

# Beyond Big Tech



A framework for building a new  
and fair digital economy

# Beyond Big Tech: A framework for building a new and fair digital economy

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## Introduction and acknowledgements

This white paper sets out an initial framework for a long-term agenda in support of a new digital economy. The paper draws on active and long-standing efforts across a range of civil society constituencies and academia. The aim is to outline an overarching vision that complements and connects these efforts, and to widen out the movement.

The paper is accompanied by a [Beyond Big Tech manifesto](#), signed by more than 70 civil society organisations, which we hope will serve as a rallying point for global groups aligned to this vision.

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## Executive summary

The current model of the global digital economy is broken and dysfunctional, in part due to the stranglehold of a handful of powerful technology corporations who reap enormous profits while presiding over a growing and wide-ranging set of harms to people, society, the economy and the environment.

A key source of these firms' unprecedented size and power is their control over essential digital services and infrastructure – granting them not only effective monopolies over markets such as advertising, retail, and social media, but also running the operating systems, software and cloud infrastructure that underpins much of the wider economy and many governments and businesses rely on.

The global IT outage that caused major disruption around the world in July 2024 is a stark demonstration of this dependency, exposing “the vulnerabilities of a global economy run on a handful of software platforms”.

The concentration of power towards Big Tech has led to the emergence of ‘digital fiefdoms’, in which dominant firms extract rents and dictate the rules of play for all those within their ecosystem, while making it difficult or impossible for people, workers and businesses to switch to alternatives or for new entrants to emerge.

This ‘gatekeeper’ power allows the firms to exploit harmful chokepoints in the digital economy - for example, Amazon’s chokehold over modern commerce means it can degrade users’ experience by littering search results with junk ads, while at the same time exploiting sellers through exorbitant fees. The companies can pursue such strategies because they have become “too big to care”.

Such unchallenged power and control over digital ecosystems and infrastructure is a core driver of many of the harms linked to Big Tech. It enables the companies to co-opt and stifle innovation, deploy exploitative surveillance-based business models, and evade accountability for negative impacts on human rights and democracy worldwide. AI innovation is being shaped by the narrow interests of Big Tech, despite the threats “bigger is better” large-scale AI models pose to the information sphere and the climate.

States, regulators and policymakers across multiple regions and jurisdictions have taken some steps towards countering the threat posed by these dominant firms. A landmark US antitrust ruling recently affirmed that “Google is a monopolist, and it has acted as one to maintain its monopoly”. However, regulators failed to stop the rise of Big Tech, and do not yet go far enough to disrupt the status quo, force structural change, and enable the growth of a new model for the digital economy.

## **A positive vision for a new and fair digital economy**

This white paper sets out an initial high-level framework for a long-term 'Beyond Big Tech' agenda for states, policymakers, civil society, workers and other allies to dismantle these digital fiefdoms and encourage the emergence of a fair digital economy that is open, decentralised, and serves the common good, not just private profit.

Ultimately, the long-term goal must be to move away from the prevailing extractive economic business models and centralised monopoly power, towards a model where data and digital infrastructure are repurposed and designed to serve the public interest - a "people-first digital ecosystem". This means going beyond regulating the gatekeepers in an attempt to keep up with rapidly accumulating harms, but to abolish digital gatekeeping altogether.

In practice, this requires a coordinated effort to break up the powerful tech monopolies, steer the digital economy in a direction that promotes innovation, fair competition, and democratic values, and offer people genuine freedom and choice in goods and services that are designed to serve them, rather than use and abuse them. It means opening up the "walled gardens" that lock users into the suite of services and applications controlled by the large incumbents, while ensuring that new alternatives that emerge are accountable and governed by the rule of law and human rights standards.

## **A whole of government approach**

Overhauling the structure and functioning of the global digital economy and taking on the entrenched power of Big Tech necessarily involves an active role for states, and a more ambitious and joined-up digital industrial strategy.

The neoliberal approach to leave markets to self-regulate has failed, and governments must use industrial policy to shape markets in key sectors when needed to stimulate growth and for the wider interests of society. The digital sector is a prime example of this failed approach, and an area where states must urgently take a more active role.

States will need to take a more holistic, 'whole of government' approach. This means breaking down the artificial boundaries and trade-offs between the various regulatory approaches, such as false choices between 'break up vs regulate' Big Tech when in fact both are necessary, and the myth that regulation hinders innovation when regulation can encourage alternative trajectories for innovation outside the narrow Big Tech paradigm.

Equally, any vision for achieving structural changes must move beyond only restraining the existing abuses and dominance of the big players, towards proactively fostering the kind of technological progress and innovation that serves public goals and not just private profit, by opening up closed digital ecosystems, seeding digital infrastructure in the public interest, and incentivising alternative players to emerge.

While States will need to be the primary drivers, it is essential that these efforts are directed towards building a digital economy where power no longer sits with tech corporations, and is also not simply transferred to the state, but is subject to democratic, transparent and accountable governance. There is a vital role for the “digital commons” (community-governed digital resources) as a provider for public digital infrastructure, enabling a wide diversity of players - profit, nonprofit and public - to develop digital tools and services.

## **Beyond Big Tech: A dual framework**

This paper proposes a two-pillar framework. These two pillars are mutually reinforcing, and should be seen as two sides of the same coin. It will be impossible for alternative models to grow and scale without first breaking open the power of the existing incumbents. At the same time, states cannot only rely on market forces to achieve public-interest goals in the digital economy.

### **1. Pillar I: Break open Big Tech**

A necessary step to create the conditions for a new digital economy is anti monopoly measures and regulation across multiple domains to dismantle the structural power of the tech giants and level the playing field. Tackling the size and concentrated power of Big Tech is also essential to properly hold the companies to account for their harms to human rights, democracy and society. As such, competition enforcement must be accompanied by enforcement of other democratic laws, to regulate both incumbents and the new players that emerge.

Stronger enforcement of competition and antitrust law and economic regulation includes structural separation to break up big tech firms and split out the different parts of their ecosystems; stricter merger control to prevent further consolidation; mandatory interoperability between different platforms and services; and utility regulation to ensure that all users are treated equally and fairly.

For example, regulators are considering breaking up Google’s controls of the digital advertising stack, which one Google employee described as being like “if Goldman or Citibank owned the NYSE”.

Taking a more holistic approach means coherently deploying other anti-monopoly levers across various other domains, including data protection to tackle firms' data-driven advantages, labour laws to put more power in the hands of workers, and trade policy to overturn provisions that favour Big Tech. It also requires taxation to decrease the wealth and financial clout that they use to maintain monopoly.

Breaking open Big Tech entails a multidimensional effort: breaking up the companies to tackle harmful chokepoints and conflicts of interest; breaking open their walled gardens through interoperability; breaking open inequalities in bargaining power between workers and employers; and breaking open their finances through taxation. This will not

only redistribute the tech firms' vast profits, but also reform markets to "pre-distribute" the enormous wealth they currently extract through rents back into the economy.

## 2. Pillar II: Stimulate a new and fair digital economy

In parallel to opening up the existing closed ecosystems controlled by Big Tech, the Beyond Big Tech framework also advocates proactive measures to promote and support the growth of alternative models for the digital economy, where power and control over critical infrastructure and data is decentralised, redistributed and democratised. Opening up infrastructure should not result in only other Big Tech players benefiting, but in creating shared infrastructure from which a diversity of alternatives can grow.

This includes public investment and support for public digital infrastructure, to shape a new model for the economy that is reliant on open protocols instead of closed platforms, while also helping to seed and scale alternatives to Big Tech through public procurement practices and conditionalities. Such investment will stimulate value-led digital innovation that actually creates value for society, including more national or localised initiatives, and build "good" digital sovereignty.

The investment needed for public digital infrastructure must be ambitious. Former Taiwan Digital Minister Audrey Tang argues it should receive funding on par with major state projects like roads and railways. In the EU, over 40 civil society organisations have urged the creation of a European Public Digital Infrastructure Fund.

It is vital that governance structures and safeguards are in place for any new forms of public digital infrastructure, ensuring that these are in line with human rights standards and the rule of law. While funding should come primarily through public investment, governance must be open, transparent, accountable and participatory, with guardrails in place to prevent public investment and subsidies ending up in the hands of Big Tech.

Greater interoperability, where data and functionality are exchanged across digital platforms and services so that they work with each other, is a critical objective underpinning both pillars. Mandatory interoperability measures help "tear down the walls between technologies"; while 'collaborative' interoperability ensures that any new architecture is based on a shared set of open protocols and building blocks. Interoperability provisions require careful implementation and enforcement, including privacy and security safeguards.

### **The way forward**

This white paper is a first step and basis for wider consultation. Given the breadth of the scope, it does not attempt to have all the answers and there is no 'one size fits all' solution; different measures will need to be carefully tailored to different digital markets and business models, and across different regions and jurisdictions. This will require ongoing policy analysis as well as detailed economic and technical research on practical implementation.

At this stage, the civil society supporters of the Beyond Big Tech vision put forward six priority headline recommendations to states:

## Pillar one: Break Open Big Tech

1. Break up dominant tech firms through stronger enforcement of competition and antitrust law and regulation to enforce structural separations, and prevent further consolidation by blocking more mergers and acquisitions.
2. Require dominant tech firms to be more interoperable to enable users to freely choose and move between different platforms and services, open up new entrants to the market, and make platform recommendation systems customizable for users.
3. Tax dominant tech firms to redistribute the enormous profits they currently extract as rents, including through digital services taxes.

## Pillar two: Stimulate a new and fair digital economy

4. Commit significant investment towards public digital infrastructure based on free and open source software and the digital commons.
5. Use public procurement as a market lever to encourage the adoption and scaling of open and interoperable alternatives to the Big Tech incumbents.
6. Put in place and enforce strong human rights safeguards and accountable governance frameworks, including over public digital infrastructure.





# Background: Big Tech's infrastructural power and its impacts

The global digital economy is dominated by a handful of Big Tech giants – most prominently Alphabet (Google), Amazon, Meta, Apple and Microsoft.<sup>1</sup> Between them, these firms maintain concentrated power over key digital markets, including online search, social networks, digital advertising, online retail, and cloud computing, as well as the growing AI industry.

