

# Study on the Occupational Injury Protection System for Takeaway Riders and Other New Industry Practitioners

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**Abstract:** The rapid development of digital technology has given birth to new employment patterns with the typical characteristics of network platforms and high flexibility, whose features make the labor relations recognition standards designed for the characteristics of traditional employment methods reflect the limitations and ambiguity of the system when applied to the new employment patterns, leading to the lack of occupational injury protection for employees in the new industry. The solution to this problem lies in adjusting and transforming the existing lagging institutional arrangements to adapt to the changes in the labor market in the new era. According to the experience of domestic and foreign systems, there are three possible protection paths: the work injury insurance model, the commercial insurance model, and the new occupational injury protection system model. Due to the limitations of the first two models, the third model is more in line with the current needs of occupational injury protection for employees in the new industry. In the specific system design, it is necessary to fully protect the realization of workers' rights and interests, as well as to maintain the enthusiasm for the economic development of the new industry, and to provide continuous, efficient, and enforceable legal system protection for the employees of the new industry.

**Keywords:** new employment pattern, work injury insurance, labor relations recognition, occupational injury protection

## 1. Introduction

The rise of new employment forms has made platform workers a viable force in China's workforce, but how to define the status of this group and how to protect their legal rights is a prominent legal and social issue. "Takeaway riders," also known as "online delivery workers," are an essential part of the platform workforce and will be defined as a new occupation by the Ministry of Human Resources and Social Security in 2020. Under the current law, this group is not recognized as a worker, which has led to many problems. The contradiction between the high risk of labor safety and the lack of occupational injury protection for delivery riders is the most prominent.

The high-risk nature of labor is the primary injury risk characteristic of take-out riders. A news report titled "Take-out riders trapped in the system" in September 2020 showed the perilous situation in the take-out industry. In the face of fierce competition in the takeaway market, platforms use big data technology and artificial intelligence algorithms to continuously pursue efficiency improvements and cost reductions, from the algorithm's sophisticated calculation of order dispatch to the excellent planning of delivery routes, which, in the process of discovering human limits, constantly reduces delivery timelines; and riders, in order to avoid harsh penalties for overtime and obtain points rewards for on-time performance, have no choice but to speed, drive In order to avoid severe penalties for overtime and to obtain points rewards for punctuality, riders have to choose to speed, go against the traffic, run red lights, explore near roads and other kinds of counter-algorithmic behaviors to improve delivery speed, which leads to a significant increase in their labor safety risks.

Takeaway riders have become a hard-hit group in traffic accidents because of the high demand for speed and efficiency from both supply and demand sides of the market. However, with the high accident rate, the platform has yet to purchase workers' compensation insurance for the practitioners uniformly and has only taken out commercial insurance.<sup>[1]</sup> The 2021 Annual Social Responsibility Report on the Protection of Rights and Interests of Meituan Riders shows that dedicated delivery riders are insured by

their partners to the insurance company for employer's liability insurance through the brokerage company, and crowdsourcing Riders are insured by the crowdsourcing service provider directly with the insurance company for accidental injury and third-party liability insurance. The service provider bears the first single premium of \$3 for new crowdsourcing riders, and the subsequent premium of \$3 per person/day is deducted from the rider's commission. Platform companies do not need to purchase work injury insurance for takeaway riders because China's work injury insurance is "tied" to labor relations, and the "de-elaboration" of platform employment makes most platform labor relations outside the scope of existing labor laws. To a certain extent, the platform enterprises have avoided the responsibility and obligation of employing workers. At the same time, the most costly insurance issues are borne by commercial insurance, such as accident insurance purchased by riders. However, commercial insurance generally needs higher contribution levels, biased coverage, difficulties in insurance claims, low levels of protection compared to workplace injury insurance, and no long-term treatment payouts to form comprehensive and effective protection for the occupational injuries riders face.

## **2. The Cause Analysis: The Labor Relations between New Industry Practitioners and New Industrial Enterprises are Difficult to Define**

The core reason for the lack of occupational injury protection for takeaway riders is the difficulty in defining the labor relationship between new industry practitioners and new industrial enterprises. At the present stage, as an essential part of labor protection, occupational injury protection and labor relations are "completely bundled." If labor relations cannot be identified, the law cannot confirm occupational injury protection. The current labor relations framework is based on the core criterion of subordination, and its theoretical prototype is the standard labor relations under the traditional industrialized society. However, the new "platform + individual" employment pattern has emerged in the informationized society.<sup>[2]</sup> The labor relations determination path designed for the characteristics of the traditional employment pattern shows the limitation and ambiguity of the system when applied to the new employment pattern, and the labor relations between the new industry practitioners and the platform are complicated to be determined.

