biases without taking legal responsibility, as the decisions of penalty or deactivation are grounded on a bulk of systemically biased consumer prejudices.¹¹³ A considerable number of surveys and a large amount of research have established that the platform economy is no less biased than the real-world sector.¹¹⁴ For instance, according to a survey conducted by Meituan itself, 3.987 million riders worked for its platform, of which males made up 93.3%.¹¹⁵ The empirical statistics indicate that the gender pay gap and other forms of unequal treatment are even wider in platform-facilitated work.¹¹⁶

Platforms always call themselves "customer-centred" and state that consumer satisfaction is a primary goal.¹¹⁷ Actually, they are motivated to please their customers in order to grow their market share, because consumer

experience is a key factor to the survival and success of the platforms' business. For example, Meituan and its rival, Ele.Me, have been competing fiercely to provide shorter delivery times to cater for consumers. To please consumers, the workers must face strict monitoring and abusive punishment. The "strictest algorithm", which sparks wide social concern in China, is applied by platforms which optimise efficiency at the cost of decent working conditions. For instance, an investigative report revealed that Meituan's riders could only meet tight deadlines that the algorithm set for deliveries by riding aggressively, flouting traffic rules, riding too fast or running red lights, behaviour which endangers the lives and health of themselves and others.¹¹⁸ In addition to stringent algorithmic control, "penalty-based management", a prevalent instrument embedded in most of China's platforms, further worsens work conditions. When receiving complaints or negative reviews from consumers, platforms tend to penalise workers directly without investigating the facts or listening to the riders themselves. The penalty is predatory, which means workers pay the price. It is reported that one penalty normally amounts to 30 to 50 deliveries, which renders a day's work or several days' work in vain for a rider.¹¹⁹ By shifting the power of surveillance and evaluation to the consumer, labour disputes and conflicts arising from platform work have been transferred to consumers. Paradoxically, even though the platforms impose abusive fines on the workers, the workers' anger is often directed at consumers who give unreasonable negative feedback, and not at the platforms. This management technique exacerbates social conflicts, like the clashes between riders and consumers reported by the media, such as the case of a deliveryman stabbing a customer in revenge for a bad rating.¹²⁰

113. Alex Rosenblat, Karen E.C. Levy, Solon Barocas & Tim Hwang, "Discriminating tastes: Uber's customer ratings as vehicles for workplace discrimination," *Policy and Internet*, no.3 (2017): 256-279, <https://doi.org/10.1002/poi3.153>, accessed on 6th September 2022.

114. Nicola Countouris & Luca Ratti, "The Sharing Economy and EU Anti-discrimination Law," in *The Cambridge Handbook of the Law of the Sharing Economy*, ed. Nestor M. Davidson, Michèle Finck, John J. Infranca (London: Cambridge University Press, 2018), 486, https://discovery.ucl.ac.uk/id/eprint/10052445/10/Countouris_sharing_economy_and_eu_antidiscrimination_law.pdf, accessed on 6th September 2022.

115. Meituan Research Institute, "Report on employment of Meituan riders in pandemic period of 2019 and 2020," <https://about.meituan.com/research/report>, accessed on 6th September 2022.

116. Arianne Renan Barzilay & Anat Ben-David, "Platform Inequality: Gender in the Gig-Economy," *Seton Hall Law Review*, no.393 (2017): 394-431, <http://dx.doi.org/10.2139/ssrn.2995906>, accessed on 6th September 2022.

117. Meituan, "About Meituan," <https://about.meituan.com/en/details>, accessed on 6th September 2022.

118. Youxuan Lai, "Delivery Drivers, Stuck in the System [外卖骑手, 困在系统里]," *People [人物]*, September 2020, <https://mp.weixin.qq.com/s/Mes1RqIOdp48CMw4pXTwXw>, accessed on 6th September 2022.

119. Hui Huang, "Algorithmic management in food-delivery platform economy in China," *New Technology, Work and Employment*, January 2022, <https://doi.org/10.1111/ntwe.12228>, accessed on 6th September 2022.

120. The Paper[澎湃新闻], "The Dilemmas of Platforms", https://www.thepaper.cn/newsDetail_forward_9520041, accessed on 6th September 2022.

Though digital reputations are important assets for workers, they are not compatible nor portable across platforms. To create their own network effects, the platforms restrict workers from sharing or transferring reputation data to other platforms such as consumer ratings, text comments, certifications, sales records.¹²¹ Either working on several platforms simultaneously or changing platforms is a common rather than exceptional phenomenon. Workers have to manage separate reputations on multiple platforms, and the ones who have built good reputations on specific platforms could find it challenging and costly to change platforms. Thus, the exclusivity and non-transferability of digital reputations constitutes a powerful lock-in effect which limits workers' options and increases their dependency on platforms. In a more general sense, such practices hamper competition between platforms, and large incumbents could consequently develop into monopolies.¹²² At an early stage, platforms compete for users (workers, consumers, etc.) through fierce subsidy wars, for example, Uber and Lyft in the US, Didi and Kuaidi in China.¹²³ Once a platform has established its own network effects, and has the assurance that workers and consumers have become dependent on it, it will begin to reap the value from workers and consumers by increasing commission rates or pushing advertisements, rather than subsidising services. Hence, maintaining fair and open competition is crucial for the sustainable development of the platform economy. Creating a cross-platform reputation mechanism could remove the barriers to entry, in that start-up platforms could launch their businesses easily by importing workers and their reputation data from large incumbents. In this respect, making digital reputations compatible and portable would not only be of benefit to platform workers, but also the whole market.

1.4.4. Summary

In order to effectively oversee workers' service quality and satisfy consumers' demands, platforms have introduced and widely adopted consumer ratings-driven reputation systems. These systems encourage consumers to supervise and rate work performance, which is distinctly different from the internal management systems deployed in traditional companies. Consumer ratings shape workers' reputation and determine their capacity to generate income on platforms. However, consumer-based reputation systems, if not well regulated, have the potential to become distorted and undermine workers' rights and interests, for example, by enabling discrimination originating from consumer ratings, generating strict control and harsh penalty management, and restricting the sharing and transfer of reputation data across platforms.

1.5. Self-Organisation

1.5.1. Challenges to Trade Union Organisations

Similar to the situation in traditional labour relationships, under the platform employment model, platform workers also face the dilemma of lacking bargaining power. On the one hand, with the help of digital technology, platform companies have more diversified employment options, such as subcontracting work tasks to unspecified labour service provider groups through network platforms and completing work through large-scale, socialised collaboration.¹²⁴ On the other hand, platform companies are showing a trend towards centralisation in their markets. For example, in China's food delivery platform market, two platforms, Meituan and Ele.me, account for more than 90% of market share.¹²⁵ In the EU, two food delivery platforms, Delivery Hero and

121. Timm Teubner, Florian Hawlitschek & Marc T. P. Adam, "Reputation Transfer," *Business & Information Systems Engineering*, vol.61 (2019): 229-235, <https://doi.org/10.1007/s12599-018-00574-z>, accessed on 6th September 2022.

122. Timm Teubner, Marc T. P. Adam & Florian Hawlitschek, "Unlocking Online Reputation: On the Effectiveness of Cross-Platform Signaling in the Sharing Economy," *Business & Information Systems Engineering*, vol.62 (2020): 501-513, <https://doi.org/10.1007/s12599-019-00620-4>, accessed on 6th September 2022.

123. Zhixiang Fang, Rongxiang Su & Lian Huang, "Understanding the Effect of an E-Hailing App Subsidy War on Taxicab Operation Zones," *Journal of Advanced Transportation*, vol.2018, <https://doi.org/10.1155/2018/7687852>, accessed on 6th September 2022.

124. Li Jingfeng and Liang Minhui, "A Preliminary Study on the Internet based Crowdsourcing Model of Human Resource in the Sharing Economy Era", *On Economic Problems*, No.4,2016, p.96.

125. Qianzhan Industry Research Institute, Analysis of the market size and competition pattern of China's food delivery industry in 2021 Douyin's two major advantages in entering the food delivery market, <https://bg.qianzhan.com/report/detail/300/211223-4098960b.html>

Glovo, have become the target of EU antitrust investigations.¹²⁶ Therefore, platform companies can unilaterally determine or change the working conditions of platform workers by taking advantage of their dominant market and technological positions, while workers either choose to accept or lose platform job opportunities. Compared to traditional employment, union organisations face multiple challenges under the platform employment model.

