Regulating Flexibility: Uber's Platform as a Technological Work Arrangement[1]

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ABSTRACT

When initiating its Norwegian operations, the transportation platform Uber adjusted its business model to the Norwegian regulation of the taxi market by focusing on its high-end offering, Uber Black, organized through limousine companies who employ the drivers and own the cars. The Uber Black drivers in Oslo are classified as employees and endowed with a substantially flexible work arrangement. Based on a 'traveling ethnography' among Uber Black drivers in Oslo, this article conceptualizes Uber's digital platform as a technological work arrangement. The analysis shows that while the platform is experienced as an opaque form of management that limits the drivers' formal flexibility, the effects of the technological work arrangement is contingent on the drivers' formal work arrangement and the characteristics of the Uber Black market in Oslo.

KEYWORDS

Algorithmic management / control / flexibility / Oslo / labor / platform economy / Uber

Introduction

Uber is often highlighted as the paramount example of the platform economy – a reorganization of work and consumption enabled by the digital revolution (Prassl 2018; Zysman & Kenney 2018). The company uses its digital platform to allocate passengers' requests to a workforce generally paid on commission, evaluating both drivers and passengers by allowing them to rate each other. Uber offers the drivers significant flexibility by allowing them to work whenever and how much they want, and claims to be a technology company, solely providing the service of intermediation (Uber 2017). Behind a shiny technological façade and 'user-friendly' smartphone application, however, there are people working, driving customers from A to B, often under not so 'worker-friendly' conditions (Oppegaard 2020; Rosenblat 2018).

This article is an explorative case study of Uber Black drivers in Oslo. Uber operates in over 800 cities and 80 countries. Uber in Oslo thus constitutes an interesting case for studying how the company adjusted its business model to a highly regulated labor market and taxi industry. In addition, Uber Black constitutes an intriguing object of analysis in itself, illustrating the diversity in Uber's product portfolio: The Uber Black drivers are classified as employees rather than self-employed and drive luxurious cars owned by limousine companies rather than their private vehicle.

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While the literature on the platform economy has grown rapidly, there is still a lack of knowledge on the way in which the digital platforms operate within and adjust to the Nordic labor market model (Dølvik & Jesnes 2018: 54). In the Nordic countries, platform work remains a marginal phenomenon, but platform-based business models have established themselves in particular industries that generally can be described as the 'fringes' of the Nordic models, that is, some of the industries least marked by the Nordic model, where atypical employment relations and piecework are relatively normalized, such as the taxi market, food delivery, and cleaning (Jesnes & Oppegaard 2020).

In this article, I explore the following research questions: 1) How did Uber adjust its business model to the regulation of the Norwegian taxi market? 2) How is the Uber drivers' labor process organized? 3) What is the role of the platform in Uber's work arrangement? I differentiate between formal work arrangement and technological work arrangement, the former denoting the drivers' form of employment and the practical and legal organization of Uber Black in Oslo, while the latter describes the way in which the platform technology is used to coordinate and control the drivers' labor process. This analytical distinction sorts out the particularities of Uber's employment model and platform-based form of control.

In the following, I analyze how the labor processes and working conditions of the Uber Black drivers in Oslo are regulated by Uber's platform technology and how this technological work arrangement is experienced by the drivers. The article contributes to the platform economy literature by offering an empirical investigation of Uber Black in Oslo as a case both of labor in the platform economy and of how Uber adjusted its business model to the Norwegian taxi market regulations. Building on Gandini (2019) and others, who describe the digital platform as an instrument of control, the article's theoretical contribution is a conceptualization of the technological work arrangement as a particular element in the organization of labor processes, and, in the case of Uber Black in Oslo, a tool for regulating the flexibility in the drivers' formal work arrangement.

I begin by describing how Uber has adjusted its business model to the regulations of the taxi market in Norway, before reviewing the literature on the platform economy and highlighting my theoretical point of departure. In the following section, I present the methodological approach and data. I begin the findings section by analyzing the formal work arrangement of Uber Black in Oslo. In this particular version of Uber's business model, the drivers are employed by limousine companies who also own the cars and obtain the required permits. Within the hours, the drivers get access to a car, they themselves can choose how much they want to work. Based on a reading of the analyses of Uber's own economists, I argue that the Uber uses its digital platform to incentivize drivers to supply their labor power when and where the company needs them. The platform thus functions as a technology for organizing the drivers' labor processes and regulating their formal flexibility. However, I find that the effects of Uber's technological work arrangement cannot be deduced directly from the technology itself, but are highly dependent on contextual factors. How the drivers experience Uber's platform is thus contingent on the formal work arrangement and features of the Uber Black market in Oslo. I then discuss the implications of Uber's technological work arrangement in the context of the Nordic labor market model.

Background: Uber in Norway

Before Uber was listed on the New York Stock Exchange in May 2019, the company was privately owned and financed through venture capital investments. These investments allowed Uber to sustain large deficits – up to four billion US dollars annually. Uber's global strategy has been described as the embodiment of the Silicon Valley motto 'move fast and break stuff', launching its operations in jurisdictions where its business model has been in a legal gray zone and subsidized its market – keeping the fares low and wages high – to attract users in search of a proto-monopoly (Thelen 2018).

When Uber established its operations in Oslo in November 2014, the only city in Norway where the company launched, it entered a labor market characterized by a stable and low proportion of atypical forms of employment (Nergaard 2018). The Norwegian regulatory regime is an example of the Nordic labor market model, defined by universalized social protections, high levels of employment and unionization, coordinated wage determination and an active state regulating the labor market in collaboration with social partners through collective agreements (Andersen et al. 2014). Urban Norwegian labor markets, such as Oslo's, are characterized by relatively few jobs for people with few formal qualifications and a lack of language skills, with taxi driving as one of few employment opportunities for newly arrived immigrants (Brox 2016). The Norwegian taxi market is regulated through means testing and numeric restriction on taxi licenses, a maximum price and qualification requirements for obtaining taxi licenses (for taxi owners) and professional licenses (for drivers) [Aarhaug 2014; see Oppegaard et al. (2020) for an analysis of the changes in the taxi market regulation in the Nordic countries after the arrival of Uber]. It is an industry that represents an exception to the Nordic models' well-regulated working conditions: The unionization rate in the industry is low and taxi drivers are commission-paid and employed by the license holder, with whom they often have personal or familial relations. Generally, taxi drivers work long hours and have a low and unstable income (Jensen et al. 2014: 55–59).

When entering the Norwegian taxi market, Uber's Norwegian subsidiary began offering two services, Uber Black and Uber Pop. Uber Black is high-end service with professional drivers and luxurious cars, while Uber Pop allowed everyone with a driver's license, a less than 10-year-old car and no criminal record become Uber drivers. Uber Pop is the name used for the service launched to 'test the waters' before possibly launching its most common service, Uber X. The difference between these two services is solely their legality (Thelen 2018). The Uber Pop drivers in Oslo received between 70% and 80% of the fares and were hired as self-employed independent contractors having to pay their own taxes, fuel, toll charges, and insurance.