Crucially, this power reaches beyond platforms and applications, as the tech giants have increasingly consolidated control over underlying internet infrastructure, including operating systems, computing power and data analytics capacity. The companies are penetrating further into the economy through the provision of “black box” software services.<sup>2</sup> As a result, Big Tech's infrastructure underpins much of the wider economy and is relied upon by many other businesses and governments, with implications for health services, agriculture, and most other industries and public services.<sup>3</sup>

In July 2024, the world experienced a stark demonstration of this dependency, after an outage on Microsoft's Windows operating system caused by a faulty CrowdStrike software update led to major disruption globally. The outage exposed “the vulnerabilities of a global economy run on a handful of software platforms”.<sup>4</sup>

But Big Tech's unprecedented corporate power also transcends markets and the economic domain, increasingly extending to the political, the social, and the personal spheres.<sup>5</sup> The extreme wealth accumulated by Big Tech enables them to influence politics and lawmaking through huge investments in corporate lobbying and campaign financing. The companies' control over data infrastructure and use of algorithmic optimization tools across key digital platforms and services shapes the information people see, the interactions between people, businesses and institutions, and the livelihoods and rights of their workforce.



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<sup>1</sup> There are some exceptions, notably China where the government's repressive regulation and control over the internet mean that the digital economy is dominated by domestic firms such as Baidu, Tencent and Alibaba.

<sup>2</sup> Cecilia Rikap, [Capitalism as Usual? Implications of Digital Intellectual Monopolies](#), 2023, New Left Review, 139(Jan Fe), pp. 145-160

<sup>3</sup> Tanay Mahindru, IT for Change, [Digging Deeper: Assessing Big Tech's Capture of the Internet's Infrastructure](#), Bot Populi, Nov 2021

<sup>4</sup> Ian Smith, Financial Times, [Insurers' losses from global IT outage could reach billions](#), Jul 2024

<sup>5</sup> Anna Gerbrandy and Pauline Phoa, [The Power of Big Tech Corporations as Modern Bigness and a Vocabulary for Shaping Competition Law as Counter-Power](#), in Bennett, M., Brouwer, H., & Claassen, R. (Eds.), *Wealth and Power: Philosophical Perspectives*, 2022

## The emergence of Big Tech power

Several factors have contributed to the concentration of power into the hands of a small number of ultra-dominant tech giants. In part, there are economic and technological factors inherent to digital markets that tend to lead to them becoming consolidated and 'winner takes all'. This includes high economies of scale and scope; colossal investment requirements; substantial data-driven network effects; and exclusive access to vast amounts of user data, creating barriers to entry for new entrants to a market.<sup>6</sup> These create strong "first-mover advantages" that enable firms to capture core digital infrastructure and services.<sup>7</sup>

However, these technical factors should not be overstated, or be used to imply that the consolidation of power in the digital economy was inevitable. Big Tech firms have also pursued deliberate strategies and business models that secure the benefits for them, dwarf the threats from competitors and entrench their power.

Such tactics include aggressive scaling up strategies, including monopolising specific regions or products first, self-preferencing, and acquiring nascent competitors ("killer acquisitions").<sup>8</sup> The companies use cross-firm cooperation to maintain control, such as the default agreements between Google and Apple. In August 2024, a landmark US federal court ruling found that the huge payments Google has made to Apple and other firms in order to be the default search engine were illegal - "Google is a monopolist, and it has acted as one to maintain its monopoly".<sup>9</sup> Tech giants have also systematically breached data protection law by aggressively collecting user data and misusing market dominance to force user consent.<sup>10</sup>

At the same time, the tech giants have enjoyed favourable trade agreements and highly permissive regulatory conditions, like liability exemptions, tax loopholes and weak control of digital mergers, while in their early phase of development enjoying access to vast amounts of (patient) venture capital that was supporting the quest for dominant market positions. Silicon Valley historically also benefited from enormous state support and investment from the US government.<sup>11</sup> The companies' now unmatched financial

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<sup>6</sup> Lancieri, Filippo and Sakowski, Patricia, [Competition in Digital Markets: A Review of Expert Reports](#), January 30, 2021

<sup>7</sup> Prüfer, J., & Schottmuller, C., [Competing with Big Data](#), 2017, CentER, Center for Economic Research

<sup>8</sup> Financial Times, [Big Tech's 'buy and kill' tactics come under scrutiny](#), Feb 2020

<sup>9</sup> The New York Times, ['Google Is a Monopolist,' Judge Rules in Landmark Antitrust Case](#), 5 Aug 2024

<sup>10</sup> Natasha Lomas, Tech Crunch, [CJEU ruling on Meta referral could close the chapter on surveillance capitalism](#), 4 Jul 2023

<sup>11</sup> Margaret O'Mara, *The Code: Silicon Valley and the Remaking of America*, 2019

resources also allows them to prioritise fast expansion and enter into new markets while sustaining short term losses until the market tips in their favour.<sup>12</sup>

Big Tech companies have used these favourable conditions and dynamics to build and exert unprecedented control over highly integrated digital “ecosystems”.<sup>13</sup> Such ecosystems include groups of connected firms, products, and services, as well as the associated businesses that interact with and depend on this architecture – for example, Apple or Android (Google)’s smartphone ecosystems.<sup>14</sup> This goes beyond the platforms themselves and extends to the underlying infrastructure such as the operating systems and cloud.

The tech giants’ role as “gatekeepers” to these digital ecosystems and infrastructure gives them unprecedented structural power, enabling them to lock-in users and businesses within “walled gardens”,<sup>15</sup> leverage data across different markets, and effectively act as private regulators over the functioning of the online world. The tech giants extract enormous wealth from these ecosystems – and thereby from the wider economy – in the form not of profit but of economic rents, leading Yanis Varoufakis to dub them “digital fiefdoms” under a system of “technofeudalism”.<sup>16</sup>

Ultimately, these harmful chokepoints<sup>17</sup> enable the gatekeeper to exploit other actors on all sides of the ecosystem, not only users but also businesses and workers, and degrade the underlying products, a process that Cory Doctorow terms platform “enshittification”.<sup>18</sup> As the judge writes in the recent US antitrust ruling, “the fact that Google makes product changes without concern that its users might go elsewhere is something only a firm with monopoly power could do.”<sup>19</sup> Amazon’s chokehold over

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<sup>12</sup> Fernandez, Rodrigo & Adriaans, Ilke & Klinge, Tobias & Hendrikse, Reijer, [Engineering digital monopolies: The financialisation of Big Tech](#), Dec 2020

<sup>13</sup> Note that some digital governance experts reject the term “ecosystem” ; see e.g. Julie Cohen, [Infrastructuring the Digital Public Sphere](#), May 2023, or Maria Farrell and Robin Berjon, [We Need To Rewild The Internet](#), Apr 2024

<sup>14</sup> See e.g. Jacobides, Michael G. and Lianos, Ioannis, [Ecosystems and competition law in theory and practice](#), January 2021; and van der Vlist, F. N., & Helmond, A., [How partners mediate platform power: Mapping business and data partnerships in the social media ecosystem](#), Big Data & Society, 8(1)

<sup>15</sup> Andrew Froehlich, Tech Target, [What is a walled garden on the internet?](#)

<sup>16</sup> Yanis Varoufakis, [Welcome to the Age of Technofeudalism](#), in Wired, Apr 2024; see also O’Reilly T, Strauss I, Mazzucato M. [Algorithmic attention rents: A theory of digital platform market power](#). *Data & Policy*. 2024; and Birch and Cochrane, [Big Tech: Four Emerging Forms of Digital Rentiership](#), 2021

<sup>17</sup> For analysis of “choke points” in the global economy, see e.g. Cory Doctorow and Rebecca Giblin, [Chokepoint Capitalism](#), 2022, and Henry Farrell and Abraham Newman, *Underground Empire: How America Weaponized the World Economy*, 2023

<sup>18</sup> Cory Doctorow, [Tiktok’s enshittification](#), Jan 2023

<sup>19</sup> Nilay Patel and Sarah Jeong, The Verge, [‘There’s no price’ Microsoft could pay Apple to use Bing: all the spiciest parts of the Google antitrust ruling](#), 6 Aug 2024

modern commerce means it can degrade users' experience by littering search results with junk ads, while at the same time exploiting sellers through exorbitant fees.<sup>20</sup>

## The implications of Big Tech power

The tech giants' control over closed digital ecosystems gives them power over the nature of innovation in the digital economy. While the digital sector is often presented as an engine for innovation, in fact the tech giants suppress and distort innovation and “co-opt disruption” to serve their interests and business models.<sup>21</sup> This means that alternatives are either crushed or bought up, and also leads to the rise of “toxic innovation”, most clearly illustrated in the rise of surveillance-based business models founded on behavioural advertising.

The AI sector is already highly concentrated in the hands of Big Tech, and serves as a visible example of how technological innovation is being directed towards the narrow interests of the dominant tech firms. Although ‘AI’ covers a wide range of technologies, the dominant “bigger is better” paradigm in the industry, and among policymakers and the media, focuses on the large-scale “foundation” AI models that underpin generative AI products such as ChatGPT.<sup>22</sup>

However, large-scale models have several requirements that give huge structural advantages to Big Tech, including exclusive access to the necessary data, computational power, talent, and financial resources. Big Tech also controls the user-facing access points to generative AI markets like apps and platforms. As such, creating and deploying these models is extremely difficult without relying on the resources and infrastructure of these companies – leading AI Now to declare “there is no AI without Big Tech”.<sup>23</sup>

The concentrated and unchallenged power that the tech giants hold over the digital economy and digital ecosystems is also a core driver behind the varied harms to human rights, democracy and society associated with the companies. Monopoly power over “digital fiefdoms” has insulated the firms against pushback from users, workers, suppliers, competitors, or regulators, meaning that, as US Federal Trade Commission (FTC) chief Lina Khan has stated, these firms have become “too big to care”.<sup>24</sup>

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<sup>20</sup> Balanced Economy Project, [Breaking up the Giants of Harm](#), Jul 2024, p 12

<sup>21</sup> Ariel Ezrachi and Maurice E. Stucke, [How Big-Tech Barons Smash Innovation—and How to Strike Back](#), 2022 (Ezrachi and Stucke, 2022); Lemley, Mark A. and Wansley, Matthew, [Coopting Disruption](#), Feb 2024, Cardozo Legal Studies Research Paper No. 2024-24, Stanford Law and Economics Olin Working Paper No. 589 (Lemley and Wansley, 2024)

<sup>22</sup> Eliot Jones, Ada Lovelace Institute, [What is a foundation model?](#), Jul 2023; Gaël Varoquaux, Alexandra Sasha Luccioni, and Meredith Whittaker, [Hype, Sustainability, and the Price of the Bigger-Is-Better Paradigm in AI](#), arXiv, Sep 2024 (Varoquaux, Luccioni, and Whittaker, 2024)

<sup>23</sup> AI Now Institute, [2023 Landscape: Confronting Tech Power](#), 2023; see also Cecilia Rikap, [Dynamics of Corporate Governance Beyond Ownership in AI](#), Common Wealth, May 2024

