

This is a repository copy of Why Platform Capitalism is Not the Future of Work.

White Rose Research Online URL for this paper: https://eprints.whiterose.ac.uk/192534/

Version: Accepted Version

Article:

Azzellini, D, Greer, I and Umney, C orcid.org/0000-0001-5757-920X (2022) Why Platform Capitalism is Not the Future of Work. Work in the Global Economy, 2 (2). pp. 272-289. ISSN 2732-4176

https://doi.org/10.1332/273241721X16666858545489

© Authors 2022. This is an author produced version of an article published in Work in the Global Economy. Uploaded in accordance with the publisher's self-archiving policy.

Reuse

Items deposited in White Rose Research Online are protected by copyright, with all rights reserved unless indicated otherwise. They may be downloaded and/or printed for private study, or other acts as permitted by national copyright laws. The publisher or other rights holders may allow further reproduction and re-use of the full text version. This is indicated by the licence information on the White Rose Research Online record for the item.

Takedown

If you consider content in White Rose Research Online to be in breach of UK law, please notify us by emailing eprints@whiterose.ac.uk including the URL of the record and the reason for the withdrawal request.



Why Platform Capitalism is Not the Future of Work

Dario Azzellini (University of Zacatecas)

Ian Greer (Cornell University)

Charles Umney (University of Leeds)

Abstract (250 words)

This article examines the assumptions behind the sociology of work and industrial relations

literature on online labour-based platforms. This literature has critically examined working

conditions and worker resistance in platform work, but it has done so without criticizing what we

call the "metanarrative of the platform economy". This metanarrative enables a weaving together

of platform work with broader trends such as precarization, neoliberalization, financialization,

and marketization, but it makes it difficult for scholars to explain the small size of the platform

workforce or to understand the diverse forms that platforms take. We argue that in order to

understand the limits and diversity of platforms it is important to understand the inherent

problems of platform as capitalist business models. We suggest a research agenda that decentres

some of the better-known platform models (ridesharing and food delivery) and carries out in-

depth studies of work and exchange in other sectors.

Keywords

Labour-based platforms, platform capitalism, political economy of work, metanarrative,

marketization

Word count: 8,636

1. Introduction

In labour scholarship there is a puzzling phenomenon. A large literature has grown up about the rather marginal phenomenon of labour-based platforms. Estimates of the size of this workforce vary, with the number of workers dependent on platform work for their income ranging from 0.5% to 5% of overall employment, depending on the country and method of measurement (e.g. Katz and Krueger, 2017; Wallerstein et al, 2019; Piasna et al, 2022). Critical scholars often argue that the platform economy is worth studying, not only because it is new and expanding, but also because it a window into broader trends such as neoliberalization, precarization, financialization, and marketization. Scholars often weave these trends together with platformization to build a metanarrative about how capitalism is changing.

It is time to critically reflect on the assumptions animating this literature. The platform economy may not be growing much longer. Some important branches of the sector like grocery delivery are proving to be unviable (O'Connor, 2022) and others like app-based ridesharing have remained unprofitable as they have expanded (Cusumano, 2020). Other industries may prove difficult to "platformise" in the first place (Azzellini et al, 2021). More importantly, research on labour-based platforms raises important questions about the current political economy of capitalism that need to be answered. Why does the platform economy remain so small, i.e. why has it not taken over more industries and occupations? And why do real-world platforms so often diverge from the vision presented in narratives about the "platform economy", whether utopian or dystopian?

 $^{\rm 1}$ Note that in Piasna's [2022] study up to 17% have done "some internet work in the past year".

We begin below by outlining what we call the "platform economy metanarrative". Next, we present a critique of this narrative, reviewing research which casts doubt on the sustainability and growth potential of the platform model, as well as its limitations in practice. Then, we reflect on how the metanarrative figures in critical scholarship in industrial relations and the sociology of work, arguing that scholars in the field have not engaged sufficiently directly or critically with it, and identifying some common tropes that help enable this lack of critical engagement. Finally, we propose an explanation for the limited expansion of the platform economy, moving beyond theories rooted in worker resistance and government regulation to include the inherent problems platforms face as capitalist business models. Our conclusion identifies paths forward for understanding these problems using the analytical and methodological tools of the sociology of work and industrial relations.

2. The platform economy metanarrative

The "platform economy metanarrative" presents the platform economy as a transformative megatrend in modern capitalism. Often authors claim to have identified a new kind of capitalism (indeed, "platform capitalism", in Srnicek's [2017a] words), dominated by a particular type of organization, the platform, a technologically-enabled corporation that is also a marketplace. Whether critical or enthusiastic in their interpretation, many authors focus on the transformative implications of platforms for the entire capitalist system (e.g. Rahman and Thelen, 2019; Moazed and Johnson, 2016). Srnicek (2017b) writes that platforms

are a newly predominant type of business model premised upon bringing different groups together. Facebook and Google connect advertisers, businesses, and everyday users; Uber

connects riders and drivers; and Amazon and Siemens are building and renting the platform infrastructures that underlie the contemporary economy. Essential to all of these platform businesses – and indicative of a wider shift in capitalism – is the centrality of data. Data is the basic resource that drives these firms, and it is data that gives them their advantage over competitors.

Kenny and Zysman (2016:62) argue that the platform economy

encompasses a growing number of digitally enabled activities in business, politics, and social interaction. If the industrial revolution was organized around the factory, today's changes are organized around these digital platforms, loosely defined. Indeed, we are in the midst of a reorganization of our economy in which the platform owners are seemingly developing power that may be even more formidable than was that of the factory owners in the early industrial revolution.

These platforms are multi-sided marketplaces, which means that they connect some combination of buyers, sellers, producers, physical objects, digital resources, other platforms, and other less-digitized market intermediaries. They reduce transaction costs, because they make information about price and quality readily available to anyone with a smartphone or laptop who can download and use the relevant app; and they automate other aspects of the transaction that are otherwise cumbersome or time-consuming, like payment. They are notable for their large scale, enabled by the relative low cost of scaling up and encouraged by "network effects" whereby they become more useful the larger the market. One consequence of all of these advantages is that the markets they occupy become "winner-takes-all", with the most successful apps operating as monopolists or oligopolists. Their non-platform competitors, incumbents in their industry, are thus "disrupted", to invoke the business jargon.