Although there is a case to be made that the Uber Pop contracts in fact could entail an employer-employee relationship if tried in court (Hotvedt 2016), it was not misclassification that led to Uber's problems in Norway, but rather the fact the Uber Pop drivers did not have the licenses required by the Norwegian Professional Transportation Act (2002: § 9) for providing transportation for remuneration. After 138 drivers were fined, 94 lost their driver's license and 67 had their earnings confiscated, and Uber Norway and Uber B.V. received a shared fine of 500,000 EUR, Uber Pop was 'paused' on October 30, 2017 (Oppegaard 2018).

However, this was not the end of Uber in Norway. In contrast to Uber Pop, Uber Black in Oslo is organized through limousine companies that have secured an agreement with Uber, functioning as intermediaries. The limousine companies employ the drivers and own the cars, supplying Uber with a workforce and vehicles, in contrast to the self-employed Uber Pop and Uber X drivers who use their own private car. The cars used for Uber Black are licensed with limousine service operator licenses (*selskapsvognløyve*), a special license for companies providing high-end transportation. As with regular taxi licenses, the number of limousine service operator licenses – and thus labor supply too – are regulated by the municipalities and issued to companies with a well-documented business model and cars deemed 'exclusive' (Oslo municipanity n.d.). To satisfy the exclusivity requirement, the limousine companies use cars such as Mercedes-Benz S-class, Jaguar XF, and BMW 7-series. This arrangement is similar to how the food delivery platform Deliveroo previously organized their service in Belgium (see Drahokoupil & Piasna 2019), where the couriers were not employed by Deliveroo directly, but by a temporary work agency that also provided workers some insurances, training, and advice. As employees, the Uber Black drivers in Oslo are entitled to a set of rights and social protections, such as the right to organize and bargain collectively, paid sick leave, unemployment benefits, and pensions. Furthermore, they are covered by the Working Environment Act (WEA), regulating, for example, maximum working hours (Jesnes & Oppegaard 2020). However, their access to social protections and benefits were not an issue the drivers emphasized in the interviews, and, as we will see below, their formal work arrangement, where they are paid on commission and allowed to set their own schedules, renders them working longer hours than the WEA stipulates.

The Uber Black drivers in Oslo are usually paid through a piecework system, while a small minority of the drivers are paid a fixed hourly wage. Whether drivers are paid on commission or earn a fixed hourly wage depends on which limousine company they work for. The commission-paid drivers receive between 30% and 40% of the fare, as Uber takes a 25% cut and the limousine companies take between 35% and 45%. For the commission-paid drivers, their income is intrinsically tied to the number of passengers they serve. By collaborating with Uber, these limousine companies are able to increase their earnings, by servicing the Uber marked in addition to the market for high-end limousine transportation (Dagens Næringsliv 2018). As Uber does not take a cut of trips booked directly through the limousine companies, the direct bookings are not only more lucrative for the drivers, but also rare.

The platform economy: literature review and theoretical background

The employment relationship of platform workers is often described as nonstandard, atypical, or precarious (Jesnes 2019; Peticca-Harris et al. 2020; Rasmussen et al. 2019). Uber drivers and other platform workers are usually classified as self-employed independent contractors, lacking the social protections, collective rights, and guaranteed income and hours of workers within standard employment relationship (Prassl 2018). Such employment relationships transfer the risks of demand-side shocks onto the

workers. While the standard employment relationship, with full-time and open-ended contracts, still dominates the Nordic labor markets and nonstandard forms of employment have remained stable, digital platforms are one factor that might contribute to increased precarization and atypical employment (Ilsøe et al. 2019). In the literature on labor in the platform economy, a central argument has been to assert that although these digital business models are sometimes held to represent a new, non-hierarchical and amicable economic system (see Botsman & Rogers 2011), the digital platform has introduced new forms of control (Wood et al. 2019). According to Zysman and Kenney (2018: 56), the platforms 'shape and intermediate the rules participants follow to interact with one another', and function as digital regulatory infrastructures. In the case of Uber, the most important techniques for platform-based control are dynamic pricing, the rating system and algorithmic trip assignment (Lee et al. 2015). Previous research has found that although many drivers enjoy the flexibility of Uber's formal work arrangement, they also experience the platform as an opaque form of management and struggle to make sense of how the system works (Rosenblat & Stark 2016). This opaqueness is both frustrating and stressful for the drivers (Jamil 2020; Rosenblat 2018), but how they experience the platform varies according to why they initially began driving for Uber and how much they depend on the income from driving (Peticca-Harris et al. 2020).

The notion of the 'platform economy' denotes the ways in which digital platforms are used to organize and coordinate markets and labor processe. The parallell concept of the 'gig economy' describes how production and services are arranged by breaking up separate taske into independent 'gigs' (Woodcock & Graham 2020). Thus, the concepts usually refer to the same phenomeon, but highligts different aspects (Oppegaard 2020). Following these assertions, the platform should be conceptualized not as a mere digital technology, but rather as a mode of controlling people and their behavior, what Lee et al. (2015) describe as 'algorithmic management' and Gandini (2019) terms a 'techno-normative form of control'. In this article, I see the digital technology of the platform as designed and implemented within specific social and economic relations with a purpose to solve an issue defined, by someone, to be 'problematic'. I am thus not interested in digital technology 'in itself' nor its 'essence', but its development and existence within a society and particular contexts. However, the effects of the technologies cannot be deduced directly from the pre-technological relations – they can be unintended and are always dependent upon the context in which they are put to use. In the case of Uber, this conceptualization of technology enables the hypothesis that Uber's platform is designed with the purpose of addressing a 'problem' – the problem of flexibility highlighted by Uber's economists – and, secondly, that the effects of Uber's platform are structured by and particular to the conditions under which the technology is made use of, in this case study, the particular features of the Uber Black market in Oslo.

Conceiving Uber's platform as a technological work arrangement, distinct from the formal work arrangement – that is, the workers' form of employment and the practical and legal organization of Uber Black in Oslo – enables an analysis of the digital platform's function and effects. However, the formal and technological work arrangement overlap and are contingent on each other, but can still be seen as independent modes organizing and controlling the drivers' labor process.

