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# Data-owning democracy or digital socialism?

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**ABSTRACT**
This article contrasts two reform proposals articulated in recent debates about how to democratize the digital economy: data-owning democracy and digital socialism. A data-owning democracy is a political-economic regime character-ized by the widespread distribution of data as capital among citizens, whereas digital socialism entails the social ownership of productive assets in the digital economy and popular control over digital services. The article argues that while a degree of complementarity exists between the two, there are important limitations to theories of data-owning democracy that have not yet received significant attention within the literature. The bulk of the article highlights three ways in which digital socialists would consider a data-owning democracy to fall short of achieving a more just digital economy: a lack of workplace democracy, limitations in terms of scope, and a lack of democratic control over long-term investment decisions in new technology. The article thus contributes to deter-mining what is at stake in recent debates about how to democratize the digital economy.

Data and digital assets are an increasingly critical aspect of the global econ-omy. As we spend more of our time online, technology companies take in record profits with new modes of value extraction (Cohen, 2019; Zuboff, 2019). From Amazon to Google and Meta, data-driven companies extract, analyze and redeploy data about their users to sell advertising products and improve their services. Not only are our working and social lives becoming subject to an ongoing process of 'datafication', but the largest of these tech companies now wield more power than some nation-states (Van Dijck, 2014, p. 198). Their infrastructural power allows them to exercise disproportionate influence over the structure of consumer markets and public debate (Teachout, 2020).

The dominant liberal response to the increasing discrepancy in digital power has been to call for greater government regulation and oversight (Benthall & Goldenfein, 2020). This has involved moves to enhance the

protection of individuals' data and privacy in addition to limiting the power of large tech companies to control markets and buy up competitors (Khan, 2017). Regulators on both sides of the Atlantic aim to introduce rules to regulate digital gatekeepers, prevent anti-competitive behavior and restore competition in the tech sector (Newman, 2019). While liberal critics of Big Tech companies have mostly focused on protecting individuals and addressing unfair competition, less attention has been given to questions of ownership and control of digital assets, and how digital technologies can be used to empower citizens.

This article examines recent work in political philosophy which has proposed more robust responses to addressing the emerging power imbalances in the digital economy. I clarify a series of overlapping debates over reform proposals for the digital economy by structuring the proponents into two broad camps: advocates for data-owning democracy and digital socialism. This framing process contributes to the literature by translating different reform proposals into the language of political philosophy and highlighting what is at stake in the differences between them. It also introduces digital socialism to the political philosophy literature on data ownership, which has been occupied by theorists working within a liberal or Rawlsian framework (Cheneval, 2021; Loi et al., 2020; Mainz, 2021).

Data-owning democracy (DOD) is a political-economic regime characterized by the widespread distribution of data as capital among citizens (Fischli, 2022). Drawing on the tradition of property-owning democracy and existing empirical approaches (e.g. Bass & Old, 2020, pp. 9–10), such a regime combines some municipally-owned digital infrastructure and collective data ownership rights with copies of individual data flows to empower citizens in the digital realm. This enables communities to exercise greater control over their data and leverage more of the value it produces. Digital socialism (DS) is defined as the social (or common) ownership of organizations and productive assets in the digital economy for the purpose of curbing the domination of tech companies and enabling the popular control of digital services (Benanav, 2020b; Fuchs, 2020; Muldoon, 2022a). In DS, the means of production for digital services are owned by society, while the direction of individual firms can still be decided by their workforce. It aims to put an end to the exploitation of workers and users in addition to addressing the vast inequalities in wealth in the digital economy (Muldoon & Raekstad, 2022). In contrast to the dominant liberal response of regulating data markets to protect individuals' rights, both of these approaches emphasize collective ownership rights, a redistribution of wealth and participatory mechanisms for communities to exercise greater control over their digital lives.

The two traditions are committed to achieving political and economic equality in the digital economy through *ex ante* rather than *ex post* solutions. Supporters of both traditions are committed to the idea that

reforms such as taxing companies more or implementing stricter data protection regulations will not achieve the same results as intervening at the level of ownership and control over digital infrastructure. Firstly, redistribution schemes through taxation do not change the fundamental power imbalance of who gets to decide on how data is used. Corporations' profit margins may be slightly reduced, but there is no change in their right to collect citizens' data and to exercise unilateral control over its commercialisation. Secondly, data protection laws that seek to regulate how corporations collect and utilise data such as the General Data Protection Regulation (GDPR) are a meaningful step towards curbing the worst aspects of corporate business models. But even in this case, such reforms do little to increase the economic power of citizens or provide them with any of the value produced by their data. There are important reforms that can be made including tighter regulations and taxing excessive profits, but they are limited to the degree these approaches can achieve equality.

