# Rethinking Canada's Competition Policy in the Digital Economy


## Authors

Kean Birch, Director of the Institute for Technoscience & Society and Associate Professor, York University, Canada
'Damola Adediji, Doctoral Candidate, University of Ottawa, Canada

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# EXECUTIVE SUMMARY

## Preamble

Canada is reforming its competition policy. This report is a policy analysis of the competition policy investigations, proposals, and reforms emerging across a range of other countries; due to language constraints it focuses on materials in English. The report looks at the policy strategies, proposals, and reforms emerging in different countries, jurisdictions, and international institutions so that Canadian policymakers can learn from the experiences of others in updating their competition policies.

## Competition Policy Reform

- The Canadian Federal Government announced a plan to reform the 1985 *Competition Act* in early 2022, as part of a plan to promote "dynamic and fair markets".
- Canada's Competition Bureau has noted the problematic implications of "digital giants" for competition.
- Many other countries and jurisdictions are updating and modernizing their competition policies in response to the implications of the digital and data-driven economy.

## Implications of the digital economy for competition policy:

- Digital giants have become powerful market players around the world, including in Canada.
- Market competition is threatened by a range of dynamics in the digital economy, including: the economies of scale and multi-sided markets of digital giants and the expansion of their digital ecosystems and enclaves.

## Implications of personal data for competition policy:

- Digital personal data is a key resource / asset of these digital giants.
- Digital giants benefit from the network effects engendered by the mass collection and use of personal data.
- Personal data represents the resource needed to develop new digital and algorithmic technologies that reinforce the position of digital giants.

# 1. INTRODUCTION

> "The Department views the rise of dominant platforms as presenting a threat to open markets and competition, with risks for consumers, businesses, innovation, resiliency, global competitiveness, and our democracy. By controlling key arteries of the nation's commerce and communications, such platforms can exercise outsized market power in our modern economy. Vesting the power to pick winners and losers across markets in a small number of corporations contravenes the foundations of our capitalist system, and given the increasing importance of these markets, the power of such platforms is likely to continue to grow unless checked. This puts at risk the nation's economic progress and prosperity, ultimately threatening the economic liberty that undergirds our democracy."

- Peter Hyun, Acting Assistant Attorney General, US Department of Justice (28 March 2022), writing in response to the *American Innovation & Choice Online Act*

## 1.1 Introduction

In February 2022, the Canadian Federal Government announced a plan to reform the *Competition Act*. In June 2022, they introduced specific investigatory and criminal provisions into the *Competition Act* through a *Budget Implementation Act*. These actions followed a consultation in late 2021 run by then-Senator Howard Wetston, a former Director of Investigation and Research at the Competition Bureau. Senator Wetston's consultation was specifically focused on examining the *Competition Act* in light of the changing dynamics of the digital economy. There has been an ongoing public debate about the necessity of reforming the Competition Act, which started before this consultation and continues today. In November 2022, the Federal Government launched a consultation inviting submissions for its announced reform of the *Competition Act*. In response to this invitation for consultation submissions, we have written this research report on the implications of the digital economy for competition policy in Canada.

For this report, we undertook a scan and analysis of competition policy investigations, proposals, and reforms across a range of countries; due to language constraints, we focused on materials produced in English. Different national and supra-national jurisdictions have sought to find ways to update and modernize their competition policies in response to the changing dynamics of the digital economy, especially in response to the mass collection and use of digital personal data – henceforth, "personal data".

As we outline in this report, many jurisdictions are reforming and updating their competition policies precisely because they see a major shift in the way that markets and competition are functioning – even tending towards dysfunctionality – as a result of the distinctive features of digital and data-driven economies. These jurisdictions include the USA, UK, EU and its member states, Australia, Japan, Singapore, and others.[1] Canada is currently behind many of these other jurisdictions in addressing competition concerns with the digital economy. This means that Canada has the opportunity to learn from the range of existing policy experiences and policy frameworks when it comes to reforming the *Competition Act*.

Our overall aim is to undertake a policy analysis of these international proposals and reforms. We think this policy analysis can help Canadian policymakers to develop a new competition policy framework that contributes to the promotion of innovation while addressing the potential negative implications of the digital economy for Canadians, especially with regards to concerns about privacy and data protection.[2]

### 1.2 Research Objectives & Process

This research is funded by the Social Sciences and Humanities Research Council (SSHRC) of Canada through its Engage Partnership program. Our goal is to contribute to the ongoing public policy debate in Canada on reforming competition policy, especially in relation to the Federal Government's announced review of the *Competition Act*.

The objectives of the research partnership are:

- Examine recent reviews and revisions of competition policies, regulations, and laws undertaken around the world in response to the changing imperatives of the digital economy;
- Analyse how digital personal data is treated in these recent reviews and revisions of competition policies, regulations, and laws;

[1] Details about the changes happening in some of these jurisdictions can be found in G7 (2021, 2022), APEC (2022), and OECD (2022d, 2022e).
[2] We note that the digital economy can also have positive implications for competition, but our report specifically focuses on negative implications.

- Develop policy proposals for submission to the Federal Government review of the *Competition Act*.

We have examined and analysed recent reviews and revisions of competition policies, regulations, and laws undertaken around the world; due to language constraints, we focused on materials produced in English. Our methodological approach has been to examine a range of policy materials from other jurisdictions by using a qualitative data analysis software program called NVivo. This program helped us to identify and analyse the underlying policy themes, concerns, and processes across the different jurisdictions. We collected policy materials from the USA, UK, EU, Australia, Germany, France, Netherlands, Singapore, and Japan, as well as a range of international organizations and institutions (e.g. OECD). These policy materials include market studies, investigations, policy strategies, regulation proposals, and legal cases. As we are also interested in the implications of digital personal data for competition policy, we also analysed the treatment and framing of personal data in these policy materials.