(i) Platform employment brings challenges to traditional unions' organisational model

Under the traditional work mode, workers usually have a common workplace, relatively stable working hours and group structures, which is conducive to the establishment and activities of trade union organisations. However, the platform employment model is characterised by decentralised workplaces, fragmented work tasks and isolated worker groups, which are not conducive to the formation and development of trade union organisations.¹²⁷

The workplace space where platform workers coexist is a virtual online platform system, and workers are usually in different physical places even if they provide labour offline according to orders coming from the system. The work content of platform workers is usually fragmented order tasks, and platform workers have greater work freedom, with relatively free ability to access and exit platform software. In the whole work process, platform workers rely more on their own skills and order information from the platform, and generally do not collaborate with other workers.

(ii) The platform workers lack bargaining power

The imbalance of bargaining power underscores the essential necessity for collective bargaining. Under the

platform employment model, in the face of large platform companies, platform workers who provide on-demand services face the dilemma of lacking bargaining power.

On the one hand, with the help of internet platform software and digital information resources, platform enterprises offer more diversified employment options. Enterprises can subcontract work tasks to unspecified labour service provider groups through network platforms and complete work through large-scale, socialised collaboration.¹²⁸ Without technical support, it would be difficult for platform workers to engage in on-demand labour.

On the other hand, platform companies are displaying a trend of centralisation in their markets. For example, in China's food delivery platform market, the platforms Meituan and Ele.me account for more than 90% of market share.¹²⁹ Meituan has been subject to antitrust penalties for abusing its dominant market position to restrict competition by "choosing one over the other".¹³⁰ In the EU, two food delivery platforms, Delivery Hero and Glovo, have also become the target of EU antitrust investigations.¹³¹

Therefore, platform workers are obviously in a disadvantaged position in the face of platform companies that deploy the advantages of digital technology. While registering on the platform and engaging in work, platform workers either accept the working conditions unilaterally proposed by the platform company, or choose to lose the platform job opportunity.

(iii) The ambiguous legal status of platform workers affects their participation in union organisations and collective bargaining

Since platform companies usually define their legal relationships with platform workers as non-labour relationships, platform workers face legal obstacles

126. Joan Faus and Toby Sterling, Germany's Delivery Hero, Spanish Unit Glovo Targeted in EU Antitrust Raids, Reuters, July 6, 2022.

<https://www.reuters.com/business/retail-consumer/eu-antitrust-watchdog-raids-online-food-groceries-delivery-companies-2022-07-06/>

127. Ban Xiaohui, "Beyond Labor Relations: The Expansion and Path of Collective Labor Rights in the Platform Economy," *Jurisprudence*, No. 8, 2020, p. 162.

128. Li Jingfeng and Liang Minhui, "A Preliminary Study on the Internet based Crowdsourcing Model of Human Resource in the Sharing Economy Era", *On Economic Problems*, No.4, 2016, p.96.

129. Qianzhan Industry Research Institute, Analysis of the market size and competition pattern of China's food delivery industry in 2021 Douyin's two major advantages in entering the food delivery market, <https://bg.qianzhan.com/report/detail/300/211223-4098960b.html>

130. Coco Liu, China Fines Meituan \$530 Million in End to Antitrust Probe, Bloomberg, October 8, 2021.

<https://www.bloomberg.com/news/articles/2021-10-08/food-delivery-giant-meituan-gets-530-million-antitrust-fine?leadSource=uverify%20wall>.

131. Joan Faus and Toby Sterling, Germany's Delivery Hero, Spanish Unit Glovo Targeted in EU Antitrust Raids, Reuters, July 6, 2022.

<https://www.reuters.com/business/retail-consumer/eu-antitrust-watchdog-raids-online-food-groceries-delivery-companies-2022-07-06/>

in organising or joining trade unions and conducting collective bargaining.

First of all, the Chinese Trade Union Law is unclear as to whether union membership is limited to employees in a labour relationship. Article 3 of the Trade Union Law limits the eligibility for participation in and organisation of trade unions to “employees” who “earn wages as their main source of livelihood”, but the Trade Union Law does not explain whether “wages” and “employees” are concepts under labour relations.

Second, China’s regulations on the subject of collective bargaining are also vague. Article 2 of China’s Collective Contract Provisions provides that a collective contract refers to “a written agreement between the employer and the employees on labour remuneration, working hours, rest and leave, occupational safety and health, vocational training, insurance and welfare, etc., signed through collective bargaining in accordance with the provisions of laws, rules and regulations.” Again, the legislation does not explicitly state whether the term “employees” is limited to workers in labour relationships or not. Some local legislation explicitly limits the workers in collective bargaining to those with labour relationships. For example, Article 3 of the Shanghai Regulations on Collective Labour Contracts provides that “collective bargaining as referred to in the Regulations refers to the activity of equal consultation between the employees of an enterprise and the enterprise on matters related to labour relations.”

Therefore, some Chinese scholars argue that if workers do not establish labour relationships with the enterprise, i.e., they do not meet the conditions of eligibility to join a labour union,¹³² they also cannot enjoy the right of collective bargaining.¹³³

(iv) Platform workers’ participation in collective bargaining conflicts with Anti-Monopoly Law

Platform workers who are not in a labour relationship but organise or join trade unions to negotiate with platform enterprises over the terms of work conditions, may be suspected of violating the provisions of the Anti-Monopoly Law.

Article 12 of the Anti-Monopoly Law of China provides that an operator is a natural person, a legal person or other organisation engaged in the production of goods, trade or the provision of services. If platform workers are classified as non-workers, they may fall within the scope of the concept of “operator” under the Anti-Monopoly Law. In this case, the platform workers are suspected of violating the provisions of the Anti-monopoly Law through collective and concerted actions to restrict the trading conditions with the platform companies, such as fixing or reducing the percentage of service fees extracted by the companies, or jointly resisting trading with the companies.

In some countries, the behaviour that a person who is not in a labour relationship participates in collective bargaining has already conflicted with anti-monopoly rules. In December 2015, the Seattle City Council passed legislation that enables online drivers with Independent Contractor status to bargain collectively with Lyft, Uber and other online transportation companies.¹³⁴ However, the U.S. Chamber of Commerce filed a lawsuit against the Seattle regulations, arguing that it violates Section 1 of the Sherman Act. The U.S. Court of Appeals for the Ninth Circuit ruled that the Seattle regulations were not immune from the application of anti-monopoly laws.¹³⁵ In the EU, unions could potentially be found in violation of anti-monopoly laws when they negotiate with businesses on behalf of self-employed workers. For example, in the Dutch FNV case,¹³⁶ the FNV union entered into a collective

132. Wang Xudan and Lin Hui, “Reflections on Some Legal Issues Regarding the Membership of Logistics Freight Drivers”, *Journal of Beijing Trade Union Cadres’ College*, No. 1, 2019, p. 47.

133. Li Gan, “The Identity Positioning of Net-Car Drivers in Collective Labor Law,” *Journal of the China Institute of Labor Relations*, Vol. 1, No. 1, 2017, p. 45.

134. Dmitri Iglitzin, Jennifer L. Robbins, *The City of Seattle’s Ordinance Providing Collective Bargaining Rights to Independent Contractor For-Hire Drivers: An Analysis of The Major Legal Hurdles*, 38 *Berkeley J. Emp. & Lab. L.* 49, 50 (2017).

135. *Chamber of Commerce of The USA v. City of Seattle* 890 F.3d 769 (9th Cir. 2018).

136. The FNV trade union has reached a collective agreement with the Dutch Musicians’ Union and the Dutch Association of Orchestral Alternatives Foundation regarding replacement musicians for orchestral members, which applies not only to replacements in the capacity of employees but also to replacements in the capacity of independent contractors. In particular, Article 5 of the Annex states that self-employed substitutes should be at least 15% more than employed substitutes in terms of fees for rehearsals and concerts. *FNV Kunsten Informatie en Media v. Netherlands*. Case C-413/13 (2014).

agreement with an enterprise on behalf of self-employed orchestral substitutes. The European Court of Justice ruled that the FNV ceased to be a trade union when it negotiated on behalf of the self-employed, and became an association of businesses.¹³⁷

1.5.2. China's Response Measures

To cope with the challenges brought on by the rapid development of platform employment, the Chinese government and the All-China Federation of Trade Unions (ACFTU) have paid special attention to the function of trade union organisations and promoted the protection of platform workers' rights and interests in the following two ways:

(i) Accelerating the establishment of membership for workers in new employment forms

In 2021, China amended The Trade Union Law to emphasise the obligation of trade union organisations to protect the legitimate rights and interests of workers in new employment forms. Article 3 of the Law added a second paragraph, which clearly stipulates that "trade unions shall adapt to changes in the organisational forms of enterprises, the structure of the workforce, labour relationships, and employment forms, and safeguard the rights of workers to join and organise trade unions in accordance with the law." In order to promote the establishment and membership of workers in new employment forms, the All-China Federation of Trade Unions (ACFTU) has made efforts to strengthen top-level design and promulgated documents such as the "Opinions on Effectively Safeguarding the Labour Rights and Interests of Workers in New Employment Forms" (Issued by ACFTU [2021] No. 12), which put forward specific requirements for promoting the establishment of trade union organisations in platform enterprises and the membership of workers in new employment forms.

