Protecting Worker Earnings in the Technology-Driven Gig Economy: Policy Approaches for Sustainable Stability and Fairness

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Abstract

The global gig economy, driven by app-based platforms and algorithms underpinned by Artificial Intelligence (AI), is rapidly transforming global labor markets. The use of such algorithms in managing independent workers often leads to unfair practices that undermine fair and sustainable wages (SDG 8), worsen income inequality (SDG 10), and weaken worker rights and dispute resolution (SDG 16). To address these issues, this brief proposes a UN-led global data collection initiative, led by the International Labour Organization (ILO) that prioritizes partnerships with existing gig worker communities, to provide vital insights for evidence-based policy reforms.

The COVID-19 pandemic, with its emphasis on social distancing, fueled an unprecedented surge in demand for rideshare and delivery services in early 2020 (National Bureau of Economic Research, 2023). Layoffs in other sectors further accelerated this trend, as more people turned to app-based work for income – a sector known as the gig economy, characterized by short-term and flexible jobs (Wikipedia, 2024). This rapid expansion, driven by rapidly evolving technologies, is evident in the nearly 2.1 million new workers who entered the U.S. gig economy in 2020 – double the number from 2019 – with an additional 3.1 million workers joining in 2021 (National Bureau of Economic Research, 2023). The United States is a prime example of this rapid expansion, with 36% (57.3 million) of workers participating in the gig economy (TeamStage, 2024).

However, this was more than just a temporary shift in market behavior in the U.S. – it reinforced a broader global trend toward an expansive gig economy, where both workers and consumers increasingly rely on the convenience of on-demand services like food delivery, grocery shopping, and transportation. The global gig economy has established a significant presence, generating $204 billion in gross volume (TeamStage 2023). Additionally, the World Bank reports that the gig economy accounts for up to 12% of the global labor market with over 400 million workers (World Bank, 2023).

The gig economy and the technologies that drive it are rapidly evolving in tandem, with AI-based algorithms playing a key role in its growth. The COVID-19 crisis accelerated the adoption of these algorithms within gig economy platforms, and this trend continues at a significant rate (Silkin, 2023). These algorithms are often used to manage worker recruitment, assign tasks, and crucially, determine wages (Park & Ryoo, 2023).

Studies indicate that while these technologies are logistically benefical to the gig economy, they have led to unfair practices that undermine fair wages, stable employment, and worker protections (SDG 8), worsen income disparities (SDG 10), and weaken dispute resolution and worker rights (SDG 16). Algorithms may set wages without fully considering the true value of labor, leading to underpayment. They can also prioritize workers willing to accept lower rates or create unpredictable work schedules, harming income stability. This lack of transparency and limited recourse for workers contributes to a widening gap between high and low earners, eroding workers' ability to advocate for fair compensation.

While there have been efforts to address these issues, the significant data deficit regarding the gig economy creates crucial knowledge gaps. Concerted international collaboration focused on data sharing would fill these gaps, enabling more informed policy development and the creation of global standards for algorithmic fairness. The urgency for these standards only increases as AI-driven algorithms in the gig economy continue their rapid evolution.

Algorithms in the Context of the Gig Economy

An algorithm is defined as a set of steps for accomplishing a task or solving a problem (Nikolopoulou, 2023). Such algorithms are fundamental to the functionality of apps and software in the gig economy and might be used to calculate a worker's pay rate, match drivers to customers, or assign tasks. While some algorithms rely on straightforward data collection, the increasing integration of AI adds a layer of complexity. Some AI and machine learning systems can even learn independently, achieving goals without needing every step explicitly programmed (Silkin, 2023).

Algorithmic Practices and Income Disparities in the Gig Economy (US, Southeast Asia, India)

One consequence of AI-influenced algorithms is demonstrated by the work of Veena Dubal, a law professor at UC Hastings and a leading expert on the gig economy. Her research shows how predictive analytics, a rapidly evolving field driven by advances in machine learning and AI, are used to adjust algorithms that determine pay rates based on worker behavior data in apps such as Uber and DoorDash. Dubal highlights specific instances where algorithms have offered lower fees per delivery to workers with a history of accepting tasks and influenced those nearing their daily income goal to work longer hours for less pay – leveraging their desire to reach their target earnings (Dubal, 2023). This raises serious concerns about the potential for AI- driven systems to manipulate workers for greater profit, potentially exacerbating the issues of precarious work and income instability. Furthermore, Dubal's findings highlight the lack of opportunity for growth within this system. As Dubal observes, a key issue with algorithmic wage-setting is that it can lead to unequal pay for the same work, as well as disparities in the amount of work offered during the same time frame. As said by Dubal:

> *...The United States boasts a clear legal tradition and social expectation of equal pay for equal work, which algorithmic wage-setting violates. Lawmakers and regulators need to examine the harms of these practices (Dubal, 2023)*

However, one can intuitively see that while the tradition Dubal mentions is prevalent in the U.S., it should not be exclusive to it. The ideal of equal work, equal pay should be obvious and accessible to everyone. Yet, we see this ideal violated not only in the U.S. but also in regions like Southeast Asia and India where the gig economy is rapidly growing.