My argument in relation to DOD and DS is that although DOD may appear more feasible and achievable based on the current distribution of power in the digital economy, there are important limitations to these theories that have not yet received significant attention within the literature. In this comparison of the two regimes, I begin by highlighting several important overlaps between DOD and DS. However, I show that while a degree of complementarity exists, there are certain points at which furthering the goals of DOD would actually work against the creation of DS. Despite the benefits a DOD would bring, this paper highlights three important limitations where DS would provide a more normatively desirable set of reforms. The bulk of the article highlights three ways in which digital socialists would consider a DOD to fall short of achieving a more just digital economy: a lack of workplace democracy, limitations in terms of the scope of DOD related to personal data, and finally a lack of democratic control over long-term investment decisions in new technology. The common element in these criticisms is that DOD remains too closely wedded to existing conditions and does not make a strong enough intervention to alter the relations of power between citizens and corporations.

The article proceeds as follows. Section 1 introduces each of the two theoretical frameworks and outlines their main goals and institutional features. It constructs a tradition around each of these emerging bodies of literature and defines the contours of recent debates on the digital economy. In Section 2, I highlight key points of overlap between the two regimes and show the extent to which they could be said to pursue complementary goals. In the next three sections, I analyze several limitations of DOD from the perspective of DS. I conclude by reflecting on how

feasibility considerations might still lead some to support DOD on pragmatic grounds.

## Framing data-owning democracy and digital socialism

DOD and DS share certain characteristics as regimes which both entail a constitutional framework for democratic politics. This includes the protection of civil and political rights; freedom of speech, assembly and association; and free and fair elections for political office. The aim of these background political institutions is to put all citizens in a position to act as free and equal citizens within a fair system of cooperation (Rawls, 2001, p. 141). In DS, the means of production are socially owned, but political power would still be regulated through electoral competition between democratic parties and economic power would be broadly dispersed through worker-owned firms rather than centralized in a state socialist command economy. In DOD as conceptualized by Fischli (2022), citizens collectively own the data generated on civic platforms and democratically decide how they are used. They also receive machine-readable copies of their data from commercial platforms that can be leveraged for a variety of purposes. By widely distributing digital capital among the citizenry, DOD adopts a pre-distributive approach and seeks to democratize control over data. In DOD, background institutions ensure that the ownership of data and digital assets are broadly dispersed to prevent a small number of tech companies from controlling this aspect of the economy and exercising disproportionate power over digital markets. DS entails a further commitment to workplace democracy and broader forms of social control over the economy.

### *Data-owning democracy*

DOD has two main aims (Fischli, 2022, p. 1) to approximate political and economic equality by empowering citizens via different forms of data ownership, and 2) to reduce their dependencies on powerful tech companies. It recognizes that in today's digital economy, data can assume the role of capital (Sadowski, 2019). This role is central to the immense wealth creation of informational capitalism, which supports an economic logic of data extraction, aggregation, and analysis (Cohen, 2019). Acknowledging the material conditions and organizing principles of this new political-economic configuration, data-owning democracy offers a new framework for understanding and transforming our relationship with data produced by digital technologies. The goal is for individuals to no longer be confined to the role of the spectator, but instead to enjoy sufficient political and economic standing to actively participate in the creation and application of data streams. Fischli

(2022) points out that DOD ought not to replace existing data protection regulations, but rather, that it is complementary to these efforts.

DOD's similarity to a well-known concept within political philosophy is not coincidental. It has been developed as an extension of 'property-owning democracy' (POD) to the digital context (Fischli, 2022; Loi et al., 2020). In its most general form, POD refers to an economic system characterized by the wide diffusion of capital among individuals. It was first used by British conservatives in the 1920s, translated into academic political philosophy by the British economist and Nobel Prize winner, James Meade (1964), and later popularized by John Rawls (2001). While its organizing principles are particularly compatible with schools of thought that emphasize the absence of material domination for political equality and freedom, such as republicanism (Fischli, 2022), its focus on the material conditions for equality and the reduction of dependencies also resonates with social liberalism (Rawls, 2001), liberal egalitarianism (O'Neill & Williamson, 2012; White, 2012) and liberal republicanism (Thomas, 2017). Indeed, DOD is part of a broader movement that recognizes the close relationship between economic and political equality and seeks to address them with a pre-distributive approach – one that prioritizes leveling the playing field *ex-ante*, instead of compensating the losers *ex-post* (Thomas, 2017).

DOD is built around two tiers. Each layer fulfills a distinct, but ultimately complementary, purpose (Fischli, 2022). The first layer consists of civic tech platforms in which citizens collectively generate public data. In practice, this could include residents having control over the placement of smart sensors in their neighborhoods to gather data on energy usage, air quality and noise pollution such as in the DECODE project piloted in Barcelona and Amsterdam (Monge et al., 2022). It could also entail digital platforms for citizen participation such as Decidim in which citizens could vote on priorities they care about, thus contributing to government strategic planning about addressing important issues (Decidim, 2022). The goal is to maximize public well-being by creating a data commons and enabling data-driven policy-making. This increases digital political participation and reduces corporate dependencies by empowering public administrations to manage public infrastructures and services they would otherwise delegate to private companies (Morozov & Bria, 2018).