Specifically, trade unions should focus on promoting the establishment of trade union organisations in key industry enterprises, especially the leading enterprises, their subordinate enterprises and affiliated enterprises in accordance with the law, and actively explore ways that unionisation can be adapted to the characteristics of different occupations such as truck drivers, car drivers, couriers and delivery workers, and expand the coverage of trade union organisations in various ways – on the individual company, industrial and regional levels – so as to maximise participation of workers in new employment forms.

Since 2021, the ACFTU has concentrated on promoting 12 leading platform enterprises such as Meituan, Didi, Jingdong, etc. to take the lead in encouraging workers in new employment forms to organise unions, and to continue to promote the top 100 internet enterprises in 2021 to build unions, and actively promote online application for union membership and other convenient ways to join unions.¹³⁸ At the same time, grass-roots unions also promote the participation and organisation of unions for workers in new employment forms according to the actual situation in each region. In Shanghai, the creation of trade unions in new industries began earlier, and representatives of government supervisory departments were introduced in the first trade unions in new industries such as online couriers and online food delivery workers, and relevant benefits were provided to workers who committed to joining trade unions in order to attract workers in new employment forms.¹³⁹ According to the characteristics of different occupations, Anhui Huaibei City Federation of Trade Unions has explored tailored ways to build unions and constantly expand the effective coverage of trade unions, and has now developed the unions and completed the work of attracting freight drivers, couriers, car drivers and other groups to join.¹⁴⁰ According to statistics, in 2021 more than 3.5 million new members working in new employment forms joined China's workforce.¹⁴¹

137. FNV Kunsten Informatie en Media v Netherlands. Case C-413/13 (2014), paras.26-28.

138. Workers' Daily: "The All-China Federation of Trade Unions (ACFTU) held a press conference on the achievements and experiences of trade union's work since the 18th Party Congress --- the "achievement book" of ten years of trade union's work", on the website of ACFTU.

139. Jin Shiyu, "Trade Union Construction in Shanghai's New Industry: Practices, Dilemmas and Path Innovation", Trade Union Theory Research (Journal of Shanghai Trade Union Management Vocational College), No. 5, 2021, pp. 24-25.

140. "Huaibei City, Anhui Province Achieves Full Union Coverage of New Employment Pattern Industries", in CIG, <https://www.workercn.cn/c/2022-06-13/6977074.shtml>, last accessed September 16, 2022.

141. Workers' Daily: "The All-China Federation of Trade Unions (ACFTU) held a press conference on the achievements and experiences of trade union's work since the 18th Party Congress --- the "achievement book" of ten years of trade union's work", on the website of ACFTU. https://www.acftu.org/xwdt/ghyw/202208/t20220810_813422.html?sdioEtCa=qqrSEAV3n603ofCic1S10AMCvRI9bgGuT7SnI_uoG5CmdS_9LEQvMsvmkcFmbmqh0goLvivf5q7ZBGVNkUOfEtaeXYpf_18kv7qKb1J2X_4kuuoMUSfpc_yIV4pTqgCzsjwIO4J464oqG0LXPrmS7bAkj, last accessed on September 16, 2022.

Some scholars believe that the current practice of trade union reform in the context of “Internet+” reflects the expansion of the concept of workers in the context of Trade Union Law, and the trade unions are no longer limited to accepting only workers with “traditional” employee status, but also those engaged in new forms of employment.¹⁴²

(ii) Actively safeguarding the legitimate rights and interests of workers in new employment forms

The All-China Federation of Trade Unions (ACFTU) also puts forward the requirement of effectively safeguarding the legitimate rights and interests of workers in new employment forms, and makes requirements for relevant initiatives as follows:

Trade unions at all levels should play the role of industrial unions and actively negotiate with industry associations, leading enterprises or enterprise representative organisations on piece-rate unit prices, order distribution, commission fee ratios, labour quotas, payment methods, rules for entering and exiting platforms, working hours, rest and leave, labour protection, reward and punishment systems, etc. to safeguard the labour and economic rights and interests of workers in new employment forms. Unions should supervise the platform enterprises to strictly comply with the requirements of laws and regulations in the formulation of regulations and algorithms and other important matters, listen to the opinions and demands of workers through democratic management forms such as workers’ congresses and labour-management seminars, and protect the democratic rights of workers such as the right to know, the right to participate, the right to express opinions and the right to supervise operations. Unions should push the platform enterprises to fulfill their social

responsibilities and promote decent work, safe work and comprehensive development of the workers in new employment forms. Unions should strengthen labour law supervision, cooperate with the government and its relevant departments to monitor and enforce the law, and speak out in a timely manner about major violations.¹⁴³

At present, labour unions at all levels are actively carrying out collective bargaining work for workers in new employment forms and taking actions to care for workers in new employment forms, effectively safeguarding the legitimate rights and interests of workers in new employment forms. For example, in Anhui Province, Chuzhou City and Anqing City, labour unions have organised collective bargaining around new industries and listened to the opinions and suggestions of workers in new forms of employment.¹⁴⁴ In Guangdong Province, couriers, food delivery workers, truck drivers, online taxi drivers and other platform employment groups who join the provincial trade union organisations and register in their real names on the “Guangdong Workers’ Welfare” website can enjoy an exclusive accidental medical mutual protection plan.¹⁴⁵ The Gansu Provincial Federation of Trade Unions has invested 12 million yuan to provide special mutual protection for 100,000 newly employed workers, and the city and state federations of Lanzhou and Qingyang have widely carried out inclusive service programmes with the themes of sending, giving and helping, so as to precisely put the care and concern for newly employed workers into practice.¹⁴⁶

Particularly noteworthy is that in July 2022, jointly promoted by the Shanghai Federation of Trade Unions and the Putuo District Federation of Trade Unions, the Ele.me platform and takeaway delivery workers held a consultation forum. The platform signed an agreement

142. Wang Quanxing and Wang Xi, “Identification of Labor Relations and Protection of Rights and Interests of “Net Contract Workers” in China”, Law Science, Vol. 4, No. 4, 2018, p. 72.

143. See “Opinions on Effectively Safeguarding the Labor Rights and Interests of Workers in New Employment Forms” (Issued by All-China Federation of Trade Unions [2021] No. 12).

144. Yang Tao: ““Three Initiatives” of Yingjiang District Federation of Trade Unions Safeguard the Rights and Interests of Newly Employed Workers”, on the website of Anqing City Federation of Trade Unions, <https://aqszgh.org.cn/control/view.php?aid=6056>, last accessed on September 16, 2022; Wang Jing “The Blue Riders’ “Safety Belts” --- Dingyuan County Federation of Trade Unions’ Collective Bargaining for Newly Employed Workers”, Chuzhou City Federation of Trade Unions website, <https://czszgh.ahghw.org/xwzx/jcgh/10531651.html>, last accessed September 16, 2022.)

145. Guangdong Workers’ Protection Mutual Aid Association: “Guangdong Trade Union Members’ Exclusive Accidental Medical Mutual Aid Protection Plan (New Employment Form Workers 2022 Version)”, in All China Federation of Trade Unions website, https://www.acftu.org/fwzd/zghzbzfwd/gzjl/202110/t20211020_795242.html?70keOa4k=qAcJqGci.DboWXBQ5AcT9MffjCUU9jG42FRPZW0A0qq1MhIKkqAqqja, last accessed September 16, 2022.

