Sharing economies: Moving beyond binaries in a digital age

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Abstract

In periods of turbulence the tendency to simplify messages and polarize debates is nothing new. In our hyper-mediated world of on-line technologies, where it seems that even national policy can be forged in the 140 characters of Twitter, it is more important than ever to retain spaces for in-depth debate of emergent phenomena that have disruptive and transformative potential. In this paper, we follow this logic and argue that to fully understand the diverse range of practices and potential consequences of activities uncomfortably corralled under the ambiguous term 'the sharing economy', requires not a simplification of arguments, but an opening out of horizons to explore the many ways in which these phenomena have emerged and are evolving. It is argued that this will require attention to multiple terrains, from diverse intellectual traditions across many disciplines to the thus far largely reactive responses of government and regulation, and from the world of techno-innovation start-ups to the optics of media (including social media) reporting on what is means to share in the 21st Century. Building on this, we make the case for viewing 'the sharing economy' as a matrix of diverse economies with clear links to past practices. We propose that to build a grammar for understanding these diverse sharing econom*ies* requires further attention to: 1) The etymology of sharing and sharing economies 2) The differentiated geographies to which sharing economies contribute; 3) What it means to labour, work and be employed in sharing economies; and 4) The role of the state and others in governing, regulating and shaping the organisation and practice of sharing economies; and 5) the impacts of sharing economies. In conclusion, we suggest that while media interest may fade as their presence in everyday lives becomes less novel, understanding sharing economies remains an urgent activity if we are to ensure that the new ways of living and labouring, to which sharing economies are contributing, work to promote sustainable and inclusive development in this world that ultimately we all share.

Introduction

In the last decade the familiar concepts of sharing and economy have become increasingly co-joined in order to describe emergent, often digitally-mediated, means of enjoying, acquiring or exchanging goods, services, knowledge and experiences together with others. Indeed, some commentators suggest this new model of ICT-mediated sharing represents a "third great economic revolution" (Munger 2016: 391), following on from the transition to settled agriculture and the industrial revolution that harnessed fossil fuels and technology to facilitate the mass production of consumer goods and services. Both of these previous economic revolutions involved significant disruptions to the ways in which labour is organised, social relations shaped and natural resources consumed. They both demanded heightened levels of co-ordination and scales of consumption, co-operation, and interdependence. The extent to which similar structural dislocations will occur through the range of activities often corralled under the term 'sharing economy' remains unclear and will require concerted transdisciplinary attention across and beyond the academy. Too often, the media and scholars understand the confluence of sharing and economy through simplified messages and polarized debates, casting such activities as either a panacea for addressing contemporary malaise (Botsman and Rogers, 2010) or as a cynical marketing tool symbolic of advanced capitalism (Bulajewski, 2014). However, the fusion of sharing and economy is, as yet, under-theorised and underdetermined, with responses from scholars and governments tending to be both reactive and fragmented (Cheng, 2016; Martin, 2016). Essentially, established institutions are lagging behind the practical actions of entrepreneurial actors, technological developments and those engaged in sharing. However, in a hyper-mediated world of on-line technologies, where it seems that even national policy can be forged in the 140 characters of Twitter, it is more important than ever to encourage in-depth debate of emergent phenomena that have disruptive and transformative potential.

In this paper, we argue that to fully understand the practices and identify potential consequences of all activities currently uncomfortably corralled under the term 'sharing economy' requires not a simplification of arguments, but an opening out of horizons to explore the many ways in which this phenomena has emerged and is evolving. This will require attention to multiple terrains, from divergent intellectual traditions to the thus far largely reactive responses of government and regulation, and from the world of techno-innovation start-ups to the optics of media (including social media) reporting on what it means to share in the 21st Century. Certainly, there is considerable work to be done to better understand the implications of this phenomenon for regions, economies and societies. To do this, it is first necessary to build a grammar for understanding these diverse sharing econom*ies* attending to: 1) The etymology of sharing and sharing economies; 2) The differentiated geographies to which sharing economies contribute; 3) What it means to labour, work and be employed in sharing economies; 4) The role of the state and others in governing, regulating and shaping the organisation and practice of sharing economies; and 5) The impacts of sharing economies. For while media interest in the fusion of sharing and economy may fade as its presence in everyday lives becomes less novel, understanding the practice and potential of what goes on under the broad and differentiated banner of sharing economies remains an urgent activity if we are to ensure that emergent ways of living and labouring, to which sharing economies are contributing, work in ways that promote sustainable and inclusive development for all in this world that ultimately we all share.

Etymology of sharing and sharing economy[ies]

Considerable debate has been generated by the rising visibility of the term sharing in relation to economic activities, particularly its appropriation as a term to describe financialised transactions of commercial business. This has stimulated numerous attempts to define what is and what is not a legitimate use of the term sharing with respect to the economy, with little agreement emerging (Botsman and Rogers, 2012; Belk, 2014; Martin 2016; McLaren and Agyeman, 2015). Under such conditions of definitional disharmony it is useful to look at foundational sources on the etymology of words. The Cambridge English Dictionary (Cambridge University Press, 2017), for example, defines sharing as:

> Having or using something at the same time as someone else; dividing something (e.g. food, money, goods etc.) and giving part of it to someone else; undertaking some part of an activity with others; experiencing a similar feeling, quality or experience; telling others about your thoughts, feelings, or ideas; or putting something on social media so that others can see it.

The dictionary definition of sharing is then open and broad rather than narrow and precise, making ongoing contestation unsurprising. What is dominant in this definition is the primacy of acting or using in conjunction, or experiencing things or feelings, *with others*. Sharing is then a social process but it is not by necessity, at least in definitional terms, prosocial or concerned with only gifts aimed at a more just [re]distribution of resources. This is in contrast to more normative readings of sharing in everyday use, such as in relation to childhood development and socialisation which draw upon notions of fairness, equity and supportive group dynamics. While developmental psychologists observe prosocial sharing even in very young children across cultures (Gurven, 2004; Brownell, Svetlova & Nichols, 2009; Olson & Spelke, 2008, Sigelman & Waitzman, 1991; Rochat et al., 2009), a key point is that sharing is not by definition *only* related to such interactions.