<sup>24</sup> CBS News, [FTC chair Lina Khan on playing "anti-monopoly"](#), 14 Apr 2024

Such harms have been widely documented, and include:

- The imposition of business models based on pervasive surveillance and data exploitation, undermining the right to privacy on an unprecedented scale, as well as impacting other rights such as freedom of expression and opinion, freedom of thought and the right to non-discrimination.<sup>25</sup>
- The amplification of polarising and harmful content on dominant social media networks including misinformation, hate speech and incitement to violence, undermining democracy, freedom of expression and harming minority groups.<sup>26</sup>
- Increasing the precarisation of work and undermining core labour rights through union-busting and retaliation against workers and the use of outsourcing and contract employment.<sup>27</sup>
- Undercutting the media sector and the role of independent journalists and the press, including through syphoning off enormous amounts of advertising revenue from publishers and media outlets.<sup>28</sup>
- Fuelling economic inequality, as monopolies lead to an economy-wide transfer of income and wealth from workers and consumers to executives and owners.<sup>29</sup>
- Harms to consumers, such as through lock-in and limiting consumer choice, and 'price gouging' by forcing price rises above the rate of inflation.<sup>30</sup>
- Reinforcing pre-existing power disparities that increase inequality across race, gender, class lines, and between the Global South and Global North, including through "data colonialism".<sup>31</sup>

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<sup>25</sup> Amnesty International, [Surveillance giants: How the business model of Google and Facebook threatens human rights](#), 2019

<sup>26</sup> See for example, Global Witness, [The Big Tech business model poses a threat to democracy](#), June 2021; Elizaveta Konovalova, Warwick Business School, [How social media platforms fuel extreme opinions and hate speech](#), March 2024

<sup>27</sup> See for example, Noam Scheiber, The New York Times, [Amazon Is Cracking Down on Union Organizing, Workers Say](#), Dec 2023; Foxglove, [The Facebook-Sama layoffs: union busting disguised as redundancy in Nairobi](#), March 2023; Noam Scheiber and Kate Conger, New York Times, [The Great Google Revolt](#), Feb 2020; Catherine Bracy & Martha Dark, [The Ghost Workforce the Tech Industry Doesn't Want You to Think About](#), Sep 2023. Note that Microsoft has pledged not to oppose unionisation - see Noam Scheiber, The New York Times, [Why Microsoft Has Accepted Unions, Unlike Its Rivals](#), Feb 2024.

<sup>28</sup> Reuters Institute for the Study of Journalism, [Overview and key findings of the 2024 Digital News Report](#), Jun 2024; Austin Ahlman, [Even Facing 'Extinction,' Journalists Still Cannot Name the Monopoly Problem](#), Open Markets Institute's Center for Journalism & Liberty, Feb 2024

<sup>29</sup> Oxfam International, [Inequality Inc.](#), Jan 2024 ; Barry Lynn and Kevin Carty, [To Address Inequality, Let's Take on Monopolies](#), in Inequality.org, Jan 2017

<sup>30</sup> see e.g. BEUC, [Crucial rules to rein in Big Tech and boost consumer choice to now become EU law](#), Jul 2022; Accountable Tech, [How Big Tech's Big Price Hikes Surpass Inflation](#), Mar 2024

<sup>31</sup> Data 4 Black Lives, [Data Capitalism and Algorithmic Racism](#), May 2022; Nick Couldry, Ulises A. Mejias, [Data Colonialism: Rethinking Big Data's Relation to the Contemporary Subject](#), 2019

- Exacerbating the climate crisis particularly through large-scale AI models' enormous and growing consumption of energy and water, as well as enabling the spread of climate disinformation.<sup>32</sup>
- Enabling corporate lobbying and the capture of institutions and regulators.<sup>33</sup>

## Pillar 1: Break open Big Tech

As a prerequisite for building a new and fair digital economy, states must use all the levers at their disposal to open up digital markets and dismantle the power of Big Tech over digital infrastructure and ecosystems. This will level the playing field and create the conditions in which new just alternatives are able to emerge and scale (see Pillar 2 below).

Tackling the size and monopoly power of Big Tech is also essential to properly hold the companies to account for their harms to human rights, democracy and society. As such, competition enforcement must be accompanied by enforcement of other democratic laws, to regulate the new players that emerge. As Cory Doctorow states, "I want to break – and break up – Google because I want to end its ability to bigfoot privacy law so that we can finally root out the cancer of commercial surveillance. I don't want to make Google smaller so that other surveillance companies can get in on the game."<sup>34</sup>

There is no single "silver bullet"; challenging the entrenched infrastructural power of a small number of technology companies will require a "whole of government" approach, where regulators across multiple domains all align behind anti-monopoly goals to target excessive corporate power. Similarly, there is no "one size fits all" solution and varying strategies will be appropriate to target different firms, digital markets, and business models.

The aims of these regulatory efforts include opening up highly concentrated digital ecosystems, creating new markets, and challenging monopolistic abuses. This includes smart structural break-ups to separate out different layers and components of the incumbent ecosystems, stronger merger control to prevent further consolidation, forcing behavioural changes, and mandatory interoperability measures to prevent people and businesses being tied into existing platforms and services.

Concurrently, to open up the digital economy, states must release the accumulation of capital in the form of economic rents that are currently accruing to the digital

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<sup>32</sup> Climate Action Against Disinformation coalition, [Artificial Intelligence: A Threat to Climate Change, Energy Usage and Disinformation](#), March 2024; AI Now Institute, [The Climate Costs of Big Tech](#), Apr 2023

<sup>33</sup> Lobbycontrol and Corporate Europe Observatory, [Big Tech Lobbying](#), Sep 2020; Jane Chung, Public Citizen, [Big Tech, Big Cash: Washington's New Power Players](#), March 2021

<sup>34</sup> Cory Doctorow, [The Google Antitrust Remedy Should Extinguish Surveillance, Not Democratize It](#), Aug 2024

gatekeepers. This includes stronger tax policies that curb tax avoidance and force tech giants to pay their fair share of tax revenues, particularly in low-income countries. Breaking open big tech therefore means redistributing their vast profits through progressive taxation, but also using market reforms to “predistribute” the enormous wealth they currently extract through rents back into the economy, even before taxation.<sup>35</sup>

There is a lot that can be done through the robust and forward-thinking enforcement of existing laws. In many instances, states can go much further to tackle monopoly power and rebalance the digital economy through the joined-up use of existing competition and antitrust law, data protection law, and labour laws, as well as media regulation, and consumer protection - although the ability of governments and regulators to deploy these tools varies hugely between different regions and jurisdictions.

In the longer term, states should update laws and regulations for the digital age, and introduce well-crafted targeted digital regulations that hold tech giants to account for their harmful impacts, and also confront their size and power. Any new digital regulations must be aligned with human rights law and standards, including data protection. They also must be accompanied by a strong system for enforcement and compliance, including giving enforcers sufficient powers and resources to stand up to Big Tech.

## **1. Competition enforcement and economic regulation**

Competition (or antitrust) policy is the primary state tool for addressing concentrated power in the digital economy. Many states have strong and far-reaching regulatory powers to intervene in markets, tackle structural conflicts of interest, control and prevent mergers and acquisitions, and sanction abuse of a dominant position, but until recently have largely under-used these powers, permitting market concentration to rapidly grow across industry sectors. This has enabled the rise of the tech giants, in part because law and policy has been slow to evolve to unique challenges of digital markets.

Competition policy is currently experiencing a resurgence in several parts of the world, with a challenge to the established neoliberal orthodoxy that has permitted the growth of Big Tech, towards a broader more structural interpretation of competition policy. The recent shift has emerged at least in part because of the rise of the dominant digital firms and the awareness of the powerful role these companies play in the economy and society more widely. Competition authorities in several countries have stated that “conventional tools based on prices and consumer welfare” have not been appropriate for digital markets.<sup>36</sup>

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<sup>35</sup> Matti Tuomala, Jukka Pirttilä, Ravi Kanbur, Tuuli Paukkeri, Pertti Haaparanta, [Pre-Distribution Requires Redistribution](#), in Centre for Economic Policy Research (CEPR), Dec 2022

<sup>36</sup> United Nations Conference on Trade and Development (UNCTAD) [Competition law, policy and regulation in the digital era](#), Apr 2021, TD/B/C.I/CLP/57, para 7

More progressive competition enforcement to confront the tech giants includes, inter alia:<sup>37</sup>

- Deploying more bright-line rules and structural remedies in competition investigations including in abuse of dominance cases. (see below on break ups)
- Block more mergers and acquisitions, including tackling growing consolidation in the AI sector through tie-ups between Microsoft and Open AI, and Amazon's \$4bn investment in Anthropic. The European Commission has only blocked 0.2 percent of mergers notified to it since 2005.<sup>38</sup>
- Stronger use of market investigations or sector inquiries, enabling regulators to look into a sector or market as a whole and directly impose remedies (including structural ones), as embedded in the new German competition law and in the UK competition regime.<sup>39</sup>

There is a strong interplay and interdependence between the enforcement of competition law and economic regulation. In particular, the nature of digital markets means that ex-ante asymmetric regulations (i.e. that apply before a market failure occurs, and put specific obligations on firms with significant market power) can complement competition enforcement.<sup>40</sup>

Regulators should recognise the increasing convergence and symbiosis between ex ante regulation and competition rules as applied to digital ecosystems, rather than seeing them as separate siloed approaches.<sup>41</sup> As digital regulation expert Elettra Bietti states, answers are not found in a binary "either/or" approach to antitrust and regulation, but in "hybridity and experimentation with many regulatory approaches."<sup>42</sup>



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<sup>37</sup> A group of civil society organisations has set out a detailed roadmap for tackling monopoly power and control in Europe, including in tech monopolies. See Open Markets, SOMO, Balanced Economy Project, Foxglove, Lobby Control, Rebalance Now, The Good Lobby, and the Irish Council for Civil Liberties (ICCL), [Rebalancing Europe - A new Economic agenda for tackling monopoly power](#), Apr 2024 (Open Markets Institute et al., 2024)

<sup>38</sup> Brianna Rock, Master of Public Policy student at the Hertie School, [Merger intervention rates in the EU](#), Jan 2024

<sup>39</sup> Sven Giegold, State Secretary at the Federal Ministry for Economic Affairs and Climate Action, [Done! German antitrust authority gets far reaching new powers](#), Jul 2023; Martin Coleman, UK Competition and Markets Authority (CMA), [Market investigations: 75 years of UK experience](#), May 2024

<sup>40</sup> The EU's Digital Markets Act is an example of such ex ante regulation. Several other countries are enacting or considering similar regulations, including Brazil, India, South Korea, UK.

