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The "sharing" economy: labor, inequality, and social connection on for-profit platforms

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Abstract

For social analysts, what has come to be called the "sharing economy" raises important questions. After a discussion of history and definitions, we focus on 3 areas of research in the for-profit segment, also called the platform economy: social connection, conditions for laborers, and inequalities. Although we find that some parts of the platform economy, particularly Airbnb, do foster social connection, there are also ways in which even shared hospitality is becoming more like conventional exchange. With respect to labor conditions, we find they vary across platforms and the degree to which workers are dependent on the platform to meet their basic needs. On inequality, there is mounting evidence that platforms are facilitating person-to-person discrimination by race. In addition, platforms are advantaging those who already have human capital or physical assets, in contrast to claims that they provide widespread opportunity or even advantage less privileged individuals.

1 | INTRODUCTION

What is now popularly referred to as the sharing economy¹ emerged in 2008, in tandem with the financial crisis (Schor & Fitzmaurice, 2015). Also termed the platform economy, this sector covers a range of consumer goods and services in areas such as lodging, transportation, personal services, and consumer durables. In the for-profit segment of the sector, platforms use sophisticated software to organize workers and asset holders, who provide the actual services to consumers, using crowdsourced ratings and reputational data to facilitate stranger exchange. Furthermore, platforms almost always engage earners as independent contractors, without the protections of employment. The two largest platforms are Airbnb and Uber, which offer lodging and transportation, respectively. There are also general labor platforms, such as TaskRabbit and Takl, which provide home-based services such as housecleaning, handyman work, moving, or furniture assembly. Specialized labor platforms offer pet care and other dedicated services. Some platforms arrange the rental of goods (e.g., vehicles) or space, whereas others organize neighborhood exchanges of durable goods (e.g., tools, camping, or photography equipment), with a range of payment arrangements (rental, loaning, or gift).

The emergence of these consumer-directed platforms has resulted in enormous amounts of press attention, both because they are expected to grow rapidly and also because their actions and impacts have been controversial. Do the

platforms provide adequate wages (Reich, 2015)? Are workers on platforms misclassified as independent contractors (Dubal, 2017)? What is the impact of lodging sites, such as Airbnb, on the availability of affordable housing (Slee, 2015)? In addition to these economic, legal, and policy questions, the sector provides an unfolding drama that sheds light on a number of theoretical preoccupations of social analysts. The platforms raise the issue of the restructuring of labor relations in a neoliberal era, particularly in terms of rising precarity and the risk shift from firms to workers (Hacker, 2008; Kalleberg, 2013; Scholz, 2013; Standing, 2011). The heavy reliance on digital technologies and crowdsourcing of ratings and reputational data is relevant to ongoing debate about the impact of technology on trust and social connection (Turkle, 2012). A third set of questions concerns inequality. Do platforms ameliorate, transform, or exacerbate various types of inequalities, particularly those based on class and race (Oliver & Shapiro, 2006; Piketty, 2014)?

Empirical research on the platform economy has been limited, partly because the platforms have not shared their data and also because it is relatively new. In this review, we will focus on three areas where an empirical literature has emerged. However, before diving into the literature, we take up the question of definitions. What is the entity popularly known as the sharing economy? Is that an accurate term for the kinds of exchanges platforms are facilitating? Does it represent a coherent analytic category? We then consider questions of trust and social connection and how participation in digital platforms affects those social outcomes. We turn next to the question of labor and discuss how platforms are structuring the labor process and how workers are experiencing their activities on the platforms. Finally, we explore the question of inequality. We end our review with some brief reflections on developments and possible progressive directions for the sector.

We should note that our focus is U.S. centric. The way platforms operate and the political and regulatory environments they are in vary by country and even by locality. In a short piece, it is infeasible to cover the whole world. As we have only researched the United States, we decided to confine our discussion to this country. However, these activities are expanding around the world, in many different ways. This is a topic for a future article. We turn now to definitions, beginning with some historical background to put the definitional controversies into context.

2 | EARLY HISTORY AND DEFINITIONAL COMPLEXITY

What is now known as the "sharing economy" is typically dated to 2008, with the founding of Airbnb and Uber. The original term for these platforms—collaborative consumption—was popularized by a management consultant (Botsman & Rogers, 2010) and emphasized the phenomenon of "idle capacity." The claim was that this new economic form—a digital platform (or app²) with crowdsourced reputational data—could raise the utilization of idle assets, therefore increasing efficiency, reducing carbon footprint, and enhancing owners' well-being. Airbnb and Uber "monetized" idle capacity (spare rooms, unused cars, and spare time), whereas other early innovations, such as Yerdle, Landshare, NeighborGoods, and Share Some Sugar, attempted to promote nonmonetized loaning. At the same time, other initiatives were attempting to use platforms to build new second-hand markets. Following originators eBay and Craigslist, which dated to 1995, there was a proliferation of both monetized (thredUP and SwapStyle) and gift (Freecycle) sites promoting the exchange of used consumer goods (Schor & Fitzmaurice, 2015). At the same time, this period saw the emergence of a variety of nonprofit, community-based efforts to promote sharing and cooperative economic behaviors. These include food swaps, time banks, repair collectives, makerspaces, and other initiatives. (Schor & Fitzmaurice, 2015; Schor, Fitzmaurice, Attwood-Charles, Carfagna, & Dubois Poteat, 2016). In this review, we have chosen to discuss the for-profit platforms, in large part because the questions and literatures about the two groups are distinct.