Unsurprisingly, such definitional openness generates questions about the boundaries of the concept and whether, in the context of this paper, every exchange activity might be considered part of the sharing economy. For example, despite ongoing discussions around whether for-profit market exchanges can be counted as sharing (Belk, 2014), these are not necessarily barred from our definition of sharing. At least, not on the grounds of the contradictions whereby a model of the sharing economy exists in which the distribution of resources is unjust or inequitable. Side-stepping the 'in-out' definitional debate, Ede (2014) suggests that attention should not be focused on whether money is involved, but rather whether the sharing is transactional or transformational. Here transactional refers to activities which are typically (but not necessarily) profit-oriented and focused on achieving efficiencies in *existing* systems but do not alter power structures. Transformational sharing may also incorporate efficiency-seeking practices, but crucially also seeks to change power and social relations around who benefits, who owns and controls the processes through which sharing takes place and whether it leads to greater development of social capital, relational bonding and resilience or increased commodification. Using these modifiers allows for a more nuanced analysis of activities and outcomes, but as Ede (ibid) argues there are no absolutes. However, a stronger potential boundary might be found in the temporal dimension of the sharing definition: "having or using something *at the same time* as someone else". This could come about from co-ownership of a resource (i.e. owning a resource at the same time) or from joint usage – whether simultaneous or sequential (McLaren and Agyeman, 2015). Crucially, the temporal aspect "at the same time" might necessitate simultaneous consumption for an event or a short-lived resource, but could also include sequential consumption for a long-lived resource. For example, sequential usage could arise from an informal tool sharing agreement between neighbours, who take turns to use expensive goods, or could include a firm renting out a resource to many users for profit. Thus, the definition includes different potential forms of organisation of resources – joint forms of "having" as well as the collective process or the mode of sharing – the joint "using". Again, teasing out these characteristics does not preclude a particular organisational form of resource or mode of sharing. Thus, the commercial delivery of a for-profit market exchange is not impossible under this definition. These are important issues that deserve more consolidated attention than is possible in this paper, but it is highly likely that the invocation of sharing will become increasingly politicized and its meaning ever more contested as its use expands. Such contestation in itself is not necessarily problematic if it also leads to on going societal debate about normative ideas embedded within sharing, such as justice and rights; for such normative ideas are themselves subject to ongoing debates over their interpretation and application, but nonetheless remain important global touchpoints for societal development.

In addition to the ontology of sharing, there is longstanding body of work in the fields of anthropology, psychology and behavioural science around social *practices* of sharing, for as Belk (2017) and others (Kovács et al., 2017; Davies and Legg, 2017) have noted, sharing is as old as civilisation itself. Indeed, it was through food sharing within and between families in particular that specialisation, through division of labour, became possible and relational bridges constructed within communities; sharing has played a central role in shaping human life history, social organization, and cooperative psychology (Kaplan and Gurven, 2005; Jones, 2007). Since these early examples of highly localized collaborative and co-operative behaviour, other actors, institutions and technological developments have created complex ecosystems with many opportunities to share that are less spatially constrained. For example, McLaren and Agyeman (2015) in their book '*Sharing Cities*', demonstrate how urban sites have always embodied shared spaces with possibilities for interaction, connection and the exchange of goods, services and experiences across different territories - individual, collective and public. Indeed back in the 1970s, Manuel Castells (1977) developed the concept of "collective consumption" to distinguish those goods and services in an urban area that require collective provision (such as public transportation, public housing, and mass public education) compared to those that are individually consumed. He argued that the ways in which these services are managed and governed is important for understanding local urban politics in advanced capitalist societies.

More recently, information and communication technologies (ICT) have further stretched the spaces over which such sharing can take place far beyond kinship, familial and geographically bounded settings (Davies and Legg, 2017). The evolution of these extended spaces and practices of sharing deserve broader and more concerted attention, or what Duncan McLaren and Julian Agyeman have called a paradigmatic perspective (2015:7). This requires a dismantling of frames that cast sharing as only a social *or* an economic activity and a wider perspective of sharing as a livelihood activity, with socio-cultural, and sometimes political, dimensions in addition to having economic and social components. McLaren and Agyeman's conception of a 'sharing paradigm' (ibid) highlights sharing things, services, activities or experiences; sharing between private individuals as well as through collective or state provision; sharing material or virtual, tangible or intangible entities; sharing consumption or production; sharing simultaneously or sequentially; sharing as rivalrous or non-rivalrous; sharing in parts of sharing in turns.

Indicating the high level of attention to the confluence of sharing and economy, the Cambridge English Dictionary (2017) now includes a definition of 'sharing economy', which is described as an economic system based on people sharing possessions and services, either for free or for payment, usually organised and mediated through the internet. As in this dictionary definition, technology is often presented as the key driver behind the contemporary sharing economy (Botsman and Rogers, 2010; Kovács et al., 2017). However, sharing activities in the very sectors now heralded as the vanguard of the sharing economy, through the commercial success of companies like Uber and AirbBnb, existed before widespread personal and mobile computing. From the 1960s, early incarnations of shared mobility and co-housing were primarily bottom-up, community-led schemes located in alternative counter-cultures and founded on ideals of communal property. One of the White Plans for Amsterdam, for example, developed in the mid 1960s by a group of radical activists called the Provos included shared bicycle schemes and the chief architect of the plan, Luud Schimmelpennink, went on to found WitKar – Dutch for White Car – a car-sharing program in the early 1970s. These localised, placed-based practices structured around common ideological goals were transformed by digitalisation, and on-line technologies in particular, which enable quick and convenient match-making between those who wish to share. In these new incarnations there is no need to agree ideologically or even to be co-located to participate. This digitally-mediated sharing also creates the potential for commercial value generation, not only for those who share, but also for those facilitating the sharing. For example, the provision of personal information often required as a pre-requisite for participation in ICT-mediated sharing can create a valuable corpus of 'big data' through network effects, providing the scale of participation is large enough. This data may also be collected, analyzed, sold, and re-sold, generating revenue for various participants (Frankel & Reid, 2008; Chen et al., 2012).

The possibility for commercialising a previously commons-based or informal means of accessing goods, services and experiences has been a major driver of investment in, and major focus of attention on, contemporary sharing activities. Much has been made of the benefits that peer-to-peer, ICT-mediated sharing can create from minimizing extended value chains, directly linking producers and consumers, and creating possibilities for people to participate as both buyers and sellers in what have been termed multi-sited marketplaces (Hagiu, 2009). Sundararajan (2016) has termed this "crowd-based capitalism" as in many cases the high-value, venture-capital funded platform-based organisations have effectively become the new market intermediaries. Crucially, despite the claim to directly link consumers and producers, these firms mediate between the two and create value as they do so. As these new intermediaries scale rapidly and internationally, it is becoming increasingly difficult to transact without engaging these companies.

