




Human rights and taxation in the digital economy: data tax and the right to science

Jayson S. Lamchek 

Deakin Law School, Deakin University, Melbourne, Australia
Email: j.lamchek@deakin.edu.au

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Abstract

Data tax (DT) could re-establish states' legitimacy by governing economic actors and promoting social solidarity and welfare through benefits. However, the overall impact of DT will depend on decisions about what social benefits DT funds (universal basic income or less expensive public goods) and whether benefits will entrench or challenge harmful business models and practices. Focusing on the right to science (RtS), the paper argues that DT could realise the RtS in the digital age through taxation that exacted not only data rent but also rent on the scientific heritage. Finally, the paper emphasises the need for international coordination to ensure that DT is equitably shared among developed and less developed countries.

Keywords: International Human Rights Law; human rights and tax; data tax; right to science; universal basic income

1 Introduction

Legal scholars have long investigated the social justice implications of the digitisation of the economy and the datafication of social life. However, relatively little reflection has been devoted to how law can address these implications. According to Golia, even the digital constitutionalism literature which has a special focus on adapting constitutional values to our digital age has largely sidestepped the challenges of digital or informational capitalism, particularly, issues of extraction and redistribution of economic value.¹ This is unfortunate. Long saddled by challenges from economic globalisation and neoliberal capitalism, political institutions must re-establish their legitimacy in this changed political economy or risk total irrelevance. This Article joins others in this collection in arguing that states, through new tax laws, could re-establish legitimacy by exhibiting capacity to govern economic actors, whose power appears to exceed theirs, and promote social solidarity and welfare by ensuring benefits to everyone.

In this Article, I engage in an analysis of data tax (DT) as a tool of economic redistribution in the digital age. I analyse DT against relevant provisions of international human rights law. I give particular emphasis to the right to science (RtS) embodied in Article 17.1 of the Universal Declaration of Human Rights (UDHR) and Article 15.1(b) of the International Covenant on Economic, Social and Cultural Rights (ICESCR). RtS provides valuable guidance. It embodies three social interests relating to science and its applications: avoiding or protecting from harmful

¹A Golia Jr, 'Data Capital Tax within the Puzzle of (Economic) Digital Constitutionalism: Questions for a Comprehensive Research and Policy Agenda' (The Digital Constitutionalist Blog 2023) <<https://digi-con.org/data-capital-tax-within-the-puzzle-of-economic-digital-constitutionalism-questions-for-a-comprehensive-research-and-policy-agenda/>> accessed 15 January 2024.

applications of science (protection from harm); sharing in the benefits of scientific and technological progress (benefit sharing); and participation in the scientific enterprise (participation). As a comprehensive framework for making technological progress serve the common good, it obliges states to pursue these three potentially competing interests simultaneously.² Using RtS, I look at the implications of various social benefits that DT might fund including universal basic income (UBI) and other public goods. I also examine how DT related to what might be called technological gains tax which recognised that the scientific heritage which underpinned technological progress pertained to humanity and exacted rent from corporations that privatised the benefits from such progress.

The exploration of new taxes from a human rights lens is timely. Human rights advocates are increasingly recognising the crucial importance of engaging with the human rights implications of taxation policies. The idea of taxing data should and will be an important human rights concern. Proposed by tax scholars, DT makes data an object of taxation, underscores the rise of data as a factor of production, and seeks to correct the socially unjust effects of taxation policies ignoring data's role in value creation. As a new tax, DT can create greater fiscal space for UBI as Vipra (in this symposium issue) argues, or otherwise support the creation of certain less expensive public goods such as the funding of underfunded medical research as Fasan argues elsewhere. Moreover, as a tax with Pigouvian³ potential to discourage excessive datafication and its harms, DT can also help protect against harms to privacy and other human rights.

I argue that the human rights implications of DT depend on other decisions pertaining to what kind of benefits (eg, UBI or specific public services or goods) it will fund and whether benefits will entrench or challenge harmful business models and practices in the digital economy. I also argue that DT could advance RtS in the digital age by functioning as a tax on both data *and* technology. Finally, I emphasise the problem with taxing data in a world where data is concentrated in technologically more developed countries and the need to ensure that DT did not lead to more inequality between states.

