







Conceptualizing the Gig Economy and Its Regulatory Problems

Nikos Koutsimpogiorgos , Jaap van Slageren , Andrea M. Herrmann , and Koen Frenken 

The advent of online platforms has been considered to be one of the most significant economic changes of the last decade, with their emergence reflecting a longer trend of increasing contingent work, labor market flexibility, and outsourcing work to independent contractors. In this article, we conceptualize the so-called gig economy along four dimensions, namely, online intermediation, independent contractors, paid tasks, and personal services. Using this framework, it is possible to derive both a narrow definition of the gig economy, as ex ante specified, paid tasks carried out by independent contractors mediated by online platforms, and broader definitions that include offline alongside online intermediation, employees alongside independent contractors, unpaid tasks alongside paid tasks, and asset sharing alongside performing gigs. The four dimensions also span four key regulatory questions: How should online platforms be classified and regulated; how should gig workers be classified and regulated; what should count as paid and unpaid work; and should we treat earnings from performing gigs differently than earnings from sharing assets? We conclude that the positions taken on these regulatory issues are essentially contingent upon political choices and will determine how the gig economy evolves in the future.

KEY WORDS: platform economy, gig economy, sharing economy, regulation, labor, pay

网络平台的出现已被视为过去十年里最显著的经济变化之一，它反映了一个有关零工增长、劳动力市场灵活性增加、以及更多工作外包给独立承包商的更长期的趋势。本文中，我们将所谓的零工经济从四个维度进行概念化：网络中介、独立承包商、付费任务和个人服务。通过使用这一框架，则有可能对零工经济进行狭义的定义，即上述提到的在网络平台的作用下由独立承包商开展的付费工作，而广义的定义则包括除网络中介之外的线下中介，除独立承包商之外的在职员工，除付费任务之外的待付费任务，以及除零工之外的资产共享。这四个维度也涵盖了四个关键的监管疑问：网络平台应如何被归类 and 监管；零工人员应被如何归类 and 监管；付费和待付费工作的区别是什么；以及我们是否应把从零工中赚取的报酬与共享资产所获的报酬加以区分？我们的结论认为，对这些监管问题所持的立场关键取决于政治选择，且这些立场将决定未来零工经济的发展。

关键词： 平台经济，零工经济，共享经济，监管，劳动力，报酬

El advenimiento de las plataformas en línea se ha considerado como uno de los cambios económicos más importantes de la última década, y su aparición refleja una tendencia más larga de aumentar el

trabajo contingente, la flexibilidad del mercado laboral y el trabajo de subcontratación a contratistas independientes. En este artículo, conceptualizamos la llamada economía del concierto en cuatro dimensiones: intermediación en línea, contratistas independientes, tareas remuneradas y servicios personales. Usando este marco, es posible derivar tanto una definición estrecha de la economía del concierto, como las tareas remuneradas especificadas ex ante, realizadas por contratistas independientes mediadas por plataformas en línea, y definiciones más amplias que incluyen la desconexión junto con la intermediación en línea, los empleados junto con los contratistas independientes, tareas no remuneradas junto con tareas pagas, y compartir activos junto con actuaciones. Las cuatro dimensiones también abarcan cuatro preguntas regulatorias clave: ¿Cómo se deben clasificar y regular las plataformas en línea? ¿Cómo deben clasificarse y regularse los trabajadores de concierto? lo que debe considerarse trabajo remunerado y no remunerado; ¿Deberíamos tratar las ganancias de realizar conciertos de manera diferente a las ganancias de compartir activos? Llegamos a la conclusión de que las posiciones tomadas en estos temas regulatorios dependen esencialmente de las elecciones políticas y determinarán cómo evolucionará la economía del concierto en el futuro.

PALABRAS CLAVE: economía de plataforma, economía de concierto, economía compartida, regulación, trabajo, paga

Introduction

The advent of online platforms has been considered to be one of the most significant economic changes of the last decade (Kenney & Zysman, 2016; Van Dijck et al., 2018). In the context of labor markets, online platforms are used to match the supply and demand of flexible labor. The emergence of such platforms reflects a longer trend of increasingly contingent work, labor market flexibility, and outsourcing of work to independent contractors (Estlund, 2018; Hyman, 2018; Stanford, 2017). Online platforms mediating flexible labor are generally classed under the term “gig economy” (De Stefano, 2015; Frenken & Schor, 2017). The best known of these gig economy firms is Uber—the media’s “poster boy” for everything deemed good or bad about work via online platforms. However, the rise of online platforms as intermediaries of supply and demand of flexible labor is by no means limited to the taxi sector. Odd jobs (e.g., TaskRabbit), cleaning (e.g., Helpling), care (e.g., care.com), food delivery (e.g., Deliveroo), and programming and translating (e.g., Upwork) are among the examples of services that are increasingly traded via online platforms.

Even though the amount of labor hired through online platforms is still at present small, there is a shared expectation that it will continue to grow; and it is expected to account for a significant part of the economy in the near future (De Stefano, 2015). Given these expectations, scholars, unions, and policymakers alike have taken a great interest in the phenomenon of the gig economy. In their debates, we have witnessed a proliferation of definitions and claims, which reflects the newness and complexity of the phenomenon at hand. However, the lack of an agreed conceptualization and analytical framework could hamper the accumulation of academic understanding of the gig economy, as well as the political deliberation processes regarding its regulation.

To offer an analytical framework for the rapidly increasing number of concepts and policy proposals on offer, we identify four dimensions along which the gig

economy has been distinguished from other parts of the economy. These dimensions include (i) online platform versus offline intermediation, (ii) independent contractor versus employee status, (iii) paid versus unpaid work, and (iv) provision of services versus goods. Taking the lowest common denominator of these four dimensions as a baseline, one can define the gig economy as the ensemble of ex ante specified, paid tasks carried out by independent contractors mediated by online platforms. Using this framework also allows us to consider a broader definition of the gig economy that includes a wider range of economic activities along each of the four dimensions, namely, intermediation by offline platforms alongside online platforms, employees alongside independent contractors, unpaid tasks alongside paid tasks, and goods rented out in the “sharing economy” alongside tasks carried out in the gig economy.

Our four-dimensional framework not only aims to clarify the fuzzy conceptual boundaries of the gig economy, it also points to the four essential directions for regulatory responses to societal concerns raised by its advent. Accordingly, the four pillars of our conceptual framework also map onto four substantial regulatory questions related to the gig economy, namely, (i) whether online platforms mediating the supply and demand for gigs should be regulated differently from offline intermediaries performing the same function, (ii) whether gig providers mediated by online platforms should be regulated differently from employees, (iii) whether paid gigs should be regulated differently from unpaid gigs, and (iv) whether providing gigs should be regulated differently from sharing goods. These regulatory issues are currently at the center of the debates surrounding the gig economy. Accordingly, we argue that the future development of the gig economy is essentially contingent upon political choices regarding the four regulatory challenges that follow from our framework.

The next section draws on the existing literature to introduce the four dimensions we use to conceptualize the gig economy. We then discuss the regulatory questions that follow from these four dimensions. The final section concludes that the future development of the gig economy will be chiefly determined politically, and that it will depend on the regulatory positions taken on the analytical dimensions we propose.

Conceptualizing the Gig Economy Along Four Dimensions

Despite the massive interest in the gig economy, a widely accepted definition is still lacking among academics, policymakers, and practitioners. Some scholars avoid a general definition, instead focusing on a specific platform (Birgillito & Birgillito, 2018; De Groen et al., 2016; Green et al., 2018; Hara et al., 2018) or a specific sector (Cramer & Krueger, 2016). Others refer to the gig economy as “digital labor markets” without further definition (Burtch et al., 2018; De Stefano, 2015; Eichhorst et al., 2017). And, when looking at scholars who provide clear-cut conceptualizations of what they regard as the gig economy, substantial differences remain (Healy et al., 2017; Kuhn & Maleki, 2017; Stewart & Stanford, 2017).