<sup>41</sup> BEUC, [Ex-Ante Regulation and Competition in Digital Markets](#), Dec 2021

<sup>42</sup> Elettra Bietti, Northeastern University School of Law, [Experimentalism in Digital Platform Markets: Antitrust and Utilities' Convergence](#), Nov 2022



## 1.2 Opening up digital ecosystems

A fundamental feature of tech giants' power over the digital economy is their integration across multiple closely related lines of business within a single digital ecosystem, meaning they operate on different sides of one market and simultaneously across multiple digital markets, becoming digital conglomerates. This enables them to leverage advantages across different markets, and to compete on a platform while at the same time regulating the platform itself, creating entrenched conflicts of interest.

For example, Amazon controls its online retail marketplace while also selling its own products and services, as well as controlling many other integral parts of its e-commerce ecosystem, from the advertising networks to the smart home devices, while also owning the underlying digital and logistics infrastructure. Google owns and controls many different parts of the digital advertising stack, leading one Google employee to describe Google's ad business as being like "if Goldman or Citibank owned the NYSE".<sup>43</sup> Similarly, publishers are forced to compete with Google for selling ad space, whilst Google also acts as an intermediary to buy ad space.<sup>44</sup>

Unpicking these dynamics will require regulators to go much further in the use of line of business restrictions and structural remedies to open up and "unbundle" these integrated digital ecosystems. Ultimately this entails the structural separation ("break up") and functional separation of different segments of a gatekeepers business. This is bolstered by the imposition of interoperability rules.

Structural separation measures to "break up" the tech giants have in the past been neglected by governments and regulators, but are an essential part of the solution to opening up the digital economy. Balanced Economy Project has outlined in detail why "smart break-ups" are necessary to tackle concentrated power and open up choice, and how this can be done, including in relation to the digital economy.<sup>45</sup> Examples of promising proposals include separating the data, cloud, and intelligence layers of digital value chains;<sup>46</sup> reversing previous anti-competitive mergers; separating Amazon's "fulfilment" operations from its digital retail platform;<sup>47</sup> and breaking up the ad tech stack.<sup>48</sup>

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<sup>43</sup> Aliya Bhatia and Ellery Roberts Biddle, [State AGs Say Google's Ad Business Is Violating Antitrust Law. What Does That Mean for the Public Interest?](#), Tech Policy Press, Nov 2021

<sup>44</sup> Karina Montoya, [How Google Manipulated Digital Ad Prices and Hurt Publishers, Per DOJ](#), Tech Policy Press, Feb 2023

<sup>45</sup> Balanced Economy Project, [Breaking Up the Giants of Harm](#), Jul 2024

<sup>46</sup> Parminder Jeet Singh, IT for Change, [Breaking up Big Tech: Separation of its Data, Cloud and Intelligence Layers](#), Data Governance Network, Working Paper 09, Jun 2020

<sup>47</sup> Peter Carstensen and Darren Bush, [How To Break Up Amazon](#), in the Sling, Oct 2023 ; Dr. Kim Manuel Künstner, expert opinion on behalf of LobbyControl, [Break-Up Amazon?](#), Nov 2023

<sup>48</sup> Sen. Mike Lee, [The AMERICA Act: Lee Introduces Bill to Protect Digital Advertising Competition](#), Mar 2023

There has been scepticism among scholars, policymakers and commentators about the benefits and feasibility of “breaking up Big Tech” , including because of the practical difficulties – the equivalent of “unscrambling eggs” - but these criticisms are often based on weak evidence, and in fact companies frequently break themselves up voluntarily.<sup>49</sup> However, break-ups should not be seen as panacea and need to be combined with other remedies.

Break-ups of dominant tech firms have also already been advanced by regulators in several instances, such as an ongoing case by the US FTC seeking to force Meta to divest its Instagram and WhatsApp platforms.<sup>50</sup> In 2023, the EU Commission’s preliminary ruling on Google’s abuse of its dominance in online advertising concluded the only way to make these markets competitive is “mandatory divestment”.<sup>51</sup> In 2022, the UK’s CMA forced Meta divest from Giphy following an investigation into the completed acquisition.<sup>52</sup>

In some cases, functional remedies that help to separate out different services, without necessarily obligating firms to divest from them, can also lower barriers to entry and open up markets. For example, there is growing momentum behind calls for measures to separate the provision of hosting and content curation on social media platforms, so that social media companies would be forced to allow third-parties to offer algorithmic recommendation systems in addition to the platform’s own.<sup>53</sup>

Finally, regulation to mandate much greater interoperability between the tech giants' platforms and services is a key means of “tearing down the walls between technologies.”<sup>54</sup> Interoperability means being able to exchange data and functionality across platforms so that they work with each other,<sup>55</sup> enabling users to easily switch between them and for new businesses to benefit from the data and scale efficiencies of the gatekeepers.

Interoperability requires a combination of enabling greater access to data across platforms (data interoperability) and greater common functionality between platforms

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<sup>49</sup> Kwoka, John E. and Valletti, Tommaso M., [Scrambled Eggs and Paralyzed Policy: Breaking Up Consummated Mergers and Dominant Firms](#), Nov 2020, Industrial and Corporate Change; Van Loo, Rory, [In Defense of Breakups: Administering a 'Radical' Remedy](#), Jun 2020, Cornell Law Review,

<sup>50</sup> BBC News, [Meta monopoly case from FTC given go-ahead](#), Jan 2022

<sup>51</sup> EU Commission, [Antitrust: Commission sends Statement of Objections to Google over abusive practices in online advertising technology](#), June 2023. However, [reports indicate](#) EU regulators will not order a break up as previously warned.

<sup>52</sup> UK Competition and Markets Authority, [CMA orders Meta to sell Giphy](#), Oct 2022

<sup>53</sup> See for example, Article 19, [Taming Big Tech: A pro-competitive solution to protect free expression](#), 2021; Daphne Keller, [The Future of Platform Power: Making Middleware Work](#), 32 J. Democracy 168, Jul 2021 ;

<sup>54</sup> Cory Doctorow, [The Internet Con: How to Seize the Means of Computation](#), 2023

<sup>55</sup> Elettra Bietti, Privacy International, [Explainer: Competition, Data and Interoperability in digital markets](#), Aug 2020

through standardised protocols (functionality-oriented interoperability).<sup>56</sup> In practice, different forms of interoperability remedies will be context-specific, and implementation will need to be carefully tailored to different digital markets or business models, and include safeguards to ensure that interoperability respects data protection and other rights.<sup>57</sup>

The “Fediverse” - an interoperable social platform ecosystem underpinned by the ActivityPub protocol, enabling users to easily switch between different social networks - is a prime example of what is possible. Cory Doctorow has said: “Look at the Fediverse...The Fediverse has done more for an interoperable, decentralized web than all the other projects of the past decade combined”.<sup>58</sup>

### 1.3 Utility-style regulation

There may be a case to regulate certain digital markets, firms or services as public utilities, meaning to bring them into public ownership or control, and/or subject to public interest regulations and obligations. Such an approach can be combined with structural separation remedies i.e. ‘break ups’, if services should be separated before being regulated as a utility. In line with fundamental principles of competition policy, firms operating essential infrastructure must be subject to strict obligations around fair commercial dealings and non-discrimination.

The primary argument in favour of this approach is that in some instances a “natural monopoly” may exist, such that it doesn’t make sense to have more than one company invest in essential digital infrastructure, in the same way that there is no need to build more than one set of rail infrastructure or electric grid network.

However, there remains debate and disagreement among academics and thought-leaders around when or whether such an approach should be applied to digital markets, and in many instances it would not be appropriate, especially where it would serve to entrench a dominant firm's incumbency. In particular, there is major ongoing debate, primarily in the US, around proposals to regulate social media networks as public utilities.<sup>59</sup>

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<sup>56</sup> Ian Brown, for Ada Lovelace Institute, [From ‘walled gardens’ to open meadows](#), Nov 2021

<sup>57</sup> Ian Brown, for Ada Lovelace Institute, [Making interoperability work in practice: forms, business models and safeguards](#), Dec 2021; Working Group on Information Integrity, Interoperability & Media Plurality, [An Interoperating Social Media Environment](#), Jun 2024

<sup>58</sup> Cory Doctorow, [Pinkdrunk Linkdump](#), Nov 2023

<sup>59</sup> For an analysis and summary of the debate, see Ganesh Sitaraman & Morgan Ricks, [Tech Platforms and the Common Law of Carriers](#), 73 *Duke Law Journal* 1037-1100, 2024. For criticism of such proposals see for example Os Keyes, [It Doesn't Make Sense to Treat Facebook Like a Public Utility](#), *Wired*, Jan 2022; Gilad Edelman, *Wired*, [No, Facebook and Google Are Not Public Utilities](#), Jul 2021; John Bergmayer, [What Makes a Common Carrier, and What Doesn't](#), *Public Knowledge*, Jan 2021. There has also been extensive debate of common carrier laws applied to social media around the US Supreme Court cases [Moody v. NetChoice, LLC and NetChoice, LLC v. Paxton](#).

Cloud services is one example of digital infrastructure where there is a case for operating it as a public utility. Open Markets Institute has called for “recognizing cloud computing as an essential infrastructure, separating ownership and control from the largest gatekeeper platforms, and regulating it as a public utility”.<sup>60</sup> This also aligns with taking a public digital infrastructure approach to AI (see Pillar II).

## 2. Joined-up regulation across different domains

Countering the pervasive concentrated power of the tech giants requires governments to pursue a holistic economic policy that integrates anti-monopoly efforts across various domains, and breaks down the silos between different government agencies and regulators.

This includes data protection to tackle firms' data-driven advantages, labour laws to put more power in the hands of workers, and trade policy to overturn provisions that favour Big Tech. It also requires taxation to redistribute monopoly rents and decrease the wealth and financial clout that they use to maintain monopoly. Other areas outside the scope of this paper that are also highly relevant include media regulation, platform regulation and consumer protection.

There is an extensive body of research and policy analysis related to the tech sector within each of these domains. This paper does not attempt to put forward a comprehensive package of measures or policies, but to offer some initial examples of where regulators, policymakers and civil society can seek to counter the power of Big Tech across key relevant regulatory areas, recognising that these will significantly vary between regions and jurisdictions.