## 1.3 What is Competition Policy and Why Does it Matter?

Competition policy is usually defined by national or supra-national context. For example, Canada's *Competition Act* – discussed in the next section – is distinct from the European Union's competition framework. In general, though, the underlying basis for competition policy can be summed up as promoting fairness in consumer pricing, efficiency in production, and innovation in technological and other developments through the requirement that firms do not collude with one another or exert undue pressure on the markets in which they operate.[3] The primary mechanisms for ensuring these outcomes are government agencies or authorities with oversight of and which can pursue enforcement action against anticompetitive mergers and acquisitions, restrictive conducts and practices, abuses of market dominance, and cartels.

Recently, there has been a notable and growing concern with competition policy in a range of countries, often in response to the negative implications

[3] See Motta (2004).

emerging from the digital economy.[4] Concerns about competition and market concentration are not new but have been sidelined for several decades.[5] It is important to note that this concern is evident across the political and economic spectrum. Examples include:

- Left-leaning think tanks like the USA's Open Markets Institute;
- Liberal neoclassical economists like Joseph Stiglitz and Thomas Philippon who have both outlined the increasing tendency towards monopoly and market concentration in North America during the 21st century;
- Centrist policy advisors like Geoff Mulgan, who was Director of Tony Blair's Strategy Unit;
- Libertarians and right-wing think tanks and politicians, like the Niskanen Center;
- Businesspeople like Jim Balsillie and Jonathan Tepper, who have written about the threats to competition posed by monopolies and growing market concentration across industries; and
- International institutions like the UN Conference on Trade and Development (UNCTAD), which has raised concerns about impact of monopolies, digital or otherwise, on international trade and development.[6]

In his book *The Great Reversal*, Thomas Philippon, a Professor of Finance at New York University, provides a helpful illustration of why competition matters to our economies and societies. He argues that the US economy, in particular, has become more concentrated and less competitive during the 21st century, especially when compared with the EU, leading to rising and/or high prices on things like internet access, cellphones, and airfares.

[4] There is a range of legal academic literature covering these negative or ambiguous implications of the digital economy for market competition, especially when it comes to the increasing centrality of personal data in our economies; see, for example, Esteve (2017), Khan (2017), Determann (2018), Cohen (2019), Haucap (2019), Marciano et al. (2020), Pistor (2020), Srinivasan (2020), Drexl (2021), Smizer (2021), Hutchison (2022), Ma (2022), Schnurr (2022), and Stucke (2022). There is also a growing non-academic literature on this: for example, UNCTAD (2018, 2021) and the three reports produced for Canada's Ministry of Innovation, Science and Economic Development on competition in the digital economy (Boyer 2022; Vivic Research 2022; Wolfe and Mhlanga 2022).
[5] See Lina Khan (2017) for some of the history of competition policy in the USA, for example. Follow the publication of her seminal paper, Lina Khan was appointed Chair of the US Federal Trade Commission by President Biden in 2021 and represents a key person in the renewed regulatory emphasis on addressing the political and economic problems arising from contemporary competition policy.
[6] See Birch (2020) for an outline of these perspectives.

Generally, Philippon shows that market concentration and declining competition lead to "lower wages, lower investment, lower productivity, lower growth, and more inequality" (p.10). Philippon also argues that while market concentration can be the result of a firm's superior performance – innovating more, investing more – it leads to negative outcomes when competition is side-stepped by incumbents through various anti-competitive strategies (e.g. lobbying, buying competitors, predatory pricing, etc.) and the market power these strategies engender. Even something supposedly beneficial like intellectual property rights (e.g. patents), which are meant to provide an incentive to innovate, have ended up entrenching market power by providing the means to protect existing technologies, rather than new startups.[7]

There are two important take aways here:

1. Markets and economies change and, consequently, competition policy has to change too;
2. Competition policy is not neutral. Competition policies are framed, developed, and enforced in response to particular understandings of markets and their role in our economies and societies.

### 1.4 Implications of the Digital Economy for Competition

The digital economy is increasingly dominated by a few "Big Tech" firms, like Apple, Amazon, Microsoft, Google/Alphabet, and Facebook/Meta. In 2020, the US House Judiciary Committee produced a 450-page report on their investigation of competition in digital markets. In their report, the Committee detailed how the scale and scope of these Big Tech firms led to significant market power, enabling these firms to monopolize their markets and thereby degrade competition. This market power leads to deeply problematic social and economic outcomes. For example:

[7] See, for example, Chien (2014) on the growth of "patent trolls", which buy up intellectual property with the objective of suing firms that infringe or potentially infringe on them; and Dreyfuss and Frankel (2015) on the assetization of intellectual property, as patents etc. are increasingly framed and treated as investments rather than an incentive to innovate.

- Big Tech firms are able to 'lock-in' customers to their digital ecosystems, thereby raising significant barriers for new, innovative startups;
- Big Tech firms spend heavily to lobby governments to limit regulatory oversight and taxation; and
- Big Tech firms benefit from network effects that reinforce the dominance of their digital ecosystems, leading to a winner-takes-all dynamic.