To further distinguish types of sharing economies, Kenney & Zysman (2016) have adopted the term 'digital platform economy' or simply 'platform economy' to describe the variety of economic activities that involve the role that mobile and ICT technologies play in the delivery of services. Uber, Airbnb, Amazon, Facebook, are most often cited as those large companies that are transforming the way consumers connect with service providers. The Cambridge Dictionary, while not yet explicitly offering a definition of the 'digital platform economy' has recently introduced the new verb 'uberize' to explain changes in business models for buying, leasing, acquiring or accessing goods and services, especially using mobile technologies. Kenney & Zysman (2016:62) argue that these activities "are not based on 'sharing'; rather, they monetize human effort and consumer assets … the advantage of platform-based companies rests on an arbitrage between the practices adopted by platform firms and the rules by which established companies operate, which are intended to protect customers, communities, workers, and markets".

It is unsurprising that large-scale, commercial 'peer to peer' sharing platforms have become the main focus of controversy, celebration, and policy within the sharing economy because they most visibly challenge incumbent industries and governance structures (Stabrowski, 2017; Martens and Codagnone, 2016). However, they represent only the tip of the sharing economies iceberg. Following Gibson-Graham (2008), we argue that an exclusive theoretical and analytical focus on capitalist economic relations obscures and undervalues alternative economic forms. Extending a diverse economies perspective into the remit of the sharing economy better acknowledges the history and evolution, as well as the range and scope, of the sharing economy activities; a fundamental step towards developing a fuller analysis and theoretical explanation. Just as there are diverse economies, so too are there diverse *sharing economies.*

We argue that there is a 'matrix of sharing' which displays variations in the *mode* of sharing (gifts, barters, reciprocity, selling) and the *organisational form* of sharing (for-profit, variation in for-profit, not for-profit, social enterprise, collective, co-op, association). This is illustrated in Figure 1. with respect to food sharing economies, which have been delineated and categorised in the SHARECITY100 database that collates more than 4000 food sharing initiatives in 100 cities in 83 countries across six continents (Davies et al., 2016). While this matrix clearly highlights the differentiated nature of sharing activities between initiatives, the food sharing initiatives were also internally variegated. As reported in Davies et al. (2017), more than two-thirds of initiatives (70%) of food sharing initiatives in the database share multiple things (e.g. meals, crops, seeds, growing or preparation skills, kitchens and garden spaces etc.), 21% of initiatives use more than one mode of sharing and 20% of organisations comprise more than one organisational form. For example, there may be informal elements in an organisation which adopts a co-operative model, or there might be initiatives which have for-profit and co-operative activities. The Joinery[1] in Adelaide Australia, for example is a for-profit organisation with the goal of being a 'space for South Australians to connect and create a better future together', and employs both gifting and selling in order to sustain its activities. Similarly, Mill Creek Farm[2] in West Philadelphia, an educational urban farm that is dedicated to 'improving local access to fresh produce, building a healthy community and environment, and promoting a just and sustainable food system', is also a for-profit initiative, but engages in gifting, bartering as well as selling at different moments and with different communities.

Viewing the sharing economy as a matrix of diverse economies allows an analysis of the sharing economy as a continuum both temporally (i.e. connecting with past sharing practices) and substantively, even when presented with forms which appear binary. It allows us to see platform technology as an enabling factor rather than a causal one and to examine the numerous antecedents which predate the contemporary discourse about sharing. Thus, we try to highlight some of the many elements of the sharing economy that have roots in previous economic eras and suggest an evolution of form and organisation rather than radical dislocation from a previous model. A few scholars have attempted to capture the scope and range of the sharing economy more broadly (McLaren and Agyeman, 2015) and in specific sectors such as food (Davies and Legg,

[1] Details of the Joinery can be found at: http://www.thejoinery.org.au/
[2] Further details of Mill Creek Farm can be found at: http://www.millcreekurbanfarm.org/

2017) and housing (Voytenko Palgan et al., 2016). Within these analyses it is not just consumption, but also peer production models that are incorporated, both the production of goods and the production of informational services and content Benkler, 2006).

While Figure 1 is merely indicative of the many variations in mode and organisational form that are already being used in activities described as foodsharing, it provides a foundation from which to consider the nuances and varieties of sharing economies that currently exist in other areas and also to consider the differences in opportunities to share which exist in particular activities. For example, the collecting dimension of food sharing emerges because of the existence of public crops and wild foods (e.g. fungi and fruit), but it is hard to identify such a category in the mobility sector, although it is possible to imagine a similar category around accommodation which includes activities such as squatting or living nomadically in public spaces.

Geographies of sharing

Given how sharing economies are embroiled in shaping societies, economies and environments, it is inevitable that they will create particular and peculiar geographies of sharing. It is already well-established that there are diverse cultural (Gabriel, 2013), developmental (Smith et al., 2013; Tomasello and Warenken, 2008) and historical geographies of sharing (Ivanova, 20011), as well as territorial geographies which relate to the spaces over which sharing takes place (McLaren and Agyeman, 2015). Within analyses of sharing economies however, there is space to develop more geographically-sensitive approaches to better comprehend the relations between scale, space and place; particularly between the new geographies created between on- and off-line worlds (David, 2017) and between localities around the globe (Davies et al., 2017). Specifically, more attention to the spatial assemblages and multi-layered and multi-level ecosystems of sharing would better indicate the interactions and interdependencies between the skills, spaces, and stuff, which are stimulated through sharing economies. Such work could help to bridge the gaps in knowledge between the global or supranational trend analysis of sharing economies conducted primarily on the commercial sectors of sharing (PWC, 2016) and the plethora of individual sharing enterprise case studies (Cohen and Muñoz, 2015). There is also scope to move beyond the western-centric focus of much sharing economies research (Tolkach et al., 2015) and the preoccupation with mobility and accommodation sectors to areas which have long been the focus of sharing researchers previously such as food and finance (Davies and Legg, 2017; Wekerle and Classens, 2015; McClintock, 2010; Allen, 2010) as well as new spaces of sharing created by technological developments (David, 2017).

Certainly, sharing economies have profound implications for the geography of economic activity. Traditional firms, particularly those in ground transportation and temporary accommodation, confront substantial geographic impediments. They must build infrastructure (buildings, backend operations, human resources, repair and maintenance capacity) to support expansion. Personnel must be hired, trained, and supported. Sharing economy firms by contrast face substantially lower barriers to geographic expansion because they blur the boundaries between public, corporate and private space. When every personal car or home becomes a potential professional vehicle or room to rent, with costs of provision, repair, and maintenance outsourced to the owner and the costs of training outsourced to customers (through a ratings or reputation system), the limits to expansion are much reduced.

