
Between Ideality and Reality: Social Protection for Ride-Hailing Drivers in Indonesia

Akbar^{1*}, Suhervandri¹

Social Security Administrator for Employment

*Correspondence: akbarnurdin89@gmail.com

Abstract

The rapid growth of digital platforms in Indonesia has positioned ride-hailing drivers as a significant part of the gig workforce, yet their access to social protection remains limited. While the G20 and the International Labour Organization have emphasized inclusive and sustainable social protection for all workers, the translation of these ideals into practice shows persistent gaps in Indonesia. This paper explores workers' compensation insurance for ride-hailing drivers, focusing on the employment injury security program (JKK) under BPJS Ketenagakerjaan. Using qualitative analysis of social security data, literature review, and semi-structured interviews with drivers, the study identifies three critical challenges. First, misclassification of workers persists, as platform companies label drivers as partners rather than employees, excluding them from mandatory coverage. Second, coverage remains extremely low: in 2023, only about 7.9% of the 2.3 million ride-hailing drivers were enrolled in JKK, leaving the majority without protection against work-related accidents. Third, algorithmic opacity limits drivers' rights, as platform-controlled data on earnings and workload directly influences their ability to contribute to and benefit from social insurance. The findings highlight the gap between policy ideals and real conditions on the ground. To close this gap, the paper recommends: (i) revising regulations to ensure clearer classification of gig workers; (ii) expanding coverage beyond voluntary enrolment by introducing mandatory participation and targeted subsidies for low-income drivers; and (iii) requiring greater transparency from platforms to safeguard workers' rights. Indonesia's experience demonstrates the challenges of adapting traditional social protection frameworks to new forms of work, offering lessons for other emerging economies facing similar transformations.

Keywords: gig economy, social protection, employment injury security

1. Introduction

As the largest economy in Southeast Asia, Indonesia has experienced consistent economic growth since 1980. According to the World Bank (2023), Indonesia is classified as an upper-middle-income country and ranks as the seventh-largest economy globally based on Gross Domestic Product (GDP). Despite this achievement, Indonesia continues to be categorized as an emerging economy. Similar to other emerging economies, the informal sector constitutes a substantial share of national economic activity. Data from Statistics Indonesia (BPS, 2023) indicate that approximately 59.58% of the Indonesian workforce is employed in informal sectors, while 40.55% work in formal sectors.

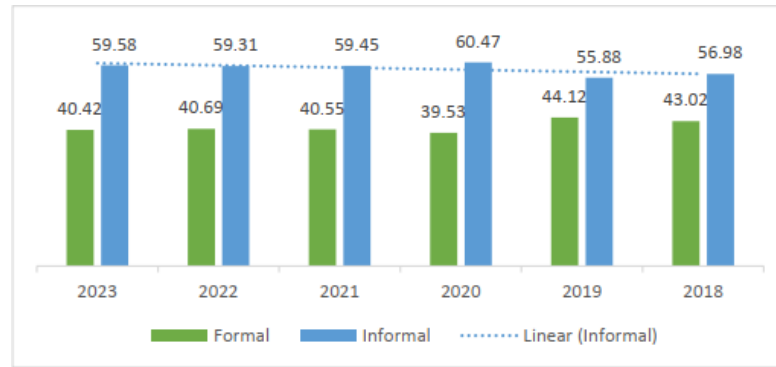


Figure 1. Proportion of Informal workers in Indonesia from 2018-2023

Source: BPS (2023)

The composition of informal workers in Indonesia has increased by 3%, from 56.98% in 2018 to 59.58% in 2023. This proportion peaked in 2020, reflecting a decline in formal sector employment as a result of the Covid-19 pandemic. According to Yuana (2024), the pandemic led to a shift of a portion of the workforce from the formal to the informal sector. The impacts of the Covid-19 pandemic are argued to have been unevenly distributed, with emerging economies experiencing more severe consequences (ILO, 2002; Webb et al., 2020). Nevertheless, the pandemic also stimulated substantial growth in the digital platform industry (OECD, 2021).