2 The human rights turn to taxation

Taxation policies determine whether governments have sufficient fiscal space to realise the human rights of citizens and residents through the provision of social services and government programs. Whether taxation policies distribute burdens and privileges among different groups in society progressively or otherwise, they have crucial implications for material equality within nations. Internationally, taxation policies also influence whether needed revenues will flow to or away from less developed countries, thus impacting equality among nations.⁴ The efforts of groups like the Tax Justice Network in scrutinising tax cuts for the superrich, closing international tax havens, promoting financial transparency (automatic bank information-sharing and registration of beneficial ownership), unitary taxation and the UN Tax Convention provide illustration of some of the work that is being done to bring a human rights lens to international taxation policies. We are seeing some UN human rights bodies (eg, UN Committee on the Rights of the Child which

²J Lamchek, 'Ensuring Data Science and Its Applications Benefit Humanity: Data Monetization and the Right to Science' 23 (2023) *Human Rights Law Review* 1.

³A 'Pigouvian tax' is a tax on firms that engage in activities like smoking or environmental pollution that result in social costs or what economists call negative externalities. The tax can be seen as a fee imposed on an actor equal in amount to the expected social costs of that activity, ensuring that the activity takes place only to the extent it produces some good that exceeds the expected social costs. J Masur and E Posner, 'Toward a Pigouvian State' 164 (1) (2015) *University of Pennsylvania Law Review* 93.

⁴P Alston, 'Tax Policy is Human Rights Policy: The Irish Debate', 12 February 2015 (keynote address at Christian Aid Conference on the Human Rights Impact of Tax and Fiscal Policy, Dublin); P Alston and N Reisch (eds), *Tax, Inequality, and Human Rights* (Oxford University Press 2019).

investigated Ireland's tax policies' facilitation of profit shifting) involved in the push for tax reforms.⁵

Important proposals to revitalise social and economic rights require funding and often entail taxation in some form. Chief of these proposals is the expansion of the systems of social protection which is a recognised human right under Article 22 of the Universal Declaration of Human Rights (UDHR) through the establishment of universal basic income (UBI). As United Nations Special Rapporteur for Human Rights and Extreme Poverty, Philip Alston argued that in the face of increasing job insecurity as a result of globalisation, the rights to social security and an adequate standard of living are best secured through the establishment of UBI.⁶ His argument provides an explicitly human rights grounding for UBI, a topic that has attracted renewed discussion. However, UBI remains a politically controversial proposition and disagreement exists over its human rights implications. Some of the more compelling critiques of UBI point out that a UBI that provided social security and an adequate standard of living for everyone has to be substantial in amount; however, a substantial UBI will be so expensive as to entail negative human rights consequences. Human rights lawyer and economist Philip Harvey argued, for example, that a substantial UBI had an 'opportunity cost' in that its implementation would preclude the provision of other social services needed to fully realise other economic and social rights recognised under the UDHR.⁷

While Fasan does not engage in a critique of UBI, she has argued for a more modest and targeted use for 'data capital tax', namely, to fund underfunded medical research. This suggestion is meant to show that DT could enable the state to support neglected medical research that benefited people's health. A more commonly suggested alternative to UBI is a job guarantee for those able to work (coupled with targeted social protection for those unable to work). It is argued that a job guarantee is a more realistic, lower-cost alternative to UBI that moreover addressed challenges to the right to work in the context of increased automation.⁸ Regardless of where advocates stand on the UBI versus the cheaper alternatives debate, it is clear that the existence and sufficiency of funding sources is a major consideration in the justification of the options that should be pursued.

Clearly, new taxes that allow for ambitious government programs should interest human rights advocates. For example, the expansion of social protection, which is crucial post-COVID, could be funded from new taxes including DT.⁹ DT is an example of a number of proposed tax reforms which problematise the inadequacy of existing taxation policies for our age.¹⁰ They theorise how new wealth is being created in a data-rich economy but is escaping taxation or redistribution to benefit ordinary people.

⁵UN Committee on the Rights of the Child, 'Concluding Observations on the Combined Fifth and Sixth Periodic Reports of Ireland', CRC/C/IRL/CO/5-6, 28 February 2023.

⁶P Alston, 'Universal Basic Income as a Social Rights-Based Antidote to Growing Economic Insecurity' in K Young (ed), *The Future of Economic and Social Rights* (Cambridge University Press 2019) 377.