146. Workers’ Daily: “A truck driver was awarded \$75,000 in accident claims --- Gansu Provincial Federation builds a “health line of defense” for workers with new employment forms”, on the website of the All-China Federation of Trade Unions, https://www.acftu.org/fwzd/zghzbzfwd/gzjl/202206/t20220608_810579.html?70keOa4k=qAcMqGqKJHlljvJQ_T3J_RoGZX6A33.SY1kKCi3sKP0qq1MhIKkqAqqWa, September 2022 16 Last accessed.)

on labour compensation, algorithm optimisation, labour protection, career development, care and concern, dispute handling and other issues. But the effectiveness of the agreement is limited to the workers of Ele.me platform in Shanghai engaged in take-away food delivery work. This consultation is not part of the traditional scope of collective bargaining in China, but local trade unions in China have given full play to the specificity of Chinese trade unions in response to the diversified legal relationships between platform companies and workers, and are actively promoting dialogue and rights negotiation between the two sides.

1.5.3. Germany's Response Measures

German trade unions have adopted a variety of approaches in response to the challenges posed by digital technology, including initiatives to recruit new members, the formation of enterprise workers' councils, and the promotion of broader participation of existing members and employees. Combined with Germany's legislation and practice, the initiatives mainly include the following four measures:

(i) Actively encouraging platform workers to join unions

German platform workers enjoy a clear right to join trade unions. Article 9(3) of the German Basic Law stipulates that freedom of labour association is enjoyed by anyone and belongs to the category of human rights, and members of all occupational classes can enjoy this basic right.¹⁴⁷ Therefore, in Germany, platform workers have the right to join a trade union even if they are self-employed.¹⁴⁸ Trade unions in Germany are not only open to employees, but also to freelancers and self-employed workers. In order to further facilitate the integration of platform workers and other self-employed persons who are not in a labour relationship into trade unions, the German Metal Industry Trade Union (IG Metall) has also amended its statutes in recent years so that self-employed persons who do not have employee status and who are engaged in commercial or freelance activities can join IG Metall.¹⁴⁹

(ii) The possibility of participating in collective bargaining

If platform workers are considered to be self-employed, their rights through collective bargaining are somewhat limited. However, according to Section 12a of the German Collective Agreement Act, if the working conditions are that of "employee-like persons", they can be protected by a collective agreement. There are two main criteria for identifying employee-like persons: first, the work must be performed by them personally; second, they must work primarily for the same company or institution or derive more than half of their income from the same company or institution. Therefore, if a platform worker is judged to have employee-like status, it is legally possible to participate in collective bargaining and be protected by a collective contract. This approach provides a path to resolution of the conflict between expanding the scope of collective bargaining and anti-monopoly laws.

(iii) Promoting co-determination

Worker councils are an important way of realising co-determination by labour and management, and the established association of platform workers is actively promoting the establishment of Worker councils. In the German online food delivery industry, for example, the two main delivery platforms Deliveroo and Foodora have adopted divergent employment models. Foodora has adopted an approach of hiring employees, while Deliveroo workers have the option of being self-employed or employees. Riders on the Cologne-based Foodora platform, with the support of the Food, Beverage and Catering Union (NGG), elected their first Worker council in 2017, ensuring the right of riders to participate in joint decisions regarding the platform and effectively preventing the local union from introducing a system that establishes shift assignments based on the differentiated work performance of the riders.

(iv) Promoting platform workers' rights defense activities

Large German unions are active in defending the rights and interests of platform workers. The advocacy activities of IG Metall, for example, fall mainly under two

147. Manfred Weiss and Marlene Schmidt, *Labour Law and Industrial Relations in Germany*, Kluwer Law International, 4th edition 2008, p. 164.

148. See Lionel Fulton, *Trade Unions Protecting Self-Employed Workers*, ETUC, Brussels, 2018, p. 62.

149. §3 Beitritt, Satzung Der IG Metall, 2020.

categories.

First, the union participates in the development of standards for the protection of platform workers' rights and interests. IG Metall, the Austrian Chamber of Labour and the Austrian Trade Union Confederation have launched the "Fair Crowd Work" campaign. In April 2016, the project held its first seminar on the strategy of the Platform Economy Union in Frankfurt, and issued the Frankfurt Declaration on Platform-Based Work, which made recommendations on safeguarding the rights and interests of platform workers. IG Metall, together with eight German platform work companies, has also launched the "Crowdsourcing Code of Conduct", which serves as a guideline for companies that crowdsource their workforce.

Second, it advocates for the rights and interests of platform workers. IG Metall and the eight platform companies have established a special Ombuds Office to resolve disputes between crowdsourcing workers, customers and platforms and to monitor the implementation of the "Crowdsourcing Code of Conduct." IG Metall and YouTubers established the FairTube e.V. association in 2020 with the goal of improving working conditions on internet platforms such as YouTube, and have initiated dialogue with YouTube on rights issues. In 2020, a crowdsourcing worker filed a lawsuit for legal status with the support of the IG Metall union, and the German Federal Court ruled that he had employee status.

1.5.4. Summary

Due to the internet-based nature of platform work and the unclear legal status of platform workers, the rights of platform workers to organise are affected and may even conflict with anti-monopoly legislation when they engage in collective bargaining. Both China and Germany have responded positively, mainly by adopting more inclusive union organising measures, promoting the democratic rights of workers, exploring the possibility of collective bargaining, and actively campaigning for the rights and interests of workers. It should be noted that China's current trade unions focus on promoting platform workers' unionisation and the development of related collective bargaining is mainly pushed by local federations. But due to the limited participation of leading platform enterprises, the formal significance of such collective bargaining may be greater than its substantive effect.

2. Recommendations

Laws have improved over time, one of the signs of civilised human society. Obviously, labour law and social security law should be improved to keep up with changes on the employment market. When improving them, we should keep in mind that the original intention of labour law was to protect the basic rights and interests of workers, and the original intention of social insurance law was to maintain social harmony. Based on the above introduction and analysis, we make the following suggestions.

2.1. Algorithms: Digital Social Rights

Based on the challenges that platform algorithms present for the protection of workers' rights and the responses and practices of China and Germany on this issue, the following three recommendations can be thus summarised:

2.1.1. Further Clarifying the Standard of Algorithmic Transparency

Both Chinese and German legislation has defined requirements for algorithmic transparency, but in the field of platform employment additional rules are needed to ensure the implementation of algorithmic transparency. Specifically, how platform workers can request platform enterprises to disclose their algorithms, the specific content of platform disclosure, how to judge whether platform enterprises have effectively fulfilled their obligations of algorithm disclosure and how to provide remedies when algorithms produce unreasonable outputs. For these issues, legislation should be introduced.

For example, Chapter 3 of the European Commission's "Proposal on Improving the Working Conditions of Persons Working Through Digital Labour Platforms" (hereinafter referred to as "the Draft") regulates the issue of "algorithmic management" and proposes relatively operable rules.¹⁵⁰

First, it clarifies the specific issue of notification. For example, Article 6 (2) of the Draft provides that, with respect to automated decision-making systems, digital labour platforms must inform workers about the following: the fact that an automated decision-making system is in use or has been introduced; the classification of decisions taken by the system, the main parameters used for decision-making and their importance, including how the worker's personal data or behaviour affects the decision; the decision to restrict, suspend or terminate the platform worker's account, the refusal to pay the platform worker's compensation, the contractual status of a platform worker, or similarly influencing decisions.

Second, the form of notification must be clarified. For example, Article 6 (3) of the Draft requires that the digital labour platform's notice should be provided in the form of a document (which may be electronic) and that the obligation should be fulfilled no later than the first business day, or when a significant change occurs, and when requested by the platform worker. The information provided should be in clear language and presented in a concise, transparent, understandable and easily accessible form.

Therefore, drawing on the relevant contents of the Draft, the C-GD legislation should also further clarify the operational rules of algorithmic transparency to provide clear guidelines for platform companies and platform workers.

2.1.2. Further Strengthening Human Intervention Mechanism

Since algorithmic systems are not perfect in data collection, training and automatic decision-making processes, and even unreasonable operating results occur, it is necessary to incorporate human intervention mechanisms.¹⁵¹ The Chinese legislation and policy system reflects a certain human intervention mechanism by avoiding unreasonable algorithmic rules with the help of

150. "Huaibei City, Anhui Province Achieves Full Union Coverage of New Employment Pattern Industries", in CIG, <https://www.workercn.cn/c/2022-06-13/6977074.shtml>, last accessed September 16, 2022.