### ***2.1. Institutional factors: the limitations of the existing criteria for determining labor relations itself***

China's current work injury insurance system is constructed based on labor relations. In practice, the fight for platform practitioners' labor and social insurance rights is, first of all, the fight for labor relations. Labor relations are the logical starting point of traditional labor law.<sup>[3]</sup> All institutional arrangements in labor law, including the private law system that provides tilted protection for workers and the public law system that requires employers to bear administrative responsibilities, are established on the basis of labor relations and the prerequisite for workers to enjoy all rights and interests and obtain labor protection is the existence of labor relations with employers. The former Ministry of Labor and Social Security's Notice on Matters Relating to the Establishment of Labor Relations (No. 12 [2005] of the Ministry of Labor) is the highest-ranking legislation on the criteria for determining labor relations and is also the most applied provision in judicial practice. Article of the Circular specifies that in the absence of a written contract between the employer and the worker, "subordination" shall be used to determine labor relations. The Circular, as mentioned above, is often cited by judicial decisions as the legal basis for adjudication, and some local high courts have issued opinions to refine the criterion of subordination further. In terms of interpretation, the criterion of subordination is generally broken down into three elements: personality subordination, economic subordination, and organizational subordination, with personality subordination as the core criterion, economic subordination as the Reference, and organizational subordination as the supplement.<sup>[4]</sup>

This criterion is also recognized by labor law scholars because "subordination is the essential attribute that distinguishes labor relations from other social relations such as employment relations."<sup>[5]</sup> In the context of flexible employment, scholars still adhere to this criterion.<sup>[6-7]</sup> In order to correct the principle of equality in civil law employment contracts and to achieve a substantial balance in labor-management relations, it is necessary to include employment relations with subordinate attributes into the scope of labor law protection. As the core of the three types of subordination, personality subordination emphasizes that workers should obey the organization's work rules, obey instructions, accept the obligation of inspection, and accept the obligation of sanction.<sup>[8]</sup> The employer has the right to direct, supervise and discipline the employee. These three powers enable the employer to ultimately achieve "control" over the employee, thus obtaining higher benefits than general, equal labor market transactions (e.g., contracting, entrusting), and thus can be the most central element in determining the "control" and

"subordination" of the employer.

However, the above-mentioned few provisions as the basis for judicial discretion, inherent lack of academic mechanism, and external lack of specific application elements and interpretation, so that the judiciary is faced with the dilemma of unclear basis and overly broad basis, resulting in frequent judicial practice deviations and lack of constraints and expectations for judges to interpret the law. In terms of theoretical research, the unclear definition and different understanding of the three subordinate attributes have led to confusion in the understanding of the relationship between the three "subordinate attributes," the connotation of each subordinate concept mapping is unclear, and the lack of systematic correlation and logical extension of the doctrinal explanation among the three, which has a weak guiding effect on judicial practice.

On the one hand, in terms of conceptual definition, there are inconsistencies in the understanding of the specific meaning of "economic subordination," including the dependence on economic resources, the employee does not have to bear the business risks, the dependence on economic sources and the disadvantage in economic status, and the economic subordination under different interpretations play a different role in the determination of employment (labor) relationship. The role of economic subordination in the determination of the employment relationship varies. Unlike economic subordination, the connotation of organizational subordination is more precise, but there are still differences in the attribution system. Judicial practice in Taiwan includes "the employee's presence in the employer's business organization" under the subordination of personality along with "obedience to the employer's authority and the obligation to accept discipline or sanction"; some scholars in China include "the employee's work is part of the employer's business" under the subordination of personality. Some mainland scholars have included "the employee's work is an integral part of the employer's business" as a manifestation of economic subordination and as a logical parallel to "who enjoys the profits and bears the risks, and the source of the employee's income."<sup>[9]</sup> With the above understanding, organizational subordination has overlapped with personality and economic subordination.