Methods: Exploring labor in the platform economy

From early March to late June 2018, I conducted what I have termed a traveling ethnography among Uber Black drivers in Oslo (see Oppegaard 2018). I formally held the role of a passenger, ordering trips through the Uber application, and observed and interviewed the drivers during the ride, always presenting myself and my project, as well as highlighting the voluntary nature of participation. The drivers gave oral consent to participate. This method, also employed by Jamil (2020), Peticca-Harris et al. (2020), and Rosenblat (2018: 209–216) for studying Uber in North America, enabled access to an otherwise inaccessible field. Over the course of 21 trips, I met and interviewed 20 drivers – as I met one driver twice – all automatically sampled by Uber's algorithm. Before I began collecting data, I had a meeting with Uber Norway informing them about my project. Uber neither wanted to approve nor disapprove the project, but told me that the drivers are free to participate if they want. Uber Norway said that there, at the time, early 2018, were less than 100 Uber Black drivers in Oslo. There are 90 limousine service operator licenses in Oslo (Oslo Municipality n.d.), and as each Uber car is used by two drivers and this license is used for other purposes than Uber as well, one can assume that Uber Norway's estimate is more or less correct. My sample thus constitutes approximately 20% of the Uber Black drivers in Oslo. Rather than using fictitious names, I anonymize the drivers using numbers according to the order by which they are introduced in the text to draw attention to their experiences rather than to them as individuals.

Doing the interviews in the cars with the drivers, the space in which they spend their working day, enabled a fruitful combination of interviewing and observation (see Elwood & Martin 2000). I could ask questions based on what I saw and they could comment on what we experienced during our ride. Rather than using a fixed interview guide, I prepared one or two prepared themes to discuss with each driver. I did not cover all topics with all drivers, but started every interview by asking the drivers how their day had been so far and how they became Uber drivers. Most interviews were held in Norwegian, but a few drivers preferred to speak English. The length of the interviews was determined by the length of each ride, lasting between 15 and 25 minutes. I also conducted one 45 minutes' in-depth interview with one driver. Including the in-depth interview, six of the interviews were recorded. I wrote extensive fieldnotes after each trip, also in the instances where the conversations were recorded, first in Norwegian and translated to English when digitalized. The fieldnotes detailed the events of the rides – from when I ordered the ride to the mutual rating afterwards, including the conversations with the drivers. The in-depth interview made it possible to learn more about the interviewee and his trajectory towards becoming an Uber driver than during the in-car interviews, and while the recorded interviews made it easier to quote the drivers verbatim, I have chosen to quote drivers who were not recorded as well. A crucial aspect of Uber's platform, however, is its opaqueness. From the perspective of passengers and drivers alike, its inner workings cannot be deciphered. To study Uber's platform, I therefore consulted documents and research published by Uber describing how the platform functions in addition to the interviews and observation.

The transcribed interviews and fieldnotes, approximately 100 pages in total, were thematically coded, resulting in eight categories, after which I structured my analysis: 'Becoming an Uber driver', 'The limousine companies', 'Contracts, earnings and working

hours', 'Luxury', 'Trip assignment', 'Surge pricing', 'Rating system', and 'Drivers' strategies'. The thematic codes were primarily arrived at through a reading of the empirical material informed by previous research on platform work and Uber's documents describing its platform. Other codes, 'The limousine companies' and 'Luxury', emerged as prevalent themes in the interviews. Some themes, such as the drivers' collective mobilization and resistance, as well as their access to social protections and benefits, did not appear from the interview, which suggests that these are not crucial questions for the drivers, but does not mean mobilization and resistance among Uber Black drivers in Oslo does not exist. Although a more rigorous approach to the interviews could have facilitated a greater comparison of the individual drivers and their experiences, I tried to use the situation to my advantage by being strategic, asking the questions to which I wanted answers, as well as studying myself and my interaction with the Uber drivers and the platform, and testing my tentative analyses on the drivers I met. This methodological strategy implies that the description of the drivers' labor process and work arrangement is assembled from different fragments rather a collection of lengthy elaborations. In my analysis, I have thus focused on the general elements in the labor process all drivers have in common, highlighting their shared experiences rather than individual specificities.

I initially intended to observe a handful of drivers while they worked and drove other passengers. When I tried to recruit the first drivers for such a research design, they first seemed positive and willing to participate and gave me their contact information, but did not respond when we were going to organize the observation. The 'traveling ethnography' then emerged as a viable strategy. However, some dilemmas arose from by double role as researcher-passenger. While I gave all the drivers a five-star rating and told the drivers they could withdraw at any moment, the fact that I paid for every trip and was going to rate the drivers afterward probably influenced both their willingness to talk to me and what they said. I tried to make the drivers comfortable and did not push them on issues that seemed sensitive. Nonetheless, most drivers were talkative and I experienced them as interested in sharing their stories. With the drivers I met during my initial recruiting phase, I faced an additional ethical dilemma, as I was of the assumption that we were going to meet again and we thus did not discuss what I was going to do with our conversations if we did not. Although they knew what my project entailed, I have relied on few quotes from these drivers, but what they told me has nonetheless informed the overall analysis.

On the other hand, the double role as a researcher-passenger was undoubtedly valuable. It enabled access into a field that is difficult to access for researchers and allowed me to experience for myself how the platform works, the psychological effects of the rating system, the luxury of the cars, and the unpredictability of the 'surge pricing' algorithm.

Limitation

As an explorative case study based on 21 short but focused interviews and observations, my qualitative analysis of the particular conditions of Uber Black drivers in Oslo cannot be considered a valid analysis of the work arrangement of all Uber drivers globally. My methodological aim was not to attain representativeness or capture the full *Lebenswelt* of the drivers, but rather to collect experiences and information enabling an analysis the

drivers' working conditions and work arrangement. Since my sample is relatively small and homogeneous, it is, in addition, not possible to differentiate between the experiences of different types of drivers, as Peticca-Harris et al. (2020) and Wu et al. (2019) do. My analysis can thus to a limited degree provide the complete picture of the social and economic situations of Uber drivers in Oslo. On the other hand, however, the findings may indicate how Uber's platform functions in similar formal work arrangements and labor market models, such as in other Nordic countries (see Oppegaard et al. 2019).

Findings

In the following sections, I preset my findings. I begin by analyzing the characteristics of the Uber Black drivers in Oslo, their working conditions, and formal and technological work arrangement. I then review the analyses of Uber's economists and argue that, from Uber's perspective, the Uber drivers' flexibility poses a potential problem – Uber's flexibility problem – solved by the platform as a technological work arrangement and an algorithmic management. I continue by describing how this form of control is experienced by the drivers.

Uber's formal work arrangement

All the 20 Uber Black drivers I met were male, and all but two had immigrated to Norway or were the children of immigrants. One had moved to Norway from a Nordic country, while the rest were of African, Asian, or Eastern European descent. Most drivers seemed to be between 30 and 50 years old, while a handful were in their early 20s. These demographic characteristics are similar to those reported in studies of Uber Pop drivers in Oslo (Alsos et al. 2017: 56–57) and Uber drivers in London (Berger et al. 2018). However, the Uber Black drivers in Oslo seem to be older than the drivers in the United States (Hall & Krueger 2018: 710). Seventeen of the drivers had Uber as their full-time job and sole source of income, while other studies have found a larger proportion of part-time work (see Peticca-Harris et al. 2020; Rosenblat 2018; Wu et al. 2019). I met only one driver who worked part-time, while two other, the only drivers without immigrant background, were in a very different situation than their colleagues: While commission-paid, they earn a stable and decent income and either have their own company or work for limousine companies not reliant on Uber. Receiving a steady amount of direct bookings, these two drivers only log on their Uber application when their schedules provide them with some extra time to 'help Uber', as one of them said (driver 1).

