

A new social contract for data?

Reflecting upon the conditions needed for a global social contract for data to arise.

In 2021, the World Bank published the *World Development Report: Data For Better Lives*. In this report, the World Bank argues for the establishment of a social contract for data: ‘one that enables the use and reuse of data to create economic and social value, promotes equitable opportunities to benefit from data, and fosters citizens’ trust that they will not be harmed by misuse of the data they provide.’¹ The World Bank is among many actors reflecting upon how data impacts existing social contracts and the need to establish a new social contract. The unprecedented amount of data found and created in the world brings forth great opportunities for advancing humanity but also poses significant risks, threats, and challenges. Technological revolutions have always led people to create social structures that deal with the benefits and challenges that these brought forth. One type of social structure that might arise is a ‘social contract,’ which: ‘establishes norms of behaviour required in the transformed society’ and ‘defines collective rules that constrain the behaviour of individuals and groups’ in order ‘to protect the individual, while also benefiting the society as a whole.’²

Many perspectives on social contracts exist; however, they all seek to explore why rational individuals would consent to give up some of their freedoms as a trade-off for living in a political order.³ In the case of data, this refers to the potential willingness to transfer or grant access to data to an overarching authority, even if it means giving up autonomy and or privacy. Currently, we cannot speak about the existence of one over-arching political power or political order about data. Instead, we can identify a patchwork of overlapping claims of and formal authority over data at different governance levels.

This is partly a consequence of how data is obtained, which is done by various private and public actors with data policies that hold different norms regarding transparency, ownership, and usage of the specific data. This reality has inspired scholars, activists, and international organisations to call for the need to overcome issues of transparency, lack of trust, and the risk of not using the great potential of data to advance humanity by creating a social contract about data.⁴ This contract is often

¹ World Development Report 2021: Data for Better Lives, *World Bank*, 2021, <https://wdr2021.worldbank.org/the-report/>.

² James H. Kaufman, et al. "The social contract core." *Proceedings of the 11th international conference on World Wide Web*. (2002):210-211.

³ Nayef Al-Rodhan. "The social contract 2.0: Big data and the need to guarantee privacy and civil liberties." *Harvard International Review* 16 (2014):1.

⁴ World Bank. "The Social Contract for Data: Data for Better Lives". *World Development Report 2021*. (2021):2-349.; Ramesh Sirinivasan and Dipayan Ghosh. "A new social contract for technology." *Policy & Internet* 15.1 (2023): 117-132.

considered a global or supranational social contract for the international society, including individuals, governments, regional organisations, academia, cooperations, and civil society.⁵

Although much literature is devoted to social contract theory, little attention is paid to the conditions needed for an (updated) social contract to arise. In response to this void, Alexander Fink has proposed a theory about the likeliness of a social contract to appear and identified three conditions that need to be present in a group from which we 'expect to observe the formation of genuine social contract.'⁶ According to Fink, the group (1) needs to have relatively similar preferences concerning public good, (2) the members of the group need to share some standard social norms, and lastly, according to Fink, (3) 'the smaller the group, the lower are decision-making and monitoring costs making a unanimous agreement more feasible.'⁷

This paper reflects upon these conditions in the context of data. The purpose of this paper is not to explain what a social contract regarding data might look like or which technical framework would be needed. Instead, this theoretical paper reflects upon and contributes to the academic and societal debates about the need to establish a new or updated social contract for data by reflecting upon the conditions under which such a contract might arise and the extent to which we can identify these conditions today. The following main research question has been formulated: **To what extent are the conditions necessary for a social contract for data to arise present?** To answer this question, three sub-questions based on the requirements outlined by Fink have been formulated:

1. *To what extent can data be perceived as a public good by the global community, and is it possible to identify similar preferences in how it should be treated?*
2. *To what extent can we identify standard social norms among the actors imagined to be included in a global social contract for data?*
3. *To what extent does the size of the global community pose an obstacle for a social contract for data to arise?*

⁵ A. Liaropoulos. "A Social Contract for Cyberspace." *Journal of Information Warfare* 19.2 (2020): 1-11. ; L. Cardelli et al. "Digital Social Contracts: A Foundation for an Egalitarian and Just Digital Society." *CEUR Workshop Proceedings* (2020):51–60. ; Samir Saran, Terri Chapman, and Mihir Sharma. "A New Social Contract for the Digital Age." *Observer Research Foundation Special Report 79*, December (2018).