151. Workers' Daily: "The All-China Federation of Trade Unions (ACFTU) held a press conference on the achievements and experiences of trade union's work since the 18th Party Congress --- the "achievement book" of ten years of trade union's work", on the website of ACFTU. https://www.acftu.org/xwdt/ghyw/202208/t20220810_813422.html?sdioEtCa=qqrSEAV3n603ofCic1S10AMCvRI9bgGuT7SnI_uoG5CmdS_9LEQvMsvmkcFmbmqh0goLvivf5q7ZBGVNkUOfEtaeXYpf_18kv7qKb1J2X_4kuuoMUSfpc_yIV4pTqgCzsjwIO4J464oqG0LXPrmS7bAkj, last accessed on September 16, 2022.

union participation and listening to employees' opinions, but the specific rules are not perfect.

Article 8 of the EU Draft establishes further refined requirements for manual review rules for major decisions. One, it gives platform workers the right to receive an explanation from the digital labour platform when the automated decision-making system makes or drives any decision that significantly affects their working conditions; two, it requires that the digital labour platform should have a contact person to communicate with platform workers on relevant issues; three, if the automated decision involves restricting, suspending or terminating a worker's account, refusing to pay wages, a decision on a platform worker's contractual status or any decision with similar effect, a written explanation should be provided to the platform worker; fourth, the platform workers should be given the right to seek review, correction or compensation from the digital labour platform if they are not satisfied with the above decisions. It now appears urgent to pass the Draft and implement it into national legislation within the EU.

Drawing on the experience of the EU Draft, Chinese legislators need to put the algorithm's manual intervention mechanism further into practice, not only to give platform workers the right to feedback, but also to further clarify how to carry out communication with platform workers and how to ensure the right to relief for the platform workers, when the platform enterprises refuse to accept their opinions.

2.1.3. More Active Roles by Labour Unions and the Government

In the face of a complicated algorithmic system, the platform workers have difficulties in realising their right to know and advocating algorithm transparency, so it is particularly important for labour unions and governments to supervise and intervene.

For example, Article 6 (4) of the EU Draft obliges digital labour platforms to provide information about automated decision-making systems within the prescribed limits, as requested by the platform workers' representatives and national labour authorities. The second amendment made to the Workers Statute concerning the transparency of algorithms is the addition of Article 6 (4) (iv)

to the chapter on "Collective representation".¹⁵² This provision provides that the unions have the right to be regularly informed of the parameters and rules underlying algorithms or artificial intelligence systems that influence working conditions and decisions to obtain and maintain employment. The scope of this provision is not limited to platform companies, but all companies that use the technology to make these decisions should be included, with the intention of strengthening the transparency of algorithmic technology through collective representation, guaranteeing workers' right to knowledge about the algorithmic technology and preventing its discrimination against them.

China has made it clear that trade union organisations should play a more active role in regulating algorithmic techniques. However, limited by the current institutional underdevelopment of the collective labour relations system, China should also further strengthen the supervisory function of the labour administrative departments. Especially for the complex terminology of algorithms and the problem of judging the reasonableness of public transparency, trade union organisations or labour administrative supervisory departments can hire experts to objectively and impartially tackle relevant technical issues.

2.2. Definition of the "Employee"

In summary, we conclude that the management of platform employment should be strengthened, especially with regards to the identification of labour relationships.

2.2.1. Joint subjects should assume liability

We recommend the stipulation that all subjects involved in cooperative employment (including legal or non-corporate entities, or even individuals) should assume joint and individual liability. In the Labour Contract Law of China an individual labour relationship is between a single employer and a single worker, even in the case of labour dispatch employment, it is the employer and the agency company that establish a labour relationship with the workers. However, in reality, employment over Chinese platforms breaks with this pattern. Therefore, only by

152. <https://www.lexology.com/library/detail.aspx?g=3b24274c-5ff1-491f-842e-7d3af082a6b2>

stipulating joint and individual liability could we break the relativity of the contract and protect the legitimate rights and interests of workers.

2.2.2. Establishing Legal Criteria for Determining Labour Relationships

The legal criteria for determining labour relationships should be established through legislation. Interpretations by the supreme court should be based on this.

In addition to the essential characteristics of personal subordination and economic subordination in labour relationships, some countries have established comprehensive and refined criteria, such as the aforementioned judgment criteria in Germany and the “six-element tests” in the United States, consisting of the criteria of control, investment, opportunity for profit or damage, continuity, skill and business as a whole, etc.¹⁵³

On the basis of the subordination criteria, in the judicial practice of common law, the UK has even summarised a number of auxiliary criteria, such as: whether workers must follow orders, receive training, are members of the overall employee corps, serve in person; the number of working hours, whether they need to report for work, how wages are paid, profits and risks, the use of tools, the workplace, the right to resign, etc.¹⁵⁴ All of these are worthy of reference in China when formulating the criteria for determining labour relationships.

Also, the existing standard of “workers’ labour is an integral part of the employer’s business” in China should be emphasised and applied. The 2005 Notice puts forward an important but often overlooked standard in judicial practice which states that if the labour provided by the worker is an integral part of the employer’s business, then the labour relationship is seen to exist. In the case of platform employers organising resources outside of the platform companies in an attempt to push workers out of the platform and deny a labour relationship, such a

standard should become an important reference factor. It should be a principle that whoever derives profit from organising workers’ labour should bear the responsibilities stipulated by labour law and social insurance law vis-à-vis the workers.

Beyond the long existing standards, the decision of Germany’s BAG on 1 December, 2020 in a case concerning the platform economy has provided a new perspective on the identification of labour relationships that is useful for addressing the specifics of platform employment. In that case, the BAG ruled that a crowdworker could be identified as an employee under certain conditions.

In the case, the defendant was the operator of a platform which offered its customers, among other things, ways to monitor the presentation of branded products in retail outlets and petrol stations. In doing so, it divided the monitoring orders placed with it into micro-orders, which it then awarded to crowdworkers.¹⁵⁵

The defendant had previously concluded a framework agreement with the plaintiff, which stipulated, among other things: (1) the company offers contracts which will be remunerated at the agreed level if they are carried out correctly. The company is not obliged to make such an offer; (2) the crowdworker, as a contractor, is not obliged to accept an offered assignment; (3) the contractor is entitled to use its own employees or to subcontract for the fulfillment of the order; (4) the contract can be terminated by either side at any time.¹⁵⁶

In addition to the framework agreement, the assumption of the monitoring activity required that the plaintiff install an app on his smartphone through which practically all communication with the defendant took place. The orders were described in detail. With their acceptance, a contract with the operator of the platform (but not with its customers) came into being. In this way, no employment relationship was established; there was also no obligation to give instructions.¹⁵⁷

153. Wang Tianyu: On the Identification of Labor Relations Based on the Internet Platform to Provide Labor Services-Based on the Judgments of the Courts of “e-Driving” in Beijing, Shanghai and Guangzhou, Law Science, No.6, 2016.

154. Wang Tianyu: On the Identification of Labor Relations Based on the Internet Platform to Provide Labor Services -- Based on the Judgments of the Courts of “e-Driving” in Beijing, Shanghai and Guangzhou, Law Science, No.6, 2016.

155. Die folgenden Angaben sind dem Urteil des LAG München vom 4.12.2019 – 8 Sa 146/19 (Urteilsausfertigung) und dem Urteil des BAG (Fn.28) entnommen.

156. Wolfgang Däubler, Crowdworker als Arbeitnehmer? p. 6.

<https://www.daeubler.de/wp-content/uploads/2022/10/2204Crowdworker-als-Arbeitnehmer.pdf>, accessed 12th April 2023.

157. Ibid.

In addition, the crowdworker received so-called experience points, which were credited to his user account. This allowed him to improve his individual user status. For this purpose, different “levels” were set up; the more experience points there were and the higher the level derived from them, the greater the number of jobs that could be “booked” at the same time. The plaintiff had most recently reached level 15, which meant that he could accept 15 orders at the same time.¹⁵⁸

In a period of 11 months, the plaintiff completed a total of 2,978 jobs, which made him one of the so-called “power users”; he was therefore awarded a certificate as the “most active microjobber of the year” in autumn 2017. His weekly working time was about 20 hours; he earned about 1,750 euros per month. From this amount, however, all expenses, especially for travel, had to be covered; as a non-employee, i.e. as a self-employed person, the plaintiff also had to bear the full costs of pension and health insurance.¹⁵⁹

The BAG took into account the overall assessment of all circumstances required by Paragraph 611 (1), clause 5 BGB, as well as the recognition of the actual performance of the contract required by Paragraph 611 (1), clause 6 BGB and applied the law in a way that is appropriate to the special organisational structure of platform work.¹⁶⁰

The BAG found that the plaintiff no longer had any significant scope for decision-making in the already established legal relationship. The work steps were predetermined and the time frame was also very limited.