There is debate about where and how the term sharing economy originated as a descriptor for platforms like Airbnb or Lyft, with claims that it is either unknown (https://en.wikipedia.org/wiki/Sharing_economy) or attributable to Lawrence Lessig (2008) in his book *Remix*.³ Whatever the history, at some point in 2010, the term sharing economy started coming into use, eclipsing collaborative consumption. As the sector grew, other terms also proliferated (on-demand economy, access economy, and gig economy), in part to differentiate different kinds of platforms. However,

at this time, the term sharing economy began to institutionalize itself. A group of platform founders, consultants, and nonprofits formed a "sharing" listserv. In January of 2012, a group in France founded OuiShare, to create a global community based on open collaborating and sharing, and in May 2012, there was a major "share" conference in San Francisco (Schor, 2014). An important dimension of these early efforts is that they included both for-profit platforms such as Airbnb, Lyft, and TaskRabbit and small nonprofits such as repair collectives, tool libraries, and time banks. Notably, Uber never did participate in these activities, rejecting the terminology of sharing and self-identifying as a logistics company (Schor, 2014). Thus, in practice, the definition of the sharing economy became a matter of selfselection by participating entities (Schor, 2014). Lyft was in, Uber was not, despite being almost identical platforms. TaskRabbit, an errands and task platform, was in, but Amazon's Mechanical Turk and other digital labor platforms were not. From an analytic point of view, this was obviously incoherent.

This history is important because it is part of the founding discourse of the sector, in which even the large for-profit platforms began with strong (albeit unverified, and in many cases false) claims of contributing to the common good—economic opportunity, efficiency, social connection, and positive ecological impact. These claims were anchored by the highly positive symbolism of "sharing" (Schor, 2014). For the large, profit-driven platforms, association with nonprofit, authentically prosocial initiatives allowed them to capture goodwill, particularly in the absence of evidence to back up a number of their social benefit claims. And conversely, for the nonprofits, connections with well-capitalized, powerful actors had obvious attractions. The term sharing itself became performative (Frenken & Schor, 2017; Richardson, 2015) as well as an object of ridicule by critics (Hill, 2015; Reich, 2015; Slee, 2015).

Since that time, researchers have produced a useful literature on terminology and definitions. We begin with the latter question—definition. In an early contribution, Schor and Fitzmaurice (2015) argued that key criteria for analyzing the sector were whether the platforms were for-profits or nonprofits and whether they had a peer-to-peer (or person-to-person) structure. However, although the profit–nonprofit divide remains crucial, the for-profits have been exercising more control over workers on the platforms (as discussed below), thereby undermining the relevance of the person-to-person structure. Another approach is to reject the diversity of the sector in favor of narrower segments. Frenken, Meelen, Arets, and van de Glind (2015) revert to the original idea of collaborative consumption, but with the term sharing economy, defining it as consumers granting each other temporary access to underutilized physical assets (idle capacity), possibly for money. They then identify other segments: the second-hand economy, the on-demand economy, and the product–service economy. Economists take a different approach and emphasize that these are multisided markets—that is, the platform faces both workers and consumers (Gawer, 2014). Like the focus on the peer-to-peer structure, this approach also becomes less relevant as platforms exercise increased control over workers. Furthermore, the "sharing" sector is only one type of multisided market, so this criterion is not sufficient to identify the sector.

In 2016, the Commerce Department offered the first governmental definition (Telles, 2016), identifying four characteristics for what it called "digital matching firms": (1) the use of information technology to facilitate peer-to-peer transactions, (2) the use of ratings systems, (3) flexibility for workers to choose hours, and (4) worker-provided tools and assets necessary to do the job (Telles, 2016, pp. 3–4). Although these criteria can be criticized on the grounds of being too broad—resale platforms like eBay arguably fit the definition but are generally not included in the conversation—they are also becoming obsolete as platforms have begun to provide assets (e.g., ridesourcing platforms giving free vehicles to drivers) and to exercise more de facto control over hours and volume of work (Rosenblat & Stark, 2015; Scheiber, 2017; Schor, Attwood-Charles, Cansoy, Ladegaard, & Wengronowitz, 2017).

The issue of breadth raises another approach, which suggests that we should not think of this sector as something in itself but should situate it in the larger context of the digital economy. In one version, the connection is to the progressive parts of the online world, in particular the collaborative software movement (Benkler, 2006) and other types of sharing, including stranger carpooling and distributed computing (Benkler, 2004). In our research, we have found that online practices such as file sharing, video posting, and music sharing were priming experiences for some of the early participants in these initiatives (DuBois, Schor, & Carfagna, 2014). Peer-produced content such as Wikipedia

and citizen science, as well as ratings and reviews sites (e.g., Yelp and TripAdvisor) accustomed people to providing reputational feedback. A subset of these peer-to-peer platforms was thought to have the potential to empower people, build community, and perhaps herald an alternative to market capitalism (Benkler, 2006). This approach, with its roots in cyberutopianism (Turner, 2006), combines multiple forms of digital sharing—open-source software, crowdfunding, bitcoin, and the collaborative consumption platforms. Whereas not all participants in this literature remain optimistic (Benkler, for example, considers Airbnb as "microrenting," not sharing, (personal communication to author)), others identify the commonalities in these modalities.

