

How Platforms Challenge Labor Dynamics

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1 Introduction

The proliferation of digital platforms facilitating temporary, on-demand labor, popularly dubbed the “gig economy”, has fundamentally reshaped the modern workforce. Platforms like Amazon Mechanical Turk, Upwork, and Fiverr enable workers to take on and get paid for flexible, short-term jobs through their digital marketplaces. While proponents laud this model for its convenience and flexibility, critics contend that it exacerbates income inequality and precarious employment. As gig work pervades numerous industries traditionally employing low-wage labor, scrutinizing its impact on this vulnerable segment of the workforce becomes profoundly important.

Studying the impact of this labor market shift is an endeavor of considerable concern. The livelihoods of millions are affected, alongside societal implications concerning equity, mobility, and broadly, the future of work itself. As platforms become increasingly intertwined with growing swathes of the low-wage workforce as well as consumers, developing a comprehensive understanding of how these interactions manifest is paramount to crafting a more diverse and fair future of work.

This paper investigates in which ways the seemingly unstoppable rise of the platform economy improves or undermines the financial security and career prospects of low-income workers. Economic forces driving more individuals into contingent platform-mediated labor are explored, as well as how earnings and job satisfaction compare to traditional employment options available to this demographic. Furthermore, the analysis examines potential correlations between the growth of gig work and burgeoning income inequality on a macroeconomic scale.

Different platforms operate in many fields, and they have varying degrees of integration with the traditional workforce. The only key defining feature is their ability to harness digital technology to organize labor and services more efficiently than traditional employment models. As the factories reorganized work during the Industrial Revolution, platforms are reshaping economic relationships in the digital age. They transform and reconfigure labor relations, production, and markets at a speed, scope, and scale historically unprecedented.

This reorganization has both disrupted existing jobs and created wholly new forms of employment. Platforms like Uber and Airbnb epitomize the “sharing economy,” enabling individuals to monetize underutilized assets like their vehicles and homes. Conversely, other platforms such as Amazon Mechanical Turk facilitate remote tasks conducted entirely online, transcending physical constraints. Still others like the Apple App Store function as digital intermediaries, curating and distributing the labor of developers into a centralized marketplace, achieving their desired supply profile through regulating access to their platform.

Despite their heterogeneity, unifying threads persist across platform work models. They cultivate highly fragmented, geographically diffuse workforces. Workers are positioned as independent contractors rather than employees. And algorithmic systems conduct workforce management and quality control functions previously administered by human supervisors. While estimates vary, some studies suggest at least 40 million people in the U.S. will be engaged in platform labor in 2024 [1]; a staggering figure illustrating their extensive effect.

2 Background

The rise of online platforms enabling on-demand, contingent labor has reshaped traditional employment models. However, definitively classifying and studying “platform work” proves challenging given the dynamic, multifaceted nature of these digital intermediaries. Much work has been done to try and understand the effects of platforms through a variety of lenses, but the literature is still lacking in a comprehensive understanding of the systemic impacts of platforms on the workforce and economy.

In previous works’ literature reviews [2] [3], they find that most research on platform economies tends to an overly narrow perspective, failing to capture the broad, systemic impacts platforms have across the workforce and economy. Platforms not only hire their gig workers but also provide infrastructures where independent contractors can sell their labor and specialize in while simultaneously rendering some traditional jobs obsolete.

On the narrow end, platforms like Amazon Mechanical Turk, and Fiverr facilitate microtasks - short, circumscribed tasks completed virtually for small payments. These are characterized by selling short-term

labor through the market, often termed “crowdwork” [4]. More expansively, the “sharing economy” model exemplified by firms like Uber and Airbnb enables individuals to monetize underutilized assets and personal services. Workers will typically contract out their service through the platform intermediary. Even broader still are digital marketplaces like app stores, which intermediate transactions between developers and consumers. These marketplace style platforms, like Spotify, Youtube, or, the Google Play Store, allow workers onto their platform with just a contract and no expectation of work and instead rely on algorithms to drive workers towards matching demand. Since most workers in this group are very skewed with few having large returns Most works have looked at only narrow aspects of this and tried to generalize from the specific.

While varied in structure, common threads persist - highly fragmented workforces of independent contractors managed through algorithmic systems rather than human supervisors [5] [6]. For this analysis, we adopt tend towards a wide definition encompassing crowdwork and sharing economy services. At some points however, in order to get a more accurate picture of the effects of platforms, we will have to look at the specific types of platforms and the condition of the workers on them.