A recent study indicates that many workers who were laid off from the formal sector during the Covid-19 pandemic tended to shift toward internet- or web-based employment, including work as ride-hailing drivers. Consistent with this finding, the online ride-hailing industry in Indonesia also demonstrated significant growth during the pandemic. A survey revealed that online ride-hailing services successfully established a strong public image of motorbike and taxi drivers as essential service providers and “heroes” of the pandemic (Yuana, 2024). This trend is further reflected in data showing an increase in the number of ride-hailing and taxi users in Indonesia—from approximately 79 million in 2020 to 88 million in 2024.

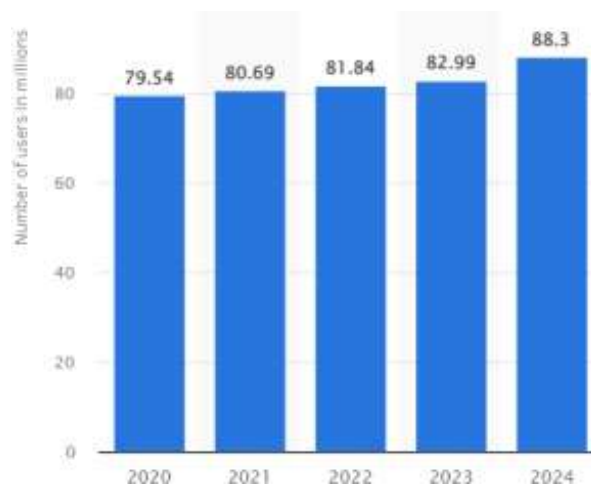


Figure 2. Number of ride-hailing and taxis user in Indonesia from 2020-2024

Source: Romero (2024)

From a broader perspective, drivers working for online ride-hailing platforms have positioned themselves within the informal economy, where their working conditions remain vulnerable to various work-related risks and lack social insurance protection. Although the Covid-19 pandemic led to an increase in the number of ride-hailing drivers, studies indicate that these workers are particularly susceptible during times of crisis due to limited access to social protection schemes that cover work-related accidents, occupational diseases, unemployment, and sickness benefits (OECD, 2020). Recent research also identifies road accidents resulting from driver fatigue as the most common occupational risk faced by ride-hailing drivers (Jaydarifard et al., 2023). The nature of platform-based employment often compels drivers to work extended hours with minimal rest, exacerbated by limited driving experience, inadequate sleep, and additional workloads. Despite these risks, ride-hailing drivers continue to face insufficient protection as they are classified as informal workers. Therefore, ensuring adequate and sustainable social insurance coverage for this rapidly expanding group of workers is crucial—not only to safeguard their well-being but also to support the sustainable growth of the online platform industry.

In response to this condition, the International Labour Organization (ILO) adopted a resolution and conclusions in June 2021 emphasizing that all member states should provide the necessary legal certainty for both workers and employers. The resolution calls for the correct classification of employment relationships and the provision of adequate social protection for workers across all forms of employment (ILO, 2023). In line with this, the G20 countries, including Indonesia, agreed in 2021 to prioritize the establishment of strong, resilient, and sustainable social protection systems for all workers, including those engaged in online platform-based employment.

To ensure adequate social protection and support G20 member states in fulfilling their commitments, the International Labour Organization (ILO) in 2023 identified three critical aspects that must be prioritized by G20 countries:

- a) preventing the misclassification of workers and curbing disguised employment;
- b) strengthening labour protection for online platform workers; and
- c) ensuring algorithmic and data transparency to safeguard workers' rights.

This paper seeks to examine Indonesia's current efforts to address these three aspects highlighted by the ILO in ensuring the G20's commitment to protecting online platform drivers. Specifically, it aims to answer two interrelated research questions: (1) To what extent has Indonesia progressed in protecting online platform workers, particularly ride-hailing drivers, based on the three key points emphasized by the ILO? and (2) What actions can be undertaken to accelerate Indonesia's commitment to ensuring adequate protection for ride-hailing drivers?