Some discussions of the transformative capacity of platforms fall victim to technological determinism (for critiques see Howcroft and Taylor, 2022 and Thompson and Briken, 2017). Certainly, digitalization enables these business models, and the core assets of labour-based platforms are allegedly not people, buildings, or machines, but rather apps and data. Even the platforms that are centred on their physical assets – like "platforms for platforms" such as Amazon Web Services that manage the infrastructure – exist because of digitalization. However, the metanarrative tells a broader story of change in political economy that ties the technological aspects of platforms to other processes. It is related to financialization (Srnicek, 2017a), since money-losing platforms such as Uber are an important destination for hoarded surplus capital. It is related to neoliberalization, since some of the more prominent platforms (Uber again) not only advocate the weakening of worker protections but also fascinate market-fundamentalist thinkers (Moazed and Johnson, 2016). It is related to marketization since coordination within the app takes place via competition (Fleming et al, 2019; Greer and Umney, 2022), and the market becomes more customer facing, disrupting the social protections that might level the competitive playing field or redistribute income towards workers.

The prospect of "platform capitalism" as the future of work has fired many critical imaginations. Producers (also known as workers) log onto the platform with their computers or their smartphone, which connects them with customers, who engage them on a one-off basis. In the sociology of work, a distinction is typically made between those labour-based platforms which mediate in-person service delivery (as typified by companies like Uber and Deliveroo), and those which mediate online-only services, as with the "remote gig economy", sometimes called "clickwork" (Wood and Lehdonvirta, 2019; Schmidt, 2017; Yao, 2020). In all labour-based platform work, borrowing language from the performing arts, each job is called a "gig",

and extending this vocabulary, the producers become "gig workers" and the industry the "gig economy". Gig workers lack the rights, individual and collective, associated with the employment relationship, which is itself disrupted. The culture in this work becomes more individualistic and entrepreneurial. The app shifts risks onto the workers, making their lives increasingly precarious, as their pay and working time become increasingly determined by supply and demand as managed by an algorithm. Moreover, user-generated performance ratings of platform workers, tracking of worker activity, and other methods of "algorithmic control", impose on ostensibly independent workers evolving forms of surveillance and manipulation (e.g. Griesbach et al, 2019; Pignot, 2021; Gandini, 2019). Given the broad sweep of the metanarrative, it is unsurprising that there is relatively little focus on heterogeneity, whether between or within countries, when discussing the permeation of platform work; a point to which we return below.

Whether the metanarrative seems plausible or not, it does contain clear predictions about the political economy of work. Digital technology enables a particular kind of organization, the platform, that also benefits from and reinforces mostly odious aspects of contemporary capitalism: financialization, neoliberalization, marketization, and precarization. These trends are combined as a specific kind of technologically-enabled organization, radically different from what came before, that has no known limits to its expansion.

3. A reality check

The platform economy has failed to live up to these expectations, in terms of its size or indeed in terms of its business models or employment practices. One issue to which few labour scholars dedicate attention is the poor performance of platform firms as investments. In 2020, for

example, Uber had a net loss of \$6.7 billion and the smaller Lyft of \$1.8 billion. This was not simply an effect of the pandemic: in 2019 the net loss reported by Uber was \$8.5 billion, and Lyft reported a \$2.6 billion net loss (Hawkins 2021). In 2022 Uber Eats for the first time realized some small gains, while the rest of the firm continued to lose money despite an increase in overall revenues in 2021.

Indeed, failure among platform companies is much more frequent than the success stories. Cusumano (2020) found that of the biggest 43 publicly-listed platform companies there were 209 direct competitor companies that failed, and many of the larger platform companies did not produce gains: "The bigger some platforms get, the more money they lose" (Cusumano 2020). Airbnb, founded in 2008, was hit hard by the pandemic and reported net losses of US\$4.6 billion in 2020, which declined US\$352 million in 2021. However, in 2019, Airbnb's net losses amounted to US\$674 million (macrotrends.net 2022). Dropbox, similarly, reported net losses of US\$256 million in 2020; after analysts predicted that it would "break even in a few months and turn a profit within a year" (macrotrends.net 2022), it reported net losses of US\$335.8 million in 2021 (Dropbox 2022). A long list of platform businesses, including Blue Apron, Casper, Peloton, Pinterest, Snap, and Zillow have never been profitable (Lisa 2021). Platforms depend on venture capital investors who accept that most of the businesses they fund will fail, but the one that succeeds will pay back from ten to a hundred times the invested capital, since it will grow rapidly (Treusch 2022), as per the platform economy metanarrative. A seldom-made point is that these fruitless investments in platform businesses can often be written off investors' taxes.

According to Cusumano (2020), although Uber raised prices and cut staff, "annual operating deficits of several billion dollars are expected to continue", and Lyft only loses less money because it is smaller. Among their problems are that Uber loses drivers at a monthly rate

of 12.5% and the cost to hire new ones is approximately US\$650 per drives, which amounts to expenses of US\$250 million per month only to find new drivers. Cusumano argues that investors expect a return on their investment in Uber and Lyft once their competitors were pushed out of the market and they are able to raise prices. However, Uber and Lyft already control the US market, and neither is profitable.

This is a sector that depends on vast amounts of patient capital, but investors may be losing their patience. In July 2022 the Uber Valuation at IPO was \$44.3bn, down from \$82.5bn in 2019. (Waters 2022). After two decades of growth in venture capital investments, the party seems to be over in 2022. The Wall Street Journal reported in August 2022 that funding for startups during the second quarter of 2022 dropped 13% in Europe compared to the first quarter; this figure was higher (25%) in the USA and Asia (Sylvers 2022). Not only is capital increasingly scarce: investors also focus more on refinancing startups than funding new ones. The consequences are fewer new startups, and in existing companies funded by venture capital a slowdown of planned expansion, a concentration on core businesses, and layoffs (Treusch 2022). One tracker of layoffs at startups in the USA reported wave of 63,000 layoffs from March to May 2020 (at the beginning of the pandemic) and 60,000 from April to August 2022 (layoffs.fyi).