The broader picture of worker conditions seems to find that initial worker motivations for platform labor frequently stem from desires for flexibility, work-life balance, and autonomy after negative experiences in rigid, traditional jobs [6] [7]. However, this perceived autonomy often paradoxically manifests as lack of control, with algorithms dictating opaque processes and policies offering little recourse [8]. Moreover, while gig workers evaluate job quality highly [7], issues like chronic oversupply leading to lower pay [9], vulnerability through lack of employer-provided benefits [8], volatile income streams [10], and unpaid labor costs like extended task searching [11] persist. These seem inconsistent with the narrative of higher-earnings and economic empowerment through platforms.

Important to note is the difficulty in understanding the opinions of gig workers since they also represent a very diverse group of people. Aside from the fact that most surveys take very different definitions of platform labor, the survey respondents themselves are also quite spread out across many demographics and we have surprisingly little understanding of their numbers and pay [1].

Looking more broadly, techniques like efficient algorithmic matching, skill standardizing rating systems, and minimal training requirements allow platforms to facilitate lower-skilled labor markets than traditional hiring [6]. This raises concerns about social mobility as educated, higher-income individuals supplement incomes through platforms, potentially crowding out access for lower-skilled workers [9] [12]. These platforms then tune their algorithms with a constant stream of their worker’s data to further optimize their efficiency [2] and compound these effects.

Several studies explore correlations between the growth of platform economies and increasing income inequality on macroeconomic scales [8] [12] [13]. Since the barriers to entry are so minimal many workers choose to supplement their income through these platforms and perform the jobs done traditionally by workers with low educational attainment out [12]. Despite initial decreases in inequality, platform concentration and labor commodification may propagate inequality over time without adequate human capital development [8].

Researchers fall somewhere between two camps. A pessimistic perspective of the platform economy believes that platforms promote trends that treat workers like commodities and undermine market regulation. The lack of benefites and few methods of contesting platform decisions hurt workers in the long run. By further digitizing and delocating work platforms can enable employers to engage in ‘labor arbitrage’ and buy labor for less, forcing individuals to undercut one another and work in jobs with often no foreseeable career ladder for less [14]. Some argue the concentrated market dominance of large platforms reflects cartel-like dynamics enabling rent extraction and regressive redistribution of economic surplus [3].

3 Platform Interplay with Labor Dynamics

3.1 The Rise of Platforms

Digital labor platforms generally came to rise in the aftermath of the 2008 Financial Crisis. They had fundamentally disrupted traditional employment models that had remained relatively stagnant for decades. A 2010 Gallup survey starkly illustrated mounting worker discontent - only 13% of employees felt actively engaged, with frequently cited pain points like lack of autonomy, flexibility constraints, and excessive micro-management from corporate hierarchies. [15] For these dissatisfied workers, platform work’s alluring propo-

sition of being one’s own boss while setting personalized schedules resonated powerfully. The platforms’ technical innovations allowed them to systematically dismantle economic frictions and barriers to open labor markets that legacy hiring processes could not surmount. Platforms traditionally worked best when they could take advantage of the inefficiencies in the market, such as the taxi medallion system, or the underutilization of homes when their owners go away and capitalized on this latent surplus of labor which become key drivers of the platforms’ rapid growth [16].

At the core of these platforms, algorithms matched workers to discrete tasks and services with unrivaled efficiency compared to cumbersome conventional recruitment methods. Skills verifications occurred fluidly through user-generated rating systems rather than onerous credentialing processes. And virtual storefronts provided seamless, scalable marketplaces for sellers and buyers of labor to directly transact. As more and more refinements began to be made to the system the benefit of platforms became more and more apparent in less inefficient sectors as platforms could manage their supply of labor with higher precision [17]. This low-friction, algorithmically-driven model supercharged platforms’ scalability in a way unmatched by physical corporations. By circumventing bottlenecks around owned capital and infrastructure, platforms rendered entire localized service industries like taxis, accommodations, and personal tasks ripe for instant disruption. They created many jobs, including workers who were previously excluded from participation in traditional employment markets [18]. Within a decade of their inception.

This low-friction, algorithmically-driven model supercharged platforms’ scalability in a way unmatched by physical corporations. By circumventing bottlenecks around owned capital and infrastructure, platforms rendered entire localized service industries like taxis, accommodations, and personal tasks ripe for instant disruption. They unlocked massive latent labor supplies previously excluded from participation in traditional employment markets. [18] Within a decade of their inception, sharing economy titans like Uber, Deliveroo, and Airbnb rapidly assembled the world’s largest private contingent workforces of atomized contractors.