This paper focuses exclusively on *in-situ* platform workers, the majority of whom in Indonesia are employed as ride-hailing drivers (Nurdin, 2023; Qiao et al., 2023; Permana et al., 2023). As discussed in the background section, the primary risks faced by these drivers involve work-related accidents and occupational diseases. Accordingly, this study concentrates on labor protection measures related to

employment injury security (*Jaminan Kecelakaan Kerja* or JKK), a social security program administered by BPJS Ketenagakerjaan in Indonesia.

2. Research method

To address the two research questions, this paper employs a qualitative research methodology, with the majority of data derived from the workers' social security database of BPJS Ketenagakerjaan. The analysis is supported by a review of academic literature, government reports, and institutional publications.

In addition to the literature review, this study utilizes semi-structured interviews within a qualitative framework to develop recommendations for accelerating Indonesia's commitment to protecting ride-hailing drivers. The interview data were categorized thematically to generate clear insights from the drivers' perspectives. These interviews aimed to capture the lived experiences of ride-hailing drivers, ensuring that the proposed recommendations are grounded in their actual working conditions and challenges.

3. Results and Discussion

3.1. Social protection gaps among ride-hailing drivers

Many studies have shown that platform workers, including *in-situ* workers such as ride-hailing drivers, tend to have lower levels of social protection coverage compared to other categories of workers (Isbah, 2019; Nurdin, 2023; Yuana, 2024). A survey conducted by the International Labour Organization (ILO, 2023) found that online platform workers generally earn low wages, with approximately 66% earning below the average wage. Moreover, social protection coverage among these workers remains limited, as fewer than 15% are protected in cases of work-related accidents. These findings reflect the current condition of platform workers in Indonesia.

The coverage of ride-hailing drivers under the Employment Injury Security (*Jaminan Kecelakaan Kerja* – JKK) program, which provides protection against work-related accidents and occupational diseases in Indonesia, remains notably low. In 2022, out of an estimated four million ride-hailing drivers nationwide, only 184,398 were registered in the JKK program. When compared to the total number of informal sector participants (approximately six million), ride-hailing drivers accounted for merely 3.07%. Although the number of informal workers covered by the JKK program increased from six million in 2022 to nine million in 2023, the number of registered ride-hailing drivers declined slightly to 181,633 participants (1.98%). This trend indicates that the participation rate of ride-hailing drivers in the JKK program remains persistently low.

When compared to the total number of individuals whose primary occupation is as ride-hailing drivers, the coverage rate remains low. In 2023, approximately 2.3 million people in Indonesia were primarily engaged in the gig economy as ride-hailing drivers (Izzati, 2023). Of this number, only about 7.9% were covered under the **Employment Injury Security (JKK)** program.

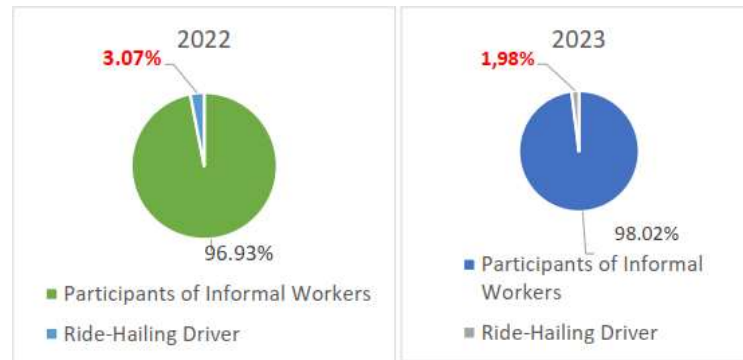


Figure 3. The proportion of ride-hailing drivers who covered by employment injury security (JKK) between 2022-2023

Source: BPJS Ketenagakerjaan (2024)

To enhance the participation of ride-hailing drivers in the Employment Injury Security (JKK) program, BPJS Ketenagakerjaan in Indonesia has collaborated with the financial sector to facilitate the registration and contribution payment processes. This initiative aims to expand coverage for work-related injuries among ride-hailing drivers by enabling online registration and allowing social security contributions to be automatically deducted from drivers' accounts. The program has been in place since 2017; however, the number of ride-hailing drivers enrolled in the JKK scheme has not shown a significant increase over time.