The plaintiff had therefore worked in personal absence within the framework of a uniform employment relationship.¹⁶¹

The BAG held that the personal dependence followed from the fact that the monitoring orders had to be carried out in person. Contrary to what was stipulated in the framework agreement, the plaintiff could not involve third parties because all orders were to be processed via the app and the individual user account, which were not transferable and in which third parties could not participate.¹⁶²

The BAG also held that the long-term and continuous employment of the plaintiff led to an “amalgamation” of the individual orders into a uniform employment relationship for an indefinite period of time.¹⁶³ There had already been an implied employment relationship based on a long-term practice. In this respect, there was an implied agreement of the parties¹⁶⁴ and the instructions from the employer were replaced by detailed obligations laid down in the agreement and the incentive policies, according to which, the more orders the plaintiff took on, the higher the level he would reach, and the more orders he would receive.¹⁶⁵

Some critics think that such an opinion is unacceptable,¹⁶⁶ because the incentive is not to be equated with a “means of pressure” because the level, once attained, would be maintained if no orders were taken for some time.¹⁶⁷ The pressure to accept an order was therefore very low and it was not justified to treat them in the same way as an instruction.¹⁶⁸

158. LAG München (Fn.29), Urteilsausfertigung, S. 9, from Wolfgang Däubler, Crowdworker als Arbeitnehmer? p. 7. <https://www.daeubler.de/wp-content/uploads/2022/10/2204Crowdworker-als-Arbeitnehmer.pdf>, accessed 12th April 2023.

159. Wolfgang Däubler, Crowdworker als Arbeitnehmer? p. 8. <https://www.daeubler.de/wp-content/uploads/2022/10/2204Crowdworker-als-Arbeitnehmer.pdf>, accessed 12th April 2023.

160. Rüdiger Krause, ‘APP-BASED WORK’ ---- The German Case, p. 40.

161. BAG (Fn.28) Tz. 44, from Wolfgang Däubler, Crowdworker als Arbeitnehmer? p. 15. <https://www.daeubler.de/wp-content/uploads/2022/10/2204Crowdworker-als-Arbeitnehmer.pdf>, accessed 12th April 2023.

162. Wolfgang Däubler, Crowdworker als Arbeitnehmer? p. 15 <https://www.daeubler.de/wp-content/uploads/2022/10/2204Crowdworker-als-Arbeitnehmer.pdf>, accessed 12th April 2023.

163. [BAG (Fn.28) para.52 et seq. In this direction also Schneider-Dörr (Fn.9) p. 252, from Wolfgang Däubler, Crowdworker als Arbeitnehmer? p. 15. <https://www.daeubler.de/wp-content/uploads/2022/10/2204Crowdworker-als-Arbeitnehmer.pdf>, accessed 12th April 2023.

164. Verwiesen wurde auf BAG 9.4.2014 – 10 AZR 590/13, NZA-RR 2014, 522; BAG 17.4.2013 – 10 AZR 272/12, NZA 2013, 903 from Wolfgang Däubler, Crowdworker als Arbeitnehmer? p. 15. <https://www.daeubler.de/wp-content/uploads/2022/10/2204Crowdworker-als-Arbeitnehmer.pdf>, accessed 12th April 2023.

165. Wolfgang Däubler, Crowdworker als Arbeitnehmer? p. 15 <https://www.daeubler.de/wp-content/uploads/2022/10/2204Crowdworker-als-Arbeitnehmer.pdf>, accessed 12th April 2023.

166. Thüsing/Hütter-Brungs, NZA-RR 2021, 251 ff., auch zum Folgenden. P. 17

167. Kreßel, DB 2021, 1671, 1678. p.17

168. Wisskirchen/Haupt, RdA 2021, 355, 357. p. 17.

Professor Wolfgang Däubler's viewpoint differs from such critical opinions. He believes that the legally existing "freedom" (to not accept orders for some time) was highly fictitious in nature for all those who depended on their earnings from the crowd-work. The fact that the plaintiff's account was deactivated because of a dispute over 10 euros could be understood as an indication that any under-performance would be considered a minus point and thus jeopardised the work as a whole.¹⁶⁹ In essence, it was subordinate work and had to be governed by labour law. On the face of it, the plaintiff entered into 10 to 12 individual contracts per working day, however, in the long term, it is undisputed that the plaintiff performed subordinate work.¹⁷⁰

The BAG decision is inspiring. A Taiwan scholar points out that, regarding the recognition of the subordination of platform work although platform workers have the freedom to determine if and when they receive orders, if the operational mechanism of the platform, such as the evaluation and assignment mode and standard, constitutes an "indirect coercive force" that affects the platform workers' freedom of decision, then the platform workers are not truly independent and do not possess a true right to refuse to perform labour services. In terms of enforcement, we should examine whether the platform's operational mechanism impacts the behaviour of platform workers, e.g. if the platform restricts the scope of the locations where orders can be received, if it is location-bound. As for instruction, if the platform company clearly describes the work to be performed in advance and no further instruction is required for the execution of the work, the platform company must not instruct the workers. If the instructions given in advance are so detailed that the platform worker has no freedom of decision, personal subordination still exists.¹⁷¹

2.2.3. Improving Regulations on Part-time Employment

Legal regulations on part-time employment should be improved. With the development of different forms of employment, part-time employment in various developed countries has grown considerably in the past two decades. In Germany, in 2021, the number of people in standard employment was approximately 26,274,000 people, of which 4,584,000 worked in part-time employment for more than 20 hours a week, as well as 4,259,000 people in atypical part-time employment. Part-time employment accounted for 33.52% of the population receiving wages.¹⁷² Part-time employment is also widely practiced in countries such as the United States, the United Kingdom and Japan, where the share exceeds 15%.¹⁷³

In the platform economy, the number of part-time workers is also relatively high, but the current labour protections for part-time employees in China is inadequate. This results in unsuitable protections for platform workers, but also hinders the development of part-time employment. We suggest improvements in the following two aspects: (1) Revision of the definition of part-time work and determine that the workers who work fewer than normal working hours are part-time workers; (2) clearly stipulate that part-time workers are also protected by labour law.¹⁷⁴

2.2.4. Reversing the Burden of Proof

A system of reversing the burden of proof should be adopted in the determination of labour relationships. The provisions in the EU Draft on the reversal of the burden of proof can be used to actually reverse the burden of proof in labour arbitration proceedings, civil litigation proceedings, administrative confirmation and administrative proceedings involving labour relationship identification. The shift of the burden of proof to the digital labour platforms is justified because they have complete knowledge of all the factual elements

169. Wolfgang Däubler, *Crowdworker als Arbeitnehmer?* p. 18

<https://www.daeubler.de/wp-content/uploads/2022/10/2204Crowdworker-als-Arbeitnehmer.pdf>, accessed 12th April 2023.

170. In diese Richtung neigend auch Bayreuther, RdA 2020, 241, 242, from Wolfgang Däubler, *Crowdworker als Arbeitnehmer?* p. 19. <https://www.daeubler.de/wp-content/uploads/2022/10/2204Crowdworker-als-Arbeitnehmer.pdf>, accessed 12th April 2023.

171. Qiu Yufan, *The Development and Review of Subordinate Test in Labor Contract: Also a Discussion on Platform Workers' Character of Employee*, Taipei University Law Series, Issue 119, p. 78.

172. Atypical employment - German Federal Statistical Office (destatis.de). <https://www.destatis.de/EN/Themes/Labour/Labour-Market/Employment/Tables/atypical-employment-zr.html;jsessionid=DCCD4AEA2FCDE02BD780AA7008867E12.live721>

173. Li Zhikai: *Dilemma and Countermeasures of Regulations on Part-time Employment in China: from the Perspective of Flexible Employment*, Social Scientist, No.4, 2022.

174. Li Kungang, Qiao Anli: *A Research on the Improvement of China's Part-Time Employment System*, Jianghuai Forum, 3rd Issue, 2015.

that determine the relationship and, in particular, the algorithms by which they manage their operations. Legal and administrative proceedings initiated by digital labour platforms to rebut the legal presumption should not have a suspensive effect on the application of the legal presumption. Successful rebuttal of the presumption in an administrative proceeding should not preclude its application in a subsequent judicial proceedings. When a person working on a platform who is the subject of a presumption of a labour relationship seeks to rebut the legal presumption, the digital labour platform should be required to assist that person, in particular by providing all relevant information held by the platform in relation to that person.¹⁷⁵ The reversal of the burden of proof, combined with the above-mentioned determination of labour relationships considering the characteristics of platform work, will be more conducive to clarifying the nature of platform employment, so as to protect platform workers better.