In the second layer, individuals automatically receive copies of the data they have consented to create, which is a slightly more advanced form of the European Union's existing right to data portability (Art. 20). The goal is to include individuals in the value cycle of their personal data, by enabling them to make use of their data streams in whichever way they prefer – be that donating health data to a research institute, selling consumer data to a third party, or pooling mobility data with others in a data cooperative (Fischli, 2022). Because individuals receive copies of all the data generated with their

consent, they end up with a very comprehensive dataset that includes data from a broad range of commercial services, such as social media companies, fitness trackers and mobility apps. Individuals can choose to pool this data with others in data co-operatives, but this would only take place following the consent of the individual.

DOD reduces dependencies on corporate actors in two main ways (Fischli, 2022). First and most importantly, it does so by creating spaces in which collective data control and democratic oversight are possible. With an appropriate digital public infrastructure in place, citizens can significantly cut down on service provisions of private companies, for example, with regards to mobility data, but also traffic flows and noise pollution. Second, individuals can choose to pool data about themselves together with others, for example, in a data cooperative. The economic benefits of data are difficult to unlock when considered on the scale of individual data subjects and require collective organizations in which members aggregate their data to develop mutual benefits. Members of cooperatives vote for representatives to act as brokers for how their data are contracted out to third parties (Feygin et al., 2019, p. 19). As Loi and colleagues point out, cooperative members decide with whom the cooperative shares its data and also co-determine the digital environment in which their decisions are made (Loi et al., 2020, pp. 13–14). We should not expect the arrangements of DOD to reduce individuals' privacy rights because they retain control over which aspects of the secondary copies of their data they consent to sharing with a data co-operative.

Finally, DOD as conceptualized by Fischli (2022) differs from Francis Cheneval's approach to introducing property rights over personal data because it does not endorse the full ownership and control of personal data by individuals, but rather focuses on collective ownership of data infrastructure and establishing democratic mechanisms of control through data cooperatives (Cheneval, 2021; Mainz, 2021). In this sense, it shares much in common with recent arguments for 'an institutional order analogous to a POD for data' (Loi et al., 2020, p. 2). What is unique about Fischli's approach is the 'dual structure' in which there is a layer of public data trusts and collective data ownership combined with a second layer of individuals receiving copies of their individual data.

While the term DOD was introduced by Roberta Fischli to describe a specific political-economic regime, I argue that its emphasis on empowering citizens and communities also makes it a useful umbrella concept for a variety of proposals that have recently been made with the goal of shifting power from tech corporations to democratic collectives and ensuring the benefits of the digital revolution are shared more equally. These examples include the introduction of a 'data dividend tax' (Feygin et al., 2019), the implementation of platform cooperatives (Loi et al., 2020), as well as calls for democratizing urban technologies (Bass & Old, 2020; Morozov & Bria, 2018).

Instead of viewing these proposals as distinct, and potentially even rival strategies, understanding data-owning democracy as a larger political project provides a frame that emphasizes their commonalities instead of their differences. This opens the possibility of combining compatible proposals such as a scenario in which a city levies a data dividend tax on tech corporations to finance the creation of civic tech platforms, encourages the creation of platform cooperatives, and requires corporations providing services for the city to share the generated data for public purposes.

## *Digital socialism*

There are two principal aims of DS which correspond to the underlying values of freedom and political equality: 1) to enable citizens to exercise control over digital services in order to direct them towards the common interest, and 2) to counter power imbalances between citizens in order to provide them with an equal capacity to take part in decision making over digital services.

First, DS is concerned with creating structures for communities to actively participate in the governance of essential digital services (Lizzie O'Shea, 2019; Morozov, 2019; Muldoon, 2022a). This relates to a conception of freedom that is different from both the liberal idea of freedom as non-interference and the neo-republican ideal of freedom as non-domination (Pettit, 1997). Debates about reforms to the digital economy have typically been structured around a negative ideal of liberty in the sense that important goods have been framed as an individuals' right not to be surveilled, to enjoy their privacy and to have some proprietary interest in their personal data. Digital socialists are concerned with a more expansive set of participatory rights that would enable democratic collectives to control public services and play an active role in shaping the structure and role of these institutions.

This account is based on an idea of freedom as collective self-determination, which emphasizes citizens' active participation in processes of self-government (De Djin, 2020; Muldoon, 2020, 2022b). Democratic participation in this conception is essential rather than auxiliary to a socialist understanding of freedom. Digital socialists aim to create organizations within which communities can play a direct role in their democratic governance. In Europe, democratic experiments with scalable digital infrastructure funded as part of public projects have aimed to establish new rights for citizens to organize and govern digital services (Bria, 2022). Many of these were inspired by the experiences of Project Cybersyn, a Chilean project in the early 1970s aimed at constructing digital infrastructure to support the democratic control of the economy (Bria, 2022; Medina, 2011).