3.2. Preventing Misclassification of Workers

As highlighted by the G20 in previous discussions, the correct classification of employment status is a central element that must be addressed. To date, most ride-hailing drivers have been classified by platforms as self-employed workers—whether this classification is accurate or not. Consequently, these workers generally have limited or no access to social protection systems, as they are typically eligible only for voluntary coverage schemes, unlike dependent employees who are automatically covered under formal employment arrangements.

In most legal systems, labor and social protection are intrinsically linked to the dependent or independent nature of employment. Determining the correct employment status of ride-hailing drivers is therefore crucial, as it influences whether, how, and to what extent these workers can access social protection measures, including occupational safety, health coverage, and employment injury security (ILO & OECD, 2022). In the *G20 Policy Options for Adapting Social Protection to Reflect the Changing Patterns of Work* (2020), G20 member states committed to promoting the correct classification of workers' employment status. Recommended measures to achieve this include raising awareness among workers and employers about existing regulations and their implementation, reducing incentives for misclassification, offering social protection options for those who choose self-employment, and strengthening labor inspectorates to effectively monitor and address non-compliance.

In Indonesia, the relationship between ride-hailing drivers and platform companies tends to take the form of a cooperative business arrangement. The introduction of digital platform innovations

within the informal economy is often viewed by innovators and business actors as an opportunity to operate within a relatively unregulated market (Hamdoun, 2020; Prasetyo, 2020). In other words, digital innovators are attracted to introducing their applications in informal economic settings due to the limited regulatory oversight and the flexibility such contexts provide for their business models (Yuana, 2024). Consequently, ride-hailing companies classify drivers as “partners” rather than employees, thereby removing their obligation to register these drivers under social protection programs. Drivers are variously labeled as independent contractors, partners, riders, or freelancers—a classification that ultimately places them within the informal labor category and excludes them from employment-based social protection schemes.

The Ministry of Manpower of Indonesia has stated that ride-hailing drivers fall under the category of workers with a fixed-term employment agreement (*Perjanjian Kerja Waktu Tertentu* or PKWT), which means that ride-hailing companies are obliged to provide social protection for these workers (Bisnis.com, 2024). On the other hand, many gig workers argue that an employer–employee relationship exists between the ride-hailing companies and the drivers (ILO, 2021). This argument is based on the fact that companies can control the volume of work assigned to drivers and impose penalties when they refuse service requests or fail to complete tasks. Furthermore, companies are able to set behavioral rules and regulate drivers’ work practices.

However, ride-hailing companies maintain that their relationship with drivers does not meet the criteria of PKWT employment as stipulated in Indonesia’s Law No. 11 of 2020 on Job Creation, particularly Article 59. As a result, the classification of ride-hailing drivers remains a subject of ongoing debate and legal ambiguity in Indonesia.

Indonesian regulations on social protection for informal workers already mandate that these workers register for the Employment Injury Security (JKK) program, as stipulated in Government Regulation No. 44 of 2015 concerning employment injury and death security. However, in practice, many ride-hailing drivers still perceive registration in social protection schemes as unnecessary. To effectively implement the G20 commitment to ensure that ride-hailing drivers are covered by social security, the Government of Indonesia should establish clear classifications and regulatory frameworks that specifically address the protection of ride-hailing drivers and other platform-based workers. This includes determining whether such workers should be classified as formal or informal employees, thereby clarifying their rights and obligations regarding social protection coverage.

3.3. Workers compensation insurance for ride-hailing drivers as part of its labor protection

The primary occupational risk faced by ride-hailing drivers is road crashes or traffic accidents, often caused by driver fatigue (Jaydarifard et al., 2023). This heightened risk is closely associated with the nature of platform-based work, which often requires drivers to work extended hours with minimal rest, limited driving experience constrained by job demands, inadequate sleep, and additional workload pressures. However, due to the partnership-based employment relationship between ride-hailing drivers and app companies, the burden of work-related accidents is largely borne by the drivers themselves, while companies are exempt from direct responsibility for ensuring occupational safety. Furthermore, since this form of work is classified as informal, ride-hailing drivers lack adequate

protection against these occupational hazards, leaving them marginalized from the benefits of employment injury security programs.