The second way scholars have grouped this sector with other digital activities does not focus on user practices, but on technology (in particular computing power) and companies' value creation strategies. Kenney and Zysman (2015, 2016), in a number of insightful papers, discuss what they call the "platform economy" and argue that the nature of consumer-oriented entities such as Airbnb and Uber will likely be determined by developments among a larger group of technology companies such as Google, Apple, Amazon, and Facebook. In this interpretation, Airbnb, Uber, and the other consumption platforms are smallish players in a much larger restructuring of the economy. In the view of Kenney and Zysman (2016), "we are in the midst of a reorganization of our economy in which the platform owners are seemingly developing power that may be even more formidable than was that of the factory owners in the early industrial revolution ... the consequences are dramatic." Sharing, they argue, is a misnomer. Rather, the new platform economy looks more like a putting-out system than the alternative envisioned by cyberutopians. But perhaps even more importantly, they argue that the future is not inevitable and that social, political, and economic choices will determine it.

Finally, there is the question of whether "sharing" is an accurate term for the kinds of exchanges being organized by the for-profit platforms. Critics have produced withering critiques of the term in the popular press (Kalamar, 2013; Reich, 2015; Slee, 2015), and this skepticism is reproduced in the academic literature. For example, Alexandrea Ravenelle (2017), who has studied platform workers in New York City, claims that "Renting one's spare couch or unused car is nothing but rational capitalism". Russell Belk (2007, 2010, 2014), in a series of widely cited papers, has argued that by definition sharing cannot include the exchange of money and that sharing is diametrically opposed to commodity exchange (with gift exchange⁴ in between on a continuum).

Belk's position has been the subject of robust critique, on numerous grounds. Arnould and Rose (2015) argue that it suffers from dubious individualist methodological assumptions and fundamentally misunderstands the nature of gift relations, and by extension, the meaning of sharing. Similarly, Benkler (2004) argues that sharing is not defined by whether there is a financial dimension to the transaction. In the carpooling schemes he has studied, riders do often contribute cash for expenses. Rather, Benkler defines "social sharing" as something that takes place among large numbers of weakly connected people. They are participating in a collective practice and typically have multiple motives, including common good outcomes.

The weaknesses of Belk's perspective can also be seen in the context of Viviana Zelizer's (1997) pathbreaking work on money, as well as other insightful analyses of the complexity of motives in both market and family (Folbre, 2001). Belk and others reproduce popular tropes, adopting what Zelizer (2005) has termed the "hostile worlds" perspective. As John (2013, 2016) and others have noted, sharing is a polysemic term that covers multiple practices. We have found that participants on some platforms do use the terminology of sharing to describe their activities; in contrast, Ravenelle (2016a, 2016b, 2016c) finds that workers who lack substantial assets, such as Uber drivers and TaskRabbits, are likely to reject that usage. More generally, we suspect that the trope of sharing is losing its semi-otic potency, as exchanges become more normalized and "conventionalized," with respect to earlier forms of service provision.

Our final point on definitions is that there is no settled terminology at the moment, and we expect that disagreement will continue for some time on account of the rapidly changing character of the sector. As Kenney and Zysman (2016, pp. 62–63) wisely note, "The proliferation of labels is simply a reflection of the recognition that platforms are already having powerful consequences for society, markets, and firms, and that we are unclear about their dynamics and directions."

3 | TRUST AND SOCIAL CONNECTION

The literature on the experiences of participants in the platform economy is still relatively small, scattered across multiple disciplines and not well organized around key topics of interest. In this section, we focus on how participation on platforms affects the key sociological variables of social trust and connection. We begin with a brief discussion of descriptive studies of motivations and experiences.

One issue is why people are using these platforms. The companies' discourse emphasizes the common good claims (Schor, 2014), such as social connection, reduced environmental impacts, low cost, and, on the earners' side, economic opportunity. Although there are multiple motivations for participants in the for-profit platforms, including some of the common good claims, after the earliest days, studies of users in a variety of countries have found that the dominant incentive has been financial (Balck & Cracau, 2015; Möhlmann, 2015; Schor, 2015a; Stene & Holte, 2015). For consumers, prices are low, for multiple reasons. Some economists believe platforms reduce the previously considerable transactions costs in person-to-person economies and mitigate the risks associated with stranger exchange through their ratings and reputational systems, rather than costly branding (Horton & Zeckhauser, 2016; Sundararajan, 2016). Others have pointed to the minimization of labor costs (Hill, 2015; Scholz, 2016) or the ability to evade regulations (Baker, 2014). These markets also provide inexpensive, low-quality options (e.g., amateur providers and accommodation in downscale apartments). On the worker side, asset-based platforms such as Airbnb offer the opportunity to make considerable sums of money (Schor et al., 2017). Labor-based platforms (ridesourcing, delivery, and errands) have been a new source of incremental income for many who already have jobs or other incomeearning activities. Participants also report that they appreciate the convenience of these apps and that the financial transactions are completed "backstage," that is, via the platform and not directly face-to-face. Some research on Airbnb (Ikkala & Lampinen, 2015; Lampinen & Cheshire, 2016) suggests that settling the financial aspects prior to the guest's arrival eases social conversation and that the exchange of money reduces expectations of strong social interaction, thereby facilitating casual interactions.