Big Tech's dominance is underpinned by the mass collection and use of personal data, which limits the capacity of new entrants and startups to even enter a market, let alone compete on equal terms. And the overall result is to lower competition leading not only to higher prices for consumers or other firms (e.g. advertisers, developers), but also a range of direct and indirect societal harms, like the stifling of innovation. The Canadian digital healthcare market provides a useful example of the socioeconomic harms caused by data-enabled dominance. In their 2022 *Digital Healthcare Market Study*, the Canadian Competition Bureau found that the ownership of personal health information is concentrated in an electronic medical records controlled by just three companies. This concentration makes it nearly impossible for new businesses to enter the Canadian market for digital healthcare solutions.

For many scholars and commentators, the digital economy entails a range of new imperatives and implications that cannot be resolved with existing competition policies.[8] In an intervention in early 2022, Canada's Competition Bureau notes that the "digital giants" (i.e. Big Tech) which "collect, broker, and benefit from this new wealth of data" have "obtained a high degree of influence across a wide range of economic activity". A key concern here is with the capacity of Big Tech firms to create massive data 'enclaves' that provide a significant competitive advantage when it comes to their development of future algorithmic technologies and artificial intelligence. Lacking access to the large datasets and computing capacity of Big Tech, startups and smaller competitors are unable to compete or break down the

[8] For example, see the 2022 *Policy Options* series on competition: https://policyoptions.irpp.org/magazines/february-2022/canadas-competition-law-is-overdue-for-an-overhaul/

significant barriers to entry in the digital economy.[9] As a result, already concentrated digital markets will simply concentrate further without concerted policy action.

Consequently, many countries and jurisdictions have introduced or are trying to introduce new competition policies to address the market power of Big Tech. Examples include the UK's Competition and Markets Authority, the US Congress, and the Australian Competition and Consumer Commission, which have all undertaken significant investigations of competition in digital markets and digital platforms over the last few years. Since these investigations, the USA, EU, and Australia have also proposed or introduced legislation. In particular, the EU has introduced a suite of regulations to ameliorate the negative impacts of Big Tech's market power; for example, the EU recently enacted the *Digital Services Act* and *Digital Markets Act*. These proposals and regulations are designed to increase competition by restricting the capacity of digital 'gatekeepers' – i.e. Big Tech – to pursue anti-competitive strategies and to dominate markets.

[9] See Meredith Whittaker's explanation of why this is problematic: https://interactions.acm.org/archive/view/november-december-2021/the-steep-cost-of-capture

# 2. CONTEXT OF CANADA'S COMPETITION POLICY REFORM

## 2.1 Canada's Competition Policy

Canada's federal competition policy and regulations were established, in their current form, in 1985 with the *Competition Act*. The last major amendment was in 2009, following the global financial crisis. As stated in the Act:

> "The purpose of this Act is to maintain and encourage competition in Canada in order to promote the efficiency and adaptability of the Canadian economy, in order to expand opportunities for Canadian participation in world markets while at the same time recognizing the role of foreign competition in Canada, in order to ensure that small and medium-sized enterprises have an equitable opportunity to participate in the Canadian economy and in order to provide consumers with competitive prices and product choices."

The *Competition Act* is administered by a federal agency called the Competition Bureau. According to its website:

> "The Bureau is an independent law enforcement agency that protects and promotes competition for the benefit of Canadian consumers and businesses. It is headed by the Commissioner of Competition ("Commissioner") who is responsible for the administration and enforcement of the *Competition Act* ("Act") and other federal laws. In addition to the Bureau, the Competition Tribunal ("Tribunal") and the courts adjudicate matters under the Act. Innovation, Science, and Economic Development Canada develops and coordinates government policies, laws, and regulations respecting competition".[10]

Despite amendment, Canada's competition policy has largely stayed the same for close to 40 years. In particular, there have been no amendments to the Act in response to changing political-economic dynamics resulting from the impacts of the digital economy, and, until recently, there was limited attempts to rethink the *Competition Act* in light of these changing dynamics.

[10] https://www.competitionbureau.gc.ca/eic/site/cb-bc.nsf/eng/04621.html

From the purpose of the *Competition Act* as set out above, Canada's competition policy is expected to take into consideration equitable imperatives like inclusive participation in the economy. However, as key decisions of the Canadian Supreme Court have shown, there has been a tendency towards the logic of economic efficiency in decisions, which favours large corporate entities and market concentration. As many countries and jurisdictions around the world have been updating their competition policies and regulations, there is an opportunity in Canada to learn from a range of countries when it comes to reforming the *Competition Act*. Moreover, there is an opportunity to learn from a wider range of voices and perspectives than usual in this debate, which too often centres on a narrow range of expertise.

## 2.2 Canada's Competition Policy Debate and Reform

In February 2022, Canada's Federal Government announced that they would undertake a broad review of the country's *Competition Act* in response to growing expert, political, and public concern about the need to rethink competition policy and regulations in Canada, especially in light of the emerging implications of the digital economy.[11] Subsequently, they launched a consultation in November 2022 with a deadline of 27 February 2023. For the last 2-3 years, there has been an ongoing and vigorous public and policy debate about the need to change Canada's competition policies; some commentators have proposed doing nothing, while others have recommend taking significant action.[12] The Federal Government's proposal and consultation follow this broad debate and a more focused public consultation organized by then Senator Howard Wetston, who called for submissions to comment on a 2021 report commissioned from Edward Iacobucci (ex-Dean of Toronto University's Law School) called *Examining the Canadian Competition Act in the Digital Era*.