In some ways, this discussion parallels that which occurred during the rise of the internet. Digital technologies based on the internet, the logic went, would make geographic space irrelevant. As scholars noted early in the new millennium, however, the internet never made geography irrelevant; people, corporations, and other social actors using the internet still had to exist in the physical world where geography remained just as pertinent -- if not even more pertinent -- than before (Christopherson, Garretsen and Martin, 2008); Rather than diffusing opportunities and productivity spatially, it is suggested that a 'winner-takes-all' dynamic in many industries has created greater concentrations of 'frontier firms' in particular places, particularly large cities (Andrews et al., 2017). With the OECD (2015) finding little trickledown of technological capabilities from frontier firms into the rest of the economy in which they are located.

Similar issues confront the sharing economy. While sharing economy digital platforms may transcend local and national boundaries, they are still enacted in locales; they have a material and territorial impact on the ground. For example, Uber is restricted or blocked entirely from municipalities in 10 countries (Khosla, 2015) and even where Uber can operate, it may not be able to operate everywhere, exemplified by restrictions on airport access (McCartney, 2016). Most starkly, Uber's attempt to circumvent local political geography through a digital tool called 'Greyball' (Isaac, 2017), that allowed drivers to avoid law enforcement personnel, demonstrates just how important place (and regulation tied to place) remains for sharing economy platforms.

Indeed, it is far from the first time localities have been challenged by transnational actors seeking entry into new markets, competitive advantage and profit optimisation. Distinct parallels can be drawn to the rise of multi or transnational corporations starting in the 1980s. In many cases, these cross-national economic actors had the financial and political heft to challenge and overrun local and national regulations and homogenize culture. The prominence of globalized fast food chains not withstanding; the history of multinational corporations is a case study in how local cultures reshape—and perhaps pull apart—global economic processes and actors. It may be that the combination of digital platforms sitting at the intersection of the firm and the market (Uber and similar sharing platforms are both firms and facilitators of third party transactions) are changing the relationship between territorial scales, prompting anew questions of where the global ends and the local begins. Going further, the reconstruction of the relationship between individuals and markets by sharing economy platforms creates new concerns regarding how global actors and forces can subtly reshape local cultures.

These effects can be difficult to see at the macro level, requiring an analytical shift in scalar focus. For example, Belk (2017) probes the phenomenon of sharing at a distinctly smaller scale: gated communities; an increasingly common form of social exclusion which also relies to a substantial degree on sharing to succeed. In Belk's words, such communities "increasingly bifurcate the world into geographic clusters of haves and have-nots." (2017: pp). Addressing sharing in the context of such enclavism allows Belk to explore the more social aspect of sharing, including the concepts of 'sharing in' and 'sharing out'. Belk (2017) notes that sharing amongst families—routinized, non-exclusive, and without expectation of reciprocity—builds strong social bonds. He argues that this 'sharing in' differs from 'sharing out' in which material resources are gifted to outsiders, usually on a once-off or very limited basis. Gated communities represent a test bed for how sharing interacts with social context. This form of sharing resembles the 'sharing in' that predominates in families, but Belk argues that gated communities often do not produce strong social ties. The key difference, he suggests, lies in the motivation for sharing. While 'sharing in' is a form of social inclusion, sharing within gated communities operates on the basis of social exclusion. Members of the gated community share resources to ensure that non-residents are kept outside the community. Excluding others may be motivated by fear of crime or disgust at urban pollution or contamination, but the underlying motivation of exclusion remains. Belk (2017) draws a connection between the types of sharing that takes place in gated communities with for-profit ventures in the sharing economy. In both cases, sharing is actually also a mode of social isolation and exclusion, which may ultimately lead to a cumulative weakening of social bonds at wider scales.

While the social, and societal, implications of sharing economies are profound, more often analytical focus and political controversy surrounds how they are reshaping business and labor practice. In short, does the rise of sharing economies represent the beginning of a radical shift in how business is organized, questioning existing management theories and practices of labour, employment, the firm, and the nature of economic enterprise? How will the wider range of stakeholders in sharing economies coalesce and who has the power and control to govern in these expanded ecosystems of sharing? Attention to the changing employment relationships and governance challenges are placed under scrutiny in the following sections.

Work in the Sharing Economy

While there is a growing and extensive literature on work in the sharing economy, interest in the changing nature of work is not the sole preserve of sharing economy analysts. As an on-going feature of 21st century capitalism, academics have long debated the extent and character of changing working practices – practices which are assumed to vary from the paradigmatic 'standard model' of full-time, regular, contractually-based work (Houseman and Osawa 2003, Kalleberg et al., 2000; ADD WORK). It is important to note that even in the height of the post-war Fordist boom, many jobs were not 'standard', and were instead firmly rooted in the insecurity and lower wages of the secondary labour market (Reich, et al 1973, Doeringer and Piore 1985). Despite this long history of segmented labour markets, the non-standard model of work is still seen as an aberration from the norm. However, in many countries more stable employment relationships have declined as a proportion of total jobs and many of these jobs have transformed into something more arms-length – removing the *direct* relationship between employer and employee and inserting an intermediary – as seen in many of the platform business models of work in the sharing economy. While many observers have celebrated and embraced these new models of work as enhancing creativity and flexibility, others have criticised the sharing economy for the precarious nature of new working arrangements – the potential drag on wages, low regulatory structures, and lack of institutions, such as unions, to set a wage and standard floor (Richardson, 2017).

Crucially, we argue that it is impossible to analyse working practices in the 'sharing economy' as a homogeneous whole - the variation and distinctiveness of the different organisational structures which include for-profit and not-for-profit activities and a range of ownership models from shareholding publically traded companies to worker cooperatives (Rutkin 2015; Scholz, 2014). The matrix in Figure 1., highlights the potential variation in working practices with different organisational forms and modes of sharing. In a similar vein, Chris Benner's research on new forms of working in the 'new economy' reminds us of the importance of distinguishing between flexible ways of organising work and the changing nature of the contractual relationship between the firm and workers (Benner, 2002). That is, we must examine the changes in the organization of work in the sharing economy as distinct from changes in the organization of for-profit firms. Below, we examine the working practices of the for-profit firm models, which have been the first to increase in scale and received the most popular and academic scrutiny, although many of the issues differ for the cooperative end of the sharing economy spectrum.