The problem with the metanarrative is not only the small size of the platform workforce but the deviation of many platform firms from how these organizations should work. The issue is not only the diversity of platforms, which is already recognized in the literature. Indeed, in studies of work and employment, scholars tend to separate "labour" platforms (a term that includes platform-mediated in-person services as well as online-only clickwork) from other types of platform which are assumed to be of less interest (e.g. Aloisi and De Stefano, 2018). More

fundamentally, platforms do not necessarily turn workers into freelancers or provide an effective way to escape statutory or worker protections. In the Nordic countries, platforms often directly employ the producers, negotiate with unions, and have functioning worker representations (Ilsoe and Larsen 2021; Jesnes 2019), and even also in some US states, where Uber and Lyft have to lobby for special carve-outs in order to treat drivers as independent contractors (Smith 2018). Many are backed by normal bricks-and-mortar corporations, and not venture capitalists (Kirchner et al, 2022). Bargaining is not with an algorithm: it is with an employer that uses apps and algorithms as management tools. Global quantitative analysis of platform worker protest suggests that algorithmic control, despite its prominence in the literature as a supposedly novel hallmark of platform work, features negligibly as a cause of protest (Bessa et al, 2022). It is not only a question of costs, but also often-neglected organizational factors which have prompted a turn away from the ideal-type of platform.

An interesting case revealing the problems faced by labour platforms is the cleaning services platform Book a Tiger (meanwhile renamed Tiger Facility Services and acquired in 2019 by the competitor Helpling). Book a Tiger was founded in 2014 as a platform connecting freelance workers with clients for single cleaning services in Germany and Switzerland. The institutional and legal context in these countries was not unfavourable, since Germany in particular has greatly facilitated the emergence of a low-paid and precariously employed workforce in the last two decades (Méhaut et al 2010). However, already by early 2016 the company was changing its model. It stopped combining single cleaning gigs and hired 100 workers part time (20 hours a week) paying them according to the national contract for building cleaners. Book a Tiger CEO Claude Ritter explained in an interview that one-off "gigs" did not allow the company to guarantee a quality standard regarding the cleaning services and the

company did not have the authority to give directives. The only response it had for bad services was to not connect the cleaners again to new jobs. That, however, did not bring back customers that had bad experiences. As Ritter tells it, customer dissatisfaction was so widespread that every time he would go to a business conference, he was afraid to hear about bad experiences with Book a Tiger. Hiring the cleaners made it possible to guarantee quality standards, to have pictures of their workers on the company's website, and to offer the customers to the possibility of always working with the same cleaners. Investors were originally critical, but directly hiring cleaners led to two-digit monthly growth in business. Taking advantage of in-house bookkeeping programs and its business connections, it also started collaborating with several cleaning companies. By May 2017 Book a Tiger already employed more than 1,000 cleaners and 11 had partner cleaning companies with another 2,500-3,000 employed cleaners. Turnover has declined, overcoming a problem facing many other platform businesses. According to Ritter, customers appreciated the model and were willing to pay more. Book a Tiger became a cleaning company with a website, departing from the gig economy model (Ritter 2017).

The empirical literature on labour-based platforms shows how the employment relations setup of platforms is as diverse as the activities that they coordinate: childcare, clerical tasks, driving, elder care, food delivery, grocery shopping, home maintenance, live music, sex work; and online provision of services such as legal advice, translation, and data processing tasks; plus much more. The key point is that in many of these sectors, in many local, national and online markets, the platform model exists only on the margins. However, at present, with isolated exceptions (e.g. Azzellini et al, 2021; Fleming et al, 2019), there is little scholarship which specifically examines the organisational limits of platformization. In the Book a Tiger example, the platform model faced problems not necessarily connected to the availability of investors, or

of institutional context, but primarily organisational challenges related to the contingencies of the industry and the task is was seeking to perform- to which the platform was not well-suited. As we will argue below, organisational factors constitute an under-recognised and under-theorised limit on the spread of the platform model.

4. Tropes of the platform economy

Studies of platform work have become a huge presence in the published industrial relations and sociology of work literature, and conferences in the field regularly feature streams dedicated to platform work with quite well-attended sessions. At the International Labour Process Conference 2022, for example, around 19% of 300 papers presented examined platform businesses and platform workers. The extent and prominence of this scholarship appears greater than the relative weight of platform work as a proportion of labour markets around the world. Arguably, a prominent focus on platform work could be justified because it enables examination of novel forms of control, or present a particularly challenging environment for union organising. Hence, they may enable us to understand new trends or solve tricky puzzles, with lessons that may be applicable in other contexts.

While this literature may not entirely confirm the metanarrative discussed in section 2, neither does it engage critically with it. Instead, it lifts figures of speech from the metanarrative, without properly challenging the underlying ideas. We make this point in two stages, first by arguing that the sociology of platform work is too often ambivalent about the platform metanarrative, and second by identifying what we see as some recurrent arguments and figures of speech which pervade much of the literature, and which should be challenged.

Ambivalence towards the metanarrative

The first point is the ambivalence of the sociology of platform work towards the metanarrative of the platform economy (discussed in the previous section). Articles rarely engage with it directly; instead, they either sidestep it or endorse it.

Some scholars take a pragmatic approach that indicates scepticism towards the metanarrative, but which argues that there are good academic reasons for devoting particular attention to platform work. Some articles explicitly note that platforms remain a relatively marginal presence, but argue that their novelty means that they yield important insights. Cini and Goldmann (2021), for instance, begin with this acknowledgement, but note that platforms are a site of technological innovation that may pioneer new kinds of control, and present new challenges for labour organizing. An influential paper by Tassinari and Maccarone (2020) establishes platform work as the site of an important and pressing puzzle: given its characteristics seem to make it so difficult to organise, what can be learnt from against-the-odds organising successes? Certainly, this is a powerful device for framing a paper: though the platform is small, it also provides specific puzzle to be solved, the rewards for which are potentially great. Indeed, Tassinari and Maccarone note in their conclusion

The capacity of gig workers in the UK and Italy to overcome significant obstacles to the emergence of active solidarity, and the spread of similar mobilisation across several European countries in recent months, offer cause for optimism for the consolidation of workers' solidarity – even in the 'brave new world' of gig work.