In Southeast Asia, the popular app Gojek, a ridesharing and food delivery app with millions of drivers, utilizes algorithms designed to predict and manage demand. These algorithms might incentivize drivers to accept rides in areas expected to have high demand, only to find upon arrival that the surge pricing has disappeared. This can lead to them inadvertently accepting rides for lower-than-expected payouts, potentially resulting in reduced income or even income loss if fuel costs outweigh the fare. Furthermore, this creates a chaotic and competitive environment where drivers scramble for fares. As Jason Jackson, a political economy and urban planning professor at MIT, explains, "These design choices in how work is distributed pose a direct challenge to labor organizers: they pit workers against one another and scatter them across a vast geographical area" (Hao, Freischlad, 2022).

In India, in addition to similar experiences as Gojek, gig workers on platforms like Uber and Ola often find themselves subject to obscure, mandatory "fees" deducted directly from their earnings. The way these fees are calculated lacks transparency, and the only way to clear them is by accepting even more rides. This creates a system where algorithms continuously recalculate worker earnings, keeping drivers in a constant cycle in order to achieve a clear understanding of their own pay (Bansal, 2022)

While companies likely leverage their grasp of emerging technology to gain optimizations that may questionably impact workers, incidental harms are likely to result from unintended consequences of decisions made at various stages of algorithm development, including data selection, problem setting, variable assignment, and tuning (Muller, n.d.). As research suggests, well- intentioned algorithmic design choices can still lead to unforeseen and potentially harmful outcomes (Muller, n,d).

Gig Worker Communities: A Potential Source of Insight for Policymakers

Given the varied definitions of what encompasses the gig economy – with different studies establishing their own parameters and gig workers self-identifying across titles like freelancer, consultant, and independent contractor – governments face a lack of clear data and consequently, must often rely on self-reporting (LMIC, 2021). This data gap, further exacerbated by the rapid evolution of the sector, can present a challenge for policymakers who seek to ensure fair compensation and working conditions in the gig economy.

However, rapidly forming worker communities offer a valuable resource to address these challenges. These communities take various forms, from physical gatherings like the "base camps" created by Gojek drivers in Southeast Asia to online forums used by Indian gig workers across platforms like Zomato, Swiggy, and Uber. Within these spaces, workers connect, strategize, and build solidarity. They discuss the apps' operations, share support and tips, explore strategies to influence how their earnings are calculated, and even conduct workshops to educate each other about algorithmic systems and data privacy (Bansal, 2022). These communities provide crucial

insights into the challenges faced by gig workers, which can allow policymakers to gain a deeper understanding of worker predicaments and ultimately inform the development of more effective gig economy policies.

Policy recommendations

The United Nations, particularly through the work of the International Labour Organization (ILO) and the UN Conference on Trade and Development (UNCTAD), has started to address the challenges faced by workers within the gig economy. These efforts include dialogues, research, reports, and pilot projects aimed at understanding this rapidly evolving sector and improving worker protections. However, the lack of comprehensive and reliable data on gig work remains a significant barrier. A limited understanding of pay structures, algorithmic practices, and the lived experiences of gig workers hinders effective policymaking in the age of AI-driven algorithms.

To retain the economic benefits of the gig economy, convenience to global customers, and fair wages to gig workers, we must bridge this gap. The United Nations should launch a global data collection initiative focused specifically on the gig economy. This initiative must prioritize collaboration with existing gig worker communities, leveraging their expertise and lived experiences. Such a comprehensive data set will provide vital insights into algorithmic practices, pay structures, and working conditions, enabling evidence-based policy reforms that keep pace with the evolving nature of gig work. The International Labour Organization (ILO), with its focus on labor rights and social justice, is ideally positioned to lead this data collection initiative. Collaboration with agencies such as UNCTAD, UN regional commissions, OCHA, and United Nations Global Pulse would strengthen this effort. Partnerships with gig worker communities must be at the heart of this initiative, with respect for worker privacy, and worker- led advocacy as crucial elements for success.

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