The Uber Black drivers in Oslo get access to a car for 12 hours, five or six days per week. There is a day-shift (starting at 5 or 6 AM) and a night-shift (starting at 5 or 6 PM), a system that enables the cars to be on the road continuously. Within the 12 hours, the drivers get access to a car, the drivers themselves can choose how much they want to work. The Uber Black drivers in Oslo value the flexibility of the work arrangement. The drivers enjoyed 'being their own boss' and setting their own schedules, which can be read as a reification of Uber's recruitment campaigns: 'You're the boss. […] Fit driving around your life, not the other way around' (Uber n.d.-a). On the other hand, it is crucial to acknowledge that Uber provided these people with real opportunities. For

the majority of the Uber Black drivers I met, driving with Uber is one of their very few opportunities in the Norwegian labor market. Some came to Uber from unemployment, many drove Uber Pop and moved to Uber Black when the former was discontinued, while other drivers had worked physically demanding, low-paid, and precarious job. Compared to their previous jobs, driving Uber is considered a significant upgrade, offering flexible hours and a comfortable physical working environment. Driver 2 said: 'As an Eastern European, temporary work agencies are the only ones willing to employ you. I don't like that – Uber is much better […]. For me, driving this car is the same as lying on the sofa watching television for you'. Similarly, driver 3 argued that former construction workers are particularly appreciative of driving Uber: 'They regain the nice and soft hands they had before [laughs]'.

A key feature of Uber Black in Oslo is the scarcity of passengers. The drivers are unable to fill their schedules with back-to-back customers, and usually have to wait a long time – often hours – between each request. As most drivers are commission-paid, they end up having to work long hours to earn a decent living. While the Uber Black drivers in Oslo in theory can work when and how much they would like, they seldom work less than ten hours per day, usually from 200 to 250 hours per month, sometimes up to 300. Most drivers told me they earned between 20,000 and 40,000 NOK (2000 to 4000 EUR) per month before taxes, and were generally unhappy with the number of hours they had to work to keep afloat. Driver 4 told me he had worked 250 hours the previous month and was left with 19,000 NOK and driver 5 told me he worked between 280 and 300 hours per month, usually making 20,000 NOK: 'I have made 4000 [NOK] the last four days. I've been working all the time, but only made 4000. It is not good, I am very annoyed and thinking about finding another job'. Driver 6 said he works 12 hours six day per week, earning between 600 NOK per day after Uber and the limousine company takes their cut and before taxes. 'I have a lot of expenses – house, family, mortgage and so on. No, it is not a well-paid job', he said. As a comparison, the average monthly earnings in Norway before taxes in 2018 was 45,500 NOK (4900 EUR) (Statistics Norway 2019) and a normal working week is limited to 40 hours (Working Environment Act 2005: § 10–4, 1), or 160 hours per month. For the commission-paid drivers, their income is inextricably linked to their number of customers and the sole available strategy for making more money is to stay on the road longer. In this context, the number of customers has emerged as the criteria the drivers use to evaluate their day: When I asked the drivers how their day was going so far, the two most common answers I received were: 'Very good, a lot of customers today' and 'Very bad, no customers today'.

Although the Uber Black drivers are actually employed, in contrast to Uber drivers in most other countries, their form of employment should be considered atypical, as it differs significantly from the standard employment relationship. Jesnes (2019) argues that such a hybrid form of employment, also used by the food delivery company Foodora in Norway, endows the employer with workforce flexibility while at the same time formally complying with the institutional framework of the Nordic labor market model. This illustrates the diversity in the employer strategies of platform companies. Nonetheless, the formal work arrangement of the Uber Black drivers renders them without secure and stable income and working hours, although it is important to note that the market dependency and the working conditions of Uber Black drivers in Oslo in general is not significantly different from those of traditional taxi drivers in Norway (see Jensen et al. 2014).

Uber's flexibility problem

Uber has itself commissioned and conducted research on its drivers' working conditions,[1] emphasizing the drivers' flexibility as valuable for individual drivers and the market in general, and concluding that Uber constitutes a 'better' and more efficient system for organizing transportation (Cohen et al. 2016). Hall and Krueger (2018: 706) write: 'After driver applicants qualify to partner with Uber, they are free to spend as much or as little time as they like offering their services to passengers', finding that the hours drivers spend on the road vary 'depending on workers' desires in light of market conditions' (see Berg & Johnston 2019 for a critique of this article). According to Chen et al. (2017: 2), Uber drivers 'benefit significantly from real-time flexibility, earning more than twice the surplus they would in less flexible arranges' (see also Angrist et al. 2017). Berger et al. (2018) find that Uber drivers in London report higher levels of life satisfaction than other workers, but simultaneously also higher levels of anxiety, and hypothesize the reason for both outcomes to be the flexibility of the work arrangement.

However, in this literature, the flexibility of Uber's formal working arrangement is also framed as a potential problem: What if the Uber drivers do not supply their labor when and where Uber needs them to? Chen and Sheldon (2016: 2) write: 'Given this flexibility, a central question is the extent to which firms can influence the supply of services on their platform', and Hall et al. (2015) argue that '[d]river-partners are free to work whenever they want and must be incentivized to provide rides'. The drivers' formal flexibility, that is, the fact that they can determine their own working hours and set their own schedule, emerges as a potential problem for Uber, and the company, according to its economist, has to ensure that drivers provide their labor power when and where Uber needs them to. The answer to this potential problem is, as we will see in the next section, Uber's digital platform as a technological work arrangement.

The drivers are thus flexible in a double sense. On the one hand, they are flexible in terms of being endowed with the flexibility to work when and how much they themselves want – in the case of Uber Black in Oslo, however, within the limits set by the limousine companies. On the other hand, they are also flexible in the sense of being malleable: Their choices are not fixed but can be influenced.

Uber's technological work arrangement

As a regulatory infrastructure determines the choices available for the drivers (Zysman & Kenney 2018), Uber's platform can be seen as functioning as a technology for regulating their formal flexibility and organizing their labor process. While the formal work arrangement of Uber drivers vary between countries (Oppegaard et al. 2020), the platform used for organizing the drivers' labor is relatively similar. As a technological work arrangement, the platform comprises of three techniques: Dynamic pricing, bilateral ratings, and algorithmic trip assignment (Lee et al. 2015). Unlike Uber in the US, however – as described by Rosenblat and Stark (2016) – Uber in Norway does not calculate the drivers' acceptance and cancellation rates. Such a system, however, is unnecessary in Uber's low intensity Oslo market, where the chronical lack of customers makes declining requests completely alien to most drivers. In this section, I analyze how the techniques of

Uber's technological work arrangement function and are experienced by the Uber Black drivers in Oslo.