⁶ Alexander Fink. "Under what conditions may social contracts arise? Evidence from the Hanseatic League." *Constitutional Political Economy* 22 (2011): 181.

⁷ Alexander Fink. "Under what conditions may social contracts arise? Evidence from the Hanseatic League." *Constitutional Political Economy* 22 (2011): 174.

Social contracts

The concept of the social contract has a prominent role in political theory. The works of Rousseau, Locke, and Hobbes, in which they explain and argue for a social contract in the context of the modern state, are seminal works for every political science student. Social contracts are often defined as a written agreement 'geared towards the instalment of a political authority to foster social cooperation.'⁸ Secondly, the document must raise the community out of a state of nature, meaning there was no prior political authority. And lastly, the members of the community enter the agreement voluntarily.⁹ The theory of social contracts has been and continues to be influential because it addresses 'the source of sovereign's legitimacy, conceptions of freedom of individuals and equality, and the issue of consent.'¹⁰ However, despite the popularity of the theory and the usefulness of the imaginary, the extent to which the social contract is 'real' is the subject of debate, as stated by Durkheim about social contract theories: 'The conception of a social contract (...) has no relation to the facts.'¹¹ And some: 'contemporary contractarians do not argue for the historical reality of a primordial social contract.'¹²

However, academics have recently argued against the idea that a social contract is a myth. Leeson refers to 'the myth of the myth of the social contract'¹³ as he argues that genuine social contracts can be identified among pirate communities. Other scholars have found case studies in which a social contract can be observed, such as 19th-century wagon trains¹⁴, the Kontors found in the Hanseatic League¹⁵ and prison gangs¹⁶. Interestingly, although in the often-cited works on social contracts, the nation-state has a central role as social contract theory has been used to legitimise the nation-state itself, the nation-state is absent in the empirically observed cases of social contracts. This raises

⁸ Peter T. Leeson. "The calculus of piratical consent: the myth of the myth of social contract." *Public Choice* 139 (2009): 443-459. In Fink, Alexander. "Under what conditions may social contracts arise? Evidence from the Hanseatic League." *Constitutional Political Economy* 22 (2011): 177.

⁹ Peter T. Leeson "The calculus of piratical consent: the myth of the myth of social contract." *Public Choice* 139 (2009): 443-459. In Fink, Alexander. "Under what conditions may social contracts arise? Evidence from the Hanseatic League." *Constitutional Political Economy* 22 (2011): 177.

¹⁰ N. Bërdufi, and D. Dushi "Social Contract and the Governments Legitimacy." *Mediterranean Journal Of Social Sciences* 6.6 (2015): 392.

¹¹ Emile Durkheim. *The Division of Labour in Society*. (New York: MacMillan, 1933), 202.

¹² D. Heckathorn, and S. M. Maser. "Bargaining and constitutional contracts." *American Journal of Political Science*, 31(1) (1987): 144.

¹³ Peter T. Leeson. "The calculus of piratical consent: the myth of the myth of social contract." *Public Choice* 139 (2009): 443-459.

¹⁴ T. L. Anderson, and P. J. Hill. *The Not so wild, wild west: Property rights on the frontier*. (Stanford: Stanford University Press, 2004).

¹⁵ Alexander Fink. "Under what conditions may social contracts arise? Evidence from the Hanseatic League." *Constitutional Political Economy* 22 (2011): 181.

¹⁶ David Skarbek. "Putting the 'Con' into constitutions: The economics of prison gangs." *Journal of Law, Economics, and Organization*, 26(2), (2011): 183–211.

questions about how the ideas of a social contract might be helpful to understand, explain and or legitimise the establishment of political authority but on different governance levels than that of the nation-state.