The importance of applying an anti-monopoly lens across different regulatory domains is also due to the real risks that regulation can serve to entrench the power of Big Tech, and be co-opted by the companies - “if incumbents ask to be regulated, large alarm bells should be going off”.<sup>61</sup> States and policymakers must be aware of these risks and proceed with caution, including by being conscious of the burden regulatory compliance imposes on start-ups,<sup>62</sup> and by being wary of solutions that “tacitly require Big Tech to stay big”.<sup>63</sup>

### 2.1 Data protection

The inherent data-driven nature of digital markets and Big Tech’s core operations means that there is a long-standing discussion around the interactions between antitrust and data protection, with many advocating for years to break down silos

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<sup>60</sup> Open Markets Institute, [AI in the Public Interest: Confronting the Monopoly Threat](#), Nov 2023

<sup>61</sup> Lemley and Wansley, 2024

<sup>62</sup> Lemley and Wansley, 2024

<sup>63</sup> Ada Lovelace Institute, [Rethinking data and rebalancing digital power](#), Sep 2024

between these areas, and for antitrust enforcers to recognise the central role of data and data infrastructure as a source of power.

The introduction and proper enforcement of strong data protection law can be deployed to challenge structural power.<sup>64</sup> In particular, proper enforcement of the core data protection principles of purpose limitation and data minimization – that require firms to collect only the data necessary for a legitimate purpose, and not to use the data beyond that purpose – can go a long way to combat the data advantage of dominant firms. Although, digital rights and regulation expert Michael Veale cautions that large datasets are not as central to informational power as often held, and advocates keeping the focus on data infrastructure.<sup>65</sup>

These data protection principles have particular salience for limiting behavioural advertising, a practice that to varying degrees underpins the business models of Big Tech – in the case of Google and Facebook, being their primary source of revenue. States should combine data protection enforcement with specific regulations targeting online advertising, such as explicit measures to ban exploitative “surveillance advertising”.<sup>66</sup>

Finally, deepening cooperation and alignment between competition regulators and data protection authorities remains paramount.<sup>67</sup> In Europe, the landmark July 2023 decision against Meta by the Court of Justice of the European Union (CJEU), which ruled that Germany’s antitrust authority can take data protection rules into consideration, set a strong precedent and signalled that in Europe these domains will be more closely tied in future.<sup>68</sup>

## 2.2 Labour

Labour organising and measures that put more power in the hands of workers is fundamental to countering concentrated economic power, by rebalancing the inequalities in bargaining power between workers and employers.<sup>69</sup> First and foremost, this entails protecting and defending worker’s core labour rights including the freedom to join a union, the right to collective bargaining, freedom from discrimination at work, and safe and healthy working conditions. Crucially, this includes securing the rights of subcontracted workers, so that firms cannot avoid their responsibilities through outsourcing and subcontracting.

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<sup>64</sup> AI Now Institute, [Toxic Competition: Regulating Big Tech’s Data Advantage](#), Apr 2023

<sup>65</sup> Veale, Michael, [Some Commonly-held but Shaky Assumptions About Data, Privacy and Power](#), SocArXiv, 8 Aug. 2023

<sup>66</sup> See e.g. People vs Big Tech, [The People’s Declaration](#), signed by 123 organisations.

<sup>67</sup> Cristina Caffarra and Johnny Ryan, [Why Privacy Experts Need a Place at the Antitrust Table](#), in ProMarket, Jul 2021

<sup>68</sup> Natasha Lomas, TechCrunch, [CJEU ruling on Meta referral could close the chapter on surveillance capitalism](#), Jul 2023

<sup>69</sup> Balanced Economy Project, [Taken, not earned: How monopolists drive the world’s power and wealth divide](#), Jan 2024 ; Oxfam International, [Inequality Inc.](#), Jan 2024

Strengthening worker organising and unionisation in the tech sector, including in e-commerce and logistics, gig workers, and subcontracted data annotation and content moderators, and preventing union-busting, is a key piece of the puzzle. There have been major efforts by workers and contractors at dominant tech companies to organise in recent years. Amazon is a major focus for unions, worker organisations and other civil society groups - the Make Amazon Pay coalition brings together 80 organisations behind common demands across labour, anti-racism, tax, environment and antitrust.<sup>70</sup>

At the same time, over the past forty years, a rise in market power to a handful of “superstar” companies in tech and other sectors has been a key factor in stagnating wages, rising inequality, and higher prices across the world.<sup>71</sup> As such, a more robust and comprehensive approach to antitrust enforcement can also protect workers in digital markets. For example, the US FTC has tried to introduce a ban on “non-compete clauses” that prevent workers moving to a competitor,<sup>72</sup> and has made impacts on workers a consideration in merger decisions.<sup>73</sup> There is also a role for greater involvement of unions and workers’ representatives in antitrust enforcement.<sup>74</sup>

Finally, there is an important interlinkage between workers’ rights, data protection and data rights, and the balance of power between workers and employers which have particular salience for tech companies’ highly-digitised workplaces. The ILO has set out recommendations for how unions can improve workers data rights.<sup>75</sup> There are also examples of proposals that give workers control over data and digital services, such as worker-controlled platform cooperatives, which align with alternative democratic data infrastructures proposed under Pillar 2 below.<sup>76</sup>

## 2.3 Progressive tax policy

Tax avoidance is an established strategy that globalised multinational corporations across sectors deploy to hoard wealth and further concentrate market power, often by hiding profits in tax havens through “base erosion and profit shifting” (BEPS).<sup>77</sup> This is a self-reinforcing dynamic, where tax havens entrench monopolies, while monopolisation boosts tax injustices.<sup>78</sup> Big Tech companies have long deployed these strategies, particularly by deriving vast revenue across the world through their global platforms

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<sup>70</sup> [Make Amazon Pay](#)

<sup>71</sup> Jan Eeckhout, [The Profit Paradox: How Thriving Firms Threaten the Future of Work](#), 2021

<sup>72</sup> US Federal Trade Commission (FTC), [Noncompete Rule](#), Jul 2024. However, a federal judge [blocked the rule](#) from taking effect following a legal challenge.

<sup>73</sup> U.S. Department of Justice and the FTC, [Merger Guidelines](#), 2023, Guideline 10

<sup>74</sup> European Trade Union Confederation (ETUC), [Competition and Labour: A Trade Union Reading of EU Competition Policies](#), 2023, p 83

<sup>75</sup> International Labour Organization, [Improving Workers' Data Rights](#), Nov 2022

<sup>76</sup> [Platform Cooperativism Consortium](#)

<sup>77</sup> OECD, [Base erosion and profit shifting \(BEPS\)](#)

<sup>78</sup> Nick Shaxson, Tax Justice Network, [If tax havens scare you, monopolies should too. And vice versa](#), Nov 2019

and infrastructure, while enjoying highly preferential tax advantages in tax havens such as Luxembourg and Ireland.

For example, in September 2024 the EU's highest court confirmed a European Commission judgement forcing Apple to pay back €13 billion in taxes, after a "sweetheart" deal with Ireland meant the company was paying as little as 0.005% tax on profits.<sup>79</sup> Meanwhile, in 2023 Microsoft disclosed that US tax authorities have sought an additional \$28.9 billion in taxes due to issues of 'transfer pricing' between different tax jurisdictions, after the company spent years moving US-based profits to Puerto Rico.<sup>80</sup>

Progressive tax policies that enable states to release and redistribute these monopoly rents are paramount for opening up Big Tech's power and levelling the playing field, particularly for countries in the Global South. Taxation decreases the size of the 'war chest' that is essential to maintain monopoly. Ultimately, this also indirectly increases the resources of states and governments' ability to invest in alternative digital infrastructure in the public interest (see Pillar 2 below).

Digital services taxes (DSTs) are an established method for governments to recover tax from digital businesses that are generating revenue within their jurisdiction, regardless of where those companies are located and headquartered. Such measures can be unilaterally adopted relatively straightforwardly and as such have been implemented or proposed by many countries, including in the Global South.<sup>81</sup> The US government has been actively opposing DSTs including through retaliatory measures.<sup>82</sup> Tech companies have also used their control over ecosystems to pass on the cost of DSTs, for example, Amazon has passed on the cost to its sellers through a "digital services fee".<sup>83</sup>

In addition to DSTs, another potential progressive measure is the use of an excess profits tax, that would levy higher taxes on firms where profits exceed normal returns. For example, researchers at the University of Greenwich propose a tax for the EU that would include a 40% rate for 'super' excess profits – profits above a rate of return of 15%.<sup>84</sup>

There is a major ongoing global debate between states on digital taxes. As part of a long-term initiative to address tax challenges in the digital economy, the OECD/G20 has proposed a multilateral convention - known as Amount A – that would introduce a form of excess profit taxation on large MNEs, but would prevent countries from introducing

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<sup>79</sup> Mehreen Khan, The Times (UK), [How EU forced Ireland and Apple into a €13bn tax defeat](#), 13 Sep 2024

<sup>80</sup> Jason Rauhe, CPA, [Microsoft Receives IRS Notice To Pay \\$28.9B Due to Transfer Pricing Issue](#), Oct 2023; Kiel, Paul, [The IRS Decided to Get Tough Against Microsoft. Microsoft Got Tougher](#), ProPublica, Jan 2020

<sup>81</sup> William Morris and Pat Brown, PwC, [Digital service taxes: Are they here to stay?](#)

<sup>82</sup> Simon Gough, Bird & Bird, [Digital Services Tax in the UK](#), Mar 2023

<sup>83</sup> E.g. Amazon, [Digital services fee effective October 1](#), in a update on its sellers forum, 2024

<sup>84</sup> Ines Heck, Thomas Rabensteiner and Ben Tippet, University of Greenwich, [A progressive excess profit tax for the European Union](#), 2024

DSTs.<sup>85</sup> The South Centre states that the convention will generate “minimal revenues for developing countries”, as compared to DSTs.<sup>86</sup>

Separately, there is also a UN process towards developing a convention on international tax cooperation. In August 2024, a UN intergovernmental committee proposed the development of two legally binding protocols, one of which “should address taxation of income derived from the provision of cross-border services in an increasingly digitised and globalised economy”.<sup>87</sup> This will be a long-term process, but offers an alternative route to the OECD initiative.

## 2.4 Trade

Big Tech has used the international trade arenas to further its own interests through trade negotiations, and consolidate its control over critical assets in the digital economy. Several free trade agreements contain provisions emphasising the need for liberalised cross-border data flows and prohibitions on data localisation. This effectively means that crucial data resources, that are critical for inclusive and domestic digital industrial policy, can be transferred out of the country of origin by Big Tech companies.<sup>88</sup> While there are legitimate concerns around data localisation, such as privacy, surveillance and the domestic capacity for data storage and analytics, the right of developing countries to govern and regulate data autonomously cannot be foreclosed in trade agreements.