There are a large number of scholars who explore the scale and significance of self-employment, fixed term, temporary and part-time work over the last 30 years (Carré, 2000, Cappelli and Keller, 2013; Kalleberg et al., 2000). There are also numerous popular accounts which try to capture the explosion of new forms of non-standard working arrangements with terms such as "platform work", "on-demand work", and the "gig economy" (Brinkley 2016). One of the major debates in both academic and popular accounts is the significance for workers of this increasingly popular business model followed by many for-profit sharing economy firms where firms subcontract work to self-employed independent contractors, who do not have the legal rights and benefits afforded to an employee. Critics argue that sharing economy employers give their workers independent contractors or self-employment status in order to cut wages, reduce benefits, and avoid legal responsibility for their employees (Bernhardt 2014). Clearly, the evidence shows that non-standard working is more contractually insecure and offers less access to paid leave, sick pay or maternity as well as training opportunities and career development (Dekker and Van der Veen, 2015, Office for National Statistics (ONS), 2014). However, other research points to the high levels of job-satisfaction amongst the self-employed due to high levels of autonomy and independence (Blanchflower, 2000; Benz and Frey, 2008; Lange 2012).

It is difficult to establish the extent and scope of these new work arrangements. The growth of this work model is difficult to quantify as existing data sources do not completely capture the phenomena although some national statistic agencies are trying to respond to the data gap.[i] However, there have been a few high profile attempts to estimate the scale of these new types of working practices. For example, Katz and Krueger's (2015) study of alternative (or nonstandard) work in the US finds that workers engaged in all alternative work arrangements (temporary work, on-call work, contract work, and independent contractors) increased from 10.1% of all workers in 2005 to 15.8% in 2015. They show that *all* of the net employment growth in the US from 2005 to 2015 involved alternative working arrangements.

However, Katz and Krueger encourage caution about extrapolating this data to estimate the size of the *sharing economy* workforce. They find that only "0.5% of workers are working through an on-line intermediary, such as Uber or Task Rabbit" Thus, they conclude that "the online gig workforce is relatively small compared to other forms of alternative work arrangements" (ibid: 3). Crucially, Katz and Krueger only collected data on each individual's *main* job, while other studies suggest that many workers use sharing economy work to supplement their existing income (Schor, 2017). Others are also critical of overestimating the extent to which we see a reorganization of work. Bernhardt (2014) shows that existing aggregate data in the US does not show a strong, unambiguous increase in key measures of nonstandard work. In particular, she argues that "on-demand platform work" is far less prevalent than current media accounts suggest.

It is also difficult to measure the extent of changing working patterns associated with the sharing economy in the UK. A report by the Work Foundation (Brinkley, 2016:3) states "we have no direct measures of the gig economy, but all the evidence tells us that it accounts for a modest share of employment." They estimate that *regular and occasional* participants in the gig economy "account for no more than 6 per cent of total employment at most" and that "we find no evidence that the gig economy has increased the share of insecure employment in the labour market." Their findings are strengthened by their inclusion of occasional work in the "gig economy" as well as more regular work. Certainly, their data shows that sharing economy work has not reduced the aggregate supply of permanent and full time employee jobs. They state that in the UK "at the start of 2016, the non-permanent workforce accounted for about 20% of total employment (self-employed, temporary workers, unpaid family workers, and those on government schemes). This is very similar to the share at the start of 1996" (Brinkley, 2016:7).

Although single indicators cannot completely capture the changing contours of work in the sharing economy, many scholars use self-employment data as an important proxy. The justification being that the changing nature of the employment relationship should result in more self-employment. For example, in the UK the data from the Office of National Statistics shows that self-employment increased its share of total employment from close to 13.0% in 2008 to 14.9% in 2015. The ONS data also shows that about half of the growth in self-employment was part-time and half full time (ONS, 2016).

Studying self-employment across OECD countries, Blanchflower (2000) finds that self-employment tends to create bifurcated labour markets with the least educated have the highest probability of being self-employed while the most highly educated also have relatively high probabilities. This is reinforced by analysis in the UK which shows that 60% of the growth in self-employment since 2009 has been in 'privileged' sectors such as advertising and banking, while the remaining 40% of the growth in self-employment has come in more 'precarious' sectors, such as construction and cleaning (Resolution Foundation, 2017). These broad contours are given shape by recent studies of workers in the sharing economy (Schor, 2017; Ravenelle, 2017). Schor finds that many sharing economy workers are highly educated workers with other sources of income, who augment their incomes by taking on traditional blue and pink collar manual labour tasks. This, she argues, suggests that the allocation of these jobs in the sharing economy is likely to increase inequality by crowding-out traditional blue and pink collar workers. Ravenelle (ibid) finds that while some sharing economy workers use the experience to become fully-fledged entrepreneurs, most experience a sense of stigma in regards to their sharing economy work. Like Schor, she argues that the workers who succeed in the sharing economy often possess significant skills or capital that would also enable them to succeed outside the sharing economy.

Additionally, the potentially disruptive new employment relationship between employer and worker may be concentrated in certain places and sectors. Davidson and Infranca (2016) argue that the sharing economy must be understood as primarily an urban phenomena, where "a critical mass of providers and consumers who are sufficiently close to each other or to other amenities to make their platforms work" (Davidson and Infranca, 2016: 218). Hathaway and Muro (2016) also argue that the "gig economy" in the US is not evenly spread, but is found in large metro areas and that it is further concentrated in particular sectors, such as ground transport, taxis and accommodations. In a study of San Francisco between 2009 and 2013 they found that non-employee firms (a proxy for individual contractors) in transport and accommodation services increased between 40 and 80%.

Reflecting the visibility of this growth, changes to the working practices in the taxi industry have dominated the popular debate around the sharing economy. Uber is often considered a flagship for-profit firm of the sharing economy, particularly in its relationship with its drivers. In 2015, the firm had annual revenue of $1.5 billion, and had over 1 million drivers worldwide, but only *employed* 6,700 workers (Lazo, 2015). Under this model, every single “driver-partner”, as Uber calls them, is considered an independent contractor without any rights to sick pay, paid holidays, or employer contributions to a pension. However, there is growing debate and legal challenges in many countries over whether Uber drivers are actually self employed or employees. Recent legal rulings in the UK and the US have sided with the drivers that they are indeed employees. These debates around nature of the employment contract are fundamental to understanding the potential significance of the sharing economy.