On the other hand, on the understanding of the relationship between the three, some scholars juxtapose "economic subordination" and "personality subordination"; others believe that "organizational subordination" should be juxtaposed with "personality subordination" and oppose covering organizational subordination within the scope of personality subordination;<sup>[10]</sup> some German scholars believe that organizational subordination is only deduced from personality subordination and does not have the same effect. "Some German scholars believe that organizational subordination is only derived from personality subordination and does not have independence;<sup>[11]</sup> others believe that "organizational subordination can be absorbed by personality and economic subordination. And economic subordination."<sup>[12]</sup> In short, understanding subordination and its encompassing factors is a matter of opinion in the academic community.

More importantly, the mobility, short-term, and flexibility of platform employment have impacted traditional labor relations in many aspects. If the traditional "subordination" theory is continued to be used to determine the nature of Internet platform employment relations, platform workers will face many obstacles in fighting for labor protection. Firstly, many platform workers enjoy substantial autonomy, including whether to provide services, how many services to offer, and when and where to provide services. In contrast, traditional workers are not free to decide whether to work or not, as well as the quantity, time, and place of work. Second, in many cases, platform workers provide their equipment and tools, including vehicles, to perform services, while traditional workers are generally provided with equipment and tools by their employers. Third, many platform workers are paid piece-rate rather than hourly wages, which are paid in almost real-time. Traditional laborers are generally paid hourly, and wages are paid according to a particular cycle. Fourth, the compensation of platform workers generally comes from a proportional share of the platform. At the same time, the wages of traditional laborers are generally fixed and not directly linked to the employer's business income. Fifth, the platform's supervision of service providers is generally achieved with the help of customers through the customer's rating system and other ways to achieve the supervision of platform practitioners. In traditional labor relations, the management and supervision of employees by employers are generally done by employers. Sixth, the entry threshold of practitioners is low, and the entry and exit are free.<sup>[13]</sup> The procedure for platform workers to join the platform is relatively simple, which can often be completed through online operation and the audit of relevant certificates, and the procedure for platform workers to exit the platform is also relatively simple, while in traditional labor relations, the recruitment procedure of employers for employees is more strict. These features, especially the first one, are the strong negation of the "subordination" factor of traditional labor relations, which determines platform workers' labor relations encounter substantial challenges. Judges are often caught in a judicial decision dilemma.

## 2.2. Main factors: Takeaway platforms circumvent employment responsibilities through complex employment models

Table 1: Step-by-step shattering of labor relations by the employment model of take-out platforms (Collated from Beijing Zhicheng Migrant Workers Legal Aid and Research Center: Legal Research Report on the Employment Patterns of Takeaway Platforms)

Three kinds Mode	Specific operation	The way of breaking labor relations
Traditional Mode	Restaurants directly employ takeaway workers for delivery work (Mode 1)	Not difficult to determine the take-away rider and the restaurant constitute a labor relationship.
	Takeaway platforms directly employ takeaway workers (Mode 2)	Most of the takeaway riders have employment contracts, labor relations are not difficult to confirm.
	Takeaway platforms employ riders through labor dispatch (Mode 3)	For the first time, the labor relationship and the actual employment relationship have been divorced. The main way is that the takeaway platform signs a labor dispatch agreement with a labor dispatch company, which dispatches the riders to the takeaway platform.
Crowdsourcing Mode	Takeaway platform directly recruits crowdsourced riders (Mode 4)	Except for a few cases, courts will almost never find that a labor relationship exists between a crowdsourced rider and a takeaway platform. The reason for this is that the take-out platform does not manage the crowdsourced riders in person and does not place restrictions on whether they work or not.
	Takeaway platforms recruit crowdsourced riders through crowdsourcing service companies (Model 5)	The delivery platform cooperates with a crowdsourcing service company, which signs an agreement with the crowdsourced rider, pays the rider through a third party, and buys insurance for the crowdsourced rider. The delivery platform successfully shifts the labor costs and employment risks to the crowdsourcing service company.
Special delivery Mode	Take-out platforms recruit dedicated riders through delivery vendors (Mode 6)	The delivery platform cooperates with a delivery provider (i.e., a labor outsourcing company) to outsource the delivery business, and the delivery provider recruits special delivery riders and directly manages them on a daily basis.
	Web-like outsourcing (Mode 7)	On the basis of Model 6, delivery providers that work directly with takeaway platforms (Tier 1 distributors) often subcontract or subcontract all or part of their delivery operations to multiple other companies or even individuals. The labor relations of the riders are completely broken up through the artificial network-like outsourcing.
	Special delivery riders are registered as self-employed (Mode 8)	The delivery provider cooperates with the flexible labor platform, and the flexible labor platform registers the special delivery rider as an individual businessman, and allows the special delivery rider to sign a contracting agreement with the flexible labor platform in the name of individual businessman. The labor costs and labor risks of upstream delivery platform and midstream delivery providers are eventually all on the downstream special delivery riders who are individual entrepreneurs.