In the last decades, globalisation has and continues to impact and challenge the primal role of the nation-state in governance and, thus, the social contract. In response, various attempts have been made to restore the social contract between the nation-state and its society or to reflect upon new forms of social contracts in which a minor role for the nation-state is found. In the attempts to envisage a social contract on a sub or supra-national level, the social contract is not imagined as establishing an authority that governs 'all' matters related to society. It instead often focuses on one specific field or the provision or governance of a particular good. For example, attempts have been made to establish and reflect upon a social contract for science that dictates the relationship between 'society' consisting of governments, businesses, and civil society on the one hand and the academic community on the other.¹⁷ Moreover, a social contract about privacy have been proposed.¹⁸

Another field in which the establishment of a social contract with a less central role for the nation-state is proposed or reflected upon is in relation to the digital realm. This is not surprising as the digital realm has and continues to challenge the central role of the nation-state in governance. Moreover, the digital realm has been described by scholars as being 'a kind of undeveloped frontier, reminiscent of a Lockean state of nature'.¹⁹ It has led some to argue for the establishment of a social contract concerning cyberspace²⁰ as well as in relation to the internet.²¹ However, one factor that complicates the establishment of a social contract, specifically about cyberspace and the internet, is the fact that it has to take into account the already established social agreements found in the 'offline' world or, as stated by Horowitz, reflecting on social contracts distinct to cyberspace that 'these cannot ignore the mandatory laws of real-space sovereigns'.²² Instead of reflecting upon one overarching social contract for the internet and cyberspace in general, people have argued for or

¹⁷ Noel Castree. "Geography and the new social contract for global change research." *Transactions of the Institute of British Geographers* 41.3 (2016): 333.

¹⁸ Kirsten Martin. "Understanding privacy online: Development of a social contract approach to privacy." *Journal of Business Ethics* 137 (2016): 551-569.

¹⁹ Steven Horowitz. "As Boundaries Fade: The Social Contract in Cyberspace." *Temple Undergraduate Research Prize Winners* (2006):1-41.

²⁰ A. Liaropoulos. "A Social Contract for Cyberspace." *Journal of Information Warfare* 19.2 (2020): 1-11.

²¹ Rolf H. Weber, and Romana Weber. "Social Contract for the Internet Community." *SCRIPTed* 6 (2009): 90.

²² Steven Horowitz. "As Boundaries Fade: The Social Contract in Cyberspace." *Temple Undergraduate Research Prize Winners* (2006):21.

reflected upon social contracts related to specific aspects of the internet, such as virtual worlds²³, social networking sites²⁴, cybersecurity²⁵, and, notably in the context of this paper: data.

In recent years, many have pointed to the need to reflect upon how the internet and 'data' impact or erode our current social contracts, traditionally considered an agreement between the government and individuals. This is due to the power and influence of commercial actors, data misuse, privacy concerns, state surveillance, and the 'increasing interplay between commercial interests and government.'²⁶ Unsworth has argued that a re-evaluation of the social contract is needed as 'big data has the potential to be used in both productive and oppressive ways, the contract must be reevaluated to respect and limit the potential power embedded in such discovery.'²⁷

Others have argued for the need to establish a new social contract. For example, Srinivasan and Dipayan argue for a need to develop a new social contract that incorporates corporations found in the technology sector: 'so that we can continue to benefit from the services they provide to us, but in such a manner that their business is conducted respectfully, recognizing that their value has everything to do with the extraction of personal data and inference of consumer behavioural profiles.'²⁸ Al-Rodhan echoes this sentiment as he focuses on how private entities' possession of large amounts of personal data poses dangers for society and that 'the possible errors in overreliance on Big Data call for a new social contract, which ensures more accountability and that all predictive models do not reinforce stereotypes.'²⁹ Besides academics, other actors have proposed a new social contract about data, including the World Bank, the World Economic Forum, and other voices in society, such as journalists and researchers writing for *The Guardian*³⁰, *the Hindu* and the *MIT Technology Review*.³¹

All these different actors in society that are reflecting upon and or arguing for a (renewed) social

²³ Joshua Fairfield "Anti-social contracts: The contractual governance of virtual worlds." *McGill LJ* 53 (2008): 427-477.

²⁴ Johnny Snyder, Don Carpenter, and Gayla Jo Slauson. "MySpace. com—A social networking site and social contract theory." *Information Systems Education Journal* 5.2 (2007): 1-11.

²⁵ Andrew Liaropoulos. "In Search of a Social Contract for Cybersecurity." *ECCWS 2019 18th European Conference on Cyber Warfare and Security*, 2019.

²⁶ Kristene Unsworth. "The social contract and big data." *Journal of Information Ethics* 25.1 (2016): 86.

²⁷ Kristene Unsworth. "The social contract and big data." *Journal of Information Ethics* 25.1 (2016): 95.