Definitions have immediate empirical implications. As some define the gig economy more narrowly and others more broadly, the size estimates of the gig economy differ substantially. Looking at the Netherlands, as an example, one

report estimates the size of the Dutch gig economy as involving 0.4 percent of the working population (Weel et al., 2018), while another estimates it to be 10.6 percent (Pesole et al., 2018) of the working population.

However, despite little agreement on how the gig economy should be conceptualized, it is possible to distil four dimensions along which definitions of the gig economy diverge between authors. As shown in Figure 1, they include (i) online platform versus offline intermediation; (ii) independent contractor versus employee status; (iii) paid versus unpaid work; and (iv) delivery of services versus goods. We elaborate on each of these four dimensions below.

Online Platform Versus Offline Intermediation

Most scholars see intermediation by online platforms, be it through an app or a website, as a key defining feature of the gig economy (e.g., Aguinis & Lawal, 2013; Stewart & Stanford, 2017; Wood et al., 2019). In this view, the advent of such online platforms has led to the advent of the gig economy. This view is also shared in the policy reports of individual countries, such as the United States (BLS, 2017), the United Kingdom (CIPD, 2017; Department for BEIS, 2018), Finland (Statistics Finland, 2017), Sweden (SOU, 2017), and the Netherlands (Weel et al., 2018), as well as for Europe as a whole (Pesole et al., 2018).

The logic of considering only platform-mediated work as belonging to the gig economy is based on two principal arguments. First, scholars who see online platforms as a defining feature of the gig economy tend to argue that the role of rating systems and algorithmic management fundamentally differentiates online platform intermediation from older forms of offline intermediation (temp agencies, telephone operators, offline bulletin boards, etc.) (De Stefano, 2015; Duggan et al., 2019;

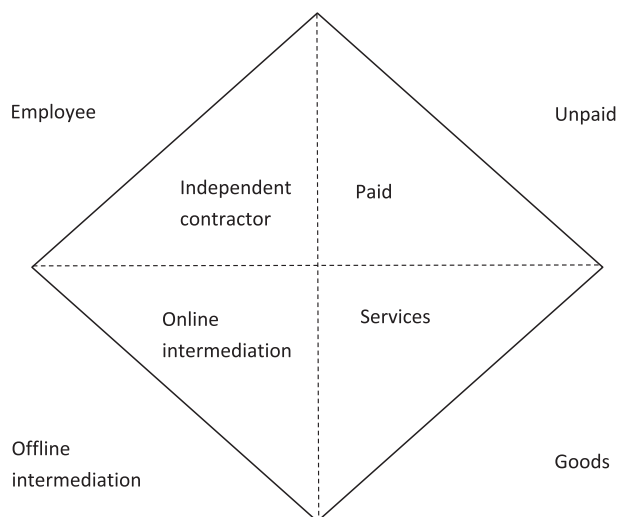


Figure 1. Four Characteristics of Gig Economy, in Narrow and Broader Senses.

Shapiro, 2018; Wood et al., 2019). Second, they see online platforms changing not only the technology used to mediate supply and demand but also the legal nature of relationships, replacing bilateral with trilateral relationships involving a worker, a requester, and the platform (Aloisi, 2015; De Stefano, 2015; Duggan et al., 2019).

Other scholars, however, do not consider online platform intermediation as a defining characteristic when conceptualizing the gig economy (Friedman, 2014; Kuhn, 2016; Stanford, 2017). Instead, they understand the gig economy as a more encompassing phenomenon that includes all flexible work arrangements of independent contractors, regardless of platform intermediation. Proponents of this broader conceptualization are often economists, who argue that the platform in itself does not fundamentally change the nature of the gigs that are carried out as ex ante specified, paid tasks (the taxi drive, the cleaning job, the programming task, etc.). The main economic effect of online platform mediation has been to lower transaction costs in the market for gigs, which does not necessarily mean that gigs mediated by online platforms should be conceptualized as a separate economic activity from those gigs that are not.

Independent Contractor Versus Employee

The second dimension on which definitions of the gig economy diverge is the nature of employment. Most studies emphasize that the supply of labor in the gig economy concerns “individuals,” “taskers,” “freelancers,” “self-employed,” “independent workers,” or “independent contractors” rather than employees (Friedman, 2014; Kuhn & Maleki, 2017; Meijerink & Keegan, 2019; Prassl & Risak, 2015). This “freelancing” aspect of the gig economy also entails work being organized into specific tasks upon which gig workers and requesters agree ex ante, that is, before completion of the task. Ex ante defined tasks are typically, but not necessarily, carried out by independent contractors rather than employees. The possibility of carrying out gigs as independent contractors or as employees leads Prassl and Risak (2015) to distinguish between internal and external gig work (or what they call “crowdwork”). In this context, internal work refers to gigs carried out by a company's internal workforce and external work refers to those carried out by workers active on an online platform.

Those who consider only independent contractors to be part of the gig economy ignore the simple empirical fact that some online platforms, like Deliveroo, started off by employing their riders and only switched to using independent contractors later on (Zekic, 2019). Other platforms, such as Hilfr in Denmark, pioneered a hybrid model in 2019 where workers start with independent contractor status but can opt for employee status after 100 hours of work (Aloisi, 2019). And in Germany, platforms for delivery services, such as Lieferando, offer highly flexible employment contracts where riders are paid by the hour (including their waiting time).

A question at the center of contemporary legal debates is whether gig workers are to be considered independent contractors or employees (Aloisi, 2015; De Stefano, 2015; Prassl & Risak, 2015; Prassl, 2018; Taylor et al., 2017). The legal status of “independent contractor” implies a certain amount of autonomy, which may be questioned in this

case. While some platforms only act as a simple bulletin board for gigs, others are more actively involved in the transaction (including matching, contracting, and pricing) as well as the evaluation of a gig (through timing, ratings, and reviews)—which may, in turn, be fed back into the matching algorithm. The control that such platforms exert over workers casts doubt on the autonomy of workers and has in several court cases provided legal grounds for a reclassification of independent contractors as employees (De Stefano, 2015; Loffredo & Tufo, 2018; Prassl, 2018).

Paid Versus Unpaid

In accounts of the gig economy, most scholars explicitly focus on paid work (De Stefano, 2015; Kuhn & Galloway, 2019; Taylor et al., 2017). Hence, their notion of the gig economy refers to market transactions only and can thus be measured, for example, through bank transaction data (Farrell & Greig, 2016; Farrell et al., 2018). The focus on paid work is understandable as many investigate whether independent contractors mediated by online platforms should be considered to be employees (for which payment is a necessary condition; Aloisi, 2015; De Stefano, 2015; Healy et al., 2017), while others focus on questions related to financial matters, such as the minimum wage (Stanford, 2017) or tax issues (Thomas, 2017).

However, the focus on paid work as a defining criterion of the gig economy also raises questions. First, there is a substantial component of unpaid work associated with paid work in the gig economy. For example, waiting time for chauffeurs and couriers is not compensated if they have the status of an independent contractor. And, especially on platforms that organize digital services performed remotely (such as data entry, programming, translation, etc.), gig workers spend a lot of unpaid time searching for gigs (Berg, 2016; Wood et al., 2019). Regarding voluntary work, we also witness the advent of online platforms matching supply and demand of work. Distinguishing between ordinary, paid work to voluntary, unpaid work in this context is not a straightforward matter. Platforms may frame the work they mediate as voluntary while nevertheless suggesting financial compensation from the requester. And in some instances, such as Helpper in Belgium, the work is advertised with hourly pay rates, albeit ones that are below the minimum wage.