This presents an inspiring challenge to scholars and activists involved with platforms. However, framing platforms as a tricky empirical problem to solve, while in itself valid, sidesteps the need to engage critically with wider narratives of platformization. It is sufficient that they exist and cause problems, and by focusing on these problems, authors can remain agnostic on the question of how widespread the disruption they cause is likely to be.

A variation of this pragmatic approach is when scholars will tend to sidestep the issue of the extent of the platform economy with what can be termed "small but growing" framing remarks. In other words, authors acknowledge the limits of the platform economy, but note that the sector is growing (or emerging), which implies that the authors' findings are likely to grow in relevance in future. Many articles use versions of this framing device (Gandini, 2019; McDonald et al, 2021; Wood et al, 2019). Gandini (2019), for instance, in an article which provides an important theoretical touchstone for sociologists of work examining platforms (more on which below) discusses this narrative quite cursorily. He notes that the platform economy is small but growing, and is important to study because of its novelty. These statements make sense as a way of framing articles on the topic. Often, the "small but growing" formulation is simply a statement of empirical accuracy. The problem is that when it becomes very widely used as a means of framing research into platforms, it leads to an undue focus mainly on the "growing" part, rather than the "small" part. Thus, it risks sidestepping critical reflection on where the limits of this growth may be, and hence falling short of a real challenge to the metanarrative described in section two.

Other authors do tend to weave the discussion of platforms into a wider narrative, but it is not yet clear whether they are doing so in a way that enables scholars to meaningfully critique it.

These contributions make explicit the claim that platforms are emblematic of, or a catalyst for,

wider societal transformation. Gregory et al (2021), for instance, identifies platforms as part of a wider shift to the risk society in Ulrich Beck's sense. Platforms appear the apotheosis not just of trends in the world of work, but wider societal trajectories towards individualism and the vaunting of "being your own boss". In other cases, platforms are linked to a broader discussion around "the changing world of work", in which they are part of a wider shift towards everincreasing flexibilization (Tassinari and Maccarone, 2020; Sun et al, 2021; Griesbach et al, 2019), or, following Kalleberg, of increasingly market-mediated employment relationships (Wood et al, 2019) and individualisation (Morgan and Pulignano, 2020). Veen et al (2020) provide a good example of the invocation of platforms in the building of these diffuse political-economy narratives:

The rise of the digitally enabled 'gig economy' or 'platform-economy' has been propelled by advances in computing power and information communication technologies (ICT)... It has generated new ultra-precarious and commodified digitally enabled forms of labour, which can be viewed as a continued trajectory of neoliberalism..., including the increasing financialization ..., fissurization... and precarity of work... with some characterising platform-work as digital-Taylorism... and others as postcapitalist.

Likewise, Pangrazio et al (2021) write:

Cities across the world are undergoing accelerated change as their economic, technological and social foundations fundamentally shift. With the redundancy of 20th-century industries, a huge variety of new employment opportunities have emerged. The gig economy, in particular, offers opportunities for people to work in a variety of roles – as Uber and delivery drivers, as carers and handy-people, and as freelancers in the creative arts. Workers need to be mobile, flexible, digitally 'savvy' and willing to work

without the protections of state legislated industrial laws.... Yet in advertisements for platform mediated labour, 'gig' workers are often posited as the embodiment of the future worker – entrepreneurial, spontaneous and free to choose when and where they work and play.

These critical studies endorse part of the broader narrative of platform evangelists -- of a fundamental shift toward flexibilization and market responsiveness -- but with a different normative spin. Platforms are fit together into a trajectory implied by neoliberalism, financialization, and many other related processes. But "neoliberalism", for instance, involves many different aspects including elements of change and continuity, and it is rarely sufficiently explicit which parts of this transformation are caused by platforms, where platforms are merely a symptom, or most intriguingly, what the limits of platforms' effects are. Howcroft et al (2019) present one of the most precise explanations of how platforms fit into wider processes of neoliberal transformation. However, we still need more critical interrogation of the limits to platforms, and how these limits may undermine the platform economy metanarrative.

Reliance on particular conceptual frames

Sociological scholarship on platform work has heavily focused on particular theoretical arguments which are made repeatedly. Specifically, it has concentrated on a relatively established Labour Process Theory-derived territory of control over platform workers. Numerous studies appear to use platforms as an empirical example to reaffirm the continued validity of these concepts. This is justifiable insofar as control will always be a vital concept for

understanding working life from a critical perspective. However, a predominant focus on control should not come at the expense of a wider interrogation of the platform narrative.

Gandini (2019), in a widely-cited contribution, has reflected in depth on the application of Labour Process Theory to platform work. He notes an assumption that platform work involves greater independence and flexibility, which may ostensibly appear to render concepts like control less relevant. However, he then argues that platforms should be considered a labour-capital relationship, and that therefore the question of control sits at the heart of understanding it.

Through methods such as tracking, user-generated rankings, and other digital tools, platforms control their workers and induce them to furnish additional labour on platform capitalists' terms.

This is an important insight, enabling us to pierce the mainstream managerial narrative which presents platforms as innovative, flexible and even emancipatory. However, it has now become commonplace for articles to frame contributions in very similar ways: identifying the supposed flexibility of platform work as the starting point, and using this as a foil against which to reassert the value of core labour process theory concepts, specifically control. For example, Veen et al (2020) draw influence from Gandini's theoretical insights and support them with empirical data: platforms are a site of new forms of panoptic surveillance, and control systems whose workings are opaque from workers' perspectives. Numerous other articles are quick to emphasise similar themes (e.g. McDonald et al, 2021; Tassinari and Maccarone, 2020; Griesbach et al, 2019; Sun et al, 2021; Morales, 2022). Indeed, there is by now a huge literature on algorithmic control as a pre-eminent feature of platform work, drawing out a wide range of different aspects and introducing a wider vocabulary, including ideological and affective manipulation such as nudge techniques (Pignot, 2021; Parth and Bathini, 2021) and mobilising

new vocabulary such as "algorithmic despotism" (Griesbach et al, 2019) and neo-normative control (Morales, 2022).