One striking feature of the urban and sectoral focus of for-profit sharing economy firms (ground transport, taxis and accommodations) is that they have found success in cities and sectors which have over decades, accrued regulatory and institutional structures which traditionally functioned as a wage floor or to maintain labour standards. Different sectors can develop distinctive institutional and cultural configurations, such as unions and sectoral licensing, that can mediate the impact of changes in working practices and labour market structures, and influence the forms these take (Gray, 2004; Gallie, 2017). For example, the taxi industry in many urban areas is highly regulated by licensing laws, which cover fare structures, rules of competition, and working rules. Additionally, parts of the hotel sector in US metro areas, such as New York, San Francisco, and Las Vegas, have seen high rates of unionisation amongst hotel workers. In some US cities, unions in this sector have developed an institutional infrastructure, such as internal hiring halls and formalised training mechanisms, to maintain a particular relationship between the union and the employer which allow workers to earn premium wages (Gray and DeFilipis, 2015). Many of the urban labour markets which have accrued these regulatory and institutional structures are the same urban areas where Hathaway and Muro have tracked the success of non-employer firms, their proxy for the “gig economy”, in traveller accommodation, taxis and ground transportation (Hathaway and Muro, 2016).

While not causal, the existence of local institutions which raise the wage floor and enforcement of rules around the labour market, may create opportunities for sharing economy firms which use different employment structures (self-employment, independent contracting) to avoid these costs and undercut existing firms. This suggests that these working practices of the for-profit sharing economy firms may flourish in urban areas and sectors which display high levels of regulation and institutions, which functioned to set a wage and standard floor for workers. In a similar vein, a report on "illegal hotels" in New York City's accommodation sector argued that the changes in this sector were undercutting the regulated hotel industry and undercutting the wages of the unionised workforce with non-union wages and unregulated working conditions (IHWG, 2008).

As the above suggests, low wages and income volatility clearly account for a large portion of work in the for-profit sharing economy. This is partially a result of the low returns to self-employment. A study in the UK shows that the typical weekly earnings of self-employed workers were less in 2014-15 (after adjusting for inflation) than in 1994/95 (Resolution Foundation, 2016). The low wages and income volatility are also partially explained by the prevalence of part-time work in the self-employed population. Surveys consistently find that a majority of the workers on platforms are working on them only part-time and part-year, to smooth over periods of unemployment or to supplement incomes (Bernhardt, 2014). Similarly, in the US, JP Morgan Chase conducted research to estimate the size of the sharing economy. They found extreme income volatility, of more than 30% month-to-month change in total income, especially amongst younger workers and those in the bottom income quintile (JP Morgan Chase, 2016). Juliet Schor comes to a similar conclusion in her study of workers interacting with different on-line platforms, which found that sharing economy workers, often middle income professionals, use the opportunities of additional part time work to supplement their regular income (Schor, 2017). They found that middle or high income professionals were more successful in supplementing their income in this way than low income workers. This suggests that the model may promote job-hoarding rather than job-sharing and may increase income inequality rather than decrease it (ibid). This argument reinforces Ponds et al.'s (2016) research on over-education which finds that lower-educated workers may be "crowded out" by higher educated workers in urban labour markets. The argument is that if higher educated workers accept a job requiring a medium level of education, this can push medium educated workers to accept jobs requiring little or no education, which leaves few jobs for those with low education levels.

Thus, while not new, these trends suggest that the growth of the for-profit side of the sharing economy has exacerbated issues of insecure "non standard" work. The positive sides of entrepreneurial opportunities are outweighed by the skewed distribution of work, income, and risk for sharing economy workers. While this may be embraced by educated workers supplementing their existing income, it may be detrimental for workers who rely on the work as their primary source of income. Furthermore, the rise in for-profit sharing economy firms may have a detrimental effect on incumbent workers in existing regulated and unionised industries.

Governing sharing economies

As mentioned above, much of the sharing economy operates outside the normal workings of the neoliberal state. However, there are instances where the state has had to react to dramatic changes in the delivery of services at the local level especially in the realm of less "sharing" activities and more platform-related ones like ride-sharing and housing (Belk 2017). These state reactions have varied considerably across space – from the full-scale embrace of re-writing state regulations to facilitate new operating models to outright rejection.

The most obvious example has been the dramatic rise of peer-to-peer ride services like Uber in cities around the world. Uber, like many of the other platform services owns very few physical assets (Stone 2017). Uber doesn't own any cars, it doesn't have any employees or offer any benefits; it essentially an advanced brokerage system. The business model is based on a U.S.-style market regime that rewards those companies that pass risk onto communities, try new things and seek permission later. At first launch, Uber made the case it was not a ride-sharing company but a technology company; initially governments were largely unable to stop its operations because the business was primarily conducted over the internet. Over time, however, questions of employment law, consumer protection, unfair commercial practices, tax law and insurance became common state concerns (Belk 2017; Sun and Edara 2015).

Uber has since changed its tune and has spent large amounts of money in advocacy, lobbying and marketing activities associated with campaigns to re-write municipal regulations that are more permissible to its ride-sharing activities (Brail 2017). Levintova (2015) estimates that Uber has spent over $1 million U.S. dollars fighting local regulations in California and has plans to spend up to $1 Billion dollars in jurisdictions across the world. Uber has had many success stories in convincing municipalities to re-write their regulations to facilitate their operating model. In the spring of 2016, Uber successfully lobbied Toronto city council to create a new class of transportation activity that competes alongside the older taxi service model. The new class is called the private transportation company (PTC) and operates under a lighter set of regulations than taxis, requiring less training of drivers and lower licensing fees. Needless to say, the taxi industry is not pleased with the changes and there have been many local protests and push backs.

In some cases, municipalities have allowed Uber to enter but clearly laid out their own requirements for ride-sharing business to protect local jobs, public safety and the municipality. In Austin, Texas ride-sharing regulations were developed that Uber and Lyft found too burdensome so they left, but in their place emerged a new locally-sourced firm that offered similar services in the city (Brail 2017). In other jurisdictions, Uber has yet to enter. At the time of this writing, Vancouver has put a moratorium on ride-sharing operations until more research is done but while they do, the city has been criticized by business and Uber's policy leaders as "backward" and "outdated".