Identifying the labor relationship between platform practitioners and the platform is complex. In addition to the legal system's limitations, it also stems from the fact that the platform cleverly transfers its own employment responsibility through the cooperative employment method.

A study shows that in just over ten years, the take-out platform labor model has undergone a complex and rapid evolution and gradually developed in addition to three categories and eight significant models the Table 1. With the evolution of the platform labor model, the platform enterprises, mainly Meituan hungry, use the market dominant position to successfully divest riders of the labor costs and employment risks outward, layer by layer, through a series of superficial legal arrangements and with which the

delivery business/crowdsourcing service companies and flexible employment platform, the labor relationship with its riders step by step broken,<sup>[14]</sup> resulting in take-out riders and related subjects of labor. The problem of the lack of occupational injury protection for riders is further exacerbated by the fact that the group of takeaway riders cannot be directly included in the existing labor relations-based work injury insurance system.

The above lack of legal regulation of cooperative employment methods artificially breaks the labor relationship, quietly pushing the takeaway riders to the edge of the protection of rights and interests. In judicial practice, the phenomenon of different judgments in disputes involving labor relations of takeaway riders is particularly prominent, as judges in most cases do not recognize the existence of the platform employment relationship, only a small number of cases identify the labor relationship, and individual cases identify the existence of employment relationship between the two sides. In some cases, judges directly deny the existence of labor or employment relationship. At the same time, judges, in many cases, evaded the nature of the legal relationship between platform companies and platform practitioners. Some studies show that: (1) there are apparent difficulties in determining the labor relations of riders in the particular delivery model, and the percentage of determination ("labor recognition rate") has dropped from 100% in the traditional model to 45-60%; (2) the labor rights of riders are "treated differently" in the complex employment model "(2) the labor rights of riders are treated differently under the complex employment model, and the courts have started to decide whether to recognize labor relations depending on the severity of the "scenario" (physical damage or property damage, disability level), and the labor recognition rate of work injury cases is significantly higher than that of workers compensation or social security disputes; (3) the legal segregation of take-out platforms and delivery companies/crowdsourcing service companies is significant. (3) The legal segregation of take-out platforms and delivery companies/crowdsourcing service companies is adequate, and the labor recognition rate of take-out platforms is controlled within 1%. In comparison, delivery companies have successfully reduced the labor recognition rate from 81.62% to 46.89% and 58.62% through network-like outsourcing and individual business models. In the case of infringement cases, almost all of the employers' liability was transferred to the delivery companies/crowdsourcing service companies, and their liability rate was reduced from 100% to less than 15%.

It is worth noting that while the takeaway platform artificially breaks the labor relationship and subtly shirks the responsibility of employment through the lack of legal regulation of cooperative employment, it does not relax the labor management and control of riders. The control of enterprises and platforms over data and algorithms makes them enjoy direct control over takeaway riders. The labor process of takeaway riders shows highly supervisory characteristics, which are reflected in the following three aspects: first, platforms monitor riders in triple space (platform-agent-consumer) by means of Internet technology, thus realizing "over-the-horizon management" of riders; second, the platform has the right to control the labor of riders.<sup>[15]</sup> Second, the platform disciplines riders through economic punishment and ranking incentives, thus making riders a "qualified" workforce; third, the platform adopts extensive data collection and analysis means to include the labor process of riders into all calculable degrees, thus realizing the "data control" of riders. Third, the platform uses extensive data collection and analysis to include the rider's labor process to the extent that it can be calculated, thus achieving "data control" of the rider.<sup>[16]</sup> Under the supervision of algorithms, platform workers in new industry employment are subject to more stringent labor control than traditional jobs.

On the one hand, the takeaway platform improves the efficiency of delivery through the control of riders and maintains an advantageous position in the market competition; on the other hand, it does not need to bear the corresponding social security expenses and employment risks and captures the maximum market profit with the lowest cost. In contrast, riders are gradually pushed to the edge of rights and interests protection. This situation of inconsistent rights and obligations not only infringes on the rights and interests of platform employees but also undermines China's labor legal system, which is not in line with China's labor legal system and should be regulated through the construction of an occupational injury protection system for employees in the new industry.