Questions of social interaction and trust have received broad attention in recent decades. Because exchange on these platforms is among strangers, sociologists are interested in whether these transactions can build social trust, an important variable of interest for the discipline (Parigi, State, Dakhlallah, Corten, & Cook, 2013). That question is also connected to whether platform experiences increase social interaction and connection. These issues are situated within a larger discourse on the question of the impact of technology itself on social interaction and trust, much of which is oriented to whether technologies such as social media, gaming, and the Internet lead to less or poorer social interaction, isolation, and/or social pathologies (Turkle, 2012). The platform economy has been mostly seen as having the beneficial effect of bringing strangers together in positive ways.

Especially in the early days, both platforms and participants emphasized the personal aspects of exchanges and their role in building trust among strangers (Fitzmaurice et al., 2016). In our research, we find that participants make comparisons to and prefer the personalization of these markets to conventional retail or service encounters. Lodging services are the most studied in this regard. Studies of Couchsurfing, conducted before its transition to a for-profit service, found that users even made new friends (Parigi et al., 2013). However, longitudinal analysis suggested that over time the quality of these social connections declined as members became "disenchanted" with the platform and its ability to create new social ties (Parigi & State, 2014). In their work on Airbnb in the United States and Finland, Airi Lampinen and colleagues explore aspects of sociability on the platform, concluding that social interaction is an important part of users' practice (Ikkala & Lampinen, 2015; Lampinen & Cheshire, 2016). Similarly, Ladegaard (2017) finds that Airbnb hosts in Boston welcome the ability to experience a "comfortable exoticism," as their guests are frequently from foreign countries, but generally similar enough not to raise fears of a dangerous "other." Ravenelle (2016b) finds that Airbnb users can be described as what Zelizer has termed a "circuit of commerce," that is, a particular type of social network that is neither a market nor a firm but that has durable social connections. According to Schor's (2015a) 2013 data on workers on three platforms, social interaction was an important motive for at least half of all Airbnb hosts, and even for some TaskRabbits. She finds that the former socialize, eat, drink, tour a city, and

sometimes even develop durable friendship with their Airbnb guests. However, she also finds that some hosts and guests prefer not to socialize. Ravenelle (2017) also finds that some Airbnb hosts prefer it to Couchsurfing because the expectations for social interaction are lower. An important question about these findings is whether lodging platforms are becoming less social and more impersonal over time, as platforms are normalized and the ideological motives of many early users are replaced by financial motives. Certainly, the now large number of whole apartment or home listings (Cansoy & Schor, 2017), with their more limited opportunities for socializing, suggests that at least the fraction of stays that involve social interaction is likely falling.

A field study by Santana and Parigi (2015) investigated how sharing economy experiences affect tolerance for risk, an important component of trust and social engagement. In contrast to predictions that having more platform exchanges with strangers would make people more trusting, they found that frequency of exchange, length of time on platforms, and the number of sites people are active on all raised risk aversion. They did find that satisfaction with the exchanges affected risk, but in general, the expectation that more stranger exchange makes people more trusting was not supported.

A different question of trust and social connection has also risen in the literature, which is whether everyday nonmonetized practices, such as doing favors or hosting friends and family, will be eroded as people increasingly engage in these practices for money. Andrés Monroy-Hernández (2014) reports that in his research on a variety of platforms he finds that people do reduce their "altruistic asset and skill sharing" once they are active earners. To date, there is only anecdotal evidence of this effect in the literature. Ravenelle (2017) reports on a provider who now makes friends register through Airbnb when they stay with him, in order to ensure against any damage they may do to his possessions and apartment. Schor (2015a) also discusses a host who resents family visits because they reduce income from paid stays. At the same time, there are contrasting examples: One of Schor's hosts encouraged guests to use Couchsurfing rather than Airbnb, so they would not have to pay.

The topics of trust, social interaction, and the commodification of daily life raise large questions about the nature of the platform economy and its likely impacts on social life. If Kenney and Zysman are correct that the platforms represent a historic accumulation of power similar to, or even greater than, that associated with the emergence of factories in the British Industrial Revolution, we can expect that the platforms will reshape social life in profound ways. One is the expansion of monetized exchange into new frontiers of daily life. This is particularly important given the evidence we see that over time that platform exchange is becoming less novel and more similar to conventional service provision. Although it is important to avoid the unreflective hostile worlds perspectives (Zelizer, 2005), the commodification of daily life raises a host of questions about how this trend will affect not just stranger trust but also relations among known others—friends, family, and people with whom individuals share weak and strong social ties. The growing power of the platforms also raises issues about the treatment of and conditions for workers, the topic to which we now turn.