This remapping of economic relationships integrated platform services deeply into the societal fabric and consumer lifestyles with remarkable velocity [19]. However, alongside fluctuating public enthusiasm for their conveniences came escalating scrutiny around the labor conditions intrinsic to platforms’ disruption models.

While gaining traction amidst the modern workforce’s well-documented disillusionment, platforms also benefited from complementary positive public sentiment around their consumer benefits. The situation is taking root in the public however, 2021 polling data revealed about half of all Americans think that regulations should be changed for gig workers, and 60% of Americans have heard debates on how ride-sharing should be classified [20]. However, that same survey found that American’s views are extremely polarized according to traditional political and economic lines. The public is generally in favor of platforms, but they also think that platforms mistreat their workers [20].

This dichotomous national stance obscured more fractured localized contexts where tensions flared over platforms’ economic impacts. In cities like Toronto and Austin, officials temporarily barred major players like Uber and Lyft amidst accusations they exploited regulatory ambiguities and loopholes to unfairly undercut incumbents bound to overhead costs like licensing, employment laws, and operational requirements [16]. These high-profile feuds pitted enthusiastic ridership against concerns over potential disruption to legacy local industries, businesses, and workforces.

At their core, such disputes reflected ambiguities around platforms’ operational legitimacy when their technologically-enabled capabilities collided with governance frameworks premised on more conventional economic models. Emboldened by their rapid consumer adoption, some prominent platforms brazenly flouted regulations, embedding their services in consumer routines before municipalities could develop appropriate oversight regimes [16]. Their virtual, borderless infrastructures enabled potentially disruptive circumvention of local legislation and conventions like zoning permitting or labor laws. However, jurisdictions discovered outright platform banishment often birthed dangerous black market analogs, reflecting the entrenched societal desire for efficient facilitation of on-demand services [16].

3.2 Impact on Low-Income Workers

The growth of platforms has undoubtedly brought a plethora of new labor into the market [18], although it’s difficult to pin this number down exactly. The problem however, is that this market has become so huge that platforms on a broad scale have become dominant in their network effect, drawing more labor, and setting lower prices [2] [10], further drawing wages down as they increase the efficiency of the market. This

has led to a situation where workers are paid less than they would be in a traditional job [21] [7].

Although there is much to be said about the negative impact platforms have had on low-income workers, it cannot be denied that for many lower-skilled workers facing compounding employment barriers, the emergence of platform work's algorithmically managed outsourced task economies represented unprecedented access to job opportunities largely unattainable through conventional hiring practices [9]. Unburdened by the lack of human oversight, formal credentials, or traditional hiring biases, gig workers could leverage platforms to monetize their skills and time in ways previously impossible. This is especially true for workers who are not traditionally employed, such as those who are disabled, or those who are not able to work full time [18] [6]. From some narrow surveys into the motivations of gig workers, it seems that workers are drawn to platforms by the flexibility and autonomy they offer [21]. This is especially true for workers who have had negative experiences in traditional jobs and are looking for a change. However, the same surveys show that workers are aware that they are paid less than they would be in a traditional job, and that they are willing to overlook some of the drawbacks of platform work for the benefits they offer [7]. This suggests that workers are willing to pay a premium for the flexibility and autonomy that platforms offer.

And pay a premium they do; the vaunted autonomy and flexibility gained through eliminating human supervisors has proved double-edged. While jettisoning corporate oversight resonated ideologically with platform workers, in practice, this often manifested as tenuous control over their working circumstances [6]. Chronic oversupply issues driven by platform accessibility resulted in depressed earnings as workers engaged in relentless competition over limited gig opportunities. Vulnerable independent contractor statuses meant a lack of employer-provided benefits like healthcare or retirement planning. And opaque deployment of automated algorithmic management systems governed by make-or-break policies like scheduling prioritization, performance evaluations, and pay rates with limited avenues for human appeals or due process [11] [10] [7].

Yet critically, surveys indicated up to a third of lower-income workers professed willingness to make this trade-off, embracing sacrifice of economic security and defensive employment protections in exchange for flexibility and autonomy over self-directed work schedules [21]. This data suggests a segment of the workforce, despite being cognizant of the challenges intrinsic to gig work, fundamentally prioritizes temporal independence over traditional safeguards.