2.2.5. Exploring Improvements Suitable to Platform Employment

Since platform employment has its own characteristics, while giving platform employees the basic protection of labour law, the characteristics of platform employment could also be taken into account, and new systems could be appropriately explored in terms of overtime payment standards, recognition and regulation of termination of labour relations, etc.

Finally, we would like to emphasise that the determination of whether a worker employed on a platform is in a labour relationship, or a partial labour relationship, a labour service relationship is essentially an important choice that will profoundly influence labour relations in the future. We believe that if we choose to identify them as labour relationships, it will be beneficial not only to the platform workers, but also to the state and society, because, only in this way will a benign ecology form within the platform economy which is conducive to the healthy, harmonious and sustainable development of the platform economy.

2.3. Social Security

With the new standards of recognising labour relationships (see chapter 2.2.2), the basic problems of social insurance payments for full-time workers employed on the platform will be solved, and the recognition of labour relationships will clear the obstacle of social insurance payments. However, two issues that require attention remain: one is the social insurance of workers other than full-time employees; the other is the supervision mechanism and compulsory nature of social insurance collection.

Before discussing these two issues, it is important to realise that platform labour is part of overall socialised labour. In modern society, the labour provided by each individual, except for a very small amount of family labour, is socialised labour. Work performed for the operation of society within labour relationships is characterised by the payment of social insurance premiums. However, objectively speaking, socialised labour in non-labour relationships also requires social insurance coverage in order to bring the providers of social labour into the protection mechanism. There are only two paths that solve this problem: one is to withhold social insurance contributions in the process of social labour; the other is to solve it through state tax subsidies. The first of these makes the most sense, as it balances the cost of employment across different forms of employment. With the worldwide trend of flexible employment, we should strengthen the structures of social insurance systems that are compatible with various forms of flexible employment.

2.3.1. Improving the Social Insurance Payment System

First, it is necessary to include every kind of part-time employee in the social insurance system. Part-time employees should be required to pay social insurance contributions based on their actual working hours with reference to the ratio of social insurance premium payments for full-time employed workers.

Second, there is a need to link part-time social insurance with full-time social insurance and the medical, pension and living security guarantee benefits for urban and rural residents. The advantages of improving

175. See A Directive of the European Parliament and of the Council in on Improving Working Conditions in Platform Work.

part-time employment also include, firstly, balancing the employment cost expenditure of employers, and secondly, making it possible for employees engaged in more than two part-time jobs to obtain one complete social insurance, instead of losing social insurance if they are engaged in part-time employment, as is currently the case, and thirdly, the social security guarantee system for urban and rural residents could supplement the insufficient social insurance coverage for part-time employees.

Third, a system of withholding social insurance premiums according to orders could be explored. Even if workers do not provide labour services under a labour relationship, social insurance premiums can be calculated according to a certain percentage for their social labour volume. In platform employment, the algorithm is so powerful that the social labour of workers can be precisely recorded and measured. In the context of increasingly flexible and changeable employment, we should explore withholding social insurance premiums on a per-order basis in order to include all providers of social labour in social insurance schemes and thus reduce the financial pressure on social security subsidies. In this way, the social insurance problems of some people employed on platforms that could not participate in labour relationships, such as dependent operators, independent contractors and self-employed people, will to some extent be solved. Such a system would make the social insurance system more precise and more helpful in addressing the trends and challenges of flexible employment.

2.3.2. Improving the Monitoring and Responsibility System

A survey sample of those employed in the new sector shows that about 75% of flexibly employed workers are migrant workers, and most of these people are excluded from social insurance for employees and can only participate in resident social insurance. Only 16% of workers who have signed standard labour contracts are not equally entitled to social insurance.¹⁷⁶ The problem

of inadequate social security for the flexibly employed must be addressed.¹⁷⁷ As mentioned above, the localised social insurance system has created a certain contradiction between the collection of social insurance and the development of the local economy, which has diminished the enthusiasm for local social insurance enforcement. For this reason, a social insurance enforcement and monitoring mechanism that transcends local interests should be established to better ensure that the social insurance system is effectively implemented. Therefore, there is a need to improve the monitoring and responsibility system.

First, the administrative liabilities should be strictly enforced. Under current law, when an employer fails to register a worker for social insurance, the social insurance administrative department should order him to make corrections within a time limit. If the employer fails to make corrections within the time limit, a heavy fine should be imposed, as well as a fine of 500 to 3,000 yuan to the person who is directly responsible.¹⁷⁸

Second, a labour and social security inspection system that transcends the interests of local governments should be established. In consideration of the institutional background of fragmented power structures, we recommend the adoption of a vertical management system.¹⁷⁹ A labour and social security supervision institution under the responsibility of the Ministry of Human Resources and Social Security should be established, as well as a national unified premium collection institution that transcends local economic interests. Only in this way can social insurance premiums be collected as required by law; social insurance coverage can be extended; workers can be given better and more reliable protection, and the development of a harmonious society and the sustainable and healthy economic development of China can be promoted.¹⁸⁰

Third, a criminal liability system for failure to pay social insurance should be established. Social insurance provide

176. Resident social insurance includes medical insurance and old-age insurance, which is paid annually and voluntary by local residents, with no mandatory requirements. The premiums and payments are lower compared with the social insurance of the employees,

177. Zheng Gongcheng: Weaving a Safety Net for 200 Million Flexible Employees, *Outlook News Weekly*, May 30, 2022, by reporter Chen Yan.

178. See Article 84 of Social Insurance Law of the People's Republic of China.

179. Huang Guoqin and Jiang Ying: Dilemma, Challenge and Development of Fragmented Labor Inspection Mode in China, *China Labor*, No.18, 2016.

180. Li Kungang: A Study on the Compulsory Issues of China's Social Insurance System, *Journal of Henan University of Political Science and Law Management*, No.2, 2010.

basic protection for workers and ensures social security, and its legal benefits are undoubtedly important and worth guarding with the deterrent effect of criminal liability. In the reality of current-day China, there is a certain prevalence of social insurance evasion by employers who do not pay social insurance, or who adopt agreements with workers to evade social insurance through the issuance of social insurance subsidies. Therefore, it is necessary to institutionalise the relevant legal norms to ensure that employers take the initiative to fulfill their legal obligations to pay social insurance.

2.4. Reputation

2.4.1. Broadening the Scope of Application

With regards to the discrimination arising from consumer-driven ratings systems, the first legal hurdle is still employment status: Many platform workers are considered independent contractors. In China, the existing legal protections against employment discrimination are attached to the status of recruited employees (or candidates participating in the recruitment process), to the exclusion of the self-employed. EU anti-discrimination legislation, which stipulates broad application with no exceptions and covers “conditions for access to employment, to self-employment or to occupation”¹⁸¹ goes further and might be useful for China, too. Secondly, it is also challenging to access the data required to effectively identify discrimination. It is necessary to mitigate this information asymmetry by obliging platforms to establish baseline statistics.¹⁸² Platforms should collect data (including workers’ demographic characteristics, consumer ratings, and employment decisions), and release evaluation reports regarding disparities in consumer ratings and related employment decisions.

2.4.2. Strengthen Democratic Management

The above-mentioned practices of “strictest algorithm” and “penalty-based management”, are to some extent specific to the Chinese context and rooted in the serious imbalance of power between platforms and workers. The groundbreaking policy issued by China’s authorities, “Guiding Opinions on Protecting the Labour Rights and Interests of Workers Employed in New Forms”,¹⁸³ has proposed measures to strengthen democratic management, ensuring that workers have their voices heard. Platform enterprises are required to listen to opinions and suggestions from representatives of trade unions or workers when formulating rules and algorithms directly related to workers’ interests and rights such as entry or exit conditions, order distribution, service fees, commission rates, etc. Platforms are instructed to establish worker complaint mechanisms to ensure that workers’ requests to platforms to review decisions and obtain replies are handled in a timely manner. Even with these constructive proposals, “Guiding Opinions” is non-binding guidance in China, leaving it to local governments to work out the implementation. In this respect, China’s policy-making could refer to the proposed EU legislation, “A Proposed Directive on Improving Working Conditions in Platform Work.”¹⁸⁴ The Directive obliges platforms to regularly monitor and evaluate their automated decision-making systems on work conditions. The workers have the right to contest any decision negatively affecting their working conditions, and the procedure is stipulated in detail: to obtain an explanation, to discuss and clarify the facts and reasons, to get a written statement, to request a review of a decision and to obtain a substantiated reply (with adequate compensation if any).