In 2019, Griesbach et al criticised scholars for being slow to "theorize the processes through which platforms control workers". However, by 2022, numerous studies have shown how the supposed freedom of platform work can mask a reassertion of control. Yet this speaks only to one part of the narrative. Other questions remain underdeveloped: including how to better understand the limits of platforms as a technological and organizational model for workplaces, and a more critical appraisal of how platforms fit into wider narratives about neoliberalism. This is what we turn to in the next section of this paper.

5. Why aren't platforms "disrupting" more?

Maybe it is only a matter of time before businesses embrace the platform model, and it will no longer be necessary for scholars of platform work to write that it is a "small but growing" area. Refuting this prospect would require the ability to see into the future, although the recent retrenchment and declining share price of various platform firms may encourage scepticism (e.g. O'Connor, 2022). For now, the question remains of why this growth has been so limited, and why platforms as they are normally observed diverge from the theory of platform capitalism. In the sociology of work and industrial relations, what explanations are currently available for the limits to the platform economy?

One of the main claims in the platform capitalism literature is that platforms will achieve dominance in their respective sectors, around the world. According to Moazed and Johnson (2016), platforms are "eating the world" by "truly capitalizing on the Internet's potential" in

ways that previous tech companies could not (18). Srnicek (2017) similarly argues that "with network effects, a tendency toward monopolization is built into the DNA of platforms", but also predicts that monopoly tendencies will be checked by the technologically-enabled emergence of new competitor platform firms. Our definition of platform dominance does not focus on outsourcing, deregulation, self-employment, marketization, or the many other trends that predate platforms combined in the metanarrative: instead, it is the platform companies themselves and their role in coordinating a large share of the work in their respective markets. That there are so few industries and occupations where labour-based platform companies account for more than a small fraction of the work performed is, for this metanarrative, a puzzling fact.

To explain this lack of dominance, a starting point could be to emphasise capitalist "variegation" (Peck and Theodore, 2007), in contrast to the homogeneous progress towards platformization posited by evangelists. National institutional differences may hinder the platform model, as we noted above with reference to the Nordic model (Jesnes, 2019; Ilsoe and Larsson, 2021). However, platforms are also struggling to become dominant and profitable in countries like the US and the UK, which might be assumed to be more susceptible given their "liberal" model. More promising may be evolving within-country differences, as in Brook and Purcell's (2020) study showing how over time large temporary labour agencies in France created a niche for themselves. We will return to this point further below.

Another class of explanation suggests that the limits of platform capitalism stem from the same influences that shape all work, such as worker resistance and government regulation.

Numerous studies have documented the rise of government regulation protecting (or at least clarifying the employment status of) platform workers (De Stefano et al 2021) as well as workers fighting collectively to set up collective bargaining, unions, and works councils (Vandaele 2018).

Resistance by platform workers is particularly widely-discussed in the sociology of work, and there is a particularly rich strand of qualitative investigations which show against-the-odds success stories in mobilizing platform worker resistance. These are very frequently drawn specifically from studies of food delivery riders, which have revealed significant levels of creativity and innovation among labour organisers (Tassinari and Maccarone 2020, Cini and Goldmann 2021, Marrone and Finotto 2019, and Cant 2019). They are less prominent in studies of wholly-online platform work (Azzellini et al, 2021), since the geographic dispersal of such work makes collective resistance harder to organise. These studies present important and inspiring examples of innovation, and are informing important attempts to theorise the characteristics of platform worker protest within the *longue durée* of capitalist development (Joyce et al, 2022). However, the empirical prominence of small-scale qualitative research underlines the need for a wider global perspective which others are only recently starting to address (Bessa et al, 2022). Bessa et al (2022), for instance, survey a global dataset of over 1200 instances of protest by platform workers, demonstrating just how intense and widespread protest activity has been. Nonetheless, their study focuses on a small cluster of sectors which have already been relatively comprehensively "platformised" (such as food delivery and ride sharing), illustrating, firstly, the enduring lack of knowledge about why some sectors feature much less platform work than others; and secondly, that worker protest frequently emerges as a result of platformization where it happens, but cannot be said to have prevented it. Hence the scholarship on platform worker resistance and protest is important, but does not amount to a compelling explanation for the limits of platforms on its own, especially given that, clearly, many workers well beyond the platform economy also protest.

Another set of arguments about the limits to platforms takes a Polanyian view that the market-intensifying characteristics of platforms make likely a pendulum swing away from them. The starting point is the failure of large platforms like Uber to make a profit. The outstanding example of this is Fleming et al (2019), who draw on Polanyi to argue that the "pure" marketization to which platforms aspire is an ineffective method to coordinate work. This helps explain why so many platforms fail to make a profit, and why some switch to directly employing people independently of the actions of workers or regulators, for example in response to business problems. This is a macro-level argument that requires investigation through industrial case studies which, as we have noted, are so far lacking. However, one problem for the Polanyian argument is that some industries which have already been hyper-competitive for much of their history, such as live music, are among those where the platform model has failed to make a substantial impact (Azzellini et al, 2021). This suggests that factors other than a general societal pushback against the market are limiting the expansion of the platform economy.

We argue that these explanations are overly general, positing macro-level challenges to the platform model rooted in worker resistance or Polanyian pendulum swings against the market and neoliberalism. We propose an approach more focused on locating the limits to platforms in the nuts and bolts of how exchange is organized within specific labour markets. In doing so, we follow the thrust of the argument pointed at in our discussion of Book a Tiger above. The key point is that the limits to platformized "gig economy" business models lay not in governmental regulation or worker resistance, but rather in micro-level contingencies and complexities embedded in the way everyday economic transactions are organised. It is likely that factors rooted in the way market transactions are organised in many industries may not be conducive to the platform model; in other words, where platforms are incapable of managing the process of

exchange, and the organisation of work, in ways that a given sector requires. We note that, while the evidence base on labour-based platforms in the sociology of work has mounted faster in relation to in-person services than online clickwork, we propose that the following argument about the factors limiting platformization is likely applicable in both contexts. Indeed, one of the key studies we cite in making our claims – Yao's (2020) study of "Uberised" Chinese lawyers – pertains to wholly-online service provision.