Dynamic pricing

The price of an Uber ride is not calculated solely based on the estimated time and distance of the trip, but also factor in the ratio of drivers currently on the road to passengers in a given area. Uber calls this mechanism 'surge pricing'. According to Uber, a 'surge' is activated when there are more passengers seeking Uber rides in a given area than the drivers are able to serve, establishing 'surge zones' where the total fare is multiplied with a 'surge multiplier' of, for example, 1.3x, 1.7x, 2x (Chen et al. 2017; Uber n.d.-d). Surge zones are illustrated by a particular area on the map in the drivers' Uber applications becoming red, signaling where to go. The price passengers have to pay and the commission-paid drivers' earnings thus vary based on the ever-changing supply and demand. The dynamic pricing scheme is meant to re-equilibrate the market by incentivize drivers to get on the road by offering higher earnings and motivate passengers to 'to wait for few more minutes or continue with public transport', as Uber writes (n.d.-d), allocating 'rides to those that value them the most' (Hall et al. 2015).

For the Uber Black drivers in Oslo, surges represent a state of exception, an opportunity for making some much-appreciated extra money. Surges are rare in Oslo, coming into effect almost exclusively at Friday or Saturday night. 'Then there is a lot of money to be made. Sometimes, the whole city becomes red, which means that there are a lot of customers all over', driver 7 told me. Although the drivers are free to set their own schedules, surge pricing incentivizes drivers to adjust their labor supply to the passengers' demand. As the surge is only activated in some areas, some drivers are strategic in the requests they accept. Driver 4 said: 'If I get a normal trip and I know that there is a surge, I might say 'no thanks' to that trip and wait for a surge trip'. But surges are mysterious. Driver 4 told me he does not know how the surge system works, an opaqueness intensifying its enthralling character: The drivers know that surges usually appear on weekend nights, but they cannot know for sure and the exact level of the surge multiplier is impossible to foresee. When I met driver 2, he said he thought there was going to be a surge that night, after a big concert. But this kind of 'surge hunting' can be an ill-starred strategy (see Rosenblat & Stark 2016). Driver 2 told me that he a week earlier had driven out to a concert venue at the outskirts of the city, expecting a 'surge', only to find no passengers or requests. In addition, there are more drivers on the road on weekend nights, potentially evening out supply and demand and neutralizing potential surges. Driver 8 told me he finds the unpredictability of the dynamic pricing scheme is frustrating. '"We drivers decide nothing. Uber decides everything', he said.

Bilateral ratings

Uber employs a bilateral rating system, wherein drivers and passenger give each other between one and five stars after each ride. The individual ratings are anonymous and while the drivers are obliged to rate the passenger, the same operation is voluntary for the passenger. After having received five ratings, an average rating of each user is

calculated and displayed on their respective profiles. The drivers see the passenger's average rating when they receive a request and the driver's average rating is visible for the passenger when their request is accepted.

Such rating systems have been characterized as an indispensable component of online markets in general and the so-called sharing economy in particular as a tool for 'building trust' among strangers (Botsman & Rogers 2011). The case of Uber Black in Oslo illustrates that the rating system of Uber's technological work arrangement, more significantly than 'building trust', functions as a system for evaluating, sanctioning and controlling the drivers' behavior – a 'techno-normative form of control' (Gandini 2019): If the drivers' average rating drops too low, they can be 'deactivated'. Uber writes that drivers 'with consistently low ratings may be deactivated after receiving multiple warnings' (Uber n.d.-c). Driver 9 thought the cut-off point was 4.3 stars' average rating, but none of the drivers I met knew for sure. While unknown, this symbolic threshold and the potential of deactivation renders the drivers docile. Driver 9 said: 'As Uber drivers, we have to tolerate everything. We have to be kind and silent, even on Saturdays when drunk passengers are screaming and making a mess'. The rating system thus asserts the passengers' evaluation as the fundamental measure of the drivers' worth, making the driver-passenger relationship pivotal.

The majority of the Uber Black drivers in Oslo I met, however, were not overly concerned with neither their own nor the passengers' ratings. Driver 10, for example, told me that 'they are purely symbolic, they affect nothing'. Most drivers had average ratings between 4.7 and 4.9 – the lowest I encountered was 4.5 –, which might be because drivers with lower average ratings were 'deactivated' by Uber, but the drivers I met did not tell me that they had ever heard about it actually happening in Oslo. Their somewhat aloof attitude towards their rating – in contrast to their American colleagues, for whom the rating system constitute a more or less constant stress factor (Rosenblat 2018) – illustrates that the effects of the rating system are contingent on the context within which it is employed. The drivers told me they receive request independently of their rating, and that passengers seldom behave in a manner making harsh evaluations necessary. 'I give all [passengers] five stars because Norwegians are nice', driver 11 said, while another argued that 'Uber customers are very nice people. You know you will be rated, so you behave nicely' (driver 7).

Five-star ratings are considered the norm by the drivers, a norm institutionalized by Uber: '4 stars is not an above average rating on the Uber platform. If you are pleased with your driver, a 5-star rating will ensure he or she continues to succeed on Uber' (Uber n.d.-b). This, however, makes deviances increasingly noticeable, and although the rating system does not manifest itself as an everyday problem for the drivers, it should not be written off as insignificant. While Uber argues that the ratings provide a 'consistent measure of quality' (Uber n.d.-c), it functions as a sanctioning mechanism and the potential menace of deactivation always lurks in the shadows. However, since the Uber Black drivers in Oslo are classified as employees, it is a legal question whether a firing based on low ratings would be considered a factual reason.

Asking driver 4 how he feels when he receives low ratings, he told me: 'I don't feel very good when my rating is going down. You feel a little bit stupid and like "what is going on?"' As I formally was a passenger when conducting my fieldwork, I too was rated by the drivers. While I initially felt the comfort of a five-star average rating, I later saw my rating starting to drop, slowly, reaching its lowest point at 4.32. I became

surprisingly anxious, and my first thought was that I had done something wrong and had to fix it, without knowing what nor how. However, even with my low rating, I had no problems getting a ride through the platform. Declining requests from passengers because they have a less-than-perfect average rating is a luxury most Uber Black drivers in Oslo cannot afford. I continued as before and eventually saw my average rating increasing to 4.65.