### **3. The model choice of the new industry occupational injury protection system**

The solution for occupational injury protection of new industry employees lies in adjusting and transforming the existing lagging institutional arrangements to meet the changes in the labor market in the new era. How to guarantee the occupational safety of new industry employees, comprehensive domestic and foreign system experience revelation, there are three ideas; one is to integrate new industry employees into the existing work injury insurance system, the implementation of a unified work injury

insurance system and policy, that is, the work injury insurance model; the second is to negotiate a reasonable price by the platform enterprises and insurance companies docking, suggesting platform employees to buy accidental injury insurance, the insurance cost is borne by The third is to treat new industry employees as a new category of workers and formulate a new system and policy for them, i.e., the new occupational injury protection system model. After analyzing the advantages and disadvantages of the three models, this paper believes that a new occupational injury protection system should be established, adopting the model of occupational injury insurance plus commercial insurance and exploring the establishment of a mode of operation in which the social security department and commercial insurance institutions divide and cooperate.

### ***3.1. Worker's compensation insurance model***

As mentioned earlier, the difficulty of new industry practitioners to participate in work injury insurance is mainly due to institutional barriers. The existing work injury insurance coverage is limited to the group with labor relations, which can no longer meet the needs of reality.<sup>[17]</sup> The core issue is whether the work injury insurance can be unbundled from the labor relationship.

Suppose the existing way of bundling work injury insurance and labor is maintained since participation in work injury insurance is based on the existence of labor relations. In that case, the existing criteria for determining labor relations inevitably need to be expanded to define the relationship between platform practitioners and platform enterprises as labor relations. Undeniably, this protects workers' rights and interests to a certain extent, but at the same time, it will also generate some irreconcilable conflicts. From the perspective of platform enterprises, work injury insurance is compulsory, and the main contributor is the employer. If the new industry practitioners are included in the standard labor relations regulation, the responsibility of paying work injury insurance falls on the platform. In the face of such a large group of new industry employees, if the platform is responsible for all contributions, it will cause substantial financial pressure on the platform economy, which is not necessarily beneficial to the development of the platform economy. From the perspective of the platform practitioners, this group is primarily young people; take Meituan takeaway; for example, the takeaway riders are mainly after 80 and 90, and the youth traits are apparent. Suppose they are included in the standard labor relations. In that case, it will significantly compress the space of "flexibility," which is contrary to their original intention of choosing to engage in the industry and thus discourage their work.<sup>[18]</sup>

If the work injury insurance is unbundled from the labor relationship and it is stipulated that platform-employed people without labor relationships can also participate in work injury insurance, it may lead to the problem of difficulty in defining the scope of work injury insurance coverage. The risk of work-related injury insurance is based on the employer's liability theory, which is the socialization of the employer's liability for damages. In this regard, the "work" in "work injury" is strictly limited. According to the Regulations on Work Injury Insurance, at least the "working time, workplace and work cause" must be present. In order to prove that the employee is under the employer's management, direction, and control, the "three work" elements must be present. The "three work" elements can be expanded, such as work-related injuries or accidents during work and the risk of accidents on the way to and from work. In addition, the employer is obliged to contribute to the work injury insurance. However, the employee is not required to make contributions, and the employer is responsible for the work injury insurance after the work injury accident. The labor relationship is the anchor of the work injury insurance system, which can set the boundary of work injury insurance coverage and achieve the balance of rights and obligations between the employer and the employee within this scope. If the labor relationship is unbundled from the work injury insurance, the "anchor" of the work injury insurance system is undoubtedly removed. The platform employees apply for work injury insurance without the labor relationship; the result will be that the "work injury" is no longer limited to the injury in the process of labor relations. As a result, the boundary of work injury insurance coverage will be infinitely expanded, resulting in a substantial financial burden of insurance payment.

### ***3.2. Commercial Insurance Model***

At the early stage of constructing the occupational injury protection system for new industry practitioners, the commercial insurance model can, to a certain extent, disperse the risk of occupational injury to solve the problem that new industry practitioners have no occupational injury protection. However, if commercial insurance is the principal means for occupational injury, it has more significant limitations.