Second, DS aims to balance power between citizens and challenge the entrenched power structures that assist political and economic elites in dominating institutions. According to a liberal proceduralist view, political

equality between citizens is enabled primarily by democratic institutions embodying fair procedures for resolving disagreements (Christiano, 2008). However, it is not simply a set of procedures that keeps this equality in check. It is sustained over time under realistic conditions only through organization of citizens' collective power (Klein, 2022). DS responds to the disproportionate power exercised by founders and early investors in tech companies by supporting institutions that expand the capacities of citizens to collectively act through institutionalized channels that enhance their democratic agency.

All forms of DS share three important institutional traits. The first relates to social ownership over digital assets, meaning productive assets in the digital economy (tech companies, data centers, proprietary software regimes, etc.) should not remain in private ownership. Common ownership here can entail several different things while still remaining broadly socialist in orientation. It can include nationalized organizations such as a publicly funded broadband network, a public search engine and publicly-owned digital infrastructure (Hind, 2019). Social ownership could also include more local forms of community-owned services and municipally-owned services in which the public owning and governing the service was smaller than a nation state (Fuchs, 2021). It would also include digital commons-based systems which relied on the governance of non-commodified goods and volunteer labor as part of digital systems that were free to use and available to all (Lizzie O'Shea, 2019).

The second shared institutional element is workplace democracy to ensure that workers within digital firms can exercise self-management in the economic sphere (Schweickart, 2001, pp. 47–9; Tom O'Shea, 2020, p. 555). Workers should have responsibility for matters that are primarily internal to the organization such as techniques of production, work schedules, investment in the development of new technology and how much to produce. Workplaces will not necessarily own the productive assets they use because these may be regarded as the collective property of society, but they should have a significant degree of autonomy over their working lives.

Third, DS requires some form of multistakeholder governance which grants users of digital services participatory rights in how they are governed (Muldoon, 2022a, p. 86). Many of today's digital platforms are used by billions of people around the world. For these to pass into the hands of a small collection of (mostly US-based) software engineers and developers would disempower the majority of those who use them and recreate the inequalities of the current digital economy in another sphere. A system of social ownership and democratic control over digital assets requires negotiation and coordination between different affected stakeholders.

Beyond these shared criteria, DS covers a variety of different institutional arrangements of social ownership that include both market and non-market mechanisms for coordinating economic production. Some proposals envision radical transformation in the digital economy towards collaborative and non-market-based social coordination (Benanav, 2020a; Morozov, 2019). Other models of DS, however, are articulated as more limited proposals, which could be compatible with certain aspects of a market economy. Along these lines one could include Dan Hind's (2019) suggestion for the creation of a British Digital Cooperative, a collectively-owned media platform, and Derek Hrynyshyn's (2021) reflections on a more decentralized and federalist model of communication platforms.

Acknowledging the pluralism within the tradition, this article proposes an understanding of social ownership on the basis of a diverse ecosystem of alternative ownership models that includes local workers' cooperatives, municipally-owned services, nationalized and international organizations (Muldoon, 2022a, p. 87). Social ownership need not take one specific form in every case, which would limit our ability to cater for a range of digital organizations and services. Workers' cooperatives might be suitable for local courier and food delivery services organized via apps, whereas social media networks or a public search engine would be better suited to a national or even international organization. DS looks at the function of the digital service and the type of community that uses it in assessing which form of social ownership should be employed. The principle of subsidiarity assists in making this assessment: services should be governed at the most local and proximate level that enables them to be delivered in an equitable and sustainable manner. The participation of users and workers is crucial to effectively democratize the digital economy; this often works best at a local level where direct forms of deliberation and decision-making are more viable.

This pluralist approach to social ownership avoids common pitfalls of two alternatives: top-down nationalization schemes and direct forms of workers' control (Vrousalis, 2019, p. 90). The nationalization projects which dominated the twentieth century often neglected the question of workers' participation, which left users with little to no control over services. Social ownership should enable forms of workplace democracy and grant workers and service users participatory rights in the governance of digital platforms. Syndicalist alternatives that advocate transferring the ownership of organizations directly to workers are unsuitable for many digital platforms with large and diverse populations. Organizations that operate digital services should become internally democratic associations, but the interests of workers need to be balanced with the needs of many stakeholders including users and local communities affected by the service. While workers should have a substantial degree of autonomy at work, all those whose interests are significantly affected by a digital service should have some say in how it functions.

## The overlap between data-owning democracy and digital socialism

Despite differences in theoretical outlook, there is a degree of complementarity between DOD and DS. It is even possible to understand DOD as potentially a transitional regime on the pathway to DS. Each theoretical framework understands questions of ownership and power as central to the digital economy and the wide dispersal of the ownership of data could be viewed as a stepping stone towards the social ownership of a broader range of digital assets, including major companies and digital services. There are three main theoretical points of alignment between the two regimes for which pursuing aims for a DOD seem to further the aims of DS.