Generally, Canada has been slow to respond to a range of emerging competition issues with the digital economy. The Federal Government's 2023 consultation on competition policy reform, however, provides an

[11] Recently, the Canadian Federal Government has also introduced legislation to address a range of other policy issues emerging in the digital economy, including the *Online Streaming Act* (Bill C-11), *Online News Act* (Bill C-18), and *Digital Charter Implementation Act* (Bill C-27).
[12] See Senator Wetston's 2021 consultation for a range of views on the need to reform Canada's competition policy: https://colindeacon.ca/projects/competition-consultation/

opportunity to change this. The Federal competition review will look at "adapting the law to today's digital reality to better tackle emerging forms of harmful behaviour in the digital economy", part of which entails examining the unique implications of digital personal data to competition policies in Canada's digital economy. This report aims to provide input into this policymaking process through a wide-ranging review of other countries and jurisdictions' restructuring and revisioning of their own competition policies. In particular, we focus on the ways that personal data has been understood and treated in other competition policy reviews and reforms in other jurisdictions.

# 3. COMPETITION CHALLENGES IN THE DIGITAL ECONOMY

> "Since the Act came into force in 1986, the world has seen a revolution of technological advancement. The unbridled innovation of the past 35 years has brought the world closer together and unlocked huge economic value. However, technology has also led to increasing digitization of the economy. The new, digital economy has grown a class of so-called "digital giants". Through their actions to collect, broker, and benefit from this new wealth of data, digital giants have obtained a high degree of influence across a wide range of economic activity. Across the globe, governments and policymakers have taken note of these digital giants. They want to ensure that competition policy frameworks can keep pace as consumers and competition are challenged by a relatively small number of powerful businesses that sit at the centre of the digital economy".
>
> - Canada's Competition Bureau, 2022

There is now a burgeoning academic literature on the implications of Big Tech – and other digital technology firms – on markets and competition, as well as their wider social, political, and economic effects.[13] Drawing on this literature and other studies of the digital economy as our theoretical starting point, we analysed around 100 policy documents from around the world outlining or dealing with competition policy reforms in response to the digital economy (e.g. legislation, policy proposals, policy strategies, legal briefs, etc.). Through this thematic policy analysis, we identified a series of key issues for policymakers to think about when reforming or changing competition policies. We have split these key issues between the implications of the digital economy (Section 3.2) and the implications of personal data (Section 3.3) to competition. Before those sections, we start with a brief outline of the rise of Big Tech.

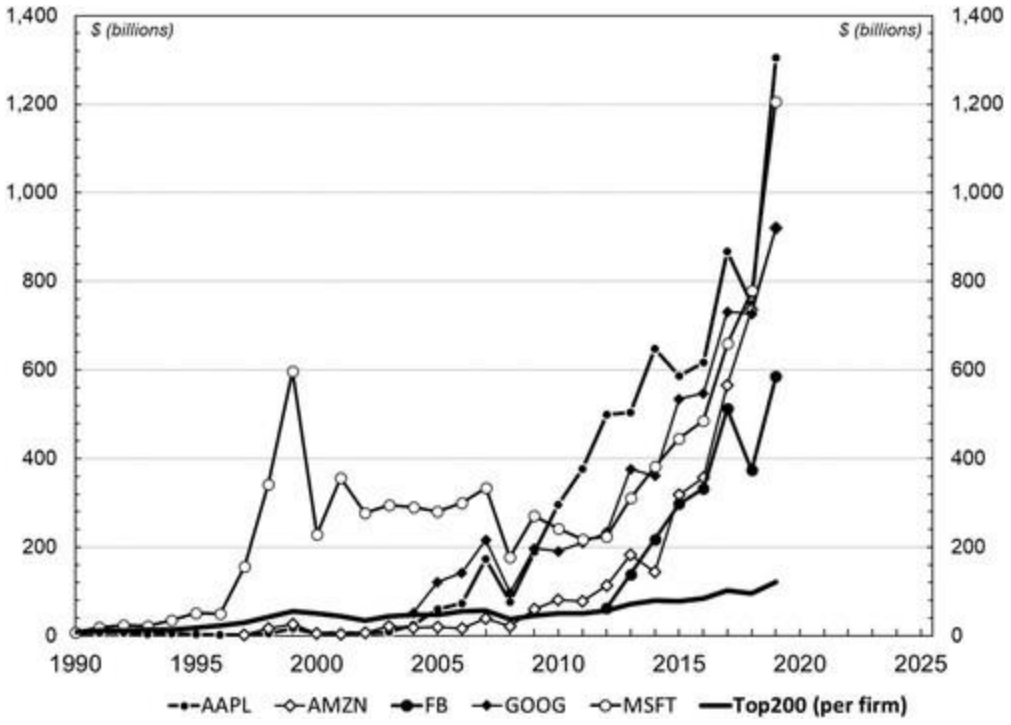
## 3.1 The Ascendance of Big Tech

The term 'Big Tech' usually refers to the US-based multinationals Apple, Amazon, Microsoft, Alphabet/Google, and Meta/Facebook, which became the largest American corporations by market capitalization. Other terms have been used to refer to these large firms, as well as other digital firms (e.g. Uber, Netflix); for example, GAFAM and FAANG.[14] Corporate name changes mean that 'Big Tech' is a more useful term, although oscillating

[13] Some examples include: Cohen (2019), Zuboff (2019), Birch et al. (2021), Strauss et al. (2021), Birch and Bronson (2022), Klinge et al. (2022), Moore and Tambini (2022), and Stucke (2022).
[14] See Foroohar (2019), Birch and Bronson (2022), and Moore and Tambini (2022).