Employment Injury Security (Jaminan Kecelakaan Kerja, or JKK) in Indonesia is a key component of the national social security system, designed to provide financial and medical support to workers who experience work-related accidents or occupational diseases. The JKK program offers comprehensive coverage, including medical treatment, disability compensation, and death benefits arising from occupational accidents. This protection encompasses both immediate medical care and long-term rehabilitation services. The JKK scheme aims to ensure that workers receive adequate support and compensation in the event of a work-related injury, thereby helping to reduce the financial burden on both the affected workers and their families.

Based on data collected from semi-structured interviews with ride-hailing drivers, 99% of respondents identified road accidents as the primary occupational risk. Approximately 79.7% of drivers reported working more than eight hours per day, accumulating at least 56 hours per week. This figure exceeds the standard working hours established by the International Labour Organization (ILO) Convention of 1919 (No. 1), which limits working time to a maximum of 48 hours per week. These findings indicate that ride-hailing drivers frequently work excessive hours, thereby increasing their exposure to work-related accidents.

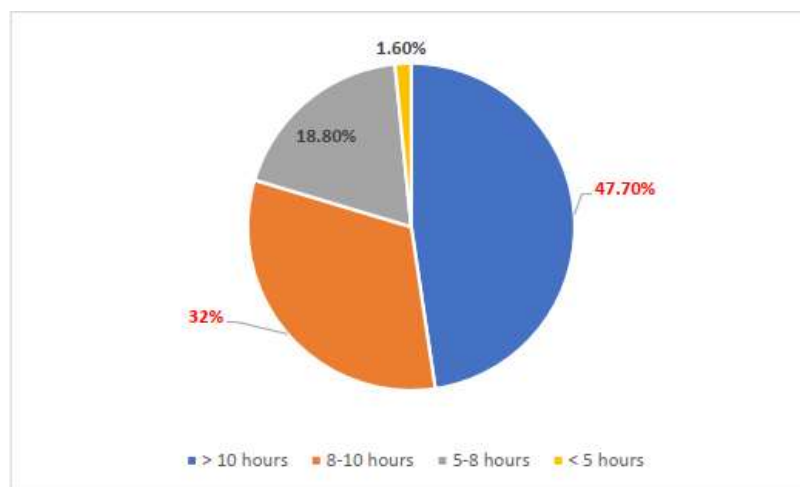


Figure 3. The average number of the ride-hailing drivers ‘working hours

Source: BPJS Ketenagakerjaan (2024)

From the interviews, this study found that approximately 75.8% of ride-hailing drivers had experienced a work-related accident during their work. Furthermore, the majority of drivers (62.3%) reported relying on self-care treatment, indicating that most did not receive adequate medical attention when such accidents occurred. This suggests that ride-hailing drivers lack sufficient access to occupational health services and social protection coverage when facing work-related injuries.

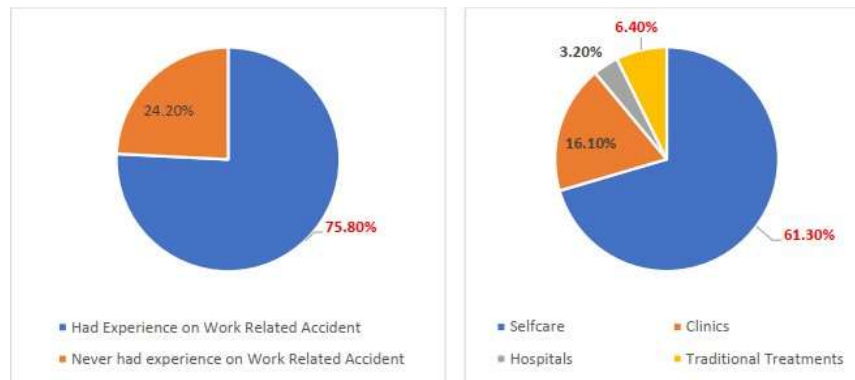


Figure 4. The average number of the ride-hailing drivers had experience the work related accident, and the work-related accidents 'treatment that their received

Source: BPJS Ketenagakerjaan (2024)

The interview data also show that the majority of ride-hailing drivers used their own money to cover expenses related to work-related accidents. Approximately 93.6% of the drivers reported paying for medical or repair costs out of pocket, while only 3.2% were able to use social protection benefits to cover these expenses. This finding highlights the limited access and utilization of employment injury protection schemes among ride-hailing drivers in Indonesia.