Services Versus Goods

The final conceptual issue concerns the question of whether the gig economy only includes individuals performing gigs by selling their own labor, or whether it should also include individuals who rent out their assets. Most authors agree that the gig economy should be restricted to labor transactions so as to differentiate labor platforms from capital platforms—where labor platforms refer to intermediation of ex ante specified tasks in the gig economy, and capital platforms refer to individuals who rent out their own consumer goods in what is known as the sharing economy (Duggan et al., 2019; Farrell & Greig, 2016; Frenken & Schor, 2017).

However, this seemingly clear-cut conceptual distinction is often not fully applicable, because sharing assets also involves some amount of labor (Frenken et al., 2019). For example, the tenant of accommodation rented through Airbnb also pays for reception and cleaning, which can be considered gigs (regardless of whether the homeowner or someone else carries out these tasks). In this sense, renting out an asset to a consumer can also be considered an *ex ante* specified task (just like a gig)—albeit a rather capital-intensive one. Following this view, some scholars place labor (gig) platforms and renting (sharing) platforms under the same conceptual umbrella (Healy et al., 2017; Schor, 2016), and some policy reports also include the sharing of assets in their analysis of the gig economy (CIPD, 2017; Pesole et al., 2018).

Narrower and Broader Definitions

The four dimensions we have identified in relation to the gig economy and its conceptualizations span a four-dimensional analytical framework. Following this framework, the lowest common denominator can serve as the narrowest baseline definition of the gig economy, as *ex ante* specified, paid tasks carried out by independent contractors mediated by online platforms. It also follows from our framework that broader definitions of the gig economy are conceivable, including intermediation by offline platforms alongside online platforms, employees alongside independent contractors, unpaid tasks alongside paid tasks, and goods rented out in the sharing economy alongside tasks carried out in the gig economy.

Regulatory Classification

Our discussion of the four dimensions of the gig economy makes clear that the concept of the gig economy has fuzzy boundaries. The proliferation of definitions both in academia and in policy documents can thus be understood as a manifestation of the difficulty of drawing sharp boundaries along each of these four dimensions. Our framework, then, is helpful in unraveling the sources of these conceptual divergences.

We can also use this four-dimensional framework to shed light on current debates regarding the institutionalization of the gig economy. These debates are centered on the distinctions between online platforms and offline intermediation, between independent contractors and employees, between paid and unpaid work, and between services and goods. The exact boundaries between these categories can be drawn differently in different countries and economic sectors. Consequently, just as we witness a plurality of conceptualizations of the gig economy, we also witness a plurality of institutionalization processes of the gig economy (Thelen, 2018; Uzunca et al., 2018).

More specifically, the four dimensions we have distilled from the conceptual debate surrounding the gig economy constitute an analytical scheme that allows us to systematically reflect on four current debates about regulatory classifications. These issues concern the following questions (i) how an online gig platform should be classified, (ii) how a gig worker should be classified, (iii) how we should deal

with unpaid and unpaid gigs, and (iv) how we should deal with rental services based on personal assets. We will discuss these four regulatory debates one by one, including their interdependencies.

Online Platform Versus Offline Intermediation

One of the major differences between online platforms and older forms of intermediation in traditional labor markets consists in the radically new way that intermediation is performed, namely through algorithms, reviews, Global Positioning System, and electronic payment systems. It is the novel way in which online platforms match supply and demand that have raised platform-specific regulatory issues, including algorithmic discrimination, privacy, and the lack of transparency (Helberger et al., 2018; Van Dijck et al., 2018). These concerns lead to a range of new regulatory challenges, not just for gig economy platforms, but also for online platforms more generally (including second-hand marketplaces, search engines, and social media), which are beyond the scope of the current article.

In the context of the gig economy, the key issue at hand is the classification of an online platform. Gig economy platforms generally present themselves as online intermediation services or “technology companies.” Under prevailing e-commerce law in Europe and the United States, such platforms cannot be held liable for the actions of their gig workers (except in very specific circumstances) (Cauffman & Smits, 2016; Helberger et al., 2018). This has also been the starting point for the European Commission in its reflections on online labor platforms (European Commission, 2016).

However, sectoral regulations may apply to online platforms, to the extent that they perform similar intermediation functions as “offline platforms.” No example could better demonstrate this conundrum than the case of Uber and the way it has been regulated on both sides of the Atlantic (Thelen, 2018). Uber’s launch in the United States was characterized by an aggressive marketing campaign to rapidly increase its network and legitimize its operations. At that point, Uber was in direct conflict with the established regulatory systems for taxi services in many U.S. cities, which operated on the basis of a fixed number of licenses (medallions). Instead of backing down in response to the regulatory backlash, Uber branded itself as an agent of “positive disruption” in a monopolistic market and used its growing user base as a tool to advocate and promote its business model to policymakers. The success of Uber (and of similar platforms) led many politicians to adopt this narrative, and to develop a whole new regulatory category, branding them as “network transportation companies” (Thelen, 2018). Europe, on the contrary, followed a different regulatory approach, rejecting Uber’s claim of “positive disruption” and forcing the company to adapt its model to the existing regulatory framework. Although the process evolved somewhat differently between countries (Pelzer et al., 2019; Thelen, 2018; Uzunca et al., 2018), the common trend across Europe has been that Uber phased out its UberPOP service with unlicensed drivers and moved instead to a license-only model across Europe, accepting on their platform only drivers with a taxi license. This trend was reinforced in December 2017, when the

European Court of Justice ruled against Uber by classifying it as a transportation company, which further settled the debate at the European level (Curia, 2017).

The above example is telling with regard to how regulators choose to deal with the platform aspect of the gig economy. While in the case of the United States the use of the platform was politically considered an innovation, which effectively set Uber (and similar firms) apart from the taxi market, resulting in a new, tailor-made regulatory framework, the very same innovation was classified as a transportation service in Europe. At the heart of this controversy is the question of whether an online platform, as an innovation, creates a new market or whether it rather disrupts an existing one (Prassl, 2018). Advocates of the former view make a case for a kind of “technological exceptionalism” or “digital distinctiveness” of the gig economy, while those supporting the latter view question the true novelty of the online platform. The answer to the question of whether the gig economy should be regulated separately (as a platform business) or within the existing legal framework (developed for “offline businesses”) is not self-evident. As a consequence, the regulatory response is not straightforward but rather contingent upon political choices and local contexts.

Independent Contractor Versus Employee

Across Europe, the employment status of gig workers is probably the most central topic in the public debate of the gig economy (Aloisi, 2015; De Stefano, 2015; Florisson & Mandl, 2018). As different employment statuses directly translate into different forms of social protection, working conditions, and representation of workers, the legal term used to describe gig workers in each country has direct effects on their rights and obligations. Furthermore, it has broader implications in the field of competition law and taxation (International Labour Organisation, 2013).

The transformation of the working relationship from bilateral to trilateral inescapably raises the question of whether gig workers should be classified as employees (Prassl & Risak, 2015). Traditionally, work relationships have been bilateral, be it between a requester and an independent contractor or between an employer and an employee. In the case of intermediation by platforms, however, this bilateral relationship develops into a trilateral work agreement between the work requester, the platform, and the gig worker. In the transaction process between the requester and the gig worker, both parties also establish a contract with the platform providing the online services that the two parties use to realize that same transaction. This, in turn, blurs the boundaries between the traditional concept of employee and independent contractor (Duggan et al., 2019; Loffredo & Tufo, 2018; Prassl & Risak, 2015).