techno-economic fortunes mean that even this term is somewhat inconsistent; for example, Meta/Facebook has lost a significant proportion of its market value in 2022. The size and growth of Big Tech is evident in Figure 1 below, which shows their market capitalization between 1990 and 2019. By 2020, these five corporations represented nearly 25 percent of the US S&P500. Much of the growth, scale, and dominance of Big Tech has been put down to network effects, winner-takes-all dynamics, and financial leverage afforded to them by the centrality of their digital ecosystems in our societies and economies today. We come back to these important dimensions of digital firms in the sections below. In recent years, these Big Tech firms have become the concern of competition authorities around the world.[15]

*Figure 1. The Rise of Big Tech (Market Capitalization, USA, 1990–2019)*




Note: reproduced with permission; compiled by Birch and Cochrane (2022) with data from Compustat via Wharton Research Data Service (AAPL = Apple, AMZN = Amazon, FB = Facebook, GOOG = Alphabet, MSFT = Microsoft).

[15] For example, US House of Representatives (2020).

As Big Tech firms have become increasingly important players in our economies and societies, they have also faced increasing backlash against their social and market power. Defined as "techlash" by Rana Foroohar (2019), this backlash is often traced back to the role that Big Tech firms like Facebook played in major political events like the 2016 US Presidential Election and Brexit Referendum, including subsequent revelations in 2018 about the egregious collection and use of personal data by the firm Cambridge Analytica (Ezrachi and Stucke 2022). This backlash then spread to concerns about the market power of Big Tech, which had been ongoing in policy circles for the last few years. Here, we have outlined a very partial timeline of major competition cases and settlements against Big Tech firms to illustrate the ongoing concerns with their role in our economies:

- 1998, Microsoft, internet browser suit (Department of Justice, USA);
- 2015, Google, internet search settlement (FTC, USA);
- 2015, Amazon, abuse of dominant position (European Commission);
- 2015, Google, Android investigation (FTC, USA);
- 2016, Facebook, data protection infringement proceedings (Bundeskatellamt, Germany);
- 2017, Google, shopping (European Commission);
- 2018, Google, Android default abuse of dominance (European Commission);
- 2019, Google, advertising abuse of dominance (European Commission);
- 2020, Amazon, abuse of dominant position, data-related (European Commission);
- 2020, Facebook, illegal monopolization (FTC, USA);
- 2020, Google, illegal monopolization (Department of Justice, USA);
- 2020, Facebook, false claims on privacy of Canadians (Competition Bureau Canada);
- 2021, Google, self-preferencing (Autorité de la concurrence, France) ;
- 2021, Apple, targeted advertising (Autorité de la concurrence, France);
- 2021, Google, misleading of consumers about personal location of data (Australian Federal Court);
- 2021, Facebook, self-preferencing (European Commission);

- 2022, Amazon, abuse of dominance (European Commission).[16]

## 3.2 Challenges of the Digital Economy for Canada's Competition Policy

As it stands, Canada's competition policy does not adequately address an array of social, political, and economic impacts and problems emerging within the digital economy, especially those resulting from the market power of Big Tech firms.[17] Canadian and other policymakers have become increasingly concerned about our dependence on these Big Tech firms to provide the infrastructures and ecosystems on which our increasingly digital economies run,[18] as well as the data assets we need to do basic research, to develop new algorithmic technologies, to implement new policies, and much else beside. Increasingly, Big Tech firms are able to exact and extract economic rents – both in terms of money and data – from users, customers, retailers, developers, and others who depend upon them to operate their businesses and lives.[19]

Here, we outline the structural, systemic, and techno-economic issues that emerge from our policy analysis.

### *3.2.1 Structural Issues*

- Economies of Scale and Scope

According to policymakers, the digital economy is defined by an innovation and business model in which digital products and services are quickly 'scaled up' so digital firms can benefit from the near-zero marginal costs associated with digital technologies (e.g. software, platforms, etc.). Investment in a digital technology may be expensive at the start, but once that initial investment has been made then digital firms can grow with lower than usual costs. As the EU's 2022 *Digital Markets Act* puts it:

[16] A list of at least 70 competition investigations is contained in this report by *The Information*: https://www.theinformation.com/articles/apple-amazon-google-and-facebook-face-at-least-70-antitrust-probes-cases
[17] See Haucap (2019), Drexl (2021) and Birch and Bronson (2022).
[18] For example, see Khan (2017) for an analysis of Amazon; Srinivasan (2020) on Google; and Smizer (2021) on Apple.
[19] On this topic, see academic literature by, for example, Mazzucato (2018), Birch et al. (2021), Strauss et al. (2021), and Birch and Cochrane (2022), as well as policy literature by, for example, UNCTAD (2018) and Ciuriak (2018).

> "An example of such characteristics of core platform services is extreme scale economies, which often result from nearly zero marginal costs to add business users or end users".