Algorithmic trip assignment

The Uber drivers are assigned requests from passengers automatically through the platform. When they receive a request notification, they have 30 seconds to accept or decline. Uber provides them with information on the passenger's name, position and average rating. They cannot see the passenger's destination, but are notified if Uber estimates the trip to be longer than 30 minutes. The concealing of passengers' destinations can make it difficult for the drivers to plan their workday. Driver 12 told me he has to stop accepting request one hour prior to a direct booking from the limousine company, in case he does not make it back in time for his next appointment. 'That means idle time, right. It's stressful, so I don't take direct bookings, it isn't worth it – although I would have made more money', he said. For Uber, however, not displaying passengers' destinations is an important measure for making sure all requests being served equally – independently of how lucrative they are for the drivers.

Regardless of the information they receive, however, most drivers would never decline a request. 'On Uber Black, there is very little work, so we take everyone', driver 13 said. One of the ethnic Norwegian drivers with his own company and many private customers – that is, not through Uber's platform – driver 1, however, said that he does not accept requests from customers with an average rating under 4.5, arguing that 'that means that you are not a person that I want to have in my car', illustrating that Uber's algorithmic management might function differently in different segments of the market.

Obfuscation and automaticity: The platform-regulated labor process

As the above analysis illustrate, Uber's technological work arrangement – with its dynamic prices, bilateral ratings and algorithmic trip assignment – renders the drivers' working conditions opaque and unpredictable. From their perspective, the way in which the platform works is obfuscated. They do not know when they will receive the next request, when and where the next 'surge' will appear, and how low their rating has to fall before they are 'deactivated'. The opaqueness of the platform keeps the drivers uninformed about the system regulating their labor process, a type of 'black boxing' (Pasquale 2015) that can be seen as further limiting the drivers' formal flexibility. The drivers struggle to make the platform work in their favor: First, the platform determines the fare – that is, the drivers' earnings – automatically and without consulting the drivers. Second, the rating system, with its threat of 'deactivation', asserts the passengers' evaluation of the drivers as the sole and undisputable criteria for measuring quality and for deciding whether they can continue to work as Uber drivers or not. Still, the drivers' experiences of Uber's technological work arrangement is shaped by the formal work

arrangement and features of the Uber Black market in Oslo: As the Uber Black market in Oslo is characterized by low demand and five-star ratings are the norm, the drivers rarely decline requests or stress about their average rating falling too low.

Discussion

Conceptualizing Uber's platform as a technological work arrangement enables an analysis of the ways in which the platform organizes the drivers' labor process, coordinates the market and exercises an independent control over the drivers. As the Uber Black drivers in Oslo are endowed with a significant formal freedom, the platform-based control of the technological work arrangement function as a regulation of their flexibility, inciting them to provide their labor power when and where Uber needs them.

In this article, I have analyzed Uber Black in Oslo, the way in which Uber's digital platform is used to organize drivers' labor process as well as how the drivers experience this type of control. While Uber adjusted its business model to the Norwegian taxi market regulation, using limousine companies with licensed cars as intermediaries, Uber also provoked a process towards a deregulation of the Norwegian taxi market. In October 2018, the Norwegian Ministry of Transport and Communications published a consultation memorandum proposing a partial deregulation of the taxi industry in Norway by removing the means testing of taxi licenses (2018), with the aim of facilitating the introduction of new business models in the Norwegian taxi market. The new regulations were passed by parliament on 4 June 2019 and will be implemented on 1 November 2020. Similar taxi market deregulations have been initiated in Denmark, Finland, and Sweden as well (Oppegaard et al. 2020).

In contrast to Uber's operations in most other countries, Uber Black drivers in Oslo are employed, although not directly by Uber but by the limousine companies. This endows them with more protections and rights than if they were self-employed. The drivers usually came to Uber from physically challenging, low-paid, and unstable jobs, and with few opportunities for decent employment, the formal flexibility and comfort of driving luxurious cars is lucrative. The analysis above illustrates that the effects of Uber's technological work arrangement are highly contingent on the conditions under which it is employed, continually interacting with the formal work arrangement and the conditions of the Uber Black market in Oslo: First, the algorithmic trip assignment regulates the pace of the drivers' working day by allocating requests automatically. While the drivers can decline requests, they do not control when and which passengers to pick up. For the Uber Black drivers in Oslo who take customers booked directly through the limousine company in addition to Uber customers, the concealing of the passengers' destination is particularly frustrating, as it can make it difficult to plan their work day. Second, in the context of the low demand of the Uber Black market in Oslo, the drivers are grateful for every request the get. The dynamic pricing scheme then indirectly regulates the drivers' working hours, by making it more lucrative to supply their labor during weekends and late hours when they receive more requests. Most Uber Black drivers in Oslo are eager to increase their earnings, and 'surges' then constitute an opportunity they cannot miss out on. This illustrates that even though the drivers in theory can set up their own schedules, the combination of the piecework system and low demand for Uber rides in practice forces them to work long and unsocial hours. Third, the lack of

customers makes it inconceivable for most drivers to decline a request based on passengers' low ratings. Furthermore, as five-star ratings are the norms, both for drivers and passengers, the threat of deactivation is only a potential threat. While the rating system do make the drivers conscious about their interaction with passengers, it does not take the form of an actualized struggle for survival. The Uber Black drivers in Oslo does not employ strategies of, for example, providing passengers with water bottles and charges to gain favorable ratings, found among American and Chinese drivers (Rosenblat & Stark 2016; Wu et al. 2019).

In general, one can argue that Uber's formal and technological work arrangement combines the avoidance of the employer responsibilities, often by hiring drivers as self-employed independent contractors or – in the case of Uber Black in Oslo – by using intermediaries such as limousine companies, with rigid control over the drivers' labor process, automatically structuring the choices available to them. This makes it easier for Uber to engage drivers without being concerned about their skills and qualifications. Firstly, the dynamic prices incentivize drivers to adjust their labor supply, temporally as well as spatially, to the demand for Uber's services. Secondly, the rating system evaluates and sanctions drivers' behavior, 'deactivating' or firing drivers who do not satisfy the customers, without Uber having to interfere directly. Thirdly, the algorithmic task assignment allocates passengers to drivers directly and conceals the passengers' destination, to make sure requests are accepted independently of how lucrative they are for the drivers. Uber's work arrangement can thus be seen as an illustration of what Braverman ([1974]1998: 318) describes as the capitalists' ideal work arrangement, where the production process and service delivery functions independently of the workers' knowledge and skills, and the individual workers become easily interchangeable. As we saw Uber's economists argue, the mechanisms of the digital platform are necessary for ensuring that the formally free drivers still behave in accordance with the company's needs. One can thus hypothesize that such platform-based technological work arrangements might facilitate the increased flexibilization, outsourcing, and nonstandard employment, as centralized digital control mechanisms make it easier to coordinate a fragmented workforce.