First, both share similar aims of empowering citizens through new ownership rights and countering the private power of digital corporations (Fischli, 2022; White, 2012). New collective ownership rights over data would ensure a broader dispersal of power in the digital economy. Platform companies' ability to leverage data produced on their platform would be severely constrained in a DOD because they would have to share rights with individual users who consented to the generation of new data. Instead of taxing digital corporations at a higher rate or placing regulations on how they handle citizens' data, DOD seeks to intervene at the level of ownership over data to place citizens in a position of greater social and economic equality. In a DOD, citizens would be empowered to collectively exercise their property rights and decide how their data is used, and for what purpose. This could include choosing to leverage their dataflows as part of data cooperatives (Loi et al., 2020). These forms of collective ownership could be viewed as one important element of a broader framework of DS.

Second, there is a common desire to institutionalize new participatory structures for citizens to engage in the governance of digital services. In addition to private organizations, DOD envisages municipal and public bodies using civic tech to enhance their capacities for governance and provide new opportunities for citizen participation. In Barcelona, for example, the citizen platform, *Barcelona en Comú* (Barcelona in Common) implemented a tech-based collaborative platform as a way for citizens to exercise agenda-setting power for the strategic direction of the mayor's office through citizen proposals (Ajuntament de Barcelona, 2019). In this case, digital participation enabled the civic government to create an agenda based on issues that the local citizens had prioritized including affordable housing, sustainability and creating more green spaces in the city. Municipal institutions in charge of data infrastructure also enable the creation of a data commons in which communities gain enhanced control over data, which encourages citizen participation and public debate over how the technology is used (Bass & Old, 2020). Such participatory institutions are also a key pillar of DS.

Finally, both aim to redistribute value produced within the digital economy to limit the enormous inequalities that have accrued to powerful tech companies. A fairer digital economy would be one in which the value produced by workers and users is more equally distributed rather than hoarded by a handful of platform companies. Digital economies have a natural tendency towards monopolies and winner-takes-all outcomes due to network effects (Srnicek, 2016, p. 43). When platforms achieve large numbers of users they are able to grow exponentially due to increased data and capacity to improve the service. DOD significantly weakens the business model of the large advertising platforms by automatically endowing individuals with copies of their data from a vast number of sources, including health apps, fitness trackers, mobility services and social media. The real value of this data lies in the patterns that emerge when aggregating a large number of sources. DOD and DS each aim to challenge, or even undo the advertising model of large platforms and find new ways for the public to benefit from digital technologies.

Considering these three points, it is possible to see a family resemblance between the two regimes. There is also a degree of overlap at the edges of each theory. A DOD could have such extensive structures of public and municipal ownership of civic tech that it approaches an idea of DS. The pluralist conception of DS advanced in this article – consisting of a broad ecosystem of alternative ownership models – also brings the model in much closer proximity to DOD than more centralized and nationalized conceptions. Assuming that digital socialists were nondogmatic about markets and supported a combination of markets and democratic planning for different goals, there is a shared commitment to some form of mixed economy, although how this works in practice is likely to differ between the two camps.

Furthermore, both are concerned about how creating new kinds of data rights reinforces a proprietary system of data capture and analysis that does not contest corporations' right to record this data in the first place. These rights could help build a profitable ecosystem of individuals monetizing their online activities in ways that are arguably unjust and reflect global disparities in power and influence. Even a cooperative data market would not alleviate global inequalities between the value of users' data based on how much corporations would pay to have knowledge about different consumer markets. In the fourth quarter of 2021, Facebook's average revenue per user in the Asia-Pacific region was US$4.89, compared with US$60.57 in the combined US and Canada market (Statista, 2022). Because of their lower spending power, citizens in many countries in the Global South would find themselves shortchanged in a global data market in comparison to their North American counterparts. Creating new proprietary rights in data also risks reinforcing the commodification of online activities by incentivizing individuals to generate

even more data about themselves. If data becomes a new source of revenue for individuals it becomes harder to create public and commons-based alternatives that would not be able to pay the same levels of data dividends (Muldoon, 2022a, p. 65).

## Workplace democracy

Let us now turn to three shortcomings that digital socialists would note when it comes to the underlying principles and institutions of a DOD. The first issue relates to a lack of strong mechanisms for the implementation of workplace democracy. The concern is that workers in the digital economy are forced to work within hierarchical organizations and are subject to the arbitrary power of their bosses (Malleson, 2014, p. 247; Raekstad, 2022). Workers usually spend a large portion of their waking lives in work, which also plays an important role in their sense of self-worth and dignity. It matters that they are subject to the continuous and open-ended command of their managers who can control minute aspects of their daily routine – from what they wear to what they can say and do (Tom O'Shea, 2020, p. 252). DOD would allow for a significant degree of material equality in the ownership of digital assets, but there is no necessary requirement for workplace democracy.