²⁸ Ramesh Srinivasan, and Dipayan Ghosh. "A new social contract for technology." *Policy & Internet* 15.1 (2023): 120.

²⁹ Nayef Al-Rodhan. "A Neurophilosophy of Big Data & Civil Liberties, and the Need for a New Social Contract'." *Blog of the American Philosophical Association* 21 (2020): 6.

³⁰ Kevin Keith. "We Need to Build a New Social Contract for the Digital Age." *The Guardian*, April 4, 2018. <https://www.theguardian.com/commentisfree/2018/apr/04/we-need-to-build-a-new-social-contract-for-the-digital-age>.

³¹ MIT Technology Review. "Data Fairness: A New Social Contract for the 21st Century Economy." *MIT Technology Review*, February 7, 2022. <https://www.technologyreview.com/2021/05/26/1025387/data-fairness-a-new-social-contract-for-the-21st-century-economy/>.

contract in relation to data raise questions about the likeliness of the emergence of a social contract for data. In the next part of this paper, the conditions necessary for a social contract about data, based on the theory of Alexander Fink, will be analysed to reflect upon the likeliness of such a social contract arising.

Public good and similar preferences

1. *To what extent can data be perceived as a public good by the global community, and is it possible to identify similar preferences in how it should be treated?*

According to Fink, the first condition needed for a social contract to arise is ‘the presence of goods that cannot be provided for efficiently by individual initiative,’³² which can lead to establishing a form of political authority to protect and extract the benefits of the good. To understand if this is the case with data, it is crucial to first reflect upon the nature of data as a good and the position of the individual about this good. Data is often not considered a public good as both public and private actors control and govern ‘their own’ data. However, it is not difficult to understand how (some) data could and perhaps should be approached as being a public good and should be available to all or more members of society. A public good is characterised by being non-excludable and non-rivalrous. Data is non-rivalrous as using a data set by an actor does not impact the usefulness of the data set for another actor as ‘shared data do not diminish in value.’³³

However, in terms of its non-excludable nature, currently, because of the absence of a social contract and the absence of an overarching political authority about data, data is excludable. Various public and private entities obtain, store, and manage data. Due to the nature of the internet with its central role for commercial entities, a large chunk of data, specifically big data, is ‘universally produced within closed, commercial organisations.’³⁴ The state of the current landscape allows actors to perceive the data they hold as their property and thus will enable them to decide who should have access to the data and who should not.

The fact that data currently is an excludable good has a significant impact on the potential that data can have for the betterment of society as it has, among other benefits, the potential power to fight poverty and disease and to inform emergency responses. Restricting access to data enables the concentration of power and the benefits of data into a small group. Regarding the theory of Fink, a

³² Alexander Fink. "Under what conditions may social contracts arise? Evidence from the Hanseatic League." *Constitutional Political Economy* 22 (2011): 181.

³³ Todd J. Vision "Open data and the social contract of scientific publishing." *BioScience* 60.5 (2010): 330.

³⁴ Kevin Driscoll, and Shawn Walker. "Big data, big questions | working within a black box: Transparency in the collection and production of big Twitter data." *International Journal of Communication* 8 (2014): 1747.

social contract is likely to arise when there is a 'presence of goods that cannot be provided by individual initiative.'³⁵ Although the individual contributes to the creation of 'data' found in the world, the usefulness of this data is achieved by pooling it with that of others and allowing access to it by parties that want to use it for the betterment of society. In this way, one could state that currently, there is a presence of a good of which its potential benefits cannot be provided by individual initiative. Thus, establishing political authority to protect and extract the benefits of the good is a possibility.

However, according to Fink, a second condition that needs to be present is that there should be similar preferences in how the good should be treated. For many non-commercial activities conducted by researchers, NGOs, activists, and journalists, free access to data is vital for their actions. Thus, their preference regarding the treatment of the good is expected to allow open access. They would potentially be in favour of establishing a political authority that oversees this. However, for a private company, there is an incentive to prefer ownership over the data and to maintain its ability to restrict access to its data. Due to commercial interests, a company is incentivised to limit access to the data it obtains. This can be used to analyse customers and their preferences, leading to better innovation and other advantages compared to their competition. Moreover, they can make a profit by selling the data to third parties. However, on the other hand, a company can prefer to share some types of data with other actors freely. For example, by sharing data with another company and combining the data, both companies can benefit from each data set. Moreover, companies can have a preference or incentive to voluntarily share their data with actors that use the data for projects for the betterment of society, as they want to contribute to the community and or influence public opinion about the company itself. For example, Twitter entered into a data partnership with the United Nations in 2016 as the vice president of data strategy at the time, Chris Moody explained: 'we believe that the increased potential for research and innovation through this partnership will further the UN's efforts to reach the Sustainable Development Goals'.³⁶