Conclusion

In Norway, Uber adjusted its business model to the regulation of the taxi market. Uber Pop was discontinued, but Uber could continue to offer Uber Black by using limousine companies as intermediaries. While the Uber Black drivers are employees, in contrast to most Uber drivers in other countries, they are, similarly to their international colleagues, primarily commission-paid without guaranteed earnings. The drivers thus pay the price of low and fluctuating demand, and their employment relationship should be understood as atypical. Although their employee status makes unionization and collective bargaining possible, there has yet to be any efforts to organize the drivers (Oppegaard et al. 2019).

My analysis suggests that Uber's platform functions as a tool for organizing the drivers' labor and solves the potential problems emerging from the flexibility of Uber's formal work arrangement. Through dynamic pricing, bilateral ratings, and algorithmic trip assignment, Uber's technological work arrangement regulates the

drivers' formal flexibility to make sure they behave according to Uber's interests. The opaqueness and automaticity of this algorithmic management illustrates the asymmetrical power relation between the platform and the drivers: The platform imposes its decision without warning nor consulting the drivers – they cannot bargain with the algorithm. In this sense, the platform as a technological work arrangement can be seen as enabling Uber to let the drivers loose, while maintaining control by regulating their flexibility.

References

Aarhaug, J. (2014). *Taxis as Urban Transport*, TØI report 1308/2014, Oslo: Institute of Transport Economics.

Alsos, K., Jesnes, K., Øistad, B. & Nesheim, T. (2017). *Når sjefen er en app [When the boss is an app]*, Fafo report 2017:41, Oslo: Fafo. doi: https://doi.org/10.18261/issn.1504-2871-2018-02-03.

Andersen, S K., Dølvik, J E. & Ibsen, C L. (2014). *Nordic Labour Market Models in Open Markets*, ETUI report 132, Brussels: European Trade Union Institute.

Angrist, JD., Caldwell, S. & Hall, JV. (2017). Uber vs. taxi: A driver's eye view, Working Paper No. 23891, *National Bureau of Economic Research*. doi: https://doi.org/10.3386/w23891.

Berg, J. & Johnston, H. (2019). Too good to be true? A comment on Hall and Krueger's analysis of the labor market for Uber's driver-partners, ILR Review 72(1): 39–68. doi: https://doi.org/10.1177/0019793918798593.

Berger, T., Frey, CB., Levin, G. & Danda, SR. (2019). Uber happy? Work and well-being in the "Gig Economy", *Economic Policy*, eiz007: doi: https://doi.org/10.1093/epolic/eiz007.

Botsman, R. & Rogers, R. (2011). *What's Mine is Yours*, London: Collins.

Braverman, H. ([1974]1998). *Labor and Monopoly Capital. The Degradation of work in the Twenthieth Century*, New York: Monthly Review Press.

Brox, O. (2016). *På vei mot et postindustrielt klassesamfunn?* [Towards a post-industrial class society?], Oslo: Pax.

Chen, MK., JA. Chevalier, PE. Rossi & E. Oehlsen. (2017). The value of flexible work: Evidence from Uber drivers, Working Paper No. 23296, *National Bureau of Economic Research*. doi: https://doi.org/10.3386/w23296.

Chen, MK. & M. Sheldon. (2015). Dynamic pricing in a labor market: surge pricing and flexible work on the Uber platform, *Proceedings of the 2016 ACM Conference on Economics and Computation*, 1–19. doi: https://doi.org/10.1145/2940716.2940798.

Cohen, P., R. Hahn, J. Hall, S. Levitt & R. Metcalfe. (2016). Using big data to estimate consumer surplus: the case of Uber, Working Paper No. 22627, *National Bureau of Economic Research*. doi: https://doi.org/10.3386/w22627.

Dagens Næringsliv. (2018). Taxinæringen bremser opp – privatsjåfør-selskaper vokser, *Dagens Næringsliv*. Avaiable at: https://www.dn.no/samferdsel/rolls-royce/private-driver/sas/taxinaringen-bremser-opp-privatsjafor-selskaper-vokser/2-1-387647 [Accessed 8 July 2020].

Drahokoupil, J. & Piasna, A. (2019). *Work in the Platform Economy: Deliveroo Riders in Belgium and the SMart Arrangement*, ETUI Working Paper 2019.01, Brussels: European Trade Union Institute. doi: https://doi.org/10.2139/ssrn.3316133.

Dølvik, JE. & K. Jesnes. (2018). *Nordic Labour Markets and the Sharing Economy. Report from a pilot project*, TemaNord report 2018:516, Copenhagen: Nordic Council of Ministers. doi: https://doi.org/10.6027/tn2017-508.

Elwood, SA. & DG. Martin. (2000). "Placing" interviews: location and scales of power in qualitative research, *The Professional Geographer* 52(4): 649–657. doi: https://doi.org/10.1111/0033-0124.00253.

Gandini, A. (2019). Labour process theory and the gig economy, *Human Relations* 72(6): 1039–1056. doi: https://doi.org/10.1177/0018726718790002.

Hall, JV., Kendrick, C. & Nosko C. (2015). The effects of Uber's surge pricing: A case study, *The University of Chicago Booth School of Business*. Available at: http://economicsforlife.ca/wp-content/uploads/2015/10/effects_of_ubers_surge_pricing.pdf [Accessed 18 March 2020].

Hall, JV. & Krueger, AB. (2018). An analysis of the labor market for Uber's driver-partners in the United States, *ILR Review* 71(3): 705–732. doi: https://doi.org/10.3386/w22843.

Hotvedt, MJ. (2016). Arbeidsgiveransvar i formidlingsøkonomien? Tilfellet Uber [Employer responsibilities in the platform economy? The case of Uber], *Lov og rett* 55(8): 484–503. doi: https://doi.org/10.18261/issn.1504-3061-2016-08-03.

Ilsøe, A., Larsen, TP. & Rasmussen, S. (2019). Precarious work in the Nordics: introduction to the theme of the special issue, *Nordic Journal of Working Life Studies* 9(S6) 1–6. doi: https://doi.org/10.18291/njwls.v9is6.114688.

Jamil, R. (2020). Uber and the making of an Algopticon – instights from the daily life of Montreal drivers, *Capital & Class* 1–21. doi: https://doi.org/10.1177/0309816820904031.

Jensen, RS., B. Jordfald & M. Bråten (2014), *Norsk transport – veien videre [Norwegian Transport – the road ahead]*, Fafo report 2014:3, Oslo: Fafo.

Jesnes, K. (2019). Employment models of platform companies in Norway: a distinctive approach? *Nordic Journal of Working Life Studies* 9(S6) 53–73. doi: https://doi.org/10.18291/njwls.v9is6.114691.

Jesnes, K. & Oppegaard, S. M. N. (eds). (2020). *Platform Work in the Nordic Models: Issues, Cases and Responses*, TemaNord report 513 Copenhagen: Nordic Council of Ministers. doi: http://dx.doi.org/10.6027/temanord2020-513.