⁷P Harvey, 'A Basic Income Guarantee Cannot Secure Either the Right to Work or Income Security Recognized in the Universal Declaration of Human Rights but There is a Strategy that Can at Far Lower Cost' in D Soucier (ed), *Universal Basic Income Roundtable* (The University of Maine Margaret Chase Smith Policy Center 2019) 13.

⁸Harvey argued that while UBI might allow the unemployed to survive, which is a great help, it wouldn't ensure that she could get a job if she desired one to augment her UBI and obtain the other social and psychological rewards of having a job. *Ibid.* However, given that many jobs tend to be unfulfilling in reality, such critiques tend to overstate the advantage of having any job whatsoever; it also ignores some experimental evidence that UBI actually leads to higher employment. In this regard, Standing has argued that the ability of workers to refuse unfulfilling jobs, an ability which can come from receipt of UBI, impacts positively on the creation of meaningful jobs. G Standing, 'Why a Basic Income Is Necessary for a Right to Work' 7 (2013) *Basic Income Studies* 19.

⁹J Lamchek, 'Funding Social Protection from Data After COVID-19: Potential Contribution of the Right to Benefit from Scientific Progress' in T Chaiechi and J Woods (eds), *Community Empowerment, Sustainable Cities and Transformative Economies* (Springer 2022) 571.

¹⁰*Ibid.*

3 Sharing wealth while protecting from harm: some considerations for DT

The new context of the digital economy, however, not only provides new opportunities for generating funding for promoting social solidarity and people's welfare but also demands protections against new harms such as those entailed by surveillance capitalism.¹¹ Indeed, among the mainstream of the human rights movement, the need for protection is probably more appreciated than the need for wealth sharing.¹² However, as we have seen in the foregoing discussion about the opportunity cost of UBI, a proposed course of action may advance human rights in one sense (eg, expand the social safety net) but may still have a suboptimal overall or net impact on human rights. A course of action that produces optimal overall human rights outcome should create synergies rather than tensions between the achievement of various human rights.

Thus, taxation that aimed towards benefit or wealth-sharing in the digital economy by expanding the safety net or through other means can be harmful to human rights overall if it contributed to entrenching harms to other human rights. As an example, expanding the safety net through UBI may well provide relief to those displaced by automation but in the same breath it may also become a palliative that reconciles society to unrestrained profit-seeking in which technology is used to make jobs more exploitative or to cause the disappearance of employment relations regulated by democratic labour law.¹³ In this scenario, UBI could neutralise calls for greater market regulation and labour law reforms, contributing to the entrenchment of rather than the challenge of the status quo, and therefore may be detrimental to human rights in the long term.¹⁴ However, such critiques of UBI are not insurmountable. They do not deny that UBI helps, but they do imply that its justification and limitations need to be made clear. They demand that UBI should be reframed so that it accompanies and strengthens rather than competes with other reforms aimed at challenging unequal and exploitative relations.¹⁵

To see how DT is superior to other proposals for sharing the wealth of the digital economy, consider data dividends which have been one popularly proposed ways of capturing wealth to benefit individuals. Like DT, data dividends presume that data is valuable; proponents of data dividends propose that data's value should then be apportioned to individuals on the basis that they contributed to value creation. California Governor Gavin Newsom, for example, had originally suggested that the California privacy law implied payment of data dividends to Californians, echoing similar ideas that social media companies, for example, should pay users for using their data.¹⁶ Putting aside the question of administrative complexity or practical impossibility of computing the value of individual data,¹⁷ taxing big data (to fund social services among others) was preferable to data dividends because while both entailed benefit or wealth sharing, DT avoided harm to human rights where data dividends would likely entail harm. This was because assigning monetary value to individual personal data may also enable corporations to

¹¹S Zuboff, *Surveillance Capitalism: The Fight for a Human Future at the New Frontier of Power* (Public Affairs Hachett Book Group 2019).

¹²See, eg, 'The Toronto Declaration: Protecting the Right to Equality and Non-Discrimination in Machine-Learning Systems'.

¹³B Rogers, 'Basic Income in a Just Society', *Boston Review*, 3 May 2017 <<https://www.bostonreview.net/forum/brishen-rogers-basic-income-just-society/>> accessed 27 October 2023.