The “EU Treaties” (Treaty of the European Union and the Treaty of the Functioning of the European Union) fail to provide a uniform definition of what constitutes a “worker,” beyond the scope of the freedom of movement (De Stefano & Aloisi, 2018). Subsequently, the European Court of Justice developed its own definition of the concept of “employee,” which is also adopted by the Commission to describe who qualifies as such within the “collaborative economy” (European Commission, 2016). According to this definition, an employment relationship exists when “for a certain

period of time a person performs a service for and under the direction of another person in return for which he receives remuneration" (Judgment of the Court, 1986, C-66/85, *Deborah Lawrie-Blum v. Land Baden-Württemberg*).

Importantly, this definition is structured around three main concepts: relationship of subordination, completion of an activity, and remuneration of the activity completed. While gig workers mostly perform activities that are remunerated with monetary payment, the question of subordination is less clear-cut. On the one hand, workers are assessed by clients through ratings and reviews and monitored by platforms for their acceptance rates and speed of service. This information may be used by the platform to decide to ban an "underperforming" gig worker from the platform at any moment and without explanation. On the contrary, gig workers enjoy the freedom of deciding whether, or not, to accept a gig request and remain—in most cases—autonomous with regard to what to charge and how they carry out the requested gig. Thus, depending on a number of factors (such as the use of ratings in ways that can be detrimental to the gig workers, or whether the price is set by the platform or freely agreed), the gig worker may be classified as an independent contractor or entitled to the legal rights and obligations of a traditional employee (De Stefano & Aloisi, 2018).

A related question that is less often posed in the context of the gig economy is how to classify someone as an independent contractor (Frenken et al., 2018). Importantly, the category of independent contractors is not simply a residual category for those who do not meet the classification criteria of an employee. The question to be answered is whether an independent contractor can exercise the same freedom as an independent business. One constraint imposed by many platforms is that gig workers can hold only one account and receive one assignment at a time, meaning that gig workers are technologically restricted from growing their business by reselling their assignments or hiring employees. The difficulty of classifying a gig worker as an employee or as an independent contractor creates a legal gray area. Here, workers find themselves to be economically dependent on the transacting platform, while not benefitting from the employee status. At the same time, they bear all the risks of being an independent contractor but do not enjoy the same economic freedom as regular businesses (De Moortel & Vanroelen, 2017).

The unclear status of a gig worker leads to a situation whereby it is ultimately up to national courts to decide whether a gig worker performing platform-mediated work is to be understood as an "employee" or "self-employed." As De Stefano & Aloisi (2018, p. 53) point out in the case of food delivery workers, "a courier performing the same activity can be classified as a quasi-subordinate worker in Italy, as a self-employed worker in France, as an employee in Germany, as a "zero-hours" contract worker in the United Kingdom, or as an intermittent worker in Belgium." Logically, the task of defining who is an independent contractor and who is an employee falls upon the judiciary, which has to apply existing laws to new cases. This may, however, not generate clarity per se, even within a single country, because the same court may reach almost opposite conclusions on different but related cases, as that of Deliveroo in the Netherlands exemplifies (Zekic, 2019). Originally, Deliveroo started out employing its riders but decided in

January 2018 not to renew its fixed-term labor contracts and to continue its operations with independent contractors as riders. One of the riders, with the support of the largest Dutch trade union *federatie nederlandse vakbeweging* (FNV), sued the platform, claiming that there was no fundamental change in the employment relationship between the two parties and that the collective labor agreement of the professional goods transport sector should continue to apply. The Subdistrict Court of Amsterdam ruled against the worker, while nevertheless recognizing the shortcomings of current employment law with regard to the gig economy and calling upon legislators to take action. The FNV union then asked the court to rule on Deliveroo's practices as a whole, instead of the individual case. This time, the same Subdistrict Court of Amsterdam ruled in favor of FNV, forcing the company to abandon its model based on independent contractors. The case is still ongoing, as Deliveroo filed an appeal.

Given the regulatory complexity surrounding the classification of gig workers, most stakeholders agree that their work status should be clarified. In essence, this is a regulatory and thus political question, because the classification of gig work—possibly differentiated by sector—has direct consequences for wage setting, social security, and consumer welfare. Four different regulatory solutions have been proposed.

The first solution, mainly advocated by the unions, is to consider gig workers as employees, based on the control that a platform exercises over its gig workers (Aloisi, 2015; De Stefano, 2015). Existing law and regulations would simply continue to apply, and benefits accruing from employee status would ensure the social protection of gig workers. The obvious implication of such a pathway would be that most platforms could not continue to operate their current business models. Instead, they would have to assume the role of employers, requiring the introduction of fixed working hours and pay while workers wait for gigs. It would not imply, however, that the services offered through platforms would cease to exist. Most probably, such services would become more expensive, leading the gig economy—including the associated consumer surplus—to shrink in size.

The second way to deal with the legal uncertainty surrounding the classification of gig workers is to introduce a third category alongside employees and independent contractors (Healy et al., 2017; Prassl & Risak, 2017). The aim would be to grant gig workers access to a set of rights that they would not enjoy as an independent contractor. Importantly, though, such an expansion of the legal codex would run counter to the established legal practice of dealing with new phenomena within the scope of existing codices. Furthermore, some scholars argue that a new category of gig workers could result in increased labor-market segmentation and social inequality (Florisson & Mandl, 2018).

Intermediate categories already exist in some EU countries, notably, the “worker category” in the United Kingdom. A well-known case where the intermediate worker category has been extended in order to incorporate gig workers, is *Uber BV v. Aslam* in London. Two Uber drivers turned against the company, claiming that they were not independent contractors as maintained by Uber's terms of service and should instead be reclassified as “workers” within the scope of the

existing labor law, making them eligible for minimum wage, sick leave and paid holiday provisions. As De Stefano and Aloisi (2018, p. 48) explain, the judgment to extend the worker category to Uber drivers showed that the court denied “the fact that the company exercises a mere enabling activity between two opposite groups of users.” In doing so, “the British court emphasizes that Uber does not provide the opportunity for individually negotiating the content of the obligation, while tasks are performed personally, with no possibility of being replaced temporarily.”

One country, France, took the initiative to create a new category in response to the rise of gig economy platforms, thereby extending French employment law to include gig workers (French Labour Law n.2016-1088), so as to bestow on gig workers a set of employee rights. These new provisions apply in all cases where the platform exercises a high degree of control over the worker, as defined by the law. When recognized as such, the gig worker is entitled to protection from work accidents and work-related disease and enjoys the right to unionization and collective action (Donini et al., 2017). Regarding other European countries, Risak and Dullinger (2018) mention the “employee-like person” in Austria and Germany, and the “para-subordinate” in Italy as examples of already existing intermediate categories that may be applied to certain gig workers in the future.

Creating a completely new category remains a politically risky endeavor, with the possibility of far-reaching and unintended consequences. If a third category is established, employees may lose rights if their employment status is downgraded to that category (Cherry & Aloisi, 2018). This may explain the reluctance of policymakers to adopt such an approach, especially in contexts where most flexible labor has the same legal status of an employee at a temp agency (as for example in Belgium and the Netherlands).