Lee, MK., Kusbit, D., Metsky, E. & Dabbish, L. (2015). Working with machines: The impact of algorithmic and data-driven management on human workers, *Proceedings of the 33rd Annual ACM Conference on Human Factors in Computing Systems:* 1603–1612. doi: https://doi.org/10.1145/2702123.2702548.

Ministry of Transport and Communications (2018). Høringsnotat. Endringer i drosjereguleringen. Oppheving av behovsprøving mv. [Hearing note. Changes in the taxi regulation. Repealing of means testing etc.], *Ministrt of Transport and Communications*. Available at: https://www.regjeringen.no/contentassets/d9d46f499ae244409d3726f763603543/horingsnotat—endringer-i-drosjereguleringen—oppheving-av-behovsprovingen-1681321.pdf [Accessed 18 March 2020].

Nergaard, K. (2018). *Tilknytningsformer i norsk arbeidsliv. Sluttrapport [Forms of employment in Norwegian working life. Final report]*, Fafo report 2018:38, Oslo: Fafo.

Oppegaard, SMN. (2018). *The Strains of Luxury. Labor in the Platform Economy. The Case of Uber Black in Oslo*. Master's thesis, Oslo: Department of Sociology and Human Geography, University of Oslo.

Oppegaard, SMN. (2020). Gig- og plattformøkonomien i den norske arbeidslivsmodellen – forutsetninger og konsekvenser. En casestudie av Uber Black i Oslo [The gig and platform economy in the Norwegian labor market model – prerequisites and consequences. A case study of Uber Black in Oslo], *Søkelys på arbeidslivet* 37(3): 201–215. doi: https://doi.org/10.18261/issn.1504-7989-2020-03-05.

Oppegaard, SMN., Ilsøe, A., Jesnes, K., Rolandsson, B. & Saloniemi, A. (2019). *Uber in the Nordic Countries: Challenges and Adjustments*, Nordic future of work Brief 1, Oslo: Fafo.

Oppegaard, SMN., Saari, T. & Saloniemi, A. (2020). Uber's trajectories in the Nordic countries, in K. Jesnes & S. Oppegaard (eds.), *Platform work in the Nordic models: Issues,*

cases and responses, TemaNord report 513, Copenhagen: Nordic Council of Ministers. doi: http://dx.doi.org/10.6027/temanord2020-513/#25177.

Oslo Municipality. (n.d.). *Søk om selskapsvognløyve [Apply for limousine service operator license]*. Available at: https://www.oslo.kommune.no/gate-transport-og-parkering/transportloyver/selskapsvognloyve/#gref [Accessed 18 March 2020].

Pasquale, F. (2015). *The Black Box Society*, Cambridge, MA: Harvard UP. doi: https://doi.org/10.4159/harvard.9780674736061.

Peticca-Harris, A., deGama, N., & Ravishankar, M. N. (2020). Postcapitalist precarious work and those in the 'drivers' seat: Exploring the motivations and lived experiences of Uber drivers in Canada, *Organization* 27(1): 36–59. doi: https://doi.org/10.1177/1350508418757332.

Prassl, J. (2018). *Humans as a Service: The Promise and Perils of Work in the Gig Economy*, Oxford: Oxford University Press. doi: https://doi.org/10.1093/oso/9780198797012.001.0001.

Professional Transportation Act (2002). Act on Professional Transport by Motor Vehicle and Vessel (Professional Transport Act). Available at: https://www.regjeringen.no/no/dokumenter/act-on-professional-transport-by-motor-v/id636843/ [Accessed 18 March 2020].

Rasmussen, S., Nätti, J., Larsen, TP., Ilsøe, A. & Garde, AH. (2019). Nonstandard Employment in the Nordics – towards precarious work?, *Nordic Journal of Working Life Studies* 9(S6): 7–32. doi: https://doi.org/10.18291/njwls.v9is6.114689.

Rosenblat, A. (2018). *Uberland: How Algorithms are Rewriting the Rules of Work*, Oakland: University of California Press. doi: https://doi.org/10.1525/9780520970632.

Rosenblat, A. & Stark, L. (2016). Algorithmic labor and information asymmetries: A case study of Uber's drivers, *International Journal Of Communication* 10(27): 3758–3784. doi: https://doi.org/10.2139/ssrn.2686227.

Statistics Norway. (2019). Earnings. Available at: https://www.ssb.no/en/arbeid-og-lonn/statistikker/lonnansatt [Accessed 18 March 2020].

Thelen, K. (2018). Regulating Uber: The politics of the platform economy in Europe and the United States, *American Political Science Association* 16(4): 938–953. doi: https://doi.org/10.1017/s1537592718001081.

Uber. (2017). *Uber B.V. Alvtalevilkår [Uber B.V. Terms of use]*. Available at: https://www.uber.com/legal/en/document/?country=norway&lang=nb&name=general-terms-of-use [Accessed 18 March 2020].

Uber. (n.d.-a). Driving with Uber in Norway. Available at: https://www.uber.com/no/en/drive/ [Accessed 18 March 2020].

Uber. (n.d.-b). *Ride Like a Pro*. Available at: https://www.uber.com/en-NO/blog/ride-like-a-pro-2/ [Accessed 18 March 2020].

Uber. (n.d.-c). *Understanding ratings*. Available at: https://help.uber.com/driving-and-delivering/article/understanding-ratings?nodeId=fa1eb77f-ad79-4607-9651-72b932be30b7 [Accessed 18 March 2020].

Uber. (n.d.-d). *What is dynamic pricing?* Available at: https://help.uber.com/riders/article/what-is-dynamic-pricing?nodeId=ba2b4925-9aed-48de-9398-8889607ee0e4 [Accessed 18 March 2020].

Wood, AJ., Graham, M., Lehdonvirta, V. & Hjorth, I. (2019). Good gig, bad gig: autonomy and algorithmic control in the global gig economy, *Work, Employment and Society* 33(1): 56–75. doi: https://doi.org/10.1177/0950017018785616.

Woodcock, J. & Graham, M. (2020). *The Gig Economy. A Critical Introduction*, Cambridge: Polity Press.

Working Environment Act. (2005). Act relating to working environment, working hours and employment protection, etc. (Working Environment Act). Available at: https://lovdata.no/dokument/NLE/lov/2005-06-17-62 [Accessed 18 March 2020].

Wu, Q., Zhang, H. Li, Z. & Lui, K. (2019). Labor control in the gig economy: evidence from Uber in China, *Journal of Industrial Relations* 61(4): 574–596. doi: https://doi.org/10.1177/0022185619854472.

Zysman, J. & Kenney, M. (2018). The next phase in the digital revolution: intelligent tools, platforms, growth, employment, *Communications of the ACM* 61(2): 54–63. doi: https://doi.org/10.1145/3173550.

Note

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