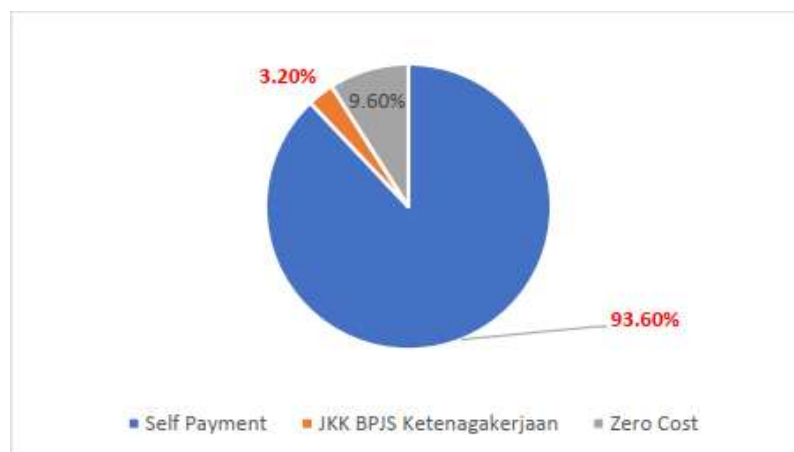


Figure 5. The source of payment to pay the work-related accident by the ride-hailing drivers

Source: BPJS Ketenagakerjaan (2024)

Based on the database of BPJS Ketenagakerjaan, despite the decrease in ride-hailing driver participation in the JKK program—from 184,398 participants in 2022 to 181,633 in 2023—the number of work-related accident cases increased significantly by 47% in 2023 compared to the previous year. There were 535 more reported cases, bringing the total to 1,675 work-related accident cases among ride-hailing drivers.

Similarly, the medical and rehabilitation costs covered by BPJS Ketenagakerjaan rose by 73%. The number of disability cases resulting from work-related accidents increased by 11%, while the average cost per case also grew by 39%. These figures indicate a worrying trend—a higher severity of

accidents and a growing number of drivers experiencing long-term disabilities due to work-related injuries.

No	Description	2022	2023
1	Cases accident injury	1,140	1,675
2	Cost of benefit (IDR)	8,314,119,157	14,369,173,070
3	Disable cases	18	20
4	Death cases	65	67
5	Average cost recovery /case (IDR), including rehabilitation	1,450,169	2,008,513
6	Average cost disability/case (IDR)	8,169,683	10,455,230

Figure 6. Data statistic of JKK cases of the ride-hailing drivers

Source: BPJS Ketenagakerjaan (2024)

Given the current conditions of ride-hailing drivers, who—due to the nature of their work—often need to work beyond standard hours to earn sufficient income to meet their living needs, the risk of work-related accidents is expected to continue increasing. Consequently, the number of work-related accident cases among ride-hailing drivers is likely to rise. To address this issue, it is crucial to expand the coverage of the Employment Injury Security (JKK) program to ensure that ride-hailing drivers are adequately protected by social security. Therefore, policy improvements are necessary to strengthen safety guarantees and social protection for workers in this industry, particularly considering the partnership-based employment relationship that characterizes their work arrangements.

3.4. Ensuring transparency of algorithms and data to ensure protection of workers right

Ride-hailing drivers should have the right to understand the rules and criteria used by algorithms for task allocation and performance evaluation, as well as the right to access data related to their work. A lack of transparency in algorithmic management practices and the data utilized by platforms poses a significant risk of infringing upon workers' rights (ILO, 2023). Ensuring algorithmic and data transparency is therefore essential for safeguarding ride-hailing drivers' rights, particularly in relation to social protection, for several key reasons:

a) Fairness in Compensation and Coverage

Transparency in algorithmic systems can help ensure that ride-hailing drivers' earnings are accurately tracked and reported. This accuracy is crucial for determining appropriate contributions to social insurance programs, including the Employment Injury Security (JKK) scheme. By making algorithmic processes more transparent, platforms can help prevent discrepancies or underreporting of income that may lead to inequitable social protection coverage among drivers.