4 | LABOR ON THE PLATFORMS

Labor relations in the platform economy have been a point of controversy, but what almost everyone seems to agree on is that the sector represents a reimagined capitalism (Hill, 2015; Ravenelle, 2016a; Slee, 2015). Differences arise in whether observers believe these arrangements will improve efficiency and how they will affect conditions for earners. On one side are economists, such as Arun Sundararajan (2016), who describe an "emerging networked society of micro-entrepreneurs" (p. 176). And although Sundararajan does believe that policy changes are necessary, he welcomes the "end of employment and the rise of crowd-based capitalism," as an empowering, efficient, and forwardlooking transformation. More generally, economists have seen the sector as efficient, and therefore a positive development (Horton & Zeckhauser, 2016). Other accounts emphasize precarious and exploitative conditions (Hill, 2015; Slee, 2015), and the possibility of a neoliberal dystopia, with increasingly powerful platforms facing disempowered workers (Scholz, 2016). Having interviewed providers over the period 2013–2017, we do see a trajectory of intensified competition, more platform control over workers, and lower earnings on some platforms, especially at the lower wage end of the market. However, we find there is still considerable variation in how laborers feel about their earnings, conditions of work, and overall experiences (Schor et al., 2017). Our findings suggest that the question of whether platforms are empowering or immiserating workers depends to a significant effect on the specific platform being examined, as well as its temporal trajectory. Platforms not only change policies and procedures but also confront an evolving institutional ecology. Furthermore, platform workers are differentially positioned in terms of the assets they bring to the work and their dependency on these income streams. These dimensions are important for understanding why some workers praise platform work, whereas others are extremely critical of it.

To understand these dynamics, one must situate the platforms in the history of 40 years of wage stagnation, the decline of benefited employment, and the rise of contingent, precarious labor (Kalleberg, 2013; Standing, 2011; Vallas & Prener, 2012). A recent study by Katz and Krueger (2016) finds that all net employment growth between 2005 and 2015 was in alternative, that is, nonstandard, work arrangements and that online intermediaries are now "employing" a full half percent of all workers. It seems likely that platforms' choices in this regard are not mainly driven by requirements of their technology, but allow them to avoid costly employment. The weakness of labor in the postrecession era has made it possible for platforms to attract high-quality workers even under these conditions.

This is the context in which firms view platforms as an opportunity to increase labor control while externalizing risks onto contractors and customers. Nowhere is this dynamic more apparent than in the context of Uber, which has been criticized for its labor control practices and potential violation of antitrust laws (Gershman, 2016; Scheiber, 2017). For many critics, this latest iteration of capitalism simply enables the erosion of worker protections under the guise of technological innovation, ushering in a race to the bottom in which workers scramble over each other in the hopes of snagging scarce microwork (Hill, 2015). Under "platform capitalism" (Lobo, 2014), workers have reclaimed the means of production only to discover they have little control over the relations of production—in this case, the structure of the network, a situation Scholz (2016) refers to as "crowd fleecing." Because these relations are algorithmically determined and "black boxed" (Pasquale, 2015), it is difficult for workers, consumers, and regulators to understand how platforms operate and therefore to hold them accountable for outcomes.

On the other hand, workers report a wide range of experiences (Schor et al., 2017). We find that satisfaction with platform work is associated with the extent to which workers are dependent on their platform earnings to pay their basic expenses. Dependency affects the extent to which platform workers can exercise some control over when and where they work, which jobs they choose, and their general degree of satisfaction. In a sample of 102 earners on six platforms, we find that 26% are dependent on the platform for their primary source of income, 43% are partially dependent, and 32% treat the income as supplemental. A national Pew survey of "gig" labor in 2016 found that 29% depended on this income to meet their basic needs, whereas 42% said it was "nice to have, but I could live comfortably without it" (Smith, 2016). This study also found that 44% of gig workers have full-time jobs. This high rate means that nondependent workers are typically relying on their full-time jobs or other sources of earnings to provide financial stability and benefits, continues to decline, it will be much more difficult for platforms to reproduce satisfied workers.

Another axis of differentiation is location, most likely because local labor market conditions play an important role. Our Boston-based research has found more favorable outcomes for workers than the New York data of Ravenelle (2016a), who found much more negativity among providers, many of whom were critical of platforms and reported dissatisfaction with working conditions and earnings.

Wages and earnings on the platforms vary widely, with some Airbnb hosts able to make tens of thousands a year, whereas delivery couriers may find that some days they are earning below minimum wage. Uber drivers' earnings have been a particular flashpoint, because of false claims by the company, rate cutting, and clumsy attempts at public relations. In January 2017, Uber settled with the Federal Trade Commission on the grounds that they had made deceptive claims about drivers' incomes. One controversial intervention was a company-sponsored paper by the widely

respected labor economist Alan Krueger, who argued that Uber drivers are well compensated. Hall and Krueger (2015) found that UberX drivers, the group most comparable to ordinary cab drivers, earned between \$16.89 and \$18.31 per hour depending on hours driven. One reason is that everywhere but New York, they have higher occupancy rates than conventional cabs (Cramer & Krueger, 2015), a result attributable to Uber's technology. However, Hall and Krueger's calculation excluded the considerable expenses drivers are responsible for, which sometimes include cars leased to drivers by Uber. A 2015 analysis of Uber's data found that in three of the largest U.S. markets, drivers were making only \$13.25 an hour on average after expenses (O'Donovan & Singer-Vine, 2016). These studies suggest that claims of superior compensation are not borne out for the largest platform and that workers are not capturing efficiency gains.