Proponents of DOD could rightly point out that such considerations are simply beyond the scope of their analysis and that a direct comparison on this point is not possible. While it is correct to say that to achieve its own stated goals DOD would not require workplace democracy, we still have reasons for supporting a society with mandatory worked-owned firms due to the concern for the domination of workers within privately-owned organizations. We could say that a well-functioning DOD could include a wide variety of worker-owned firms and even strict laws protecting workers from arbitrary and indiscriminate behaviour from their managers in private firms. Worker-owned firms would not be incompatible with DOD, but such firms could face serious obstacles in forming within a capitalist economy, particularly on a large scale and in capital-intensive industries (Hsieh, 2014, p. 152). Therefore, we have reason to support a system in which workers are equal stakeholders in their workplaces and have a degree of democratic control over how they function.

In DS, workplaces over a certain number of employees must have democratic workplace constitutions that require managerial roles to be appointed by democratic vote and accountable to the workforce (Tom O'Shea, 2020, p. 560). Workers under such a regime would have more autonomy over their working lives and more of a say in key decisions that affected them at work. Instead of providing workers with the material conditions to exit unpleasant jobs, workplace democracy seeks to transfer power from bosses to workers so they have direct control over decision-making within the firm.

At a local level, some digital platforms could be run as platform coopera-tives, democratic businesses that use an app, website or protocol to sell goods or services while maintaining shared ownership and democratic deci-sion-making in the firm (Scholz, 2014). This would empower workers by providing them with a system of one person, one vote in the firm and an equal share of the profits. This structure would be adequate for many geo-graphically-based services such as food delivery, courier services and domes-tic cleaning. Other services such as short-term rental and ride-hail platforms require large capital investment and would be more efficiently operated as municipally-owned services in coordination with broader transportation and housing services (Muldoon, 2022a, p. 111). Workers within such organizations should also be granted participatory rights to appoint managers and have representation on boards.

Digital services also require innovation beyond traditional accounts of workplace democracy in two important respects. The first concerns the range of different groups who use a digital service, particularly those in multi-sided marketplaces and with geographically dispersed members. Platforms can bring together members with specific stake-holder identities and needs, which require a system of multistakeholder governance. Such examples could include creator platforms, online marketplaces or streaming services, which could split democratic con-trol of the platform between artists, consumers and workers (Borkin, 2019, p. 15). In other cases, such as microwork platforms, where workers are geographically dispersed around the world, workers are not cur-rently classified as employees on the platform and are denied any employment rights (Jones, 2021, p. 5). All digital workers who engage in work at the direction of another in exchange for monetary compen-sation should be provided with rights to control how their platform operates. Mandating requirements for worker participation in enter-prises would assist microworkers exercise more control over their work-ing conditions.

A second related question concerns platforms with a much larger number of users than workers such as a social media platform or an Internet search engine. In these cases, users should be able to become members of the service and take part in decisions over how it is developed and organized. This would also stretch beyond the boundaries of nation states and would require users from many different countries to become members of the services. Workers within these services should have particular sets of rights over determining the conditions of their work, but should not have unilateral control over how the service is delivered to all its users. This would enable workers to be empowered within their firms and users to obtain greater participatory rights in determining how digital services operated.

## Limitations of scope

A second concern with theories of DOD is limitations with the practical scope of the application of the proposed reforms. The basic structure of DOD centers upon cooperative institutions to organize the democratic management of personal data. Defined narrowly in this way as focused primarily on the control of personal data, DOD fails to address inequalities related to the ownership and control of companies and digital services, resulting in a potentially limited economic impact. This problem is based on how the framework of a Rawlsian-inspired POD is translated into principles that can be applied to the digital economy.

In an economic arrangement of a POD, the entire economic system is geared towards dispersing ownership of wealth and capital so it is not controlled by a small part of society (Rawls, 2001, pp. 149–50). In *Justice as Fairness: A Restatement*, Rawls (2001, p. 149) argues that 'inequalities in the ownership and control of wealth, income, and property can reduce the fair value of basic liberties.' The idea is that individuals require sufficient productive resources to enable their full social participation and roughly equal political influence. Rather than relying on redistributing wealth through taxation and welfare, a set of background institutions should predistribute wealth to equalise access to capital between citizens. In a Rawlsian model, much is at stake because this would include vast amounts of non-human capital, including natural resources, savings, shares and productive assets.

The intuition is that a similar logic could be applied to the profitable domain of data markets, but the framing of the scheme around 'personal information' as defined by EU law limits its applicability and practical effect (Loi et al., 2020). While it is true that the data broker industry is worth multiple billion dollars, there are limitations on the extent to which data cooperatives and data trusts could leverage groups' data to generate significant value. On an open data market general information about an individual could be worth as little as US$0.0005 per person (Steel et al., 2013), with even very specific data on highly sought-after demographics rarely exceeding US$1 (Steele, 2020). Even in a best-case scenario, the amount of revenue generated by a cooperative with tens of thousands of users would be marginal and unlikely to provide the organization with significant economic or political power.