Similarly, the UK's 2019 Cairncross Review states that "Both the scale and the data that the platforms possess on consumers make it hard for other players, including publishers, to compete". It is important to note that while a digital firm may face lower marginal costs to growth in its user base, this does not mean that digital firms stop investing in their assets. In fact, the reverse could be the case as evidenced by research on the asset base of Big Tech firms showing that they have increased their investment in physical assets more than other large US public corporations.[20]

These economies of scale and scope can produce significant benefits for digital firms as they are able to grow very quickly to dominate their markets, which has become an increasing concern for policymakers worldwide.[21] The main negative effect of these economies of scale and scope is a loss of market contestability:[22] first, there are significant barriers to entry in digital markets since incumbents benefit from first-mover technology advantages; second, there are significant disparities in market information; and third, there are disparities in the capacity to adjust prices because incumbents benefit from greater information (e.g. data collection) and higher processing capacity (e.g. computing infrastructure).[23]

Policymakers note the main effect of this declining contestability is that it becomes increasingly difficult for new startups both to emerge and to challenge incumbent firms (e.g. Big Tech).[24] This is why both the EU and USA have developed policies or proposals to improve contestability; for example, the EU's 2022 *Digital Markets Act* and the USA's proposed *American*

[20] See Birch et al. (2021).
[21] A useful starting point for looking at policy responses and actions taken by competition authorities and agencies is a G7 (2021) report covering the EU, USA, UK, Germany, France, Italy, Australia, South Africa, India, South Korea, and Japan. Notably, although Canada is included as a contributor to this report, the Canadian Competition Bureau reported at the time, in 2021, that "There have not yet been any reforms in Canada to better address digital competition issues and there are currently no proposed reforms pending before national legislative or regulatory bodies" (p.43).
[22] G7 (2021). See also OECD (2016) and *Digital Markets Act* (2022).
[23] https://stats.oecd.org/glossary/detail.asp?ID=3178
[24] *Digital Markets Act* (2022).

*Innovation and Innovation Online Act*. These and other policies designed to address these economies of scale and scope are detailed in the *Compendium of Approaches to Improving Competition in Digital Markets* report produced by the G7 (G7 2021).[25]

- Gatekeepers

Most recent policy changes are driven by the view that the digital economy is increasingly underpinned by a small number of large firms, which provide much of the infrastructure on which our economies and societies now run.[26] These include social media, internet search, ecommerce, mobile devices, cloud computing, and software and applications; it also includes less visible infrastructures like application programming interfaces (APIs) and software development kits (SDKs) that help different software systems to interoperate with one another.

This has led policymakers to redefine Big Tech firms,[27] and others with a similar influence, as key economic "gatekeepers" and/or "core platform services" that are able to dominate markets due to their structural position as central intermediaries in the economy: as the Cairncross Review (2019) notes, for example, firms like Google and Facebook's "grip of the online advertising market is built on two foundations: their presence over all points in the advertising supply chain, and their access to data". We come back to the latter point in Section 3.3 below.

[25] See also the G7 "inventory of new rules for digital markets" (G7 2022) and OECD analytical note (OECD 2022d).
[26] See US Congressional Record of July 19, 2022, where Senator Amy Klobuchar quoted the US Department of Justice's support for the *American Innovation and Choice Online Act*: "The Department views the rise of dominant platforms as presenting a threat to open markets and competition, with risks for consumers, businesses, innovation, resiliency, global competitiveness, and our democracy. By controlling key arteries of the nation's commerce and communications, such platforms can exercise outsized market power in our modern economy. Vesting the power to pick winners and losers across markets in a small number of corporations contravenes the foundations of our capitalist system, and given the increasing importance of these markets, the power of such platforms is likely to continue to grow unless checked. This puts at risk the nation's economic progress and prosperity, ultimately threatening the economic liberty that undergirds our democracy". See also, Competition and Markets Authority (2020) and *Digital Markets Act* (2022).
[27] See G7 (2022) and OECD (2022d); the Digital Markets Act (2022) typifies this re-definition.

In their review of online advertising, a 2019 Australian Competition and Consumer Commission (ACCC) report makes an even starker point, by stating that:

> "A significant number of media businesses rely on news referral services from Google to such a degree that it is an *unavoidable trading partner*…. For commercial news media businesses, having links to their websites on Google is a *necessity*. The ACCC therefore considers that Google has *significant bargaining power* in its dealings with these media businesses" (our emphasis).

As the ACCC goes on to comment, this impacts not only firms but also consumers:

> "The ubiquity of digital platforms in the daily lives of consumers means that *many are obliged to join or use* these platforms and *accept their non-negotiable terms of use* in order to receive communications and remain involved in community life" (our emphasis).

Some recent policies to address this issue include specific definitions of what constitutes a "gatekeeper" and/or "core platform service".

- In the EU's 2022 *Digital Market Act*, this means "an undertaking" providing "core platform services which is an important gateway for business users to reach end users" that has a "significant impact on the internal market" and "enjoys an entrenched and durable position, in its operations, or it is foreseeable that it will enjoy such a position in the near future" (p.30).
- In the USA's 2022 *American Innovation and Choice Act* proposal, a "covered platform" is a firm that has a certain number of US-based business and end users, sales, and market capitalization. The proposal is based on claims that certain firms "use their power as gatekeepers to stifle competition and innovation by their competitors and the businesses that have no choice but to use their services".

Gatekeepers are seen as particularly problematic because they represent "walled gardens", or enclaves (see Section 3.2.2 below), that can create benefits for smaller firms wishing to connect with consumers through them,

but, at the same time, the rules underpinning these enclaves are designed by the gatekeepers such that smaller firms "have little choice but to accept the platforms' terms", according to the 2019 Cairncross Review. These rules can often be opaque and can be changed at the discretion of the gatekeeper.[28] A key dimension to the building of these "walled gardens", according to the German Bundeskartellamt,[29] is that large digital firms, which control key digital infrastructures (e.g. APIs, SDKs), can extend their power "across various markets" (p.56). By so doing, large digital firms can use their dominant position in one market to enter and then dominate another market.[30]

- Multi-sided Markets

One of the main reasons policymakers identify gatekeepers as important intermediaries is that they have constructed multi-sided *market-platforms*,[31] sitting between two (or more) users. Often with these market-platforms, consumers (end users) receive a service or product for free, while businesses (business users) have to pay for access to the consumers. As noted by a 2016 OECD report, the existence of multi-sided market-platforms creates a range of issues that need thinking through in competition policy.