A third route is to reconceptualize the notion of employer altogether (Prassl, 2015). This approach means moving away from an inelastic definition of the employment relationship, where the following five conditions need to be met in order for a work relationship to qualify as an employer–employee relationship (Prassl & Risak, 2017): the inception and termination of the employment relationship, receiving labor and its fruits, providing work and pay, controlling all factors of production, and undertaking an enterprise with potential profit and loss. A “functional” conceptualization of the employer, instead, is one “in which the contractual identification of the employer is replaced by an emphasis on the exercise of each function—be it by a single entity (...) or in situations where different functions may be exercised from more than one locus of control” (Prassl & Risak, 2017, p. 281). Following this functional concept of the employer, the latter can be a single entity or combination of entities (e.g., a combination of the requester, the platform, and the gig workers). What matters is who plays a decisive role in the exercise of a particular employing function, and who can then be regulated as such according to prevailing employment law. Hence, a functional approach could be a way to deal with the complexities arising from trilateral work relationships inherent to gig work mediated by platforms.

The incorporation of gig workers into collective labor agreements constitutes a final way of ensuring some degree of gig worker protection. Several unions have

taken this up, as it reinforces their role as social partners and could increase their membership base (Donini et al., 2017; Johnston & Land-Kazlauskas, 2018; Lenaerts et al., 2018). The most telling example of this fourth approach towards gig worker classification comes from a country with wide union coverage and an institutionalized social dialogue: Denmark. In 2018, the service-sector union 3F signed a collective agreement with the platform Hilfr, which is active in the care sector. Gig workers can decide to opt in to become an employee of the platform (enjoying a minimum wage, holiday pay, sick pay, and a contribution to their pension savings) once they have worked for Hilfr for 100 hours, or they can decide to opt out (Aloisi, 2019). However, collective wage bargaining by gig workers may meet resistance in competition law, given their status as independent contractors in most countries (Daskalova, 2018).

Paid Versus Unpaid

Most would agree that the gig economy concerns economic transactions only—thus dealing with paid assignments rather than unpaid assignments associated with voluntary work and hobby activities. There are many examples of platforms that mediate supply and demand of voluntary work and hobby activities (such as crowdsourcing platforms, open-source software platforms, Wikipedia, or websites of voluntary organizations). One could, however, argue that not all of these are voluntary or hobby activities, as some people work for platforms in the hope that they will be selected for future paid assignments, or that they will otherwise generate revenues, for example, through the publicity they have generated on a platform.

Users of online platforms also leave reviews and comments on a platform's website, which could be regarded as voluntary work to the extent that these users add content with economic value, but without them receiving any financial compensation for it. Taking this argument to its extreme, one could regard any user of a platform as a provider of unpaid work, because any recorded activity on a platform can be used by the platform as information, most notably, for advertising purposes (Fuchs & Sevignani, 2013; Zuboff, 2019). This issue becomes particularly acute once platforms extract economic value from the data that platform workers generate without being compensated for it (Van Dijck et al., 2018). This, in turn, leads to the (to date) open political question of whether users ought to be financially compensated for the free “digital labor” they perform while active on online platforms (Savona, 2019).

A related issue concerns the uncertainty of payments. Working without remuneration is illegal in modern legal systems. Nevertheless, there are examples of workers completing assignments for an agreed price but without receiving the actual payment for it, because the requester is free to decide whether, or not, to pay once the assignment is completed. On MTurk, for example, the requester can deem the work submitted to be unsatisfactory and refuse payment, and there is no mechanism for gig workers to challenge this decision. Much more common are questions arising from remuneration below the minimum wage (if one exists),

facilitated by the status of independent contractors that platforms assign to gig workers. This practice, if left uncontrolled, could lead to a race-to-the-bottom of labor standards and salaries. This concern is particularly acute in economic downturns (when labor is in abundant supply) and for global platforms mediating online gig work (i.e., gigs that can be performed online), so that gig workers can be hired from around the world (International Labour Organization, 2018). In the absence of supranational regulation and global unions, such global digital marketplaces disempower labor, and may lead to lower wages and decreasing labor security and labor standards alike (Freeman, 2006; Olney, 2013).

The main requesters of online gig work are large firms in Western countries. Hence, a regulatory pathway that may be promising in these contexts is one in which requesters commit to “decent commissioning.” For example, IG Metall together with other unions set up a Code of Conduct in 2016, signed by eight internationally operating platforms, that includes a “fair payment” principle following the local wage standards of the requester. And in 2017, an Ombuds Office was established to enforce the Code of Conduct and resolve disputes between workers and signatory platforms (International Labour Organization, 2018).

The issue of low pay is especially pertinent for those who earn their full income in the gig economy. Schor et al. (2018) find that workers who use platforms only to supplement their income generally feel empowered and pick the best-paid gigs at convenient times, while workers who are dependent on platforms for their full income generally feel disempowered, having to accept low-paid gigs and less convenient working times. One way to counter low pay is to set a minimum tariff for independent contractors, as pioneered by the Netherlands Authority for Consumers and Markets in July 2019 (Authority for Consumers and Markets, 2019).

Service Versus Goods

Scholars generally differentiate the online labor platforms in the gig economy from capital platforms in the sharing economy, where individuals who rent out their own consumer goods such as cars and houses (Duggan et al., 2019; Farrell & Greig, 2016; Frenken & Schor, 2017). The distinction between services and goods is important, in that earnings in the gig economy are generally considered as income and taxed accordingly, while earnings in the sharing economy may not be taxed at all (such as occasional second-hand sales, carpooling, and car-sharing), or otherwise tend to fall under specific tax regimes (such as earnings from home rental). One particularly subtle example that illustrates the importance of differentiating between services and goods in the gig economy is the distinction made between ride-hailing (e.g., via Uber) and ride-sharing (e.g., via BlaBlaCar). While the former is generally regarded as work, and taxed accordingly as income, earnings from ride-sharing are generally considered to be an untaxed remuneration for the cost of fuel incurred by the car owner, who shares an otherwise under-utilized asset, that is, an empty seat (Frenken & Schor, 2017).

While the difference between labor platforms and capital platforms may be conceptually straightforward, the distinction is less clear-cut in practice. Most tasks

that gig workers provide still involve the use of assets required to render the service (such as a computer, car, bike, drilling machine, etc.). Conversely, consumers renting out their assets not only extract rents from this asset but also perform work by cleaning, maintaining, and inspecting the asset upon its return (or hiring labor to this end). Hence, both work and assets are involved as inputs in any service, even if one would intuitively make a distinction between gigs as completing a particular task and sharing as renting out a particular asset. Online platforms, then, can be situated on a continuum, ranging from the mediation of highly labor-intensive gig work (e.g., cleaning and tutoring) to highly asset-intensive sharing services (e.g., home-sharing and car-sharing), with some platforms situated in between (e.g., ride-hailing and home restaurants) (Frenken et al., 2019).

Following this reasoning, the key difference between labor platforms and capital platforms (viz. gig economy and sharing economy) is not related to whether assets are involved in providing a particular service, but rather to whether an asset is used by a supplier of a service (in the execution of a task) or by a consumer (who rents an asset for personal consumption). Prices in the gig economy are based on the willingness to pay for a particular service in the form of an *ex ante* defined task. By contrast, prices paid in the sharing economy are based on the willingness to pay for the asset being rented out, that is, the services that a consumer can extract from having temporary access to a particular asset as a consumer of that good.

Arguably, the main regulatory challenge relating to the question of sharing versus gig work is of a fiscal nature. Bringing earnings from performing gigs and from sharing assets under the same fiscal umbrella would resolve the classification issue. However, it does not resolve the bigger problem of collecting taxes from earnings in the first place (Oei & Ring, 2017; Thomas, 2017). While taxes from employees are relatively easy to collect, because employers can be obliged to disclose their wage payments to the tax office, tax collection from gig workers and sharing consumers is much more difficult. In situations where payments are made via online platforms, current privacy laws make it difficult to oblige platform operators to disclose transaction data, which is especially true if platforms are operated from abroad. And, if taxes can be imposed automatically on transactions made via platforms in the future, those who want to avoid paying taxes may look for alternative platforms that let clients pay gig workers directly.