Even more than wages, the classification of platform workers has been a point of controversy. Nearly all platforms designate workers as independent contractors, who lack benefits and the rights and protections guaranteed to standard employees (Bernhardt, 2014; Dubal, 2017; Hill, 2015; Irwin, 2016; Tomassetti, 2016). Workers themselves have mixed feelings on this question. In the Pew survey (Smith, 2016), "68% of platform earners reported that 'I think of myself as an independent worker who simply uses these services to connect with customers or clients,' " whereas 26% said they consider themselves to be employees. In the absence of standard employment protections and labor unions, platforms have the right to make and enforce rules around participation. They are routinely exercising this power. In a study of company communications and online forums, Rosenblat and Stark identify a range of tactics used by Uber to control drivers, including notifications, performance metrics, surveillance, and punishments. They emphasize the asymmetries of information and power between the two sides (Rosenblat & Stark, 2015). Platforms can unilaterally deactivate accounts, shutting workers out of markets with virtually no recourse. A widely publicized story in 2017 revealed the ways in which Uber uses behavioral economics and gamification to control driver behavior (Scheiber, 2017). Another example of platform power was the 2014 TaskRabbit "pivot," a change in the way the platform operated and tasks were allocated, which made many providers very unhappy (Schor, 2015b). Couriers on Postmates and Favor report intensifying competition in the more lucrative ridesharing market, leading them to enter the on-demand delivery sector. Uber is also now requiring its drivers to accept UberPOOL customers, whose fares are much less than ordinary riders (Attwood-Charles, 2017). In our research with workers, they report on the ways in which platforms are trying to exercise more control and increase their profits.

Platform workers must also balance competing demands for openness with basic concerns for safety. They are vulnerable on at least three fronts: physical risk, legal risk, and platform risk. These workers open themselves to being in physical danger, inviting strangers into vehicles, or entering their homes. Ravenelle (2016b) found that in New York city many drivers and on-demand workers have been confronted with dangerous, illegal, or unsafe tasks or situations. She had informants who were recruited as drivers in drug runs, asked to illicitly hold drugs, and recruited for various precarious tasks. In a coauthored study with Ravenelle, we added Boston drivers to the analysis, finding similar risks (Ladegaard, Ravenelle, & Schor, 2016). Moreover, even privileged providers may encounter difficult situations. Airbnb hosts have had their homes badly damaged and their relations with neighbors ruined. One host (Schor, 2015a) was sued by his condo board for a large sum of money. Hosts are also in jeopardy from action by landlords or local governments. For providers who have entered these markets out of necessity, these situations can be traumatic.

As noted above, we find that labor conditions in the sharing economy vary significantly based on the platform, how long the sector has been active in a locale, and the skills and assets of providers (Attwoood-Charles, 2017; Cansoy & Schor, 2017; Schor, 2015a, 2015b). An Airbnb host with an in-demand property may command high rental prices and feel little pressure to accept lodging requests, whereas couriers on Postmates may wait for several hours for a \$5 delivery. Despite the sharing economy's formal openness, there are barriers to entry that slot workers into tiers depending upon assets and skills. In our research across multiple platforms, we find that education level, race, and social class vary, as do earnings and labor conditions. Perhaps not surprisingly, there has been increasing resistance from platform economy workers and regulators, with a growing number of strikes, protests, and regulatory battles (Cannon & Summers, 2014; Davies, 2016; Edelman & Geradin, 2015; Gershman, 2016; Interian, 2016; Wang, 2016). Activists and organizers have also launched campaigns directed at Airbnb, addressing racial discrimination and public housing issues (Glusac, 2016; Wong, 2016).

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Nearly a decade in, a growing body of evidence suggests work intensification and deteriorating labor conditions. Platform competition, price wars, and pressures to increase transaction volume threaten to drive down wages and erode labor conditions (Calvey, 2016). Whether this trend continues will be determined in considerable part by conditions in nonplatform labor markets, as entry and exit to this sector are easy. Whether platforms move together in terms of their treatment of labor is another unknown, as it is possible they will diverge onto "high" and "low" road strategies. And finally, it is worth going back to the insight of Kenney and Zysman (2016), which is that the trajectory of the sharing sector may mainly be driven by developments in the larger platform economy.