> "Identifying the relevant markets inside the Big Data ecosystem can be a particularly daunting task, as a result of the many different players involved that may take multiple roles, as well as the complex relations that link them. For example, a company like Apple is simultaneously a platform (through the operating system iOS, Apple Store and iTunes); a seller of multiple technological products, such as computers, tablets, phones and watches; and an IT infrastructure provider, through the provision of the iCloud service. At the same time, Apple interacts with

[28] Cairncross Review (2019: 63). See also Furman Review (2019).
[29] See G7 (2021).
[30] The Bundeskartellamt's 2018 case against Amazon bore this out. See Bundeskartellamt, Announcement that Bundeskartellamt initiates abuse proceeding against Amazon, November 2018. Available at: https://www.bundeskartellamt.de/SharedDocs/Meldung/EN/Pressemitteilungen/2018/29_11_2018_Verfahrenseinleitung_Amazon.html?nn=3591568. See also Furman Review (2019: 47) commenting on the EU/Google Android Case of 2018: "These cases are both under appeal, but illustrate in principle how a platform can use its gatekeeper power in one market to strengthen its position in another".
[31] We use the term "market-platform" to distinguish a multi-sided 'market' operated by a digital platform that sets the rules of the game on the platform (Pistor 2020), from a market regulated by national or supra-national state authorities.

> many types of players, by transacting products and services with consumers, charging content providers (the 'app' developers) for the use of Apple's platforms, selling advertising space, and even cooperating with platforms, such as Facebook or LinkedIn".

While this 2016 OECD report seemed to argue that when two (or more) sides of the market do not interact they can be treated as distinct markets, a later 2018 OECD report notes that:

> "Multi-sided platforms are characterised by cross-platform network externalities; the benefit one side derives from being on the platform depends on the number of users on the other side of the market, and vice versa. Like other multi-sided markets, ride-sourcing and ride-sharing platforms have a number of characteristics – such as the need for a critical mass of users, economies of scale and network externalities – that may enhance the likelihood of market concentration, and potentially of dominance".

By definition, then, each side of the market-platform is inherently connected through the complementary network effects that constitute the benefits both sides gain from their participation, which can then lead to market concentration as users concentrate in one market-platform. In yet another report, the OECD goes on to stress that the dynamics of this "multi-sidedness" is one that policymakers "must grapple with":

> "Multisidedness is a particular challenge – picking one side of the market to measure will give an incomplete picture, especially when one side's consumption is cross subsidised by another, such as with advertising. Further, developing a platform-wide market share may also obscure important details. For instance, a platform-wide market share would not capture the competitive dynamics of a market if some firms are not active on all sides".[32]

The importance of this is that competition policy is dependent upon the measurement of market concentration and impacts of business activities and strategies (e.g. acquisitions), meaning that it can be difficult to assess whether an acquisition, for example, will impact one-side of the market when

[32] OECD (2022a).

it is viewed in isolation.[33] This has led some policymakers (e.g. UK's Competition and Markets Authority) to suggest that we need to place "less emphasis on market definition" (e.g. market share) and use other measures, such a "user share", when it comes to assessments of concentration with market-platforms.[34]

As the OECD (2018) points out, multi-sided market-platforms have become increasingly valuable due to so-called "network effects".[35] We will come back to these in more detail in Section 3.3 below, but for now it is useful to note that network effects are constituted by the number of users in a network, such as a social media platform or a search engine. For now, suffice to say that network effects can lead to a "winner-takes-all" (or "-most") outcome in which a growing proportion of all users ends up on one network.[36] This has become an increasingly pertinent issue as major market-platforms have extended their data collection practices outside their ecosystems through various techno-economic means (e.g. "cookies", terms of service, APIs, etc.).

This last issue has emerged in a recent and important German and EU legal opinion concerning the extent to which market-platforms can collect and use data from outside of their market-platform (i.e. network).[37] Many firms collect data through the cookies they place on users' browsers; these cookies are useful for enabling a website or browser or third-party to reidentify a user, but they are also used to collect data once a user leaves a website and browses across other websites.[38] Firms like Google or Facebook can collect

[33] OECD (2016: 15): "Identifying the relevant markets inside the Big Data ecosystem can be a particularly daunting task, as a result of the many different players involved that may take multiple roles, as well as the complex relations that link them. For example, a company like Apple is simultaneously a platform (through the operating system iOS, Apple Store and iTunes); a seller of multiple technological products, such as computers, tablets, phones and watches; and an IT infrastructure provider, through the provision of the iCloud service. At the same time, Apple interacts with many types of players, by transacting products and services with consumers, charging content providers (the 'app' developers) for the use of Apple's platforms, selling advertising space, and even cooperating with platforms, such as Facebook or LinkedIn". See also OECD (2022a): "Multisidedness is a particular challenge – picking one side of the market to measure will give an incomplete picture, especially when one side's consumption is cross subsidised by another, such as with advertising".
[34] See OECD (2022b); see also CCCS (2020) for discussion of complexities in market defintion.
[35] OECD (2018: 6).
[36] See Stucke (2022) for an academic discussion; Hutchinson (2022). See also Douglas (2021: 80): "Network effects tend to be described as bolstering the market power of incumbent firms. They may act as a barrier to entry, raising switching costs for users who would otherwise change networks, and rendering markets prone to tipping toward a single, large provider".
[37] *Meta vs. Bundeskartellamt* [Case C-252/21].
[38] See Cohen (2019).