b) Accountability

Transparency enables a clearer understanding of the *policies and decision-making processes* that affect drivers' rights and benefits. When platforms disclose how algorithms determine work allocation, incentives, and deductions, it becomes easier to *hold companies accountable* for potential discrepancies or unfair practices. Moreover, transparent systems allow *errors in benefit or income calculations* to be identified and corrected more efficiently. This clarity also

helps drivers *better manage their earnings* and allocate a portion of their income toward *social protection contributions*, such as the JKK program.

c) Prevention of Exploitation

Transparent algorithmic systems are essential for identifying and preventing biases or discriminatory practices that may affect drivers' access to fair treatment, opportunities, and benefits. Ensuring transparency helps prevent exploitative work practices, such as excessive working hours or unequal task distribution, which can increase fatigue and stress among drivers. In turn, reducing such exploitation contributes to lowering drivers' exposure to occupational risks, including work-related accidents.

4. Conclusion and Recommendations

Based on the findings, this paper examines Indonesia's current conditions in responding to the three key points highlighted by the ILO to ensure the G20 member states' commitment to protecting online platform drivers. The analysis reveals that Indonesia remains far from fully meeting or addressing these commitments. Regarding the misclassification of ride-hailing drivers, existing regulations are still ambiguous and biased, lacking specific provisions that clearly define the employment relationship between ride-hailing drivers and platform companies. This regulatory gap contributes to the continued vulnerability of drivers in accessing adequate social protection.

Regarding employment injury insurance as part of ride-hailing drivers' rights to social protection, there is an urgent need to expand the coverage of the Employment Injury Security (JKK) program to ensure that all drivers are adequately protected under the national social security system. This finding also underscores the importance of policy reforms aimed at strengthening occupational safety guarantees, particularly given the partnership-based nature of the relationship between drivers and platform companies. As a minimum preventive measure, the government could consider integrating a provident or mandatory contribution fund into the financial transactions between drivers and the platform. Such a mechanism would help ensure that no worker is excluded from social protection, regardless of their employment classification.

Lastly, regarding the transparency of algorithms used by platform companies, there are currently no specific regulations requiring ride-hailing platforms to disclose or ensure algorithmic transparency in Indonesia. The absence of such regulation limits the protection of workers' rights and increases their exposure to occupational risks. Therefore, there is an urgent need to establish policies governing algorithmic transparency and data management practices within ride-hailing platforms to safeguard drivers' rights, ensure fairness in work allocation and compensation, and minimize work-related risks.

Furthermore, to accelerate Indonesia's commitment to protecting ride-hailing drivers, several policy recommendations can be proposed. These recommendations aim to strengthen regulatory frameworks, enhance social protection mechanisms, and ensure fair working conditions for drivers in the platform economy. The proposed actions are as follows:

a) *Strengthening the Social Protection Framework for Self-Employed Workers*

Indonesia's current social protection system provides *limited coverage for self-employed workers*, as participation in social security programs remains *voluntary rather than mandatory*. The government should *revise existing policies* to require *ride-hailing drivers to enrol in BPJS Ketenagakerjaan*. Furthermore, the scope of coverage should be expanded beyond *Employment Injury Security (JKK)* and *Death Insurance (JKM)* to include a *Provident Fund (JHT)* for old-age protection. This measure would help ensure that drivers do not become financially dependent on their families or the state upon reaching old age.

b) *Providing Subsidies for Low-Income Drivers*

For *ride-hailing drivers living below the poverty line*, the government should allocate *targeted subsidies* within the *state budget (APBN)* to cover their monthly social security contributions. This policy would help prevent low-income drivers from *falling deeper into poverty* while ensuring that they remain protected under the national social security system.

c) *Enhancing Awareness and Accessibility of Social Security Programs*

BPJS Ketenagakerjaan should implement *comprehensive and coordinated outreach campaigns* to increase drivers' awareness of the *importance and benefits of social protection programs*. Greater awareness would encourage voluntary enrolment and help reduce the *marginalization of ride-hailing drivers* in accessing protection against work-related accidents and other occupational risks.