¹⁴J Bidanure, 'The Political Theory of Universal Basic Income' 22 (2019) *Annual Review of Political Science* 481.

¹⁵Rogers (n 13).

¹⁶A Au-Yeung, 'California Wants to Copy Alaska And Pay People a "Data Dividend." Is It Realistic?', *Forbes*, 14 February 2019. <<https://www.forbes.com/sites/angelaueyung/2019/02/14/california-wants-to-copy-alaska-and-pay-people-a-data-dividend-is-it-realistic/>> accessed 27 October 2023.

¹⁷Many have regarded the goal of computing the value of individual data as having reached a dead end. In the ensuing articulation by the Berggruen Institute of the California data dividend proposal, the idea of individual or *my* data having value was abandoned in favor of a theory that only aggregate of *our* data has value. It is in this context that the Berggruen Institute proposed that a tax on big data was the better solution. This was because a tax on big data avoids having to assign and compute monetary value to individual personal data in order to distribute the correct value to individuals. Y Feygin et al, *A Data Dividend That Works: Steps Toward Building an Equitable Data Economy* (Berggruen Institute 2021).

assert that individuals' privacy rights to such data has been sold or surrendered to them. Surely, the right to privacy means more than creating data dividends for those who can successfully negotiate with corporations to obtain them; the protection of privacy in its dignitarian meaning¹⁸ seems in tension with its commoditisation. Unlike data dividends, DT promises to capture wealth from data for redistribution to ordinary people without being entangled in such complications over the meaning and future of the right to privacy.

To the contrary, DT has Pigouvian potential. Like sin taxes on alcohol and tobacco, for example, taxing big data could be regarded, at least in theory, as a discouragement of excessive collection, storage and processing of data, and all the attendant harms to privacy and other human rights that excessive datafication entails. Indeed, if DT functioned to discourage excessive datafication, whether DT funded UBI, social services or a specific public good, DT would have contributed to challenge surveillance capitalism, not entrench it. This does not mean discouraging excessive datafication can or should only come in the form of taxing data; indeed, other reforms such as stronger privacy protections and more democratic mechanisms for governing data may be needed to achieve that end. Whether DT actually discouraged the harms to human rights emanating from excessive datafication may depend on the existence of other protective mechanisms which complement it in the same manner that UBI needs to be complemented with other reforms.¹⁹

4 Exacting rent on data *and* technology: DT as a technological gains tax

Where RtS and some theories of DT appear to differ is in their emphasis of where value emanates. RtS refers to 'benefits' that arise from 'scientific progress' and the 'application of science' (ie, technology), whereas some theories of DT emphasise that in a digital economy, value largely derives from big data. Thus, these theories of DT assume that what needed to be captured and distributed was the value of big data. In Omri Marian's theory, the value of big data corresponded with its volume not necessarily its realised monetary value; ie, corporations should be taxed based on the volume of data they collected, stored and processed rather than the monetary value they realised from big data.²⁰ This recognised that data was the new currency or tax base. According to Marian, in a data-rich market economy, the ability to collect, store and process increasingly voluminous data was the best proxy for 'ability to pay', indeed better than monetary income itself.²¹ Taxation policies that insisted on taxing monetary income rather than data ignored the impact of big data on value creation and the markedly different abilities of corporations to collect, store and process them, thereby allowing corporations that had the best ability to pay to remain insufficiently taxed. While tax reforms such as the digital services tax may capture some of the monetary income realised from digital services, eg, online advertising, such reforms will remain inadequate until data itself rather than merely realised income is taxed.²²

In this symposium issue, Vipra supports the emphasis on big data and justifies largely ignoring other factors such as algorithms and computing power which are private properties of corporations. Her concern is the pauperisation that arises from the inability of masses of people to sell their intellectual labour as a result of the rise of AI and her proposal is to counter this through UBI funded by DT. Big data was, Vipra argues, a proper subject of 'rent' ie, taxation in the form of DT. Vipra's notion of 'data rent' is fashioned from Thomas Paine's theory of 'ground rent'. In Paine's *Agrarian Justice*, he theorised the justice of exacting a tax (ground rent) from landowners and distributing it as a payment to all (a form of UBI) in recognition of the fact that land, though

¹⁸S Viljoen, 'A Relational Theory of Data Governance' 131 (2) (2021) Yale Law Review 573.