Perhaps a reason why this is even more interesting, however, is that a significant portion of platform earnings did not flow to households completely reliant on contingent labor. Rather, many workers leveraged gig work for supplemental income multiplication while retaining stability from primary traditional jobs [8]. It may very well be the case that the people who are reliant on platform labor are less satisfied with their jobs and conditions [10]. This dynamic raises concerns about potential overcrowding of limited platform opportunities, exacerbating competition and undercutting access for disadvantaged cohorts seeking platforms as sole income sources. When a previous study looked at the effect on wages of crowdworkers and their traditional counterparts they found that differences in wages were not explained by ability of individuals and that labor in crowdwork is vastly underutilized [9] suggesting that the platforms are not providing part of the surplus benefit to the workers.

More broadly, mounting evidence suggested the meteoric proliferation of platform economies actively contributed to widening income inequality across the socioeconomic spectrum, in opposition to the empowering narrative of increasing economic inclusion and participation for lower-income individuals [13] [5]. Several mechanisms are at play in this trend towards rising inequality [12].

First, rampant sector consolidation among dominant, venture capital-backed platforms enabled the extraction of rent from oversupplied workforces. With algorithmically-facilitated labor networks relatively undifferentiated, firms could unilaterally suppress compensation rates with impunity given workers' structural inability to easily switch between parallel service providers [5]. The network effects these firms cultivate through consumer adoption and data aggregation further entrenched their market dominance, enabling them to dictate pricing and policy terms with minimal external oversight.

Simultaneously, efficiency gains disproportionately materialized for already-privileged knowledge workers leveraging platform access for income supplementation rather than total earnings reliance. Lawyers, programmers, and corporate professionals could effortlessly arbitrage excess capacity through contingent freelancing while retaining employability cushions, a luxury unattainable for lower-skilled participants working platforms out of necessity [8].

Finally, the inherent precarity and volatility of platform work itself - marked by unstable incomes, minimal opportunity for human capital accumulation, and absence of profession mobility pathways erected

structural barriers for participants dependent on these labor channels as primary breadwinners. Without traditional professional scaffolding, the cyclic churn of contingent low-wage platform services superseded career advancement and asset-building [10] [7].

3.3 Long Term Effects

This last mechanism will play a crucial role in the long-term future of these workers' lives. Platforms fundamentally disrupt traditional pathways for skill acquisition and career advancement. By design, platforms eschew responsibility for worker training and professional development opportunities conventionally provided by employers. This individualization of skill development raises concerns around stagnating human capital across the workforce [2]. Instead of using their systems of ratings and reviews to silently chide workers into improving their performance [6] they force the workers to pay for it out of pocket [11]. Rather than formal, structured training, platform workers prioritize just-in-time, ad-hoc upskilling through informal resources like online communities, customer feedback, and video tutorials. While enabling cost-efficient, self-directed capability building, this piecemeal approach privileges narrow, role-specific competencies over holistic aptitudes like critical thinking [2]. Lack of managerial mentorship and opacity around algorithmic performance assessments further limits visibility into developmental needs.

Moreover, platforms' dynamic languages and niches render many learned skills transient. As platforms continually evolve product offerings and policies to increase economic extractions, worker proficiencies face perpetual obsolescence [2]. Strategies learned to generate outsized success may swiftly be devalued by platform design changes. Entrepreneurial platform businesses vigilantly adapt to shifting tides, but atomized gig workers struggle to proactively upskill for unstable terrain.

The mercurial nature of platform labor actively undermines traditional career development. Seniority and formal credentialing provide a minimal inherent advantage as ratings systems, customer reviewers, and proprietary task routing algorithms govern opportunity streams [22]. Absent transparent evaluation criteria or appeals processes, workers find career trajectories opaque and stymied despite accumulating experience. For high-skilled professionals leveraging platforms as income supplements, this engenders relatively benign constraints. However, low-wage workers reliant on contingent platform work encounter structural barriers to economic mobility and asset accumulation [2]. Achievements yield a minimal return on human capital as the cyclical churn of ephemeral microtasks supersedes sustainable career progression.

As orchestrators of a new labor paradigm decoupling performance from tangible skill development or vocational scaffolding, platforms actively reshape workforce dynamics. Comprehending the impacts of dynamically evolving platforms on equitable access to enriching career prospects represents a critical priority for ensuring sustainable economic empowerment. While it seems difficult to ascertain whether job satisfaction amongst the most reliant workers is high, it is clear that the platforms are undermining the financial security and future of the workers [8] [9] and even drivers of inequality [12].

Taken in totality, these dynamics cast significant skepticism over whether the widespread diffusion of platform economies truly empowers economic mobility and security for disadvantaged demographics. While initially facilitating increased workforce participation, evidence mounted that digitally-mediated contingent labor ultimately perpetuated a new paradigm of precarious work benefiting primarily consumer interests and capital runway over sustainable worker certainty. There's certainly societal value in the flexibility and autonomy platforms offer, but the long-term effects of platforms on the workforce are still uncertain.