Interestingly, while the main approach in the United States is to classify gig workers as self-employed and tax them as such, the issue is far less clear in Europe, because of the diversity of legal classifications of labor between countries. The European Commission has made clear that individuals who “carry out independently economic activity [...] through sharing economy platforms” fall within the scope of the Value Added Tax (VAT) directive (Council Directive 2006/112/EC) and qualify as taxable persons (European Commission, 2015). Whether a gig worker is classified as an employee or as an independent contractor defines whether they will be considered as a person subject to taxation (Pantazatou, 2018). The issue of independence is thus crucial, as it constitutes the defining element of an activity being subject to tax. If the platform is considered to be just an

intermediary, the gig worker is obliged to collect and pay VAT. If the platform is considered to be an employer, the platform is subject to the regulations of the VAT directive, while the gig worker has to pay regular income tax (Pantazatou, 2018).

Much of freelance work has always been informal, implying that workers did not necessarily declare their income at the tax office. With the rise of online platforms, though, the amount of income that remains undeclared may increase substantially. For this reason, Thomas (2017) suggests simplifying tax collection. For example, platform companies could withhold the taxes for their gig workers, but without being classified as employers. As a further simplification, Thomas (2017) suggests a “standard business deduction” for gig workers, which would take away the administrative burden they now face when keeping records and filling in tax forms. Such an approach would also make it possible to introduce different tax rates for gig workers on the one hand and assets sharers on the other. For example, income from gig work is exempted from tax in Belgium up until 6,000 Euro per year, but income from home-sharing is not (Frenken et al., 2019). This differentiation can be justified for redistributive purposes, assuming that those who own expensive assets, such as houses, planes and boats, are high earners.

Summary and Conclusions

The hiring of workers for single discrete tasks, where the requester and worker are matched via an online platform, is an emerging form of labor transaction—often called the gig economy. Supporters argue that the gig economy meets the wishes of both requesters and workers for more flexible work relationships, while skeptics worry about low pay and limited social security of gig workers. Although the gig economy is receiving widespread attention, consensus on a concept of the gig economy is remarkably limited. Thinking of the gig economy simply as “digital labor markets” sidesteps a more elaborate explication of what gig economy actually is, which, in turn, complicates empirical assessments of gig work.

In answer to these conceptual and empirical problems, we have proposed a conceptualization of the gig economy along four dimensions, namely, (i) online platform versus offline intermediation, (ii) independent contractor versus employee status, (iii) paid versus unpaid work, and (iv) service provision versus goods. Taking the lowest common denominator of these four dimensions, one could then define the gig economy, in a narrow sense, as *ex ante specified, paid tasks carried out by independent contractors mediated by online platforms*. Importantly, our analytical framework also makes it possible to take a broader perspective by including offline intermediation, employees performing gigs, unpaid activities, and the sharing of goods in the concept of the gig economy.

Furthermore, each of the four dimensions of our analytical framework points to one fundamental issue regarding regulatory classification, namely, (i) how a gig platform should be classified, (ii) how a gig worker should be classified, (iii) how to deal with unpaid and unpaid gigs, and (iv) how to deal with rental services based on personal assets. In sum, the four-dimensional framework helps us to understand not only the various facets of the gig economy but also the corresponding regulatory challenges.

As well as offering an analytical framework for understanding the conceptual and regulatory debates surrounding the gig economy, our framework can also serve as a basis for future research. It could, for example, be applied to understand the differences in regulatory responses across countries (Thelen, 2018; Uzunca et al., 2018). Online platforms lend themselves well to comparative research designs, as many platforms are active in multiple countries. Similarly, our framework can also be used to study differences in regulatory responses across sectors. Indeed, as the exact functions and operations of platforms differ across sectors, regulatory debates and actions may unfold differently between these sectors (Frenken et al., 2019).

Additionally, the framework can be used to understand the combined effects of regulatory options along each of the four dimensions. For example, classifying a platform as an employer would imply classification of the gig worker as an employee, which, in turn, would solve the problem of low pay and foregone tax. Classifying a platform as an electronic service, by contrast, would mean classifying the gig worker as an independent contractor, which would not solve the problem of underpayment unless collective bargaining or minimum tariffs were allowed under current competition law. Classifying online labor platforms as temp agencies would possibly resolve the classification issue for platforms and workers as well. The existing regulatory regime for temp agencies—which still may vary across countries—could then be transposed to platforms (possibly with some adaptations). Platforms would then follow the collective wage agreement with temp agencies and facilitate tax collection by governments, and it would also differentiate gig platforms from asset sharing platforms. However, temp agencies have to comply with regulations that are currently incompatible with the independent contractor model of most online labor platforms, where the workers decide themselves when to work and how to perform a job. Hence, a reclassification of online labor platforms as temp agencies would also require a redesign of the platforms' matching algorithms and associated business models.

Clearly, political choices along each of the four dimensions of the gig economy will have important implications for its future evolution and the ways in which platforms can be deployed to mediate online labor markets. If gig workers become classified as employees and platforms as their employers, adjustments in the platforms' business models will follow, probably raising prices for customers. However, if regulation is more accommodating—so that gig workers keep their status as independent contractors while platforms are considered to be e-commerce entities—the gig economy will most likely continue to grow. Between these two extremes, one can think of applying a functional definition of the employer to be more flexible so to the grounds on which employer status can be assigned (Prassl, 2015). Alternatively, ad hoc sectoral regulations or collective agreements can be established, depending on a specific assessment of labor conditions, consumer interests, or other relevant public values (Helberger et al., 2018).

Regulation of gig platforms may thus evolve in different directions depending on the national or sectoral contexts (Frenken et al., 2019)—a case-by-case approach that has also been advocated by the European Commission (2016). The resulting proliferation of regulatory regimes provides an opportunity to learn across contexts from the variety of regulatory solutions adopted and their economic and social effects.

At the same time, the increasing regulatory complexity faced by gig workers, clients, and platforms alike may frustrate the realization of potential benefits provided by online platforms, and it may also make it harder to agree on social security reforms that would protect independent contractors in a more comprehensive manner, regardless of whether they work via online platforms. In summary, our aim has been to unravel this regulatory complexity along four dimensions, thus providing a multi-dimensional framework to assess regulatory reforms to come.

Nikos Koutsimpogiorgos, Innovation Studies, Copernicus Institute of Sustainable Development, Utrecht University, Utrecht, the Netherlands.

Jaap van Slageren, Innovation Studies, Copernicus Institute of Sustainable Development, Utrecht University, Utrecht, the Netherlands.

Andrea M. Herrmann, Innovation Studies, Copernicus Institute of Sustainable Development, Utrecht University, Utrecht, the Netherlands & Visiting Researcher, Max-Planck-Institut für Gesellschaftsforschung, Köln, Germany.

Koen Frenken, Innovation Studies, Copernicus Institute of Sustainable Development, Utrecht University, PO Box 80115, Utrecht, the Netherlands [k.frenken@uu.nl].

Notes

Nikos Koutsimpogiorgos, Jaap van Slageren, and Andrea M. Herrmann acknowledge funding from the Netherlands Organisation for Scientific Research, Vidi grant number 452-17-017. Nikos Koutsimpogiorgos and Jaap van Slageren equally contributed to the development of this article.