¹⁹Rogers (n 13).

²⁰O Marian, 'Taxing Data' 47 (2022) BYU Law Review 511.

²¹*Ibid.*

²²*Ibid.*

now privately owned, belonged to and should benefit everyone in common as it used to be before enclosure.²³ Vipra's notion of data rent rehearses Paine's solution but in the context of the rise of AI greatly devaluing intellectual labour and thus preventing masses of people from making a living from such intellectual labour. The theory relies on the argued correspondence between data and 'economically relevant intellectual capacity'. Similar to Vipra, other proponents of UBI as a solution to AI-induced job displacement also theorise that the value created by AI partly belongs to the masses of people given that their data have contributed to the big data necessary to evolve AI capacities.²⁴

However, the assertion that value arises from big data clearly involves a conceptual shortcut. Data themselves have no value unless converted into things like insights, predictions, and data products which are of benefit to someone, whether this be realised as monetary value or not. As corporations sell these predictions and data products to advertisers and the behavioural futures markets, corporations realise the value of data as monetary gain; but corporations may well use insights, etc. in other ways to benefit themselves through greater operational efficiency or what not. States, communities, non-profits or others too may as well use insights, predictions, and data products derived from big data for their own or the common good without these things being any monetary value. The point is that data is not inherently valuable but is imbued with value through being related to other data through the application of advanced analytic techniques. Big data does not analyse itself after all; you crucially need data *scientists* to convert data to the kind of value that can be of benefit to someone. For big data to have value, all the needed analytic techniques, sociological knowledge, technological infrastructure, etc. must combine and be applied to convert data into value.

In contrast with Vipra, I argue that other factors that are combined with big data, ie, algorithms and computing power are also proper subjects of rent. This is where RtS comes into play; we also need to pay attention to data *science* and infrastructure rather than merely data. Scientific ideas and discoveries (the labours of generations of scientists) underpin technological progress; this is as much true of digital technologies as other technologies. RtS underscores that these scientific ideas are the heritage of humanity and problematises the privatisation of its benefits. More concretely, as Mazucatto has underscored, states have contributed to technological innovations in the form of, among others, public investment specially in the early high-risk stage of research that led to technological innovations.²⁵ Apple's iPhone thus could not have been possible without the component technologies (the internet, the microchip, the touch screen, etc.) which were developed with substantial public investment. If, as Paine and Vipra have suggested, the exaction of rent from corporations which privatised what is supposedly common property was important to restore social justice, then we had been missing mechanisms for the recovery of rent on the scientific heritage as well. We have also been missing mechanisms for 'pre-distribution' by which part of the gains from technological innovations that have been commercialised should return to

²³T Paine, *Agrarian Justice* (Printed by R Folwell, for Benjamin Franklin Bache 1797) <<https://catalog.hathitrust.org/Record/010429193>> accessed 26 October 2021.

²⁴See, eg, NH Kang, 'Artificial Intelligence and the Right to a Universal Basic Income' (2016) <http://bien2016.org/en/wp-content/uploads/2015/10/BIEN2016_Kang_en.pdf> accessed 25 October 2021. In general, funding UBI from rent of any kind underpins its social justice. P van Parijs, whose treatise *Real Freedom for All* is largely credited for reigniting the current UBI debate, has premised his argument for UBI on the sharing of social wealth that avoided the implication that the unproductive segment of society was being subsidised by the productive. He argued that funding for UBI should come from the taxation of 'undeserved gifts and bequests', of which large transfers of wealth through inheritance are commonly thought of as examples. More originally, van Parijs proposed taxation of employment rents, ie, privileged jobs conceived as undeserved gifts held by the advantaged. P van Parijs, *Real Freedom for All: What (If Anything) Can Justify Capitalism?* (Oxford University Press 1995). Other UBI proponents have proposed a variety of other taxes, eg, carbon taxes, financial transactions taxes, etc, as well as dividends from natural resources such as the Alaska Permanent Fund, a sovereign wealth fund that dispensed yearly income to all residents of Alaska. K Widerquist and M Howard (eds), *Exporting the Alaska Model* (Palgrave Macmillan 2012).