As detailed previously, like so many digital technologies promising a geography-free world sharing economy firms have been geographically constrained. As Stabowski (2017) rightly notes, the sharing economy to date has largely been a phenomenon of urban spaces because of the need for mass participation to create network effects and then convert those effects into economic value for investors. This is evidenced in a 2016 report from the Brookings Institution found that both ride (Uber and Lyft) and room (Airbnb) sharing economy firms are overwhelmingly concentrated in major cities in the

United States (Yaraghi and Ravi 2016). Stabrowski (2017) turns our attention to the ways that this urban focus and the erosion of the private and public that the sharing economy demands have important implications for urban governance. In particular, the sharing or 'platform' economy in housing can be understood as a continuation of a trend in which housing has increasingly come to be incorporated into public policy as a basis for wealth generation and social welfare. Thus, before the first booking took place on Airbnb, housing had entered the public space as sites of economic entrepreneurship. The further commodification of the private space undertaken by Airbnb in the context of New York City raises substantial issues of equality and governance. Should Airbnb be able to benefit from regulations that have sought to ensure affordable housing to as many residents as possible? What of the homemakers in multi-residence buildings? Do they have the right to an extension of sorts of their private accommodation (for example leaving shoes and coats outside their door), because they know and have established relationships with their neighbours?

Airbnb, by reconstituting a private home as a public commercial space, challenges the social fabric within which the home is situated. Because Airbnb constitutes property in terms of the relationship between guests and hosts, the broader social relationships are severed. Returning to the expectations of a homeowner in a multiunit building, Airbnb encourages a reconstruction of the home as a commercial enterprise separable from the rest of the building. Thus, a building of 200 units is reconstructed not as a community of 200 families but rather as 200 separate (and separated) business enterprises simply sharing a single roof. In addition to the impacts on social life and welfare, Airbnb has the potential to disrupt geographically-fixed economic processes. Specifically, Stabroski cites work arguing that Airbnb has, or can easily, disrupt the rental market in urban spaces—though those conclusions are difficult to make definitively (Stulberg 2016). There is no doubt however that the leasing of short-term accommodation through Airbnb is radically changing the occupancy of buildings in some cities, such as Reykjavik and by association changing the composition of residential spaces. Here, the thriving market for short term tourist accommodation is driving up rental prices and pushing out traditional tenants, young educated professionals who need access to urban spaces and are still unable to purchase their own home. In light of these problems, the central question becomes, how to best govern the eroding distinction between private and public in the best interest of the public? Certainly, greater attention to how spaces of domesticity and home are being colonised by the instrumental rationality of financialisation demands further research.

If Stabrowski (2017) raises the question, Bradley and Pargman (2017) offer a partial answer. They look to a concept that has been instrumental in discussing shared environmental spaces and resources: the commons. The authors turn to Ostrom's (1990) institutional design principles, applied so successfully to natural resource commons, for insight on governing the collaborative commons. Bradley and Pargman (2017) address the sharing economy (as distinct from the gig or on demand economy of Uber and Airbnb) and examine three collaborative commons: Bike Kitchen (non-profit open bike repair studio), Hoffice (pop-up temporary shared offices in personal homes), and Wikipedia (digital commons for sharing information and media). Ostrom's approach highlights the importance of institutions (rules and norms) in governing commons and outlines seven elements that guide successful commons-management institutions. These design principles focus on defining the relevant community using the resource, empowering that community to participate in making and enforcing the institutions governing the commons, and ensuring those outside the community respected the institutions. Taking off from this premise, Bradley and Pargman (2017) identify seven points (what resource, who can access, degree of subtractability, user dependency, rules governing use, rule enforcement, and who sets rules of use) to compare collaborative commons with the more traditional environmental commons. The authors identify commonalities but also substantial differences that suggest Ostrom's design principles need to be adapted to the modern sharing economy if they are to be useful for governance.

The above examples of regulation and the platform economy raise some interesting questions about how scholars have thought about the state in the context of neoliberalism and rapid technological change. Morozov (2015, online) has characterised some aspects of the sharing economy as "neoliberalism on steroids" because it "creates markets everywhere while also producing a new subjectivity in its participants". One can see how even the local state has not been immune to a new subjectivity as it is continually compared to other jurisdictions in which local governments are made to feel backwards if they seek to regulate once locally-grown services and to protect the public interest. It also speaks to a new scalar phenomenon in which local states are once again the recipients of broader macro-structural changes. While in the past local states were left reacting to the downloading and offloading of nation-state restructuring, now they are the recipients of broader technological changes and the particular U.S. style market governance regimes that enable global technology companies to test local markets without regard to local rules and norms.

In their effort to stay relevant, local states are re-writing regulations, but not always within the public interest. As mentioned above, there are concerns about workers rights, access to services by more vulnerable populations, and the loss of local jobs and money circulating in the local economy. Unfortunately, many of these platform activities are thriving in a broader unequal society and precarious labour market and these factors are making conditions ripe for many aspects of the so-called sharing economy. It seems many of these new forms of economic activity are here to stay; what form they will take, however, is not clear. Are cities that permit these platforms a sign of openness and innovation to a new way of doing business and living? Or are they only creating more precarious jobs, less economic activity and more unequal cities in the future?

Impacts and sharing economies

Attention to the economic power and potential of commercial sharing practices dominate policy literature (EC, 2016), with consultants such as Price Waterhouse Coopers (2016) suggesting that in the five dominant sectors of the sharing economy that facilitate transactions between individuals and organisations through online platforms in the accommodation, transportation, finance and freelancer marketplaces revenues are projected to grow around 35% annually up to 2025. This is far faster than the predicted growth of the wider economy over the same period. However, it is important to emphasise that while the economic dimensions of sharing economies are clearly generating interest in the media and amongst venture-capitalists, such activities also have significant implications for society and the environment. Some social implications may be related directly to the new business models and the patterns of labour, work and employment they create, affecting livelihood options (Ravenelle, 2017; Schor, 2017) and social relations of property (Richardson, 2017; Stabrowski, 2017), but others relate more fundamentally to how systems of trust are built in data-rich contexts particularly in relation to security and privacy (Celata et al., 2017; Cheng, 2016). Already reputational ranking is widely adopted as a tool intended to build crowd security, while blockchain technologies are being rolled out in diverse settings to create public and verifiable records through algorithms, but both of these present challenges to existing systems of governance.

The implications of sharing activities for the environment are less easy to delineate due to a lack of data and robust studies. While advocates suggest that the access over ownership dimension of sharing could reduce demand for, and create more efficient usage of, natural resources, others identify how sharing might actually be generating additional demand for resources (Rayle et al., 2014; Schor, 2014). For example, there is some evidence to suggest that peer-to-peer ride sharing might be generating additional demand for mobility by car which will lead to increased congestion on roads, local air pollution and greenhouse gas emissions (Fitzsimmons and Hu, 2017). As noted in a recent New York Times article (ibid), there is evidence that not only are peer-to-peer ride sharing apps competing with taxis, they are also drawing people away from more sustainable forms of public transport such as buses and underground train travel. Schor (2014) also found that cheaper accommodation through sites such as AirBnb are encouraging people to take more trips with knock-on environmental resource impacts and overall higher carbon emissions.