References

- Aguinis, H., and S.O. Lawal. 2013. "eLancing: A Review and Research Agenda for Bridging the Science–Practice Gap." *Human Resource Management Review* 23 (1): 6–17.
- Aloisi, A. 2015. "Commoditized Workers: Case Study Research on Labor Law Issues Arising From a Set of On-Demand/Gig Economy Platforms." *Comparative Labor Law & Policy Journal* 37: 65389.
- Aloisi, A. 2019. "At the Table, Not on the Menu: Non-Standard Workers and Collective Bargaining in the Platform Economy." *EUIdeas*. <https://euideas.eui.eu/2019/06/25/>
- Authority for Consumers and Markets. 2019. Independent contractors are allowed to make arrangements about a minimum income. The Netherlands Authority for Consumers and Markets (ACM). <https://www.acm.nl/en/publications/acm-independent-contractors-are-allowed-make-arrangements-about-minimum-income>
- Berg, J. 2016. "Income Security in the On-Demand Economy: Findings and Policy Lessons From a Survey of Crowdworkers." *Comparative Labor Law and Policy Journal* 37: 543–76.
- Birgillito, G., and M. Birgillito. 2018. "Algorithms and ratings: tools to manage labour relations. Proposals to renegotiate labour conditions for platform drivers." *Labour & Law Issues* 4 (2): 25–50.
- BLS (Bureau of Labor Statistics). 2017. *Labor Force Statistics from the Current Population Survey*. Washington DC: U.S. Bureau of Labor Statistics.
- Burtch, G., S. Carnahan, and B.N. Greenwood. 2018. "Can You Gig it? An Empirical Examination of the Gig Economy and Entrepreneurial Activity." *Management Science* 64: 54615959.

- Cauffman, C., and J. Smits. 2016. "The Sharing Economy and the Law." *Maastricht Journal of European and Comparative Law* 23: 903–907.
- Cherry, M.A., and A. Aloisi. 2018. "A Critical Examination of the Third Employment Category for On-Demand Work." In *Cambridge Handbook of Law and Regulation of the Sharing Economy*, eds. N.M. Davidson, M. Finck, and J.J. Infranca. Cambridge: Cambridge University Press, 316–27.
- CIPD (Chartered Institute of Personnel and Development). 2017. *To Gig or not to Gig? Stories from the Modern Economy*, Survey report, London.
- Cramer, J., and A.B. Krueger. 2016. "Disruptive Change in the Taxi Business: The Case of Uber." *American Economic Review* 106 (5): 177–82.
- Curia. 2017. Judgment in Case C-434/15, Asociación Profesional Elite Taxi v Uber Systems Spain, SL., Court of Justice of The European Union.
- Daskalova, V. 2018. "Regulating the New Self-Employed in the Uber Economy: What Role for EU Competition Law?" *German Law Journal* 19 (3): 461–508.
- De Groen, W., I. Maselli, and B. Fabo. 2016. *The Digital Market for Local Services: A One-Night Stand for Workers? An Example From the on-Demand Economy*. CEPS Special Report 133.
- De Moortel, D., and C. Vanroelen. 2017. *Classifying Self-Employment and Creating an Empirical Typology*. Dublin: Eurofound.
- Department of BEIS. 2018. *The Characteristics of Those in the Gig Economy*. Research Paper: 2018 No. 2. Department for Business, Energy and Industrial Strategy (BEIS), UK Government.
- De Stefano, V. 2015. "The Rise of the Just-in-Time Workforce: On-Demand Work, Crowdwork, and Labor Protection in the Gig Economy." *Comparative Labour Law & Policy Journal* 37: 471504.
- De Stefano, V., and A. Aloisi. 2018. *European Legal Framework for Digital Labour Platforms*. Publications Office of the European Union. <https://ec.europa.eu/jrc/en/publication/european-legal-framework-digital-labour-platforms>
- Donini, A., M. Forlivesi, A. Rota, and P. Tullini. 2017. "Towards Collective Protections for Crowdworkers: Italy, Spain and France in the EU Context." *Transfer: European Review of Labour and Research* 23 (2): 207–23.
- Duggan, J., U. Sherman, R. Carbery, and A. McDonnell. 2019. "Algorithmic Management and App-Work in the Gig Economy: A Research Agenda for Employment Relations and HRM." *Human Resource Management Journal* 30 (1): 11432.
- Eichhorst, W., H. Hinte, U. Rinne, and V. Tobsch. 2017. "How Big is the Gig? Assessing the Preliminary Evidence on the Effects of Digitalization on the Labor Market." *Management Revue* 28 (3): 298318.
- Estlund, C. 2018. "What Should We do After Work? Automation and Employment Law." *The Yale Law Journal* 128 (2): 256–326.
- European Commission. 2015. "VAT Committee—Question Concerning the Application of EU VAT Provisions. DG Taxations and Customs Union, Indirect Taxation and Tax administration." Working Paper No 878. <https://circabc.europa.eu/sd/a/878e0591-80c9-4c58-baf3-b9fda1094338/878%20-%20VAT%20treatment%20of%20sharing%20economy.pdf>
- European Commission. 2016. "A European Agenda for the Collaborative Economy." COM (2016) 356 final, 16.
- Farrell, D., and F. Greig. 2016. *Paychecks, Paydays, and the Online Platform Economy: Big Data on Income Volatility*. JP Morgan Chase Institute.
- Farrell, D., F. Greig, and A. Hamoudi. 2018. *The Online Platform Economy in 2018: Drivers, Workers, Sellers, and Lessors*. JP Morgan Chase Institute.
- Florisson, R., and I. Mandl. 2018. *Platform Work: Types and Implications for Work and Employment—Literature Review*. Dublin: Eurofound.
- Freeman, R. 2006. "The Great Doubling: The Challenge of the New Global Labor Market." In *Ending Poverty In America: How to Restore the American Dream*, eds. J. Edwards, M. Crain, and A. Kalleberg. New York: The New Press.
- Frenken, K., and J. Schor. 2017. "Putting the Sharing Economy Into Perspective." *Environmental Innovation and Societal Transitions* 23: 3–10.