²⁵M Mazzucato, 'The Entrepreneurial State' 49 (2011) *Soundings* 131.

the public.²⁶ Failing to capture rent on scientific and technological progress was socially unjust because it meant a few corporations undeservedly benefited from the labours of generations of scientists, and public funding by the state, while ordinary people were excluded from what is supposed to be a common inheritance.

Thus, I argue that DT could be thought of not only as ‘data rent’ but also as rent on data *and* technology. Big data need not be strictly differentiated from other factors (algorithms and computational power) with which it is combined to create value. Even though, as Marian proposed, for administrative simplicity, the computation of DT itself could be based only on the volume of data and no other things, DT taxed the ability to collect, store and process increasingly voluminous data which depended on technological factors. From this light, DT functioned to introduce a kind of technological gains tax with respect to data *science* and its application in monetising or deriving economic value from big data, a measure that had been missing from previous eras of technological progress.

5 International dimensions and feasibility of DT

So far, we have discussed DT at the level of the state which could impose it on corporations to benefit citizens and residents in some way and protect them from harm. Especially when DT is suggested to fund the expansion of social protection such as UBI, we have imagined the decision-making and implementation to take place at the level of the taxing state. However, if the elaboration and implementation of DT were to lead to an overall positive human rights outcome, the impact of the implied taxation policies on international equality should also be of concern. As mentioned, internationally, taxation policies influence whether needed revenues will flow to or away from less developed countries, thus impacting equality among nations. If we were to seriously insist that the benefit of big data should belong to everyone, then DT should be equitably shared internationally.

Marian has highlighted that states could easily enforce DT within their territorial jurisdictions given that data flows through some physical infrastructure which states can effectively control.²⁷ This might be a practical advantage that makes DT attractive to states desirous to raise revenues without waiting for an international agreement to be formed or the need for coordinating with other states. Christians and Magalhães (in this symposium issue) also argue that redoing digital services tax as income tax by expanding the withholding tax system to include certain digital service fees would enable states to tax tech companies without coordination with other states including, importantly, the United States. But if DT were collected where the infrastructure for the flows of big data exists and benefited only those countries, then, this raises concern about the justice of not sharing the value of big data with everyone. As Brauner argues, if countries benefit in proportion to how much data flows through the infrastructure they host in their territories, the jurisdictions with the most developed infrastructure for big data will likely benefit the most.²⁸ Moreover, not needing international coordination, data taxes enforced unilaterally like the digital services tax will have the side effect that nations will compete to attract corporations through more lenient tax policies rather than unite over their more just taxation.²⁹

It is thus important to consider the feasibility of DT not only as a tax that can be administered and collected domestically, challenging and important as that question may already be, but also as a tax that is regulated by international rules that ensure it is equitably shared across developed and developing countries alike. More familiar concerns with income taxation of multinational

²⁶Ibid.

²⁷Marian (n 20).

²⁸Y Brauner, ‘Taxation of Information and the Data Revolution’ (1 March 2023) <<https://papers.ssrn.com/abstract=4400680>> accessed 11 September 2023.

²⁹Ibid.

corporations cast a shadow on the question of DT's feasibility as a tax with international implications. The main troubles with business taxes lie in the ability of multinationals to shift their profits to tax havens, and the reaction of states, acting independently of other states, to counter the erosion of their own tax bases by lowering their tax rates and/or introducing measures like financial secrecy that exacerbate the problem. Both problems result from decisions made by states. Hugo and Løvold have emphasised that harmful tax competition is a cookie-cutter instance of an 'international cooperation problem where individual rationality is at odds with collective rationality'.³⁰ Thus, the feasibility question is largely a question of how to convince states to work together and share taxes in a fair manner.