Trade agreements also contain provisions that prohibit any regulatory action that would require companies to disclose their “source code”, which impacts the ability of governments to effectively regulate the use of AI, address discrimination and bias, and ensure AI auditability and accountability.<sup>89</sup> The moratorium on customs duties and tariffs on electronic transmissions has also been renewed time and again, which results in the erosion of an important revenue base for developing countries. Research shows that in 2020 alone, it caused tariff revenue losses to the tune of \$1.5 billion for India, \$112 million for Indonesia and \$3.6 billion for Thailand.<sup>90</sup>

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<sup>85</sup> OECD, [Multilateral Convention to Implement Amount A of Pillar One](#), 2023

<sup>86</sup> Dr. Carlos Correa, Executive Director of the South Centre, [Opening Remarks at the “Conference on South-South Cooperation in International Tax Matters: Don’t cede your taxing rights by signing a blank cheque”](#), Nov 2023 ; Vladimir Starkov and Alexis Jin, South Centre, African Tax Administration Forum, & West African Tax Administration Forum, [A Toss Up? Comparing Tax Revenues from the Amount A and Digital Service Tax Regimes for Developing Countries](#), Research Paper 199, Jun 2024

<sup>87</sup> UN General Assembly, Ad Hoc Committee to Draft Terms of Reference for a United Nations Framework Convention on International Tax Cooperation, [Chair’s Proposal for Draft Terms of Reference](#), Aug 2024, A/AC.295/2024/L.4

<sup>88</sup> IT for Change, [Why the Dominant Digital Trade Paradigm Will Not Work for Women in the Global South](#), 2019

<sup>89</sup> Digital Trade Alliance, [Source Code Disclosure and Free Trade Agreements](#), Aug 2023

<sup>90</sup> Rashmi Banga, South Centre, [WTO Moratorium on Customs Duties on Electronic Transmissions: How much tariff revenue have developing countries lost?](#), Jun 2022



## Pillar 2: Stimulate a new digital economy

In parallel to opening up the existing closed ecosystems controlled by Big Tech, the Beyond Big Tech framework also advocates proactive measures to promote and support the growth of alternative models for the digital economy, where power and control over critical infrastructure and data is decentralised, redistributed and democratised, and does not sit with either “big tech” or “big state”, but as far as possible belongs to the “Digital Commons”.<sup>91</sup>

Pillar I and Pillar II are two sides of the same coin – while joined-up regulation to tackle concentrated economic power can move towards dismantling the existing dominance of the tech giants, holding them to account, and levelling the playing field, digital industrial policy and smart state investments can proactively seed alternative digital infrastructure that serves the public good and stimulates new innovation beyond the narrow paradigms set by the incentives of Big Tech.

The long-term goal must be to move away from the prevailing economic model predicated on extracting value from people, workers and other actors through ever-increasing datafication, surveillance and centralised monopoly power, towards a model where respect for human rights, equality and the rule of law comes first, and data and digital infrastructure are repurposed and designed to serve the public interest - a “people-first digital ecosystem”.<sup>92</sup>

In practice, efforts should be directed beyond regulating the gatekeepers, but to abolish digital gatekeeping altogether. This means transitioning from the current platform economy to a protocol-based economy, in which instead of a handful of gatekeepers controlling the rules for an integrated set of platforms and services, there is “a more vibrant, diverse and resilient ecosystem of trustworthy open solutions on top of a shared set of rules and open protocols and standards.”<sup>93</sup>

This harks back to the foundation of the internet, that enabled the emergence of services such as email that are fully interoperable and based on open protocols.<sup>94</sup> Opening up Big Tech infrastructure should not only result in other Big Tech players benefiting, leading to an oligopoly, but creating shared infrastructure from which many alternatives can grow. This builds “good” digital sovereignty, where “any entity can be

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<sup>91</sup> Jan Krewer and Zuzanna Warso, Open Future, [Digital Commons as Providers of Public Digital Infrastructure](#), Jun 2024 (Krewer and Warso, 2024)

<sup>92</sup> Ada Lovelace Institute, [Rethinking data and rebalancing digital power](#), Nov 2022

<sup>93</sup> Katja Bego, NGI Forward, [Towards Public Digital Infrastructure: A Proposed Governance Model](#), Mar 2022 (Bego, 2022)

<sup>94</sup> Mike Masnick, [Protocols, Not Platforms: A Technological Approach to Free Speech](#), in Knight First Amendment Institute, Aug 2019

digitally sovereign when they are able to understand technology and use it for their own benefit,” avoiding a state-centric authoritarian or protectionist notion of sovereignty.<sup>95</sup>

The recent wave of enthusiasm among states for interventionist industrial policies to shape and stimulate markets for strategic purposes, including public interest objectives,<sup>96</sup> provides an opportunity to scale up investment and innovation in public-interest digital infrastructure. This follows an approach to economic policy that goes beyond only fixing broken markets to shaping and creating markets and technological change.<sup>97</sup> While acknowledging the ambition and opportunity, the devil is in the details: the “messy, hard, complicated details of practical deployment” of industrial policy.<sup>98</sup> Industrial policy for collective development is different from industrial policy for aggressive nationalism.

There is already significant momentum globally towards funding digital infrastructure in the public interest based on open standards and interoperability, including to drive development.<sup>99</sup> However, this must be done in the right way - as well as appropriate technical safeguards, establishing good governance frameworks from the outset for the emergence of any new digital infrastructure is of fundamental importance. This includes governance structures that are democratic, transparent and accountable, and in line with human rights standards and the rule of law. There is a central role for the “digital commons” (community-governed digital resources) as a provider for public digital infrastructure.

Investing in public digital infrastructure is itself a form of breaking open Big Tech, by taking control of critical components of the digital economy out of the consolidated control of the dominant tech giants and moving them to the public or digital commons. At the same time, without breaking up the concentrated power of Big Tech, alternative models will not be able to grow and flourish.

## 1. Public-interest innovation

The tech giants and other defenders of the more laissez-faire approach to the digital economy often warn that states shouldn’t “get in the way” of innovation.<sup>100</sup> However,

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<sup>95</sup> Luca Belli, Center for Technology and Society (CTS-FGV), [Building Good Digital Sovereignty through Digital Public Infrastructures and Digital Commons in India and Brazil](#), Jun 2023

<sup>96</sup> Simon Evenett, Adam Jakubik, Fernando Martín, Michele Ruta, [The Return of Industrial Policy in Data](#) IMF Working Paper No. 2024/001

<sup>97</sup> Mariana Mazzucato, [From Market Fixing to Market-Creating: A New Framework for Economic Policy](#), Aug 2015; Mazzucato, [Governing the economics of the common good: from correcting market failures to shaping collective goals](#), Journal of Economic Policy Reform, 2023

<sup>98</sup> Nathan Lane, [A Flight Plan That Fails](#), Boston Review, Sep 2021

<sup>99</sup> Jan Krewer, Open Future, [Signs of progress: Digital Public Infrastructure is gaining traction](#), March 2024 (Krewer, 2024)

<sup>100</sup> For example, U.S. Chamber of Commerce, [When It Comes to Tech, It’s Regulation vs. Innovation](#), Aug 2017

technological progress and innovation is not an end in itself; the path that such innovation takes is shaped by social, political and economic forces, and currently digital innovation is being significantly distorted towards the interests of the tech giants, with negative impacts for society, democracy and workers.<sup>101</sup>

Historically, the tech sector has benefitted from huge public investment in R&D, and has significantly captured academic research and research and knowledge production.<sup>102</sup> To stimulate innovation outside the narrow parameters of the tech sector, it is essential to expand investment in public universities in STEM that is not beholden to private interests, and to ensure that the public retains the value of such research.

In the AI sector, the narrow focus on large-scale models and a “bigger is better” approach is itself a product of the concentrated power of the tech giants and their data-hungry business models, and as such is a key example of where innovation has been directed towards the interests of the tech giants despite the well-documented social and environmental costs.<sup>103</sup> For example, this has led to investment and development of techno-solutionist and exploitative surveillance-based automated prediction systems which become “solutions in search of a problem”.<sup>104</sup>

An alternative trajectory for innovation in the digital economy is required to upend the prevailing assumptions that currently serve the narrow interests of Big Tech. Avoiding techno-solutionism starts with questioning the presumption that digital technologies are even necessary or appropriate in a given context, especially when addressing complex social issues - and preventing the emergence of digital systems that cause harm to rights, workers, democracy or the environment. Equally, more national or localised initiatives may better address local contexts and needs. In the context of AI, it is not necessary to rely only on large-scale models, where research into the use of smaller systems can be valuable without the associated societal costs.<sup>105</sup>

As such, the purported tension between ‘regulation’ vs ‘innovation’ is a false dichotomy.<sup>106</sup> Progressive industrial policy, combined with competition enforcement and the right regulations, can in fact be used as a catalyst to spur and stimulate innovation in a different direction that truly serves public-interest goals.<sup>107</sup> There is a growing body

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<sup>101</sup> Daron Acemoglu and Simon Johnson, [Power and Progress](#), 2023

<sup>102</sup> Whittaker, Meredith, [The Steep Cost of Capture](#), 2021

<sup>103</sup> Emily M. Bender, Timnit Gebru, Angelina McMillan-Major, and Shmargaret Shmitchell, [On the Dangers of Stochastic Parrots: Can Language Models Be Too Big?](#), 2021, In *Conference on Fairness, Accountability, and Transparency (FAcCT '21)*, March 3–10, 2021, Virtual Event, Canada. ACM

<sup>104</sup> Greta Byrum & Ruha Benjamin, [Disrupting the Gospel of Tech Solutionism to Build Tech Justice](#), 2022, *Stanford Social Innovation Review*

<sup>105</sup> Varoquaux, Luccioni, and Whittaker, 2024

<sup>106</sup> Max von Thun, Open Markets Institute, [To Innovate or to Regulate? The False Dichotomy at the Heart of Europe's Industrial Approach](#), in AI Now Institute, AI Nationalism(s), Mar 2024

<sup>107</sup> On the complementarity between antitrust enforcement and innovation, see e.g. Baker, Jonathan B., [Beyond Schumpeter vs. Arrow: How Antitrust Fosters Innovation](#), Jun 2007, *Antitrust Law Journal*, Vol. 74, 2007

of work setting out how states can promote digital innovation that actually creates value for society.<sup>108</sup> Promoting value-led digital innovation is also often given as one of the primary objectives behind growing efforts to develop “digital public infrastructure”.