4 Discussion

The proliferation of digital labor platforms precipitates a profoundly disruptive shift in workforce dynamics. While enabling innovative entrepreneurial models and championing narratives of flexibility, these technological giants systematically erode traditional employee protections, career development pathways, and power dynamics. Absent comprehensive regulatory reform, their unchecked growth trajectory poses severe ramifications for economic equity and mobility. Platforms represent an innovative future of additional modes of work and value creation, but they must be checked with robust mechanisms to ensure sustainable, equitable economic empowerment.

As it is now, algorithmic management systems enhance exploitation through unprecedented workplace

surveillance, benchmarked productivity targets, and unilateral compensation decisions, all obscured behind inscrutable data models. This bureaucratic privatization concentrates power among firms while removing human agency. For contingent workers treated as inputs into dispassionate supply chains, pathways to meaningful skill acquisition or vocational ladder-climbing remain obstructed. Despite professed efficiencies, platforms promote labor casualization and income inequality. Efficiency gains disproportionately accrue to privileged or well-off individuals supplementing earnings rather than subsistence-dependent participants. Those relegated to chronically oversupplied microtask pools struggle to transcend cyclic churn amidst depressed earnings, vaporized job security, and the absence of employer-provided safety nets. Compounding vulnerabilities exacerbate economic disenfranchisement for marginalized cohorts systematically deprived of mobilizing skills, assets, and stable employment.

Fundamentally, platforms represent a paradigm shift whose disruptive impacts reverberate far beyond workforce reconfigurations. Their defiance of jurisdictional boundaries reveals an erosion of regulatory guardrails that would have otherwise held them accountable. Tech unicorns have dynamically operationalized regulatory arbitrage across taxation, licensing, and labor legislation regimes through calculated intersections of innovative service delivery, semantic obfuscation, and transnational mobilization. Renegotiating democratic governance in this platform economy emerges as a paramount policy priority.

Proponents' proclamations of economic empowerment ring increasingly hollow as evidence of platforms' perpetuation of inequality and workforce destabilization mounts. Restoring equilibrium requires comprehensive public reckoning. Oversight mechanisms safeguarding worker protections, skill enrichment opportunities, and entrepreneurial prospect equality must evolve in lock-step with technological capabilities enabling economic reorganization. It seems to be the case that as platforms achieved critical density, their innovator identities ceded to active propagators of stagnating income split reminiscent of more conventional hiring hierarchies. Without a concerted effort to recalibrate platforms' economic power dynamics, the future of these workers remains precariously uncertain.

5 Conclusion

The rise of the platform economy has brought about new modes of work, and reshaped the traditional employment landscape. Their ability to harness digital technology to organize labor and services more efficiently than traditional employment models has revolutionized economic relationships in the digital age, but also strains them against a system designed for more traditional economic models. While platforms offer unparalleled flexibility and autonomy, they simultaneously erode traditional employee protections and career development pathways. The platforms' unchecked growth trajectory poses severe ramifications for economic equity and mobility. Platforms represent an innovative future of additional modes of work and value creation, but they must be checked with robust mechanisms to ensure sustainable, equitable economic empowerment.

The rise of platforming poses multiple challenges to policymakers and scholars. It's clear that some form of platforms are here to stay as segments of the population are completely enamored by this style of work and have become entrenched in the labor force. What remains is to figure out how to regulate these platforms in a way that ensures that they are not exploiting their workers, and that they are not contributing to the growing income inequality in the country.

This will require a comprehensive understanding of the systemic impacts of platforms on the workforce and economy, and a willingness to adapt to the changing landscape of work. Correctly categorizing gig workers will play a big role in this. Traditional descriptions of gig work are too narrow or broad, and they make it difficult to exact effectual policy change. Platforms are not a monolith, and they operate in many different fields with varying degrees of control. They have varying degrees of integration with the traditional workforce, and they have different effects on the workers whom they employ. Understanding these differences will be crucial in crafting effective policy solutions.

More transparency on the situation is desperately needed. Research in this area is still in its infancy and we are missing much of the data of the workers who are on these platforms. We need to know how many workers are on these platforms, how much they are paid, and what their working conditions are like. This will require both researchers and the platforms themselves to collect and understand this data. When it comes to the matter of redefining work, we need to understand the full scope of the problem before we can

begin to address it.

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