5 | INEQUALITY IN THE SHARING ECONOMY

One of the common good claims put forward by the platforms is that they are creating economic opportunity for cashstrapped Americans. Whether it is the ability to stay in one's home because Airbnb earnings help pay the mortgage or the cash from a "side hustle" on Uber that pays the bills, the issue of expanded opportunity is central to the platforms' rhetoric. In 2015, Democratic party economist Gene Sperling (2015) authored a report for Airbnb on how the platform "helps combat middle class stagnation." Although there is no doubt that platforms have been a means for many Americans to earn cash, the discourse of expanded opportunity fails to address growing evidence that the platforms are also operating in discriminatory ways. Indeed, every study we have seen that tests for racial discrimination finds evidence of bias. The platforms also raise the issue of class inequality of various types, including their role in fostering a new "servant" economy. By making cheap labor available at the click of a finger, these platforms and apps are leading to a world in which lower income people are deployed to perform everyday tasks for the more fortunate, whether it is delivering a latte in a rainstorm or picking up groceries.

One way to think about inequality is via who participates, particularly in cases where platforms offer desirable economic opportunities. The first wave of users were highly educated young people (Cansoy & Schor, 2017; Schor, 2017; Smith, 2016). Over time, the population of participants has become more diverse. A study of Airbnb in London found that over time listings became more common in neighborhoods that were poorer and less highly educated, although these offerings did not attract many guests (Quattrone, Proserpio, Quercia, Capra, & Musolesi, 2016). The Pew survey (Smith, 2016) found that among gig workers, nearly 58% reported at least some college education and 23% were currently in college (more than twice the population average). It also found that gig workers are much more likely to be Black and Latinex than White; however, that categorization excludes Airbnb hosts, who we find are disproportionately White (Cansoy & Schor, 2017). However, on other metrics, such as the fraction employed full time and the fraction with only high school or less, gig workers are nearly identical to national averages. The Pew survey also found that gig workers disproportionately earn less than \$30,000 annually, however, because many are in school, part timers, or not in the labor force; this is not surprising.

Although widening participation matters, diversification will not eliminate race, class, and gender inequities. Indeed, there is a growing body of findings that the platform economy is riddled with discrimination. Harvard Business School researchers have found racial discrimination on both sides of the Airbnb market. One paper, using data scraped from Airbnb's website, found that Black hosts received nightly rates that were 12% lower than non-Black hosts and that Black hosts suffered a higher penalty for undesirable locations (Edelman & Luca, 2014). A similar study by Laouenan and Rathelot (2016) found that hosts from ethnic minorities receive prices that are 3.2% lower than those charged by ethnic majority hosts. Cansoy and Schor (2017), using a database of more than 400,000 Airbnb listings across the United States also find that non-Whites receive lower prices for their properties. In addition, they find that non-Whites earn lower ratings. These findings also hold for particular subgroups within the category of non-Whites, such as African Americans and Latinex hosts.

Using an audit study, the Harvard researchers (Edelman, Luca, & Svirsky, 2017) found that guests with typically African-American names were 16% more likely to be rejected by hosts. When this study was publicized, African Americans began recounting their rejection stories on the Internet and the company was forced to address this

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question publicly. However, unlike with commercial hotels, there are no laws preventing racial discrimination when people rent out their own homes or even small lodging establishments (Ravenelle, 2016b). Moreover, Airbnb is not the only platform where discrimination is occurring. Using an experimental design in Seattle and Boston with UberX and Lyft, Ge, Knittel, MacKenzie, and Zoepf (2016) had similar results. In Boston, UberX drivers were twice as likely to cancel jobs when riders had African-American sounding names rather than White-European names. They also found that African Americans had to wait 29–35% longer on UberX to get rides. (Results for Lyft were less clear. Lyft also shows pictures in advance, which makes drivers less likely to cancel—the authors suspect these drivers are more likely not to accept jobs from customers they do not want.) This study also examined gender discrimination and found that women customers were taken on longer, more expensive routes than were men. Finally, a study of TaskRabbit in Chicago found that providers were less likely to accept tasks in low-socioeconomic neighborhoods such as the South Side, because they perceive them as high-crime areas, and that consumers in these neighborhoods, if they can get providers, have to pay more (Thebault-Spieker, Terveen, & Hecht, 2015).

Qualitative research has also uncovered evidence of various types of discrimination. Ravenelle (2016b) describes a range of screening tactics that hosts use to decide whether to accept guests. In our interviews, we have also found this type of screening, with preferences for high education, homeownership, European origin, age, race, and other characteristics. Often, the stated motive is to avoid neighbors or landlords discovering that the host is renting on Airbnb, which leads people to search for guests who are like them (and will seem to be friends, not paying guests). For the most part, these studies found that hosts do not discuss race with interviewers; however, we know from the research just discussed that racial discrimination is occurring. Ravenelle did find one host who had a "no Blacks" rule, because her building is all White. In our research, we also had one host who recounted that others in his building complained about his African American guests.

Most of these studies are testing for—and finding—person-to-person discrimination—hosts rejecting people of color, guests discounting the services or offerings of non-White providers. As discussed in Cansoy and Schor (2017), a second type of discrimination involves the underlying asset distribution and how it disadvantages people of color and low-income individuals. This is especially true on Airbnb, where home ownership and rental patterns favor Whites. But the racial asset distribution is also relevant for other platforms, such as ridesourcing apps, which require a late model vehicle, or Task Rabbit, where a large majority of the earners are college educated. As we noted in the previous section, platforms differ in their remuneration, methods of labor control, and so forth, and in our research, we find that the hierarchy of platforms is correlated with race and class hierarchies, with desirability being associated with higher education and Whiteness (Schor et al., 2017).