Governmental institutions hold vast amounts of data that can be used for the public interest. Governments also have incentives to restrict access to 'their' data. This could be done for national security reasons, surveillance purposes, or protecting the privacy of their citizens. However, some governments are sometimes willing to give data to specific researchers and research institutions for projects to improve society. Although governmental institutions are occasionally willing to share data

³⁵ Alexander Fink. "Under what conditions may social contracts arise? Evidence from the Hanseatic League." *Constitutional Political Economy* 22 (2011): 181.

³⁶ "UN Unveils Data Partnership with Twitter in Support of Global Goals." United Nations, September 2016. <https://www.un.org/en/academic-impact/un-unveils-data-partnership-twitter-support-global-goals>.

publicly, it often leads to concerns about how the collection and processing of public data will be organised and who will pay for the governing and storage of such data.³⁷

In sum, different actors have preferences or incentives to maintain some types of data they hold and restrict access to them. However, following the short analysis above, there seems to be a preference for most actors that ‘data,’ when used for the betterment of society, could be open to the public if this is adequately organised and does not contribute to more costs for a specific actor. This seems to suggest that the likeliness of a social contract to arise about ‘all’ data seems unlikely. However, there appears to be a chance for a social contract concerning data that can be used for the betterment of society, as there seem to be similar preferences to be identified about this type of data. The Digital Public Goods Alliance Global Partnership for Sustainable Development Data, Jain Family Institute, UN Global Pulse, and UNICEF have introduced a new concept in relation to the need to differentiate between ‘data’ and data specifically needed for the betterment of society and formulated the idea of ‘community data’ which refers to:

“any dataset that has the potential to play an important role in the fulfillment of human rights and attainment of the SDGs, that individuals and communities have a right to benefit from, and that needs to be accessible to relevant actors in ways that minimize the risks of accidental or intentional infringement of human rights or otherwise set back progress towards the SDGs.”³⁸

Given the fact that following the theory formulated by Fink, a social contract about all data seems highly unlikely. In the following parts of the analysis, the likeliness of a social agreement about ‘community data’ will be reflected upon.

³⁷ Axel Domeyer, Solveigh Hieronimus, Julia Klier, and Thomas Weber. “Government Data Management for the Digital Age.” McKinsey & Company, September 20, 2021. <https://www.mckinsey.com/industries/public-sector/our-insights/government-data-management-for-the-digital-age>.

³⁸ The Digital Public Goods Alliance, Global Partnership for Sustainable Development Data, Jain Family Institute, UN Global Pulse, and UNICEF. “Exploring Data as and in Service of the Public Good.” Digital Public Goods , March 9, 2023. <https://digitalpublicgoods.net/PublicGoodDataReport.pdf>.

Social norms

2. *To what extent can we identify common social norms among the actors imagined to be included in a global social contract regarding data?*

The second condition that Fink has identified is the need for common social norms. This is because, according to Fink, 'the more diverse the existing social norms are, the fewer individuals are inclined to submit themselves under one overarching political authority because for each individual it is more likely that the established set of rules will not match the social norms the individual is accustomed to.'³⁹ The actors imagined to be included in a social contract for community data is a highly heterogeneous group as it involves many different actors in various societies in which different cultures and social norms are found. It would be impossible to reflect on all the social norms among those imagined entering the social contract about data. However, this section will examine some common social norms and differences concerning data sharing.