2.4.3. Regulating the Transfer of Reputation Data

The portability of reputation data is a much neglected issue in China’s policy-making which is also controversial in the EU. The first question that must be answered

181. The EU’s equal treatment provisions are contained in Article 14 of Directive 2006/ 54, and Article 3(1) of Directives 2000/ 43 and 2000/ 78.

182. Alex Rosenblat, Karen E.C. Levy, Solon Barocas & Tim Hwang, “Discriminating tastes: Uber’s customer ratings as vehicles for workplace discrimination,” Policy and Internet, no.3 (2017): 256-279, <https://doi.org/10.1002/poi3.153>, accessed on 6th September 2022.

183. Ministry of Human Resources and Social Security, the National Development and Reform Commission, the Ministry of Transport, the Ministry of Emergency Management, the State Administration for Market Regulation, the National Healthcare Security Administration, the Supreme People’s Court, and the All-China Federation of Trade Unions “Guiding Opinions on Protecting the Labour Rights and Interests of Workers Employed in New Forms”, http://www.mohrss.gov.cn/xgk2020/fdzdgknr/zcfg/gfxwj/ldgx/202107/t20210722_419091.html, accessed on 6th September 2022.

184. Proposal for a Directive of the European Parliament and of the Council on Improving Working Conditions in Platform Work (COM/2021/762 final), <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52021PC0762&qid=1662487117538>, accessed on 6th September 2022.

is who actually owns the reputation data. Article 20 of the EU's General Data Protection Regulation (GDPR) has introduced the right of data portability: Persons "have the right to transmit those data to another controller without hindrance from the controller to which the personal data have been provided". However, reputation data such as ratings and comments are provided by consumers rather than by workers themselves, which makes it unclear whether the reputation data is covered by GDPR or not. In consideration of the significance of reputations for workers' earnings, thus concerning their fundamental economic and social rights, we suggest that workers should be explicitly granted the right to transfer reputation data across platforms. Secondly, as to how to make reputation data compatible and portable across platforms, market initiatives already exist, such as Deemly¹⁸⁵ and Traity.¹⁸⁶ Deemly compiles a user's reputation data on different platforms and converts it into a score which can be used across platforms as an indicator of reliability and reputation.¹⁸⁷ Establishing a cross-platform reputation system would contribute to the activation of reputation capital and the growth of trust across the entire economy of "transacting with strangers", which would ultimately enhance the infrastructure of the internet economy.

2.5. Self-organisation

Integrating the legislative trends and practical strategies in China and Germany, the issue of trade union rights for platform workers should continue to be promoted in the following aspects.

2.5.1. Adopting More Inclusive Union Membership Policies

The Trade Union Law of China and relevant norms should further clarify that trade unions can include new industry practitioners who are not in labour relationships, and

provide clearer support for platform workers' right of association at the legal level. The All-China Federation of Trade Unions (ACFTU) and local federations should play an active leading role in assisting large labour platform enterprises and local subcontractors or cooperators to establish union organisations and absorb platform workers into unions.

2.5.2. Creating Organisational Models Suitable to Platform Workers

It is necessary to actively promote the creation of an industry trade union federation for platform workers. In view of the fact that some large internet platforms often cooperate with local franchisees to "outsource" labour relationships with platform workers in actual employment, the government should promote the formation of industry trade union federations to overcome the fragmentation of employment relationships and create a more appropriate dialogue platform for platform workers with platform enterprises and subcontractors. For example: trade unions in Shanghai's new industry trade union groups with stores and franchises as the smallest units, then joint trade unions within local neighbourhoods, and then district-wide industry trade union federations of these, so that the service scope of industry trade union federations can achieve coverage from the level of outlets to entire regions.

Second, by taking advantage of the network labour characteristics of platform workers, organising activities can be carried out online. In China, platform workers use modern social networks such as QQ groups and WeChat groups to interact and communicate with each other through text, voice and video, even though they cannot communicate face-to-face. Organising through social media and other online platforms has become an important feature of new generation labour groups, and these online spaces are also effective tools for organising workers in unions and other organisations.¹⁸⁸ In some previous instances of spontaneous group rights advocacy,

185. Deemly is a reputation site which gathers users' reviews and ratings from P2P marketplaces, help them build trust for their community, ultimately allow them to take their reputation with them across all online activities. Refer to <https://thehub.io/startups/deemly>, accessed on 5th November 2022.

186. Traity, a Spanish startup, has made trust between strangers online possible by integrating profiles and feedback from various different online platforms. Refer to <https://digital-strategy.ec.europa.eu/en/news/success-story-spanish-startup-traity>, accessed on 5th November 2022.

187. European Commission, "Exploratory study of consumer issues in online peer-to-peer platform markets : final report," Publications Office, 2019, <https://data.europa.eu/doi/10.2838/779064>, accessed on 6th September 2022.

188. Hannah Johnston, Chris Land-Kazlauskas, Organizing On-Demand: Representation, Voice, and Collective Bargaining in the Gig Economy, Conditions of Work and Employment Series No. 94, ILO, 2018, p.31.

internet taxi drivers have in fact used social networking platforms to communicate and take action, and some Meituan delivery workers have formed a “Riders Union WeChat Group” to provide a platform for delivery workers to help each other. To facilitate contact between platform workers, the draft requires the creation of communication channels for individuals performing platform work.¹⁸⁹

2.5.3. Expanding the Coverage of Collective Bargaining

In order to effectively solve the difficult problem of expanding the scope of collective bargaining subjects in relation to anti-monopoly law, the legislation should allow self-employed persons who find themselves in similar situations as workers to participate in collective bargaining. For example, according to the interpretative notes of the European Commissions “Guidelines On The Application of Union Competition Law to Collective Agreements Regarding the Working Conditions of Solo Self-Employed Persons”,¹⁹⁰ solo self-employed persons are in situations comparable to those of workers, who may not be able to individually negotiate good working terms. Digital labour platforms are usually able to unilaterally impose the terms and conditions of the relationship, without previously informing or consulting solo self-employed persons.¹⁹¹ Therefore, the Commission will not enforce EU competition rules against collective agreements regarding work conditions made by solo self-employed people.¹⁹²

2.5.4. Promoting Cross-regional Industrial Collective Bargaining

Although some local labour unions in China have actively promoted platform worker membership and collective bargaining, the core challenge is that platform companies, not platform companies’ partners in various localities, control the algorithms and labour conditions. Thus it is important to promote dialogue between platform workers and the headquarters of platform companies. The case of the Shanghai Ele.Me platform plea mentioned above

reflects a more flexible approach to communication. However, because platform headquarters are registered in specific cities, China should consider promoting cross-regional industry-specific collective bargaining in order to build bridges of dialogue between platforms and platform workers, and the relevant collective agreements can be effectively applied to platform workers in all regions.

189. Art. 15 of the draft.

190. Guidelines On The Application of Union Competition Law to Collective Agreements Regarding the Working Conditions of Solo Self-Employed Persons (2022/C 374/02).

191. Article 3.3 (28) of 2022/C 374/02.

192. Article 3 of 2022/C 374/02.

3. Conclusion

Labour and social security laws are important legal guarantees of the harmonious operation of modern industrialised countries. The rapid economic development of some platforms in recent years has been achieved on the premise that a large number of workers are excluded from the labour protection and social security system. In the long run, this will undermine the harmony of labour relations and social security. In this situation, the government, as the leading authority in coordinating labour relations and the main body responsible for the social insurance system, must take the initiative and act proactively.

Compared to traditional industries, platform companies are not burdened with the costs of labour and social security regulations at present. By virtue of these unfair competitive advantages, platform companies have been developing fast. Some platform companies have achieved market dominance, even abused their power to unilaterally impose unfair work conditions on workers, such as by changing pricing criteria, prohibiting reputation data transfer and work on multiple platforms simultaneously. Therefore, strengthening protection for platform workers is the fundamental solution required to address unfair competition in the labour market, curb market monopolies in the platform economy and maintain the social security system.

Undoubtedly, the platform economy and platform employment are characterised by novel features. Although these new features are not an excuse for the avoidance of the application of labour and social insurance laws, we cannot simply incorporate them into the existing labour and social insurance laws in a rigid manner. We should constantly explore new developments and requirements of the platform economy and platform employment, and improve the labour and social insurance legal system correspondingly. This is essential to promote harmonious labour relations and maintain social security.

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