There are also limits to how this data could be leveraged by cooperative organizations. Data is not 'the new oil,' because unlike oil – a liquid, fungible and interchangeable commodity – it is always contextual information about particular individuals gathered within specific settings (Martinez, 2019). Data about an individual's previous Internet searches is valuable to Google because it can be aggregated with many other sources of data, but also because the company is best placed to extract value from it. Even with the

aggregated search history of all its members, a data cooperative does not own a popular search engine on which it could deliver advertising products to billions of users. The cooperative is thus unable to use the data in the same way as a corporate platform.

Furthermore, the limited scope of personal data does not include the actual companies and valuable tools they employ and so misses much of what generates power for a small class of wealthy asset holders. Leveraging personal information (usually through the creation of third-party advertising products) is only one way in which companies generate revenue in the digital economy. The reform is unlikely to have a strong impact on other areas of the digital economy such as online food delivery, ride-hail services and the short-term rental market. The large market share of companies such as Uber and Airbnb would not necessarily be impacted by these changes because they do not rely so heavily on profits from advertising.

Fischli (2022) puts forward a more interventionist account of DOD which includes a broader array of reforms including investment in municipal digital infrastructure and civic tech platforms for participation and decision-making. But even in a maximalist vision of DOD the underlying structure of the private ownership of large companies in the digital sphere remains in place. Advocates of DOD would likely respond that the widespread, but largely private, dispersal of digital assets constitutes the best protection against the arbitrary power of corporations and the state (Thomas, 2017). The concern, for these theorists, is that public ownership of major companies could further concentrate political and economic power in state institutions, which would be susceptible to corruption and misuse. DS shares this concern of an overly-bureaucratized state-based nationalization scheme, but instead advocates for an alternative ecosystem of community and public ownership of productive assets in the digital economy.

## Control over investment decisions

Long-term issues related to the future direction of technology and digital services are determined by patterns of investment which influence how different sectors of the economy develop. This framework of private investment provides a small handful of investors with extraordinary power over the direction of the digital economy since they can determine which areas would thrive and which would receive no funding. While DOD supports increased citizens' control over their personal data, long-term investment decisions in new technology would still be undertaken by private firms. This poses problems in terms of providing citizens with roughly equal influence over how digital services develop.

DOD includes support for initiatives in civic tech including municipal digital infrastructure and platforms to enable citizen participation in politics,

but it is mainly envisioned around a market economy and private ownership of businesses and services. The idea behind a DOD is to attempt to equalize the power of actors within this market to avoid the formation of powerful monopolies and to ensure adequate competition. The government's role would be limited to providing regulations for how tech companies could operate and to distribute opportunities for individuals to control their personal data.

Although there would be a broader distribution of digital assets, potentially through a wider range of small and medium enterprises, there are insufficient democratic mechanisms to provide citizens with equal influence over the development of new technology. Consumers have the freedom to register their interests through their purchasing power, but without significant levels of capital, they lack the capacity to have a roughly equal influence over how future digital services are developed. In a DOD, the various aspects of the finance system, including banks, institutional investment, loans, venture capital and expected rates of return, would remain similar to how they currently operate. Investment decisions in new technology are made largely by large corporations, investors and financiers, granting them significant discretionary power. Even with a broader distribution of digital assets and the capacity to exercise certain rights over the use of their data, citizens would find it difficult to directly influence these investment decisions.

In DS, it would not be a powerful class of institutional investors but the public who would make decisions about levels of investment and qualitative decisions about how to allocate scarce resources. DS involves a system of deliberation and democratic decision-making related to public investment that offers a greater degree of popular control. There is substantial disagreement between socialists about how democratic control over the economy should be organized and which institutions would work best.

Aaron Benanav (2020b) suggests that decision-making about production could not be a perpetual digital plebiscite of individuals deciding on every detail of democratic planning. Many individuals lack the practical knowledge for making decisions about different branches of production and lack the time to become knowledgeable in every necessary field. Participation should take place within producer and consumer associations which would be democratically structured and enable individuals to channel their concerns into these intermediary bodies. This would assist individuals in exercising popular control over long-term investment decisions and place democratic forms of accountability over the development of new technology.