Regarding sharing community data for the betterment of society, it is possible to identify different social norms among public and private actors worldwide. One big difference among the present social models is the difference between societies based on individualism and those based on collectivism, which impacts the degree to which people or societies are willing to work towards a greater good. In collectivism, the 'self' is understood to be a part of the collective,' while in individualism, a conception of an autonomous individual is found.⁴⁰ According to Hofstede, in individualist societies, 'one is expected to look after oneself and one's immediate family only.'⁴¹ It is often found that individualistic societies, in contrast to collectivist, tend to give less priority to the objectives of the larger collective. Seung Kyoon Shin et al. have researched the impact of collectivism, among other socio-cultural factors, regarding information sharing in China. They found a direct positive influence of collectivism on in-group information sharing.⁴²

³⁹ Alexander Fink. "Under what conditions may social contracts arise? Evidence from the Hanseatic League." *Constitutional Political Economy* 22 (2011): 184.

⁴⁰ T. W. Singelis, Triandis, H. C., Shawuk, D. P. S., & Gelfand, M. "Horizontal and vertical dimensions of individualism and collectivism." *Cross-Cultural Research*, 29, (1995): 240.

⁴¹ Michailova Snezhina, and Kate Hutchings. "National cultural influences on knowledge sharing: A comparison of China and Russia." *Journal of management studies* 43.3 (2006): 390.

⁴² Seung Kyoon Shin, Michael Ishman, and G. Lawrence Sanders. "An empirical investigation of socio-cultural factors of information sharing in China." *Information & Management* 44.2 (2007): 165-174.

Moreover, strong correlations between collectivist societies and altruism, which refers to the willingness of an individual to help others with no expectation of any personal return, have been identified.⁴³ This suggests that there might be a higher chance for collectivist societies to have social norms that lead to a willingness to share data for society's betterment and, thus, enter into a social contract for data. However, interestingly, it has been found that collectivist cultures 'tend to make a sharper differentiation between in-group and out-group members.'⁴⁴ This suggests that collectivist social norms about sharing data tend to be optimistic regarding its in-group, such as its local community or the nation, but are more hesitant to share with out-groups.

Another difference in social norms about data that can be identified is the tension between the 'greater good' and social norms regarding privacy. This, as social norms concerning privacy are believed to be highly contextually defined and thus 'what is and is not private is dependent on relationships, actors, information and context.'⁴⁵ These differences in social norms about privacy create tension about establishing a global social contract for community data. The actors entering this proposed contract are expected to have colliding ideas about what data should or could be labelled community data. Moreover, concerning the pooling data that can be used by actors and projects aimed at the betterment of humanity, it is expected that the different social norms in societies also impact ideas of what projects lead to the 'betterment of society' as this has a strong normative dimension. However, this could be resolved by finding and explicitly identifying common goals, such as the actors arguing for the concept of community data in relation to the Sustainable Development Goals formulated by the United Nations.

Besides these broad differences in social norms about sharing data among different actors worldwide, some common social norms among specific actors can be found.

Generally, academia holds social norms promoting cooperation, contribution to society, and contribution to the knowledge of the world. However, this is not prevalent in regards to sharing data. In a study focusing on the willingness of academia to share their data, which

⁴³ Robert L. Munroe, "Altruism and collectivism: An exploratory study in four cultures." *Cross-Cultural Research* 52.3 (2018): 334-345.

⁴⁴ Alexandre Ardichvili et al. "Cultural influences on knowledge sharing through online communities of practice." *Journal of knowledge management* 10.1 (2006): 99.

⁴⁵ Kirsten Martin. "Understanding privacy online: Development of a social contract approach to privacy." *Journal of Business Ethics* 137 (2016): 554.

included 1,329 scientists across disciplines, 60 percent 'agreed that the lack of access to data generated by others is a major impediment to progress in science.'⁴⁶ However, in that same study, 46 percent stated that they do not share their data publicly.⁴⁷ Research about why scientists are reluctant to share data shows that scientists often struggle between the general interest and their interests. One of the main reasons that were found for not sharing data publicly was to protect the ability for further publication opportunities. However, there were some reasons found that could potentially be resolved by entering a social contract that establishes a political body overseeing the data. This includes the fear of potential data misuse, not getting appropriate attribution and the administrative efforts of responding to these requests.⁴⁸

Governments are the largest producers and collectors of data in many areas.⁴⁹ Among governments in the world, there exists a great variety of social norms about data sharing. However, in the last two decades, a trend sometimes referred to as the 'government open data movement' has arisen, which includes governmental and international initiatives aimed at opening up governmental data. This can help with transparency issues, raising its social and commercial value and participatory governance.⁵⁰ One initiative worth mentioning is the Open Government Partnership established in 2011, which includes 75 countries and 104 local governments representing over 2 billion people.⁵¹ This movement seems to indicate a growing social norm among governments to share (some) government data; however, there remain governments that are highly reluctant to share any data voluntarily.