The platform economy may also be increasing class-based discrimination and inequality. Schor (2017) argues that the dynamics of platforms are disadvantaging people in the bottom of the income distribution and favoring those at the higher end of the bottom 80%. One reason is that many providers have full-time jobs, as noted above, and the platforms provide novel ways of increasing incomes. The work that people are taking on appears to be new, not a substitute for other income-earning opportunities. Second, a large number of providers are highly educated, and they are taking on tasks that have traditionally been done by workers of low educational attainment, such as cleaning, driving, and other manual labors. Schor's analysis does not include a full accounting of all possible effects, and these platforms may increase the demand for some kinds of labor. However, labor substitution is also occurring, especially in lodging (Zervas, Proserpio, & Byers, 2014) and ridesourcing. This argument contrasts with the predictions of Fraiberger and Sundararajan (2015) who assume that low-income households will disproportionately benefit from asset-renting schemes such as peer-to-peer car rental. However, their analysis is problematic because it assumes that low-income households have valuable assets to rent, which is contradicted by the analyses of Airbnb cited above and to a certain extent by our findings among couriers. Furthermore, Fraiberger and Sundararajan do not account for the fact that many low-income households do not own cars and that, if they do, they do not have access to parking spaces in areas higher income consumers will want to pick up from. Finally, in our research, we find that earnings from the peer-topeer car rental market are low and that this market remains small. To date, we find that the platform economy seems to be disproportionately benefitting better-off, highly educated people.

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5.1 | Progressive possibilities for the "sharing" economy

The sharing economy began with a rhetoric of cooperation and mutuality. We (Fitzmaurice et al., 2016) find that many participants express sharing values, seeing their participation in these markets as an attempt to create personalized, more humane markets, in opposition to the global corporate economy. However, retaining these ideals in the face of changes in this sector seems to be increasingly difficult. Conditions for workers seem to be deteriorating. Instead of spreading efficiency gains and expanding equitably, platform capitalism is offering substandard work and increasing inequality within the bottom 80% (Schor, 2017). The biggest sharing economy players, Airbnb and Uber, may be on their way to becoming monopolies (Pasquale, 2016). Popular critical accounts that speculate on the trajectory of the sharing economy point to a neoliberal society that, ironically, resembles serfdom (Hill, 2015; Scholz, 2016; Slee, 2015).

Yet there are countermovements afoot. Although workers at the top of the platform economy hierarchy remain fairly satisfied, a significant and growing portion are performing low-wage, precarious work (Attwood-Charles, 2017; Ravenelle, 2016a). Drivers are attempting to unionize in some locations, and other providers are communicating and organizing via social media and other channels. Another development is platform cooperativism—in which workers own and operate the platforms (Scholz, 2014). Scholz argues that platform cooperatives can enhance labor conditions and potentially improve services. Activism directed toward platform cooperativism has increased significantly, and this movement is growing around the world (http://platformcoop.net/). As Pasquale (2013) argues, there are coercive pressures once a platform has dominated a market, which work against new entrants. To counter these forces, platform cooperatives likely need to organize politically for regulations to curb monopoly (Ahsan, 2015). Finally, sharing platforms could have a role in urban governance, enabling collective decision making and civic engagement (McLaren & Agyeman, 2015). Municipal-level efforts at regulating the sharing economy are currently stronger outside the United States with some cities, such as Seoul and Amsterdam, officially designating themselves as "sharing cities."

In this review, we have focused on the areas of the platform economy where an empirical literature has emerged. This means we have neglected many important issues, for example, the ecological impacts. The platforms have touted their "green" credentials, and many participants believe that sharing is by definition green. But there is increasing evidence that ridesourcing apps are increasing traffic (Fitzsimmons & Hu, 2017) and pulling people off public transportation, and in our research, we find that Airbnb leads people to travel more. Our research team is now turning its attention to studying the ecological impacts of some of the platforms. Other topics, such as impacts on housing availability and urban culture, are also important. And this short piece has neglected the legal and policy aspects of this sector altogether. Finally, we note that the findings we have discussed are clearly evolving. A decade into the platform economy, what seems clear is that it is a diverse, complex, and fast-moving entity.

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ENDNOTES

- ¹ We have chosen to put quotes around the terms "sharing" and "sharing economy" because we do not think that the activities of platform economies should be considered sharing. We address this issue in Section 2.
- ² We use the terms platform and app interchangeably. Companies that started with platforms, such as Airbnb and TaskRabbit, now also have apps. Others, such as Uber, were always app based.
- ³ Nicholas John (2016) finds instances of the term sharing economy in reference to music and software in 2007 and 2008. Lessig himself talks about it in relation to nonmonetary sharing. What does seem clear is that the term was in use before Airbnb and Uber were founded. This history supports the interpretation below that the sharing economy should be seen in the context of the open-source movement and collaborative online practices.

⁴ Belk argues strongly against reciprocity as a dimension of sharing. However, a study of German Couchsurfers (Geiger & Germelmann, 2015) finds that hosts mainly think of sharing in terms of reciprocity, not one-way sharing.

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