References

- BPS, (2023). Persentase Tenaga Kerja Formal Menurut Provinsi; Jakarta
<https://www.bps.go.id/id/statistics-table/2/MTE2OCMy/persentase-tenaga-kerjaformal-menurut-provinsi.html>
- BPJS Ketenagakerjaan (2024). BPJS Ketenagakerjaan Report.
<https://www.bpjsketenagakerjaan.go.id/laporan-terintegrasi.html>
- ILO. (2021). How to Improve working conditions for gig workers in Thailand. Leenoi, Prapan.
- ILO. (2022). Protecting Workers in New Forms of Employment; China
- ILO, ISSA, OECD (2023). Providing adequate and sustainable social protection for workers in the gig and platform economy; India
- Hamdoun, S (202). Technology and the formalization of the informal economy. IEEE International Symposium on Technology and Society; ISTAS, pp 85-90
- Indonesia Law Number 11 of 2020 concerning Job Creation
- Indonesia Law Number 44 of 2015 concerning Work Accident Security and Death Security
- Isbah, Falikul, M. (2019) Workers Right in the Digital Economy: Assessing the Impacts of Technology Usage by Go-Jek and Grab in Indonesia. Exploring the Nexus between technologies and human rigaht: Bangkok, SHAPE SEA
- Izzati, Risfa, Nabiyla. (2023) Gig platforms have mushroomed in Indonesia in the past decade. But regulations have lagged, and it's the workers who pay. The Diplomat; Jakarta

<https://thediplomat.com/2023/12/workers-lose-as-indonesian-laws-cant-keep-pace-with-rideshare-apps/>

- Jaydarifard, Saeed. Behara, Krishna, Baker, Douglas, Paz, Alexander (2024), Driver fatigue in taxi, ride-hailing, and ridesharing services: a systematic review . Routledge, Reviews 44:3, 572-590
- Nurdin, Akbar. (2024). Trapped in Unfair Platform economy; the experience of ride-hailing drivers in Jakarta. Institut of development studies. University of Sussex; Sussex
- Prasetyo, E.H. (2022) Legitimacy building of digital platforms in the informal economy: evidence from Indonesia, Journal of Entrepreneurship in Emerging economies. 14(6). 1169-1187
- OECD, (2021), Beyond COVID-19: Towards more inclusive and resilient social protection system; Riyadh
- https://www.ilo.org/sites/default/files/wcmsp5/groups/public/@dgreports/@ddg_p/documents/publication/wcms_791889.pdf
- OECD, (2020). What Have Platforms Done to Protect Workers during Coronavirus (COVID 19) Crisis? <https://www.oecd.org/coronavirus/policy-responses/what-have-platforms-done-to-protectworkers-during-the-coronavirus-covid-19-crisis-9d1c7aa2.html>
- Permana, M. Y., Izzati, N. R, Askar, M. W (2023) Measuring the gig economy in Indonesia: typology, characteristics, and distribution. SSRN Journal.
- Romero, Lucas. (2024) Number of Ride-Hailing and Taxi users in Indonesia. Statista.com <https://www.statista.com/forecasts/1383373/indonesia-ride-hailing-and-taxi-number-of-users>
- Qiao, S. Huang, G, Yeh, A.G-O (2023). Who are the gig workers? Evidence from mapping the identical locations of ride-hailing drivers by a big data approach. Cities 132, 104112
- Webb, J. W., Tihanyi, L. Ireland, R.D., Sirmon, D.G (2009). You say illegal, I say legitimate: Entrepreneurship in the informal economy. Academy of Management review, 34(3), 492-510
- World Bank (2023). The World Bank in Indonesia; www.worldbank.org
- Yuana, Suci, Lestari. (2024), Contestation, Conflict, and Crisis in Transition: The Embedding of Ridesharing Indonesia ; ProefschriftMaken, The Netherlands <https://www.worldbank.org/en/country/indonesia/overview#:~:text=In%20July%202023%20Indonesia%20regained,reduction%20has%20received%20a%20boost>