At this stage our argument necessarily becomes more tentative since, as we already noted, there are very few studies which concretely examine the factors limiting platform takeovers of labour markets. The obstacles to platformization largely have to be inferred. We will offer some suggestions of particular challenges which, we reason, may prove persistently difficult for platforms and thus prevent particular market contexts from being platformized. We do not claim this is exhaustive. Nor do we claim that any of these challenges are sufficient to prevent platforms taking over a given market: simply that, in combination, they are likely to make effective platformization much less likely.

1. Quantifying value and ensuring comparability. It has been argued that platforms can function similarly to what Caliskan and Callon (2009) call "valorimeters"; i.e. mechanisms for converting qualitative information about quality into quantitative information that can quickly be used to compare offers and form the basis of pricing. However, to emphasise platforms' potential as valorimeters may underestimate the obstacles hindering this conversion. There are certainly examples of industries where platforms have sought to simplify complex and subjective assessments of value into easily-comparable ratings and comparison systems, including Yao's (2020) study of "Uberization" among Chinese legal professionals, and Hardy and Barbagallo's (2021)

study of sex work platforms. Nonetheless, these studies also highlight the challenges of this process and the contingencies which constitute necessary conditions for it. In Yao's story, "Uberization" of legal services appears to require a large oversupply of underemployed legal professionals. Where this does not exist, it is harder to envision the same process occurring. In Hardy and Barbagallo's account, the deeply problematic and seemingly unsustainable implications of comparability and review culture in online sex work markets, particularly concerning safety issues (for instance where customers feel empowered by the platform to demand unsafe services), are reinforced by the legal restraints which limit sex workers' options and without which the situation may look very different. Hence, the "simplification" of complex qualitative value assessments can in some cases be accomplished but is likely to depend on contextual factors which will not always be conducive. In the literature, as it stands, there is very little research at all on situations where platform models have tried unsuccessfully to act as valorimeters. Rather than implying that platforms are always able to successfully quantify the qualitative, this lack of research is more likely to reflect a gap in current lines of enquiry which, if addressed, might reveal more examples of platform failure.

2. Unbundling contingent and complex tasks. One of the powers of platforms has been to isolate discrete tasks for purposes of outsourcing and offshoring; global platforms for offshoring routine clerical work are the classic example of this. However, many tasks are too complex and contingent to be unbundled without serious problems arising. Examples here may include tendencies towards platformization in higher education (HE) services, which has ignited much debate, albeit generally outside the sociology of work. HE is a case where questions of quality control and user experience may become prohibitive

obstacles limiting the adoption of platform models. For instance, the proliferation of Massive Online Open Courses (MOOCs) generated discussion about the possible platformization of higher education. However, MOOCs have not revolutionised the sector and have been prevented from infiltrating core HE functions, in part owing to concerns about student experience and the absence of in-person interactions, as well as the enduring importance of the prestige of traditional campus-based degree courses (Wang et al, 2019; Burd et al., 2015). Azzellini et al's (2021) study of live music shows how the complexities of live music "gigs", which involve many different aspects and questions, each of which affects price and therefore has to enter into an encompassing negotiation process, make unbundling simply impossible.

3. Unifying fragmented organizational fields. Platforms can benefit from unifying and taking over vast amounts of economic activity, profiting from low costs of scaling up and benefiting from network effects. But this is not the case where ostensibly similar tasks are carried out in different local markets, or are stratified by genre and prestige. Consider labour markets characterized by extreme inequalities where a small pool gets high value work and a much larger pool is chronically under-employed, but desperate to join the former group. In Yao's (2020) study, the "Uberised" legal professionals were trapped in a separate pool of lower-value work. Creative and Cultural Industry jobs, such as media, broadcasting and the performing arts, are likely to provide further examples. In such cases, it is conceivable that platforms might make some headway in arranging very low-value engagements for people on the periphery of the market, but be shut out of more prestigious and high-value work by the enduring importance of established networks.

This is not to dismiss the significance of platform models for groups of workers that are affected by them. Rather, our argument is that platforms face challenges in the everyday details of organizing exchanges in given labour markets. Sometimes they manage this successfully and become a dominant player- if not necessarily profitable- in particular markets. However, in other cases, these challenges are likely to circumscribe the operations of platforms, making the platform model impractical or unsustainable. We expect that future research will identify many more examples where platforms have tried and failed to create quick quantitative comparisons of offers, unbundle the task into commoditized components, and create economies and network effects in unified market spaces, as well as identifying other organizational and market factors which have similar limiting effects. Certainly, we expect that where platforms face all three of these challenges at once they are unlikely to approximate the ideal of the platform metanarrative.

6. Conclusion

This article has criticized an often-repeated metanarrative about the transformative effects of labour-based platforms in the world of work. While the metanarrative knows no limits to the expansion of the platform economy, current journalistic reports from the tech industry and a few recent empirical studies do suggest that these limits exist. Critical social science has the tools to dismantle and deflate this metanarrative, but scholars have tended to accept it or sidestep critical discussion. Certain tropes help prevent critique: the platform economy should be studied because it is "small but growing"; because it is related to various other megatrends; or because it provides evidence confirming labour process theories of control. These arguments are not necessarily incorrect, and individual papers employing them frequently make vital contributions, but cumulatively they make the analytic and empirical focus extremely narrow.

Broadening the focus of research would mean examining the factors that limit the expansion of the platform economy. We agree with Fleming et al (2019) that the platform model is not well-adapted to the realities of coordinating most work. We have also spelled out some expectations of circumstances in which platforms are *not* likely to take over labour markets, focused on the difficulties of organizing transactions. These were situations where value is mainly assessed qualitatively and is difficult to quantify, where transactions are complex and difficult to unbundle, and where the markets are segmented and organizational fields fragmented. We have endeavoured to make this argument based on reference to existing research, where possible, but we have had to make tentative inferences based on the small volume of available studies. While there are important studies of the "platformization" of specific industries, these tend to focus on the changes that platform models cause, rather than reflection on the progress of platformization and the factors limiting it. The main contribution of this article is thus to call for research on the limits to platformization.