Although it has often been said that social contracts 'lift' a society out of a state of nature in which no pre-existing norms in terms of governance are found, scholars who focus on empirically found social contracts argue the opposite. Fink states that for a social contract to

⁴⁶ Benedikt Fecher, Sascha Friesike, and Marcel Hebing. "What drives academic data sharing?." *PloS one* 10.2 (2015): 2.

⁴⁷ Carol Tenopir, et al. "Data sharing by scientists: practices and perceptions." *PloS one* 6.6 (2011): 1-21.

⁴⁸ Benedikt Fecher, Sascha Friesike, and Marcel Hebing. "What drives academic data sharing?." *PloS one* 10.2 (2015): 3-4.

⁴⁹ Judie Attard, Fabrizio Orlandi, and Sören Auer. "Data driven governments: Creating value through open government data." *Transactions on Large-Scale Data-and Knowledge-Centered Systems XXVII: Special Issue on Big Data for Complex Urban Systems* (2016): 85.

⁵⁰ Judie Attard, Fabrizio Orlandi, and Sören Auer. "Data driven governments: Creating value through open government data." *Transactions on Large-Scale Data-and Knowledge-Centered Systems XXVII: Special Issue on Big Data for Complex Urban Systems* (2016): 85.

⁵¹ Markus Fraundorfer. "The open government partnership: Mere smokescreen or new paradigm?." *Globalizations* 14.4 (2017): 611-626.

arise, the social contract should 'have to fit the preexisting underlying social norms to a considerable extent. Otherwise, they do not 'stick.'⁵² One clear example of a social norm that can be identified across nations and communities that could help ensure that the contract 'sticks' is the existence of ideas of and the already established social contracts itself. The extent to which social contracts can be found worldwide is debated. Ideas and aspects of social contract theory can be found in the traditions of non-western philosophers, such as the work of Mo Tzu, who spoke about the state of nature, the legitimisation of a sovereign, and the will of the people.⁵³ However, the concrete concept of the social contract is highly associated with Western political traditions and political philosophy as 'social contract theory predates and implicitly informs our modern concepts of democracy.'⁵⁴ The fact that the notion of the social contract is already explicitly or implicitly known to many actors that will enter into this imagined social contract around data could help with making the new social contract 'stick.' However, because of the different levels of familiarity with the concept among communities worldwide, it can be expected that this notion of a new social contract will 'stick' better in some places than others.

It is thus possible to identify common social norms among actors that are imagined to be included in a global social contract regarding data. However, because of the multitude of different cultures and communities, there is a variety of social norms to be found concerning, among others, the willingness to share, definitions of what is leading to the 'betterment of society', privacy, and familiarity with the notion of social contracts. This leads us to think that the varying social norms hinder the creation of one global social contract about data but leave room for regional initiatives or social contracts more closely focused on one topic or profession, such as academics in specific fields.

⁵² Alexander Fink. "Under what conditions may social contracts arise? Evidence from the Hanseatic League." *Constitutional Political Economy* 22 (2011): 184.

⁵³ Chris Fraser. "Mohism." *Stanford Encyclopedia of Philosophy*, September 22, 2020. <https://plato.stanford.edu/entries/mohism/>.

⁵⁴ Karen O'Brien, Bronwyn Hayward, and Fikret Berkes. "Rethinking social contracts: building resilience in a changing climate." *Ecology and society* 14.2 (2009):2.

The size of the community

3. To what extent does the size of the global community pose an obstacle for a social contract for data to arise?

According to Fink, the size of the community is an essential factor that influences the likeliness of the emergence of a social contract; besides the fact that a larger group results in a greater variety of different social norms, according to Fink, there are three reasons why a larger community hinders the chance of a social contract to arise. Firstly, according to Fink, increasing group size will lead to higher decision-making costs.⁵⁵ Regarding the establishment of a social contract about data, this is undoubtedly the case. This social contract would include a large variety of actors that need to find a unanimous agreement on what this social contract would entail, what kind of political authority it would establish, its mandate, and the specific rules about which data should be included and who should have access to it. This challenging task is exacerbated by the large size of the community expected to enter into this social contract.