This control over investment will also influence how value produced within the digital economy will be distributed. Under DS, the bulk of the means of production in the digital economy will be socially owned, which means that value produced by organizations will not be concentrated in a few hands. Decisions over large investment decisions will be made

democratically so the wealth of billionaires would be transferred to demo-cratically managed social wealth funds. Many digital services will receive public funding so they can be free at the point of use and provide digital tools for any citizen who needs them. Services like a search engine, online messaging and other basic infrastructure should be operated for the public benefit without any profit being generated from the service. In other cases involving non-essential services, worker cooperatives could run services in which value produced by the service would be equally distributed amongst members. These worker-owned cooperatives would be less likely to produce the same tendencies towards monopolistic behavior and infinite expansion (Schweickart, 2001, p. 88). There would still be inequalities in a DS – both between firms and throughout the broader economy – but these inequalities would not reach anywhere near the same levels as in a capitalist economy dominated by tech founders and institutional investors.

## Conclusion

The goal of this article has been to clarify what is at stake in debates on reforms to the digital economy and to show where advocates of DOD stand in relation to those of DS. The last three sections have argued that DOD has certain limitations in relation to workplace democracy, the scope of its application and democratic control over investment. However, we should also be concerned with how feasible different proposals are when considered in relation to existing political and economic conditions. The demands of digital socialists – for public funding for digital infrastructure, digital services free at the point of use and free and open-source software – require an alternative to the capitalist organization of digital services. These demands are necessarily set within a broader horizon in which democratic collectives have reorganized other parts of the economy and achieved social ownership over productive assets. In short, there is no digital socialism without demo-cratic socialism – understood as a postcapitalist society in which there is significant levels of democratic control over the economy. For advocates of digital socialism, this emancipatory horizon is one of the appealing aspects of the theory. Immediate demands for reform are aligned with a long-term revolutionary horizon and a strategic program supporting an end to capitalist relations of production.

For a more pragmatic skeptic, however, it is more important to focus on reforms that can be achieved within existing structures without requiring a complete change in economic systems. A pragmatist may favor DOD because it could more easily be instituted without broader changes to other parts of the economy. It does not set a longer-term revolutionary horizon, allowing its demands to be more immediately taken up by reformers to bring concrete changes to the digital economy. By contrast, DS would only

be possible as part of a broader system of social ownership of economic assets and the transformation of capitalism. For the pragmatist, this renders many of the claims of DS illusory because they require an unlikely series of changes to capitalist relations of production. The pragmatist sees themselves faced with an immediate decision between current platform monopolies on the one hand, and new forms of civic tech and data cooperatives of a DOD on the other. DS is not a viable demand from this perspective because it is not possible to institute within the current horizon of political possibilities.

The strength of arguments for one regime will likely be determined by one's overarching strategic perspective and the importance of achieving short-term gains versus holding open a longer-term emancipatory horizon. I have attempted to highlight the limitations of certain proposals for DOD and what is lost by adopting this seemingly more pragmatic approach. In terms of the first steps of reform, advocates for DOD and DS would agree that regulators should curb the power of Big Tech companies and workers should build power within their workplaces through collective action in trade unions. It is also important to note that wide-reaching reforms along the lines of DOD or DS would be strongly resisted by tech companies which have invested heavily in lobbying to dissuade governments from encroaching on their business models. If efforts to establish the employment status of gig workers in California led to a $100 million campaign to change the laws through a referendum (Menendez et al., 2020), what would tech companies be willing to spend if their very ownership over digital assets and ability to take in record profits was under threat?

Either reform strategy would require the backing of politicians and social movements and could take advantage of the backlash against tech companies that has been building since the Facebook Cambridge Analytica scandal. Currently, more moderate forms of DOD have received mainstream support in the form of a 'data dividend' by former American presidential candidate, Andrew Yang, and a 'New Deal on Data,' proposed by MIT professor Sandy Pentland (HBR Editors, 2014; Yang, 2020). But to enact a more interventionist DOD that included not only personal rights over data but collective institutions of data governance would require a more widespread movement towards the creation of new public digital infrastructure (Monge et al., 2022).

How likely is support for such initiatives given the current dynamics of global politics? With numerous examples of democratic backsliding around the world and several Western democracies experiencing dangerous signs of corruption and decay (Diamond, 2022), an argument for the further democratization of the economy and society may seem implausible. How could democratic norms be entrenched in a broader range of economic institutions when they are so poorly actualized in existing political ones? Particularly when considering the enormous shift in the power between social classes that DS would require, critics are rightly concerned about the political

viability of these aspirations. While noting these powerful forces arrayed against democratic reforms, this article has attempted to clarify the normative stakes of the debate and to reveal the limitations of reforms framed around a DOD when compared to DS.

As we have seen, political philosophy can play an important role in unpacking the normative commitments which are at stake in reform strategies for the digital economy. It can also set immediate reform proposals within broader theoretical frameworks and help guide reflection on ideal types that social movements should be aiming for as the endpoint of political demands. The trade-offs between these two theoretical frameworks will always be contextual and based on a concrete analysis of a particular configuration of forces. They are also just two of many possibilities for reform. In this article, I have attempted to demonstrate the centrality of questions of ownership and power to these debates, which I hope serves as an important starting point to discussions about how to democratize the digital economy.

## Disclosure statement

## Notes on contributor

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