We are not arguing for less research on the widely studied topic of labour-based platforms, but we are arguing for different research about it. The field would benefit from further detailed studies of labour-based platforms in labour markets beyond ride sharing (the Uber model) and the delivery of cooked food and groceries (the Deliveroo/Lieferando model). Past studies looking at these well-known examples have uncovered important examples of worker resistance and confirmed some of the core ideas of labour process theory, but they have missed an opportunity to question mainstream notions about the transformation of contemporary capitalism. This requires not only the analytical tools of critical social science that is the currency of much sociology of work; it also requires detailed understanding of work and exchange sometimes found in industrial relations scholarship. Literature on "variegated capitalism" may

also be of use here, since it balances a scepticism of national-institutional explanations with an interest in how embedded contingencies shape capitalist trajectories, and consequent variation within national capitalisms (Peck and Theodore 2007). This is particularly useful when discussing platforms, which have accelerated rapidly in a very limited set of sectors on a global scale, and been stymied, equally globally, in many others. Hence, understanding limits to platformization requires looking beyond highly platformized sectors into other sectors and occupations that are only marginally platformized, both to understand the limits of the phenomenon, but also to understand the broader impact of platforms in the world of work.

There is much more mileage in studies of platform work, if researchers de-centre the well-known models and conduct in-depth studies of work and exchange in other sectors where algorithms and apps are used to coordinate some of the work. Broadening the empirical focus would help not only to understand diversity and limited reach of platform work, but could also guide practice in the labour movement in a more clear-eyed way, unburdened by the illusions of the platform capitalism metanarrative.

Conflict of interest statement

The Authors declare that there is no conflict of interest.

Acknowledgements

Many thanks to the two anonymous reviewers for their time and feedback. Thanks also to Paul Thompson, Sian Moore and Abigail Harrington for encouraging comments in developing the paper.

References

Aloisi and De Stefano (2018) "European legal framework for 'digital labour platforms'." European Commission report.

Azzellini, D., Greer, I., & Umney, C. (2021). Why isn't there an Uber for live music? The digitalisation of intermediaries and the limits of the platform economy. *New Technology, Work and Employment*.

Bessa, I., Joyce, S., Neumann, D., Stuart, M., Trappmann, V., & Umney, C. (2022). *A global analysis of worker protest in digital labour platforms* (No. 70). ILO Working Paper.

Burd, E.L., Smith, S.P. & Reisman, S. Exploring Business Models for MOOCs in Higher Education. Innov High Educ 40, 37–49

Çalışkan, K., & Callon, M. (2009). Economization, part 1: shifting attention from the economy towards processes of economization. *Economy and society*, *38*(3), 369-398.

Cant, C. (2019). Riding for Deliveroo: resistance in the new economy. John Wiley & Sons.

Cini, L., & Goldmann, B. (2021). The worker capabilities approach: Insights from worker mobilizations in Italian logistics and food delivery. *Work, Employment and Society*, *35*(5), 948-967.

Cusumano, M. A. (2020). 'The Bigger Some Platforms Get, the More Money They Lose'. *MIT*, https://mitsloan.mit.edu/experts/bigger-some-platforms-get-more-money-they-lose.

De Stefano, V., Durri, I., Stylogiannis, C., & Wouters, M. (2021). Platform work and the employment relationship (No. 27). ILO Working Paper.

Dropbox (2022). 'Dropbox Announces Fourth Quarter and Fiscal 2021 Results | Dropbox'. *Dropbox*, 17 February. https://dropbox.gcs-web.com/news-releases/news-release-details/dropbox-announces-fourth-quarter-and-fiscal-2021-results/.

Hawkins, A. J. (2021). 'Uber and Lyft Are Getting Less Unprofitable, but COVID-19 Is Still a Drag on Their Business. Uber Lost \$6.7 Billion in 2020, While Lyft Lost \$1.8 Billion'. *The Verge*, 11 February. https://www.theverge.com/2021/2/11/22277043/uber-lyft-earnings-q4-2020-profit-loss-covid.

Fleming, P., Rhodes, C., & Yu, K. H. (2019). On why Uber has not taken over the world. *Economy and Society*, 48(4), 488-509.

Gandini, A. (2019). Labour process theory and the gig economy. *Human relations*, 72(6), 1039-1056.

Greer, I. & Umney, C. (2022). Marketization: how capitalist exchange disciplines workers and subverts democracy. London, Bloomsbury.

Gregory, K. (2021). 'my life is more valuable than this': Understanding risk among on-demand food couriers in edinburgh. *Work, Employment and Society*, *35*(2), 316-331.

Griesbach, K., Reich, A., Elliott-Negri, L., & Milkman, R. (2019). Algorithmic control in platform food delivery work. *Socius*, *5*, 2378023119870041.

Hardy, K., & Barbagallo, C. (2021). Hustling the Platform: Capitalist Experiments and Resistance in the Digital Sex Industry. *South Atlantic Quarterly*, *120*(3), 533-551.

Harrington, A (2022) "Why is there not an Uber for the fashion industry?" Unpublished research note

Howcroft, D., & Taylor, P. (2022). Automation and the future of work: A social shaping of technology approach. *New Technology, Work and Employment*. Online first

Ilsøe, A., & Larsen, T. P. (2021). Why do labour platforms negotiate? Platform strategies in tax-based welfare states. *Economic and Industrial Democracy*, 0143831X211056974.

Jesnes, K. (2019). Employment models of platform companies in norway: A distinctive approach?. *Nordic journal of working life studies*, 9.

Joyce, S., Stuart, M., & Forde, C. (2022). Theorising labour unrest and trade unionism in the platform economy. New Technology, Work and Employment.

Katz, L. & Krueger, A. (2016) The rise and nature of alternative work arrangements in the United States, 1995–2015 (No. w22667). National Bureau of Economic Research.

Kenney, M., & Zysman, J. (2016). The rise of the platform economy. *Issues in science and technology*, 32(3), 61.

Kirchner, S., Dittmar, N., & Ziegler, E. S. (2022). Moving Beyond Uber. KZfSS Kölner Zeitschrift für Soziologie und Sozialpsychologie, 1-23.