enormous amounts of data because other websites, businesses, and organizations use their applications or software (e.g. AdSense, Google Analytics, Like button). This has led the German competition agency, Bundeskartellamt, to bring an abuse of dominance case against Facebook regarding its position in the collection of personal data beyond the specific terms of service that users agree to when they join Facebook. In 2022, the case came to the Court of Justice of the EU (CJEU), where an opinion by Advocate General Rantos explains that:

> "In order to collect and process user data, Meta Platforms relies on the contract for the use of the services entered into with its users when they click on the 'Sign up' button, thereby accepting Facebook's terms of service. Acceptance of those terms of service is an essential requirement for using the Facebook social network. The central element of this case is the practice of *collecting* data from other group services, as well as from third-party websites and apps via integrated interfaces or via cookies placed on the user's computer or mobile device, *linking* those data with the user's Facebook account and then *using* them ('the practice at issue')".

Rantos' opinion goes on to argue that Facebook could not claim 'necessity' – within the EU's 2018 *General Data Protection Regulation* framework – in collecting personal and user data *outside* its network (e.g. through cookies) or the original terms of service at sign-up. Although this case is not yet settled, it raises important issues regarding the interaction between competition policy and privacy and data protection policies, which we come back to below (see Section 3.3.2).[39]

### *3.2.2 Systemic Issues*

- Ecosystems

[39] Douglas (2021: 2): "Antitrust and data privacy law are powerful forces shaping our economy. Scarcely a day goes by without headline-making enforcement from one regime or the other. The result is a wealth of new interactions between these areas of law—particularly in the digital economy… The shared focus of both legal regimes on the digital economy: Interactions between antitrust and data privacy are the most stark, and the most common, in the digital economy. From online advertising, search and social media, to a myriad of locationbased services, many digital businesses are driven by personal data processing. Whether framed as issues of digital markets, advertising, big data, zeroprice products or otherwise, both antitrust and data privacy are occupying the same spaces in policy, law and enforcement". See also ACCC (2019).

Policymakers emphasize that market power has to be considered across multiple markets.[40] Business models in the digital technology sector are underpinned by strategies to quickly scale up products and services to either dominate or monopolize existing markets or new markets.[41] Business models are also underpinned, though, by strategies to spread control through the extension of technical standards and terms and conditions by creating an 'ecosystem' of complementary products and services, which can include those developed by other firms (e.g. developers). Such complementarities are central to understanding the competitive impacts of platform-markets.[42] As a 2022 OECD report notes:

> "A narrow focus on market shares within a given defined market could also generate particularly misleading conclusions with respect to ecosystems of interconnected digital products. The linkages between these products could affect the degree of market power held by a firm, in particular if there are limitations to the interoperability of products from different ecosystems".[43]

An ecosystem is defined by an *enclave* logic that engenders the growth of technical and economic connections across different markets in which large digital technology firms operate, leading to the emergence of a series of "walled gardens" in the economy, as defined by the 2019 Cairncross Review.

The reason for building an enclave is to lock-in end users and business users,[44] which can be done by providing free or beneficial 'modular' services to these users.[45] An important way to do this is through things like

[40] As the ACCC (2019) points out: "Given the substantial market power of each of Google and Facebook, their presence in a significant number of related markets and the opacity of their key algorithms, there is significant potential for self-preferencing by Google and Facebook to substantially lessen competition. The extensive amount of data available to Google and Facebook provide these platforms with a competitive advantage and assist with entry into related markets. After entering the market, the role of Google or Facebook as a host or gateway then enables these platforms to advantage their own related businesses".
[41] See Pfotenhauer et al. (2021) on the drive towards scaling up technological innovation.
[42] European Commission Report (2021), see here: https://joint-research-centre.ec.europa.eu/system/files/2021-11/jrc127001.pdf . See also Birch (2021).
[43] OECD (2022a).
[44] Japan Fair Trade Commission (2017: 15). See also BRICS Competition (2017: 42)- "Indeed, platforms that have gained leading positions in the ecosystem have the power to exclude competitors or to lock-in customers or business users".
[45] BRICS Competition (2017).

application programming interfaces (APIs) and software development kits (SDKs), which enable potential competitors to join or interact with an ecosystem without needing to develop their own digital operations, but only if they adhere to the ecosystem's rules.[46] As a result, policymakers argue that switching costs – i.e. the costs incurred by a user (e.g. lost time, money, data) of switching to a different product or service – are reinforced when users tie themselves to the underlying modular operations of a digital ecosystem, in contrast to the purchase of individual products or services.[47] For example, the US has specifically proposed *The Augmenting Compatibility and Competition by Enabling Service Switching Act* (ACCESS Act) to address this issue.[48]

- Creating Enclaves

Digital firms, especially Big Tech, can actively reinforce their market power by creating ecosystems, or 'enclaves'.[49] Policymakers have highlighted a range of relevant practices in this regard, including setting defaults,[50] cross-selling or up-selling,[51] and self-preferencing,[52] all of which reduce competition through the vertical integration of an ecosystem's operations and user base.[53] Policymakers have made the following comments about these issues (our emphases):

[46] See Birch and Bronson (2022) on the importance of 'modular' techno-economic plugins in digital ecosystems.
[47] See OECD (2022a).
[48] See G7 (2021) for a range of competition policy reforms in this area.
[49] Stigler Center Report (2019).
[50] US House of Representatives (2020: 128): "Browsers protect their dominance through default settings, which create a barrier to entry. Defaults