- Frenken, K., T. Vaskelainen, L. Fünfschilling, and L. Piscicelli. 2018. "An Institutional Logics Perspective on the Gig Economy." SocArxiv. Revised version published in I. Maurer, J. Mair & A. Oberg. 2020. eds. *Theorizing the Sharing Economy: Variety and Trajectories of New Forms of Organizing*, Emerald, pp. 83-105. <https://osf.io/preprints/socarxiv/uqn9v/>
- Frenken, K., A.H.M. van Waes, P. Pelzer, M.M. Smink, and R. van Est. 2019. "Safeguarding Public Interests in the Platform Economy." *Policy & Internet* 121: 800. <https://doi.org/10.1002/poi3.217>
- Friedman, G. 2014. "Workers Without Employers: Shadow Corporations and the Rise of the Gig Economy." *Review of Keynesian Economics* 2 (2): 17188.
- Fuchs, C., and S. Seignani. 2013. "What is Digital Labour? What is Digital Work? What's Their Difference? And Why do These Questions Matter for Understanding Social Media." *tripleC* 11 (2): 237–93.
- Green, D.D., J. McCann, T. Vu, N. Lopez, and S. Ouattara. 2018. "Gig Economy and the Future of Work: A Fiverr.com Case Study." *Management and Economics Research Journal* 4: 281–288.
- Hara, K., A. Adams, K. Milland, S. Savage, C. Callison-Burch, and J.P. Bigham. 2018. "A Data-Driven Analysis of Workers' Earnings on Amazon Mechanical Turk." In: *Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems*. ACM, 449.
- Healy, J., D. Nicholson, and A. Pekarek. 2017. "Should We Take the Gig Economy Seriously?" *Labour & Industry* 27 (3): 23248.
- Helberger, N., J. Pierson, and T. Poell. 2018. "Governing Online Platforms: From Contested to Cooperative Responsibility." *The Information Society* 34: 1–14.
- Hyman, L. 2018. *Temp: How American Work, American Business, and the American Dream Became Temporary*. New York: Viking.
- International Labour Organization. 2013. *Regulating the Employment Relationship in Europe: A Guide to Recommendation No. 198*. Geneva: ILO.
- International Labour Organization. 2018. *Digital Labour Platforms and the Future of Work: Towards Decent Work in the Online World*. Geneva: ILO.
- Johnston, H., and C. Land-Kazlauskas. 2018. *Organizing On-Demand Representation, Voice, and Collective Bargaining in the Gig Economy*. Geneva: International Labour Organization.
- Judgement of the Court. 1986. *Deborah Lawrie-Blum v Land Baden-Württemberg*. Reference for a preliminary ruling: Bundesverwaltungsgericht - Germany. - Worder - Trainee teacher. - Case 66/85. 3 July 1986. <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A61985CJ0066>
- Kenney, M., and J. Zysman. 2016. "The Rise of the Platform Economy." *Issues in Science and Technology* 32 (3): 61–9.
- Kuhn, K.M. 2016. "The Rise of the "Gig Economy" and Implications for Understanding Work and Workers." *Industrial and Organizational Psychology* 9 (1): 15762.
- Kuhn, K.M., and T.L. Galloway. 2019. "Expanding Perspectives on Gig Work and Gig Workers." *Journal of Managerial Psychology* 34 (4): 18691.
- Kuhn, K.M., and A. Maleki. 2017. "Micro-Entrepreneurs, Dependent Contractors, and Instaserfs: Understanding Online Labor Platform Workforces." *Academy of Management Perspectives* 31 (3): 183–200.
- Lenaerts, K., Z. Kilhoffer, and M. Akguc. 2018. "Traditional and New Forms of Organisation and Representation in the Platform Economy." *Work Organisation, Labour and Globalisation* 12 (2): 60–78.
- Loffredo, A., and M. Tufo. 2018. "Digital Work in the Transport Sector: in Search of the Employer." *Work Organisation, Labour and Globalisation* 12 (2): 23–37.
- Meijerink, J., and A. Keegan. 2019. "Conceptualizing Human Resource Management in the Gig Economy." *Journal of Managerial Psychology* 34 (4): 21432.
- Oei, S., and D.M. Ring. 2017. "The Tax Lives of Uber Drivers: Evidence from Internet Discussion Forums." *Columbia Journal of Tax Law* 8 (1): 56–112.
- Olney, W.W. 2013. "A Race to the Bottom? Employment Protection and Foreign Direct Investment." *Journal of International Economics* 91 (2): 191–203.
- Pantazatou, K. 2018. "Taxation of the Sharing Economy in the European Union." In *Cambridge Handbook of Law and Regulation of the Sharing Economy*, eds. N.M. Davidson, M. Finck, J.J., and Infranca. Cambridge: Cambridge University Press, 343–56.

- Pelzer, P., K. Frenken, and W. Boon. 2019. "Institutional Entrepreneurship in the Platform Economy: How Uber Tried (and Failed) to Change the Dutch Taxi Law." *Environmental Innovation and Societal Transitions* 33: 1–12.
- Pesole, A., C. Urzi Brancati, E. Fernández-Macías, F. Biagi, and I. González Vázquez. 2018. *Platform Workers in Europe: Evidence from the COLLEEM Survey*, Joint Research Centre, Publications Office of the European Union, Luxembourg.
- Prassl, J. 2015. *The Concept of the Employer*. Oxford: Oxford University Press.
- Prassl, J. 2018. *Humans as a Service: The Promise and Perils of Work in the Gig Economy*. Oxford: Oxford University Press.
- Prassl, J., and M. Risak. 2015. "Uber, Taskrabbit, and Co.: Platforms as Employers-Rethinking the Legal Analysis of Crowdwork." *Comparative Labour Law & Policy Journal* 37: 619–52.
- Prassl, J., and M. Risak. 2017. "The Legal Protection of Crowdworkers: Four Avenues for Workers' Rights in the Virtual Realm." In *Policy Implications of Virtual Work*, eds. P. Meil, and V. Kirov. Cham: Palgrave Macmillan, 273–95.
- Risak, M., and Dullinger, T. 2018. "The Concept of 'Worker' in EU Law. Status Quo and Potential for Change." Report 140. Brussels: European Trade Union Institute.
- Savona, M. 2019. "The Value of Data: Towards a Framework to Redistribute It." SPRU Working Paper Series 2019-21, University of Sussex Business School.
- Schor, J. 2016. "Debating the Sharing Economy." *Journal of Self-Governance and Management Economics* 4 (3): 7–22.
- Schor, J.B., M. Cansoy, W. Charles, I. Ladegaard, and R. Wengronowitz. 2018. "Dependence and Precarity in the Platform Economy." *unpublished paper*, Boston College, 47.
- Shapiro, A. 2018. "Between Autonomy and Control: Strategies of Arbitrage in the "On-Demand" Economy." *New Media & Society* 20 (8): 2954–71.
- SOU (Statens Offentliga Utredningar). 2017. *Ett arbetsliv i förändring—hur påverkas ansvaret för arbetsmiljön?* Stockholm.
- Stanford, J. 2017. "The Resurgence of Gig Work: Historical and Theoretical Perspectives." *The Economic and Labour Relations Review* 28 (3): 382–401.
- Statistics Finland. 2017. *Labour Force Survey 2017: Platform Jobs*. Helsinki.
- Stewart, A., and J. Stanford. 2017. "Regulating Work in the Gig Economy: What Are the Options?" *The Economic and Labour Relations Review* 28 (3): 420–37.
- Taylor, M., G. Marsh, D. Nicol, and P. Broadbent. 2017. *Good Work: The Taylor Review of Modern Working Practices*. Department of Business, Energy & Industrial Strategy, UK.
- Thelen, K. 2018. "Regulating Uber: The Politics of the Platform Economy in Europe and the United States." *Perspectives on Politics* 16 (4): 938–53.
- Thomas, K.D. 2017. "Taxing the Gig Economy." *University of Pennsylvania Law Review* 166: 1415–73.
- Uzunca, B., J.P.C. Rigtering, and P. Ozcan. 2018. "Sharing and Shaping: A Cross-Country Comparison of How Sharing Economy Firms Shape Their Institutional Environment to Gain Legitimacy." *Academy of Management Discoveries* 4 (3): 248–272.
- Van Dijck, J., T. Poell, and M. De Waal. 2018. *The Platform Society: Public Values in a Connective World*. Oxford: Oxford University Press.
- Weel, ter, B., S. van der Werff, H. Bennaars, R. Scholte, J. Fijnje, M. Westerveld, and T. Mertens. 2018. "De Opkomst en Groei van de Kluseconomie in Nederland." SEO-rapport 2018-30 (The emergence and growth of the Gig economy in The Netherlands, in Dutch).
- Wood, A.J., M. Graham, V. Lehdonvirta, and I. Hjorth. 2019. "Good Gig, Bad Gig: Autonomy and Algorithmic Control in the Global Gig Economy." *Work, Employment and Society* 33 (1): 5675.
- Zekic, N. 2019. "Contradictory Court Rulings on the Status of Deliveroo Workers in the Netherlands." *Comparative Labor Law & Policy Journal*, 5 (dispatch no. 17).
- Zuboff, S. 2019. *The Age of Surveillance Capitalism: The Fight for a Human Future at the New Frontier of Power*. New York: Public Affairs.