The first problem is the cost of insurance, the main body of commercial insurance premiums are often unilaterally borne by the employees, and the premiums to be paid are high, far exceeding the national average rate of work-related injury insurance. At the same time, in the process of enrollment, the platform will also extract a certain percentage of the service fee from the premium paid, from which both the commercial insurance company and the platform can make profits.<sup>[19]</sup> Secondly, claiming commercial insurance with more exclusions is more challenging. In practice, it is easy for practitioners to fail to obtain compensation due to the exclusions of commercial insurance, and the cost of claiming is further increased if they go through litigation. Third, the platform employees voluntarily purchase the commercial insurance model. This group is primarily young people who are more concerned about their current income, which will give rise to the problem of "adverse selection." Fourth, the platform does not assume any responsibility after the risk occurs. The amount of insurance coverage for platform employees through commercial insurance is low, which is not enough to pay for various medical expenses, resulting in the lack of protection for their right to survival. What is more, the right to social insurance is the fundamental right of citizens under the constitution, and the subject of the obligation of the fundamental right should be the state, which should not be transferred to be borne by the platform employees themselves. Based on the above limitations of commercial insurance, there are better solutions than the commercial insurance model for the occupational injury protection system of new industry practitioners.

### **3.3. New model of occupational injury protection system**

Compared with the above-mentioned occupational injury protection models, the new occupational injury protection system for new industry workers as a new category of workers may take a more extended period from the establishment to perfection. However, it can include all new industry workers in the insurance subjects, which will expand the rights and interests of occupational injury insurance into all workers' common rights and interests.<sup>[20]</sup> At the same time, the design of an independent occupational injury protection system for new industry employees can also make the system more suitable for their industry characteristics to maximize adequate protection and relief when they suffer from occupational injuries.

The construction of an independent occupational injury protection system for new industry practitioners cannot be solved by the government alone through social insurance. The new industrial economy should balance the rights and obligations between the platform and the new industry practitioners through the joint participation of multiple parties. In the design of the insurance model, we can learn from the "1 + 1" insurance model implemented in Jinhua, Zhejiang Province, and other pilot areas, led by government departments to establish a new industry occupational injury insurance system while encouraging platform enterprises to guide new industry employees to supplement commercial insurance based on occupational injury insurance. Occupational injury insurance is a new form of protection; its insured objects, treatment, and compensation form is not subject to the constraints of work injury insurance or medical insurance, is more targeted and adaptable, and can be based on the work injury insurance system for policy design innovation, specific protection content, compensation standards, occupational injury procedures can be carried out in line with the characteristics of the industry arrangements.<sup>[21]</sup> The application of commercial insurance, such as commercial accident insurance and employer's liability insurance in the delivery industry has played a role in solving the problem of occupational injuries of delivery workers, temporarily serving as the primary protection method for occupational injuries in the absence of occupational injury insurance for platform workers. The implementation of suitable commercial insurance for the takeaway group is a supplement to establishing a multi-level occupational injury protection system and improving the level of occupational injury protection for takeaway workers.

All in all, this occupational injury insurance + additional commercial insurance system model, on the one hand, gives new industry enterprises more room for choice; its employees can get double protection, on the other hand, also play the flexibility of commercial insurance company products, is a practical system innovation.

## **4. The new occupational injury protection system to improve the path**

The occupational injury protection system for employees in new industries should not be one-size-fits-all in terms of protection target, contribution base, participation form, and protection level. However, it should adopt a multi-level protection form and expand the coverage group as much as possible. This

paper puts forward the following ideas based on the current operation mode of occupational injury protection in the pilot areas and the related contents of social insurance.

#### **4.1. Insured persons**

In terms of the coverage caliber of the occupational injury protection system in the pilot areas, the most extensive coverage is in Wujiang District, Suzhou City, Jiangsu Province, which is not limited to household registration and covers all flexibly employed people in the area. In contrast, Taicang City, Jiangsu Province, is limited to employees with local household registration and has a small coverage caliber. In terms of the degree of openness to flexibly employed workers, the pilot areas in Zhejiang Province, such as Quzhou, Huzhou, and Jinhua, mainly target new industry practitioners, while Wujiang District in Suzhou and Weifang City in Shandong Province protect all flexibly employed workers. At the same time, Jiujiang City in Jiangxi Province includes all workers who do not participate in work injury insurance, such as laborers without labor relations, retired workers, internship trainees, online workers, and other new industry practitioners. The most thorough openness is found among the employees of new industries.<sup>[22]</sup> Due to the unbalanced economic development among regions, the demand for occupational injury protection systems varies. Therefore, the specific scope of insurance coverage should fully consider each region's development.