Secondly, according to Fink, a larger group means higher costs needed to counter the risk of free-riding, as it becomes more challenging to ensure that everyone contributes to the provision of the public good. Regarding data, the contribution to creating the public interest, which in this paper has been defined as community data, is less of a concern than it is regarding other public goods. This is because individuals who live in a digitalised society automatically produce data by simply living their daily lives. However, as discussed above, this data is often spread among private and public entities, which the social contract would pool together. These actors might decide not to enter the social contract and not to contribute their data to the 'community data'; however, this would not necessarily lead to free-riding processes. Mainly because by creating a social contract that establishes a political authority, one could control access to the data and prevent actors from using the resource who refuse to contribute to the provision of the public good. Lastly, experimental research has suggested that 'the level of voluntary contribution to public goods do not decrease with increases in group size.'⁵⁶

Finally, according to Fink, monitoring and enforcing the implemented rules are more costly when the group is larger. This is true in relation to a social contract around (community) data. The political authority that the social contract would establish would be tasked with monitoring and enforcing the rules, which, with a large community would be a difficult and costly endeavour. However, on the

⁵⁵ Alexander Fink. "Under what conditions may social contracts arise? Evidence from the Hanseatic League." *Constitutional Political Economy* 22 (2011): 186.

⁵⁶ Mark R. Isaac, James M. Walker, and Arlington W. Williams. "Group size and the voluntary provision of public goods: Experimental evidence utilizing large groups." *Journal of public Economics* 54.1 (1994): 1-36.

other hand, a larger community that will enter this social contract could also potentially mean a more significant budget size. Moreover, this enforcement of the rules could be integrated with other institutional frameworks found at the global level, such as the United Nations, which could help reduce the potential costs associated with monitoring and enforcing the rules.

Conclusion

This paper has reflected upon the extent to which we can identify the necessary conditions for a social contract about data to arise. The analysis of this paper has examined several factors that influence the likelihood of such social contracts to arise centred around the three conditions that Fink has identified. Fink's first condition for the emergence of a social contract, the presence of a good that cannot be efficiently provided by individual initiative, appears to hold for certain types of data, particularly those with potential benefits for the betterment of society. The non-rivalrous nature of data suggests that its value can increase when shared. Thus, a social contract may be needed to ensure the potential benefits of data, which an individual cannot achieve on its own. However, the second condition proposed by Fink, the existence of similar preferences among actors regarding data treatment, presents challenges. Private companies, governments, academia, activists, and NGOs have varying interests and, thus, choices for data ownership and access to it. Some favour open access to data, while others would like to restrict access due to commercial interests and security concerns. However, regarding data that can benefit society, sometimes called 'community data,' there seems to be a shared preference for open access and perhaps a political authority overseeing this. However, this is only the case if the data sharing does not entail significant costs and efforts for the actors, which could be resolved by establishing a social contract and a political authority.

Fink's second condition is that there need to be similar social norms among the actors imagined to be included in a global social contract for data. As expected, a great variety of differences in social norms are identified among actors worldwide. Differences in social norms regarding sharing in individualistic and collectivist societies, ideas about privacy, perceptions of what constitutes 'betterment of society,' and different levels of familiarity with the concept of social contracts all create challenges for the emergence of a social contract for data. The more diverse the social norms are, the fewer people are inclined to join a social contract, as it is more likely that the rules and governance structures it will create will not match the social norms that an actor holds. This makes the chance for the emergence of a global social contract for data complex but leaves room for regional initiatives or initiatives focussing on a specific profession and or topic.

The third condition that Fink identified is the size of the community; a larger one is expected to make the emergence of a social contract more complicated. The size of the global community expected to enter the social contract makes the decision-making process more challenging. However, free-riding concerns are limited due to how data is obtained and how access to the data can be controlled. Moreover, while monitoring and enforcing the rules is more difficult with a global community, the availability of a larger budget and potential integration into other global or international structures might mitigate these challenges.

In sum, after examining the conditions needed, it can be concluded that it would be challenging to establish a single, all-encompassing social contract for data. However, the conditions required for a social contract to arise are more present regarding community data. Perhaps an all-encompassing social agreement for all data is too ambitious for now; however, establishing a social contract for community data could be an essential step needed to protect the full potential of data for the betterment of society.

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