On the bright side, states are not unfamiliar with the notion that tax competition is harmful to everyone in the long run and that it must be stemmed through international cooperation and the development of international law. A century of international tax treaty-making attests to this. This includes the OECD's success in forging the two most significant multilateral tax agreements and its current efforts to facilitate international negotiations on solutions to the tax challenges of the digital economy.³¹ In the EU, this history also includes the 1967 decision to create an EU-wide system of Value Added Tax (VAT) as part of the programme to create a single market and the non-binding 1997 Code of Conduct on business tax that encouraged non-competition in tax matters.³² Hugo and Løvold, furthermore, note that today the 20 largest economies support the so-called 'ABC of tax transparency' originally proposed by the Tax Justice Network, namely, automatic exchange of financial information, beneficial ownership transparency, and country-by-country reporting, which build towards a system of unitary taxation.³³

The new watershed moment for international cooperation on this matter is the recognition by many non-European and developing countries that solutions need to be even more globalised than what the OECD is already currently pioneering.³⁴ A key idea championed by advocates of the UN tax convention is unitary taxation whereby every state is enabled to tax multinational groups on their global income in proportion to that country's share in the multinational groups' workers and sales.³⁵ International fairness is operationalised by seeing the tax base as global (the multinationals' global income) as well as having a formula for sharing it that is accepted as fair across developed and developing countries.

The foregoing reflection implies that DT proponents not only must but can aspire towards global cooperation; anything less will fall short.³⁶ Thus, if DT were established within the EU, that might signify a level of international cooperation that improved fairness within the EU. But that would still attract the same criticisms as those levelled against the OECD's proposals on the taxation of multinationals, namely, that the net impact on developing countries is negative (See, Oxfam 2021; McCarthy 2022). Ensuring international fairness in DT could learn from the current proposal for a UN tax convention. That is, states need to imagine the tax base as global (and as

³⁰TG Hugo and M Løvold, 'A UN Tax Convention? Exploring the Merits and Feasibility of a New International Convention on Tax and Financial Transparency' (Norwegian Academy of International Law 2022) 6 <<http://intl.law.no/wp-content/uploads/2022/09/REPORT-UN-tax-convention-FINAL-NAIL-sept-2022-WEB.pdf>> accessed 7 August 2024.

³¹Ibid.

³²'Taxation and the EU' (Civitas: Institute for the Study of Civil Society, 18 December 2015) <<http://civitas.org.ukhttps://civitas.org.uk/eu-facts/eu-overview/taxation-and-the-eu/>> accessed 13 August 2024.

³³Hugo and Løvold (n 30) 8.

³⁴L Thomas, 'UN Vote Challenges OECD Global Tax Leadership', *Reuters*, 23 November 2023, <<https://www.reuters.com/world/un-vote-challenges-oecd-global-tax-leadership-2023-11-23/>> accessed 15 January 2024.

³⁵J Schwarz, 'A U.N. Plan to Stop Corporate Tax Abuse', *The Intercept*, 12 August 2023, <<https://theintercept.com/2023/08/12/tax-abuse-international-corporations/>> accessed 15 January 2024.

³⁶The editor has suggested that I reflect on the feasibility of DT as an EU tax. I venture no claims about EU countries' willingness or unwillingness to cooperate to establish rules for the fair distribution of DT.

I have argued, the right to science helps in this regard). Moreover, a fair formula for sharing DT across jurisdictions must be found.

6 Conclusion

States can enhance their relevance in the digital age through taxation that impact corporations' collection, storage and processing of data in ways that not only ensure citizens and residents benefit therefrom but also protect them against harms to their privacy and other rights. Regarding benefit-sharing, I urged that careful thought must be put to what social benefits DT should fund to ensure optimal outcomes for society. Ambitiously, DT could expand the system of social protection such as through UBI, but this presumes DT will deliver extremely substantially; the impact on other rights must also be considered. Less ambitiously, DT could fund other public goods, but what exactly depends on the fiscal space it creates and the socio-economic priorities of states. Regarding harm avoidance, I have emphasised the importance of DT's Pigouvian potential to its overall human rights impact. Given this importance, DT is better considered not as a stand-alone proposal but should form part of a package of law reforms that strengthened privacy and human rights protections against the harms of surveillance capitalism.

Previous eras of technological progress have not seen tax used to recognise that science and the benefits of its applications belong to humanity. DT makes this possible in the digital age. While the rise of data as a factor of production is important to recognise, I have argued that DT does not have to be seen as focused on extracting the value of big data independently of the technological factors that combine with data to produce value. Rather, states could also present DT as rent on both data and technology. Finally, I have argued that implementing DT as a unilateral tax is in tension with the human rights approach to DT which required that the benefit be shared equitably among states through international coordination.

Supplementary material. To view supplementary material for this article, please visit <https://doi.org/10.1017/elo.2024.51>

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