Lisa, A. (2021). '14 Famous Companies That Aren't Profitable.' *GOBankingRates*, 27 August. https://www.gobankingrates.com/money/business/famous-companies-arent-profitable/.

macrotrends.net (2022). 'Airbnb Net Income 2018-2022 | ABNB.' Macrotrends.

https://www.macrotrends.net/stocks/charts/ABNB/airbnb/net-income.

Marrone, M., & Finotto, V. (2019). Challenging Goliath. Informal unionism and digital platforms in the food delivery sector. The case of riders union Bologna. *Partecipazione e conflitto*, *12*(3), 691-716.

McDonald, P., Williams, P., & Mayes, R. (2021). Means of control in the organization of digitally intermediated care work. *Work, Employment and Society*, *35*(5), 872-890.Moazed, A., & Johnson, N. L. (2016). *Modern monopolies: what it takes to dominate the 21st century economy*. St. Martin's Press.

Méhaut, P., Berg, P., Grimshaw, D., Jaehrling, K., Van Der Meer, M., & Eskildsen, J. (2010). Cleaning and nursing in hospitals: Institutional variety and the reshaping of low-wage jobs. Lowwage work in the wealthy world, 319-366.

Morales (2022) "Platform capitalism and neo-normative control: Autonomy as a digital platform control strategy in Chile" *New Technology, Work and Employment* forthcoming

Morgan, G., & Pulignano, V. (2020). Solidarity at work: Concepts, levels and challenges. *Work, Employment and Society*, *34*(1), 18-34.

O'Connor, S. (2022). 'Farewell to the servant economy.' Financial Times, 14 June.

Pangrazio, L., Bishop, C., & Lee, F. (2021). Old Media, New Gigs: The Discursive Construction of the Gig Economy in Australian News Media. *Work, Employment and Society*, 09500170211034663.

Parth, S., & Bathini, D. R. (2021). Microtargeting control: explicating algorithmic control and nudges in platform-mediated cab driving in India. *New Technology, Work and Employment*, *36*(1), 74-93.

Peck, J., & Theodore, N. (2007). Variegated capitalism. Progress in human geography, 31(6), 731-772.

Piasna, A., Zwysen, W., & Drahokoupil, J. (2022). The Platform Economy in Europe: Results from the Second ETUI Internet and Platform Work Survey (IPWS). *ETUI Research Paper-Working Paper*.

Pignot, E. (2021). Who is pulling the strings in the platform economy? Accounting for the dark and unexpected sides of algorithmic control. *Organization*, 1350508420974523.

Ritter, C. (2017). 'Festanstellung aller Book-a-Tiger-Putzkräfte: "Einem Investor ist der Kugelschreiber aus der Hand gefallen." *T3n*, May 4. https://t3n.de/news/claude-ritter-interview-819819/.

Rahman, K. S., & Thelen, K. (2019). The rise of the platform business model and the transformation of twenty-first-century capitalism. *Politics & Society*, 47(2), 177-204.

Schmidt, F. A. (2017). Digital labour markets in the platform economy. Mapping the Political Challenges of Crowd Work and Gig Work, Friedrich Ebert Stiftung report 7

Smith, R. (2018). 'Marketplace Platforms' and 'Employers' Under State Law—Why We Should Reject Corporate Solutions and Support Worker-Led Innovation. NELP: National Employment Law Product Policy Brief.

Srnicek, N. (2017a). Platform capitalism. John Wiley & Sons.

Srnicek, N. (2017b). The challenges of platform capitalism: Understanding the logic of a new business model. *Juncture*, 23(4), 254-257.

Sun, P., Yujie Chen, J., & Rani, U. (2021). From flexible labour to 'sticky labour': a tracking study of workers in the food-delivery platform economy of China. *Work, Employment and Society*, 09500170211021570.

Sylvers, E. (2022). 'Europe Withstands Venture-Capital Funding Drop Better Than U.S., Asia'. *Wall Street Journal*, 10 August 2022, sec. WSJ Pro. https://www.wsj.com/articles/europe-withstands-venture-capital-funding-drop-better-than-u-s-asia-11660123801.

Tassinari, A., & Maccarrone, V. (2020). Riders on the storm: Workplace solidarity among gig economy couriers in Italy and the UK. *Work, Employment and Society*, *34*(1), 35-54.

Thompson, P., & Briken, K. (2017). 12 Actually Existing Capitalism: Some Digital Delusions. *The new digital workplace: How new technologies revolutionise work*, 241.

Treusch, W.-S. (2022). 'Start-ups in der Krise - Der Goldrausch ist vorbei'. Deutschlandfunk Kultur. 16 August 2022. https://www.deutschlandfunkkultur.de/start-up-krise-100.html.

Vandaele, K. (2018). Will trade unions survive in the platform economy? Emerging patterns of platform workers' collective voice and representation in Europe. *Emerging Patterns of Platform Workers' Collective Voice and Representation in Europe. ETUI Research Paper-Working Paper*.

Veen, A., Barratt, T., & Goods, C. (2020). Platform-capital's 'app-etite' for control: A labour process analysis of food-delivery work in Australia. *Work, Employment and Society*, *34*(3), 388-406.

Wallerstein, J., d Chalendar, A., Reeves, M. & Bailey, A. (2019) The new freelancers. *Boston Consulting Group*. http://image - src.bcg.com/Image s/BCG- The- New- Freel ancer s- Jan-2019_tcm9- 211593.pdf

Wang, X., Hall, A. H., & Wang, Q. (2019). Investigating the implementation of accredited massive online open courses (MOOCs) in higher education: The boon and the bane. Australasian Journal of Educational Technology, 35(3).

Waters, R. (2022). 'Venture Capital's Silent Crash: When the Tech Boom Met Reality'.
Financial Times, 1 August. https://www.ft.com/content/6395df7e-1bab-4ea1-a7ea-afaa71354fa0
Wood, Alex and Wood, Alex and Lehdonvirta, Vili, Platform Labour and Structured
Antagonism: Understanding the Origins of Protest in the Gig Economy (March 5, 2019).
Available at SSRN: https://ssrn.com/abstract=3357804 or https://ssrn.com/abstract=3357804 or https://ssrn.com/abstract=3357804 or https://ssrn.com/abstra