## 2. Public digital infrastructure

There is a growing movement globally behind efforts to develop and fund ‘digital public infrastructure’ (DPI).<sup>109</sup> There is no agreed definition of the term and the field is still in “conceptual nascency”,<sup>110</sup> but essentially the focus goes beyond the digital services and platforms that sit at the top of the technology stack, to the lower layers, the “building blocks” that other solutions sit on top of, with the aim of making these interoperable and built on open standards. Digital ID systems, payment systems, and data exchange systems are often given as the three components of DPI,<sup>111</sup> with prominent examples including Estonia’s X-Road, and the “India Stack”.<sup>112</sup>

This paper advocates a more expansive notion of digital infrastructure, and as such utilises the related but wider concept of “public digital infrastructure”, to encompass communication services and platforms, storage services, identity services as well as underlying software functionality, protocols and standards.<sup>113</sup> The term ‘public’ does not necessarily entail public ownership, but rather infrastructure built in the public interest, with public oversight or to advance shared public values.<sup>114</sup>

Interoperability is a critical design principle for public digital infrastructure, and also complements measures to mandate greater interoperability within the platforms and ecosystems controlled by the current dominant incumbents (see pillar 1 above). NGI Forward has set out how through using a public digital infrastructure approach, interoperability can be seen not only as a coercive instrument, but as a positive proactive means to create an alternative ecosystem: dubbed “collaborative

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<sup>108</sup> Cecilia Rikap and Bengt-Åke Lundvall, [The Digital Innovation Race: Conceptualizing the Emerging New World Order](#), 2021; Ezrachi and Stucke, 2022

<sup>109</sup> Krewer, 2024

<sup>110</sup> David Porteous, Integral, [Is DPI a useful category or a shiny new distraction?](#), Mar 2023; Aarushi Gupta and Aman Nair, Digital Futures Lab, [Unpacking Digital Public Infrastructure: Navigating Conceptual Ambiguities](#), T20 Policy Brief, Jul 2023

<sup>111</sup> See e.g. Digital Public Goods Alliance GovStack Community of Practice, [Understanding the Relationship between Digital Public Infrastructure, Building Blocks & Digital Public Goods](#), May 2022 ; David Eaves and Jordan Sandman, [What is digital public infrastructure?](#), UCL Institute for Innovation and Public Purpose, Apr 2023

<sup>112</sup> e-Estonia, [X-Road](#); Government of India, [India Stack Global](#)

<sup>113</sup> Keller, P. Open Future, [European Public Digital Infrastructure Fund White Paper](#), 2022 (Keller, 2022)

<sup>114</sup> David Eaves, Mariana Mazzucato and Beatriz Vasconcellos, [Digital public infrastructure and public value: What is ‘public’ about DPI?](#) UCL Institute for Innovation and Public Purpose, Working Paper Series (IIPP WP 2024-05), 2024 (Eaves, Mazzucato, and Vasconcellos, 2024)

interoperability”.<sup>115</sup> A related proposal by Commons Network and Open Future proposes “Generative Interoperability”.<sup>116</sup>

The aim for public digital infrastructure is not to create public-backed alternative services to compete with the existing large platforms, such as a state social media platform. Instead, the purpose of a public digital infrastructure approach is to build alternative underlying infrastructure on which new applications can develop on top of, and to foster a new ecosystem that is not driven solely by private investment and beholden to the commercial interests of the tech giants.<sup>117</sup>

Notable examples of public digital infrastructure include:

- Launched by Barcelona City Council, Decidim is a free and open, digital infrastructure for participatory democracy that is now widely used around the world.<sup>118</sup>
- Brazil’s “Pix payment system,” which has been adopted by 70% of the population, has replaced reliance on e-payment giants Visa and Mastercard.<sup>119</sup>
- DHIS2 is a software component used by many governments to develop their health information management systems. It illustrates how public digital infrastructure can be managed and produced, at a global scale.<sup>120</sup>

The scale of the challenge is undoubtedly ambitious, and supporters will need to prioritise areas of focus for adoption of a public digital infrastructure approach. Open Future has identified four areas of current policy debates where social demands for public digital infrastructure can be clearly identified, and where digital commons can be part of strategies to maximize public value creation:

1. Common foundations of government solutions for public service delivery;
2. Open source software components for the Internet stack;
3. Critical layers for access to digital public spaces, i.e. digital services and platforms that exist outside the control of commercial entities that extract value from users of their platforms;<sup>121</sup>
4. Platforms and services that are critical in specific sectors for industry or intermediation between producers and consumers.<sup>122</sup>

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<sup>115</sup> Bego, 2022

<sup>116</sup> Commons Network and Open Future, [Generative Interoperability: Building Online Public and Civic Spaces](#), 2022

<sup>117</sup> Katja Bego, FEPS, [Towards a sustainable and resilient future internet](#), Dec 2022

<sup>118</sup> [Decidim](#)

<sup>119</sup> Christian Perrone, [Brazil's Bridges to the Future: How the Country Is Building Digital Infrastructure](#), *Carnegie India*, Nov 2023

<sup>120</sup> [DHIS2](#)

<sup>121</sup> Open Future, [Digital Public Space Primer: Investing in public digital infrastructures to secure digital rights](#), Oct 2023

<sup>122</sup> Krewer and Warsø, 2024

The scale of government funding and investment required for public digital infrastructure must also be ambitious. In the EU, Francesca Bria, former President of Italy's National Innovation Fund, has called for a €10 billion EU Digital Sovereignty Fund, to build a "Europe Stack" to establish digital public infrastructures and digital commons.<sup>123</sup> To put that in context, Big Tech companies have plunged \$100bn into capital investment focused on the infrastructure for artificial intelligence in just the first 6 months of 2024.<sup>124</sup> However, as former Taiwan Digital Minister Audrey Tang argues, digital infrastructure must be seen as eligible for equivalent resources as other major state infrastructure investment projects, such as roads, railways and bridges.<sup>125</sup>

## 2.1 Procurement

As a first step, there is a significant role for public bodies and public institutions such as libraries, universities and museums in helping to seed public digital infrastructure through their own "market shaping-levers", including through procurement practices. This entails mandating the use of the underlying open standards and protocols in the solutions they fund and in their own practices, to help promote and scale up these tools. For example, requirements for 'interoperability-by-default' in the tender process. In the EU, the 'Public Money Public Code' campaign calls for publicly financed software developed for the public sector to be made publicly available under a Free and Open Source Software licence.<sup>126</sup> Additionally, considerations of market concentration and power should be taken into account in procurement decisions.

These requirements can be adopted alongside other measures to realise human rights and sustainable development through public procurement, for example requirements to only award contracts to companies that support workers' collective bargaining rights.<sup>127</sup>

## 2.2. Public interest AI

Taking a public digital infrastructure approach to AI is a promising way to counter private sector dominance in the field, and to foster an alternative AI ecosystem grounded in "the commons, human rights and the public's interest in AI development".<sup>128</sup> Given the dominance of Big Tech over AI (see background section

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<sup>123</sup> Francesca Bria | Foundation for European Progressive Studies (FEPS), [Towards Sovereign AI: Europe's greatest challenge?](#), Euractiv, Nov 2023

<sup>124</sup> Financial Times, [Big Tech groups say their \\$100bn AI spending spree is just beginning](#), Aug 2024

<sup>125</sup> Audrey Tang, speaking at the event [Public Interest Digital Innovation](#), 24 May 2024

<sup>126</sup> <https://publiccode.eu/en/openletter/>

<sup>127</sup> UNI Europa, [Procuring decent work](#); Danish Institute for Human Rights, [Driving change through public procurement](#), Feb 2020

<sup>128</sup> Joana Varon, Sasha Costanza-Chock, Timnit Gebru, [Fostering a Federated AI Commons ecosystem](#), T20 Policy briefing, 2024

above), public infrastructure targeted at various points in the 'AI stack' could start to create the conditions to create AI innovation in the public interest outside of the narrow parameters set by Big tech.

However, to date governments "AI industrial policy" efforts have largely been directed towards narrow geopolitical interests and national economic competitiveness, and fundamentally are grounded in the false "speculative promise" of AI as a strategically important sector.<sup>129</sup> Moreover, proposed interventions require careful consideration and a nuanced assessment to weigh the potential advantages against the risks of states simply replicating the current paradigm for AI innovation, or further cementing the power of incumbents.

State investment in "public compute", to provide access to academics, start-ups and developers to the computational resources needed to build and train AI, has been put forward as one way to tackle industry bottlenecks, and several governments have invested in hardware and compute power.<sup>130</sup>

Yet "public compute" is not an end in itself, and risks states replicating Big Tech's "bigger is better" paradigm for AI innovation. Moreover, given the high environmental and climate costs of compute-hungry large-scale models, governments risk contributing to the exponential demand for additional compute resources. Ada Lovelace Institute and Commonwealth have outlined several challenges that would need to be overcome for "public compute" to truly support public interest AI development.<sup>131</sup>

There is also a live debate around support for 'open-source' AI as an alternative to commercial and Big tech-backed models. US FTC chair Lina Khan has said "open-source models could potentially level the playing field and ensure that LLMs, Large Language Models, aren't concentrated in the hands of a few gatekeepers."<sup>132</sup> In August 2023, the French government announced support and funding for domestic open-source AI projects.

However, the term 'open-source AI' is ambiguous and distinct from traditional open source software,<sup>133</sup> meaning narratives around openness are often used by industry incumbents to further cement their power or to avoid regulation.<sup>134</sup> Moreover, when it comes to large-scale models, even maximally 'open' AI systems still rely on the resources

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<sup>129</sup> AI Now Institute, [AI Nationalism\(s\): Global Industrial Policy Approaches to AI](#), Mar 2024

<sup>130</sup> Jai Vipra & Sarah Myers West, AI Now Institute, [Computational Power and AI](#), Sep 2023

<sup>131</sup> Eleanor Shearer, Matt Davies, and Mathew Lawrence, [The role of public compute](#), Ada Lovelace Institute, Apr 2024

<sup>132</sup> 'Hard Fork' podcast, [Personalized GPTs Are Here, F.T.C. Chair Lina Khan on A.I. Competition](#), *The New York Times*, Nov 2023

<sup>133</sup> The Open Source Initiative is currently leading a [multi-stakeholder process](#) to define an "Open Source AI".

<sup>134</sup> David Gray Widder, Sarah West, and Meredith Whittaker, [Open \(For Business\): Big Tech, Concentrated Power, and the Political Economy of Open AI](#), Aug 2023 (Widder, West, and Whittaker, 2023)

of Big tech.<sup>135</sup> There are also real dangers of open-source capture by Big Tech – exemplified by Mistral.AI, touted by France as an example of an open-source champion, subsequently receiving major investment from Microsoft, promoting investigations by antitrust regulators.<sup>136</sup> Ultimately, open AI is an incomplete approach that alone does not constitute a wider conception of genuinely ‘democratic AI’.<sup>137</sup>

Creating public interest AI solutions also requires addressing the issue of training data. Making more data available for AI training should not be seen as a goal in itself, but rather as an opportunity to make data available for a broad range of public interest uses. Today, access to data constitutes a competitive advantage of the Big AI companies that benefit from proprietary data and have the resources to invest in new data sources – for example through exclusive licensing deals.