So while sharing to increase use of 'idling' resources appeals to ecologically modern notions of resource efficiency and mechanistic understandings of resilience - and makes sense when applied to little-used tools or material goods, such as drills and lawnmowers - questions remain about how far this approach can be extended. As technology dramatically reduces transaction costs it is possible to envisage a future where almost every product and service is commodified as an asset with the potential to earn rental income for its owner. This raises other underexplored questions. Who will own what assets in the future and how will the allocations of ownership in a sharing economy be organised and governed? The implications of this process are also unclear when applied to less material qualities that are characteristic of many sharing economy practices. There are concerns that extending this narrative of idling resources into areas such as on-demand household or professional services consolidates the 'always-on' nature of contemporary life, blurring boundaries between work and leisure and commodifying and financialising activities that would have previously been seen as contributing to communities or being neighbourly (Bradly and Pargman, 2017; Richardson, 2017). Overall, there is a general paucity of research on the environmental impacts of sharing activities, not only in terms of identifying direct and indirect impacts but also tracing the potential for rebound effects, where savings made through sharing in one sector increases consumption elsewhere (Davies and Legg, 2017). Their positive impacts (reducing consumption) having knock-on effects elsewhere, for example, reducing jobs in manufacturing goods for consumption. Indeed, there are fears that, as Sundararajan (2016: 394-5) speculates:

> An economy in which entrepreneurs have always been focused on making new products or on making more old products more inexpensively will be shaken to its foundations … Instead of 90 million power drills sitting in closets and garages, we'll need only 10 million because we'll be able to rent rather than own a drill. The drills will be more expensive and sturdy, commercial rentals rather than cheap consumer models. But the decline in production-line requirements will be enormous. We'll need far fewer cars (and much less real estate devoted to parking), fewer bikes, fewer hotel complexes—less of just about everything. But some people, probably many people, will lose their jobs. And they won't get new jobs, at least jobs in the sense that we understand them. They may work "gigs" or temporary periods as parts of teams, the way the construction industry or Broadway plays operate now.

Conclusion

The coincidence of a particular suite of technological, political, economic, environmental and social developments during the early decades of the 21st Century have been read as indicating an impending period of intense socio-economic transformation; a transformation that will have considerable impacts on territories, economies and society, not least with respect to the ways in which people interact to create and exchange goods, services and experiences. However, and possibly precisely because of their diversity, there are few unambiguous answers to the fundamental questions about the likely impact of sharing economies. For example, precarious working conditions of those labouring in sharing economies through gig-type work have generated much discussion, but precarity itself is neither new nor restricted to sharing economies. Bernhardt (2014:15) in particular is cautious of over-defining the importance of Uber's effect: "Uber is standing in for a problem—technology destroying standard jobs—that it does not actually describe, because many taxi drivers were independent contractors before the advent of Uber." She reminds us that a substantial portion of the workforce still works in standard employment relationships (some at contractor firms), "but with the low wages, insecure hours, and few benefits that are commonly associated with gig work."

Until recently research has been too limited and patchy to give a definitive picture of current practices and while a surge in scholarship is attempting to address some of these concerns (Martin, 2016; Cheng, 2016), data is still limited and assumptions about future trends remain speculative at best (PWC, 2016; Nesta, 2016). At the same time, the social, economic and environmental implications of emergent sharing activities are intertwined with and embedded within wider socio-technical and socio-economic assemblages or ecosystems (Davies et al., 2017) that are constantly evolving, leaving states playing regulatory catch-up. Much attention has been focused on a few large commercial platform-focused sharing activities in specific sectors, such as Uber and Airbnb, because they have managed to scale-up their activities and grasp market share from incumbent industries. Focusing solely on such organisations, however, ignores the diversity in sharing modes and organisational forms; what we term the matrix of sharing. In addition, some suggest the dominance of these intermediaries companies may only be temporary. These companies currently function both as crucial intermediaries and gatekeepers for those who are seeking to connect. They mediate access to their marketplaces, dictate terms of any transactions and lead actors in negotiations with governing authorities over how regulatory landscapes might respond to their activities. However, with technological development, some are already envisaging how sharers will be able to connect easily, directly and quickly peer-to-peer, using decentralized marketplaces that are owned and operated by the participants themselves rather than intermediaries (NESTA, 2016).

A key challenge for regulators is then to deal effectively with the present landscape, while ensuring governance frameworks are able to accommodate new terrains as the activities inevitably evolve. Legal and regulatory frameworks will certainly require modernisation to reflect new configurations of economic power, but there are a range of factors that make governance difficult, from defining the regulatory limits of the new economic entities to calculating the costs and benefits of regulation and governance and how they should be distributed. Another question centres on the source of governance. Bottom up governance, through collective action, is impeded by the atomizing and isolating effects of digital platforms. While reputational ranking systems seem to offer the promise of bottom up governance, in practice these provide a measure of governance within systems, not of systems, and focusing on an *individual's* ranking serves to catalyse atomization rather than reverse it. Another potential avenue of governance, crowd-based decision making, also faces problems. As Surowiecki outlines in his 2004 book, *The Wisdom of Crowds*, crowd-based decision making is not a form of collective governance but rather a process of aggregating analysis from multiple, independent observers (crowd) to inform decision-making. This is bottom-up in the sense that assessments are collected from individuals, and the final assessment may form the basis of governance, but on its own, crowd-based decision making does not appear to embody a mechanism of collective action. Top down governance – from political entities or regulatory agencies – may overcome these challenges, but they are also likely confront substantial hurdles in terms of rationalizing actors and activities in the sharing economy.

There remains a politics of hope around the potential for sharing economies to redistribute resources more equitably, to create a greater sharing of prosperity and greater socio-economic and environmental security. However, we have also witnessed the ways in which for-profit sharing economy models have contributed to increased inequality. The progressive potential of the sharing economy will not be realised without constant vigilance and more agile systems of adaptive governance. As such, while media interest may fade as the presence of sharing economies in everyday lives becomes less novel, understanding their evolution, practices and impacts remains an urgent activity if we are to ensure that the new ways of living and labouring, to which sharing economies are contributing, work to promote sustainable and inclusive development in this world that ultimately we all share.

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[i] There are few direct sources of data which allows us to track working arrangements in the sharing economy. In the US, the Bureau of Labor Statistics discontinued their survey of contingent work in 2005. It is being reinstated in 2017. In the UK, most estimates come from existing data on self-employment.