#### **4.2. Contribution subject**

The issue of the subject of contribution involves the sharing of responsibility among relevant subjects. Since the new industry enterprises have a considerable degree of control and management over the employees and have particular risk manufacturing ability, they should bear particular responsibility of contribution. In contrast, the employees in the new industry enjoy labor autonomy far beyond the general workers and have a certain autonomy in their labor, which determines that they should also bear particular responsibility of contribution. The ratio of contribution between the two should depend on the enterprise's control and management ability and the employee's labor autonomy.<sup>[23]</sup> At the same time, since the new industry workers are in a vulnerable position in the labor market, it is necessary to prevent the new industrial enterprises from transferring the responsibility of their contributions to the workers.

#### **4.3. Contribution rates**

In the design of the fee base rate, under the goal constraint of the dynamic balance of income and expenditure of the system, by collecting relevant data such as risk probability and risk loss of the new industry occupation, through the technical method of insurance actuarial, the floating rate should be realized according to the principle of expenditure based on income. The industry differential rate system should be implemented in Japan. For example, for the group of takeaway riders, each region can survey the average monthly income level of riders, count the probability of their occupational injury events, draw on the contribution standards of domestic pilot places, and combine the local consumption level and price index, to determine the contribution standard for riders to participate in occupational injury insurance. Among them, for the different needs of full-time and part-time riders, a tiered classification of contributions can also be adopted, such as the highest contribution standard for full-time riders, while making flexible adjustments according to the income riders receive from distribution.

#### **4.4. Mode of operation**

The mode of operation in the new industry of occupational injury insurance should be operated by a unique social insurance agency set up by the government. First, it is reasonable and justifiable for the government to set up a social insurance agency. The new occupational injury insurance is a public product, which determines that its provider and responsible body should be the government.<sup>[24]</sup> Secondly, under the insurance model of "1+1", commercial insurance already plays a supplementary role. Suppose the new industry of occupational injury insurance is entrusted to commercial insurance companies by bidding. In that case, the whole new industry occupational injury protection system will return to the state of commercial insurance model, which will lead to the new industry employees falling into the problem of commercial insurance claim difficulties and other problems. The social insurance institution set up by the government is obviously social and non-profit<sup>[25]</sup> and can easily overcome the drawbacks of the commercial insurance model.



#### 4.5. Occupational injury recognition

In traditional forms of employment, the working hours, workplace, and reasons for work are easy to determine, and it is easy to identify work-related injuries. However, the most typical characteristic of new industry employees is flexibility, and it is more challenging to determine occupational injuries according to the "three jobs" principle. The working hours and workplace of new industry employees are flexible, so it is not easy to define the specific distance to and from work. Therefore, it is necessary to combine the characteristics of flexible employment of new industry employees and innovate the method of identifying occupational injuries. From the current pilot approach to identify occupational injuries, Quzhou City based on the platform to receive orders and dispatch records to carry out as the basis for determining the working hours, workplace, and work reasons, such as the appearance of insurance in more than one platform, the responsibility of the dispatch platform that is sending orders when occupational injuries occur. Huzhou City added that if occupational injury occurs when dispatching multiple orders, the platform responsibility is challenging to determine, and the same journey to the first single platform to take responsibility. Currently, Qingdao, Shandong Province, is the first city in the country to realize remote speed reporting of workplace injury insurance. By downloading a cell phone app to log in and use, one can upload a short video of the injury, photos and other relevant materials, and a brief description of the accident within 48 hours of the workplace accident. This digital approach to work injury recognition is worthy of Reference and learning.

#### 5. Conclusion

New industries have created many jobs in China, but new risks and threats have emerged along with the new employment patterns. Among them, occupational injury is the most direct risk employees in these new industries must face. Establishing a legal system for occupational injury insurance for employees in new industries is imperative in light of the government's current pilot work arrangement for employee protection in new industries based on the existing pilot experience and the inherent requirements of national social governance. Due to the limitations of work injury insurance, it may be more appropriate to establish a new occupational injury protection system independent of work injury insurance and to carry out a particular system design by combining the existing domestic pilot policies and domestic and international system experience. In the specific system design, it is necessary to protect the realization of workers' rights and interests fully, but also to maintain the enthusiasm for the economic development of the new industry and to find a balance between safety and flexibility, to provide continuous, efficient and enforceable legal system protection for employees in the new industry.

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