Addressing this challenge requires not just tapping into new data sources, but also governing them in ways that secure them against capture or exploitation by Big Tech companies. A range of governance models based on ideas of data trusts<sup>138</sup> or data commons<sup>139</sup> have been proposed in recent years. Other issues that should be addressed include mandates for sharing privately-owned data,<sup>140</sup> or taxation mechanisms for AI companies (feeding into development funds that share data resources). Such efforts would also help promote dataset transparency standards,<sup>141</sup> as efforts are made to ensure that commercial actors disclose information about training data.<sup>142</sup>

### 3. Ensuring good governance and safeguards

Public digital infrastructure cannot be seen only in the context of technical objectives, but also with governance objectives at the forefront. Opening up the current broken platform economy and building alternative digital infrastructure presents significant risks unless done in the right way. As Web technology expert Robin Berjon states, “in replacing [the digital giants’] infrastructure, the primary difficulty is not technology — that is largely solved or solvable — but governance.”<sup>143</sup>

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<sup>135</sup> Widder, West, and Whittaker, 2023

<sup>136</sup> Reuters, [Microsoft’s Deal with Mistral AI Faces EU Scrutiny](#), Feb 2024

<sup>137</sup> The Collective Intelligence Project, [A Roadmap to Democratic AI](#), Mar 2024

<sup>138</sup> Ada Lovelace Institute and the AI Council, [Exploring legal mechanisms for data stewardship | Ada Lovelace Institute](#), Mar 2021

<sup>139</sup> Alek Tarkowski and Zuzanna Warso, Open Future, [Commons-based Data Set Governance for AI](#), Mar 2024

<sup>140</sup> High-Level Expert Group on Business-to-Government Data Sharing, [Towards a European strategy on business-to-government data sharing for the public interest](#), European Commission, 2020

<sup>141</sup> Gebru, Timnit, Jamie Morgenstern, Briana Vecchione, Jennifer Wortman Vaughan, Hanna Wallach, Hal Daumé III, and Kate Crawford, [Datasheets for Datasets](#), Dec 2021

<sup>142</sup> Zuzanna Warso and Paul Keller, Open Future, [Towards Robust Training Data Transparency](#), Jun 2024

<sup>143</sup> Robin Berjon, [The Public Interest Internet](#), Jun 2024 (Berjon, 2024)



A core challenge for any state-backed digital infrastructure is the risk of giving governments too much power and control over the digital world, with corresponding risks of state surveillance or other abuses. Similarly, any efforts to enable greater data sharing and access presents risks to the right to privacy and data protection, and other rights including the right to non-discrimination, with marginalised groups most likely to be disproportionately impacted.

There is also a danger that these measures actually strengthen the power of the existing gatekeepers, for example if state investment and subsidies end up in the hands of Big Tech, or nascent new decentralised intermediaries and infrastructures become captured by incumbent ecosystems. Equally, the “national champions” model of industrial policy, in which state support is directed towards protecting and growing big domestic technology firms, only serves to reinforce monopoly power and limit innovation, at best simply replicating and transferring the same dynamics elsewhere.<sup>144</sup>

### **3.1 Governance over public digital infrastructure**

Advocates of public digital infrastructure and DPI emphasise the importance of not only supporting the development of the technological building blocks themselves, but also ensuring good governance frameworks. As Eaves, Mazzucato and Vasoncellos state, “there is no DPI without explicit public values, governance that follows the five pillars of the common good and a prominent role for the state.”<sup>145</sup>

Governance over digital infrastructure is complex, and there is no one-size-fits-all model, which may involve public actors, private actors, public-private partnerships, communities themselves, or a combination of the above.<sup>146</sup> Critical questions include how to manage the transnational nature of such infrastructure, what are the most appropriate institutional arrangements, and the realities of actual implementation, including political buy-in and cost.<sup>147</sup>

Several proposals from academia, civil society and intergovernmental bodies have set out governance frameworks and principles for digital public infrastructure. These commonly emphasise the importance of governance that is open, transparent, accountable and participatory, and must be in line with human rights standards and the rule of law.

The “Digital commons”<sup>148</sup> is a “key mechanism for providing public digital infrastructure”.<sup>149</sup> In a policy brief for the G20, experts from several civil society groups

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<sup>144</sup> Ganesh Sitaraman, [The National Security Case for Breaking Up Big Tech](#), in Knight First Amendment Institute

<sup>145</sup> Eaves, Mazzucato, and Vasoncellos, 2024

<sup>146</sup> Renata Avila, Ramya Chandrasekhar, Melanie Dulong de Rosnay, Andrew Rens, [Governing Digital Public Infrastructure as a Commons](#), T20 Policy Brief, Jul 2024 (Avila et al., 2024)

<sup>147</sup> Berjon, 2024

<sup>148</sup> Dulong de Rosnay, M. & Stalder, F. [Digital commons](#), *Internet Policy Review*, 9(4), 2020

<sup>149</sup> Krewer and Warso, 2024

have proposed principles that should be established for governing digital public infrastructure as a commons.<sup>150</sup> Taking a commons-based approach ensures greater public participation, inclusivity and accessibility, and also as means of avoiding centralising power over infrastructure towards either states or the private sector. Lessons can be drawn from the open movement and existing examples of resources governed as digital commons, such as Wikipedia and Linux.

In the context of the EU, a proposal under the EU Commission's 'NGI Forward' project, set out a governance model for public digital infrastructure, with three ingredients: An independent Public Technology Fund; A Public Digital Infrastructure Agency; and A Data Commons and Online Identity Mechanisms.<sup>151</sup> In 2022, under the French Presidency of the Council, a working team on Digital Commons published a set of proposals to scale up support for a European digital commons, and go beyond current "uncoordinated" efforts. Building on these proposals, a group of 40 civil society organisations have called for a European Public Digital Infrastructure Fund financed by the EU, and managed by an independent foundation.<sup>152</sup> A group of EU states are also now seeking to establish a European Digital Infrastructure Consortium (EDIC) focused on the digital commons.<sup>153</sup>

At the intergovernmental level, the UN's DPI Safeguards initiative has published an interim framework for implementing DPI,<sup>154</sup> while the latest revision of the Global Digital Compact also includes commitments on digital public goods and digital public infrastructure.<sup>155</sup> With regards to the design of the technological building blocks themselves, the Digital Public Goods Alliance has a set of baseline requirements to qualify as a digital public good, that includes privacy and security best practices.<sup>156</sup>

### **3.2 Safeguards required to prevent public investment and subsidies ending up in the hands of Big Tech**

Any drive towards greater digital industrial policy must be accompanied by robust guard rails and conditionalities to prevent state investment and subsidies further entrenching economic concentration or ending up empowering the current digital incumbents.

Lessons need to be learned from the past, where public investment has spurred innovation in new technologies, while the returns were privatised, often by today's dominant technology firms. For example, as Mariana Mazzucato states, "Is it right that

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<sup>150</sup> Avila et al., 2024

<sup>151</sup> Bego, 2022

<sup>152</sup> [Civil Society Statement on Democratic Digital Infrastructure](#), Jun 2023; Keller, 2022

<sup>153</sup> [European Collaboration for Digital Commons](#), 18 Jul 2024

<sup>154</sup> DPI Safeguards Initiative, [Universal DPI Safeguards Framework: A Guide to Building Safe and Inclusive DPI for Societies](#), Sep 2024

<sup>155</sup> Office of the Secretary-General's Envoy on Technology, [Global Digital Compact](#)

<sup>156</sup> Digital Public Goods Alliance, [Digital Public Goods Standard](#)

the [US] National Science Foundation did not reap any financial return from funding the grant that produced the algorithm that led to Google's search engine?".<sup>157</sup>

Mazzucato and other economists have carried out detailed work on the various conditionalities that governments can attach to public investment mechanisms such as subsidies, guarantees, and loans. Mazzucato and Rodrik have developed a taxonomy of conditionalities, noting that these must be designed carefully so as not to stifle innovation.<sup>158</sup> Conditions attached to government procurement are one important component, as highlighted in section 2.1 above.

In limited instances where public investment or support is directed towards dominant corporations, this should be carried out with maximum transparency and accompanied by clawback provisions and strict limitations on executive pay, share buybacks, dividends and acquisitions.<sup>159</sup>



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<sup>157</sup> Mariana Mazzucato, [The Entrepreneurial State](#), 2011, p 109

<sup>158</sup> Mazzucato, M. and Rodrik, D. (2023). [Industrial Policy with Conditionalities: A Taxonomy and Sample Cases](#). UCL Institute for Innovation and Public Purpose, Working Paper Series (IIPP WP 2023-07)

<sup>159</sup> Open Markets Institute et al., 2024, Recommendation 5

# Conclusion and recommendations

Challenging the entrenched infrastructural power of the dominant tech giants is an ambitious and long-term goal. It is time to go beyond regulating the symptoms of concentrated monopoly power, and move towards addressing the structural causes and building fair and just alternatives.

Opening up digital ecosystems and dismantling the power of Big Tech will not solve every problem, but is a necessary prerequisite for a new and fair digital economy. Policymakers, regulators, civil society groups and others face many obstacles, but must not lose sight of achieving a wider positive vision for an open, democratic digital economy.

This white paper is a first step and basis for wider consultation. Given the breadth of the scope, it does not attempt to have all the answers and there is no 'one size fits all' solution; different measures will need to be carefully tailored to different digital markets and business models, and across different regions and jurisdictions. This will require ongoing policy analysis as well as detailed economic and technical research on practical implementation.

At this stage, the civil society supporters of the Beyond Big Tech vision put forward six priority headline recommendations to states:

## Pillar one: Break Open Big Tech

1. Break up dominant tech firms through stronger enforcement of competition and antitrust law and regulation to enforce structural separations, and prevent further consolidation by blocking more mergers and acquisitions.
2. Require dominant tech firms to be more interoperable to enable users to freely choose and move between different platforms and services, open up new entrants to the market, and make platform recommendation systems customizable for users.
3. Tax dominant tech firms to redistribute the enormous profits they currently extract as rents, including through digital services taxes.

## Pillar two: Stimulate a new and fair digital economy

4. Commit significant investment towards public digital infrastructure based on free and open source software and the digital commons.
5. Use public procurement as a market lever to encourage the adoption and scaling of open and interoperable alternatives to the Big Tech incumbents.
6. Put in place and enforce strong human rights safeguards and accountable governance frameworks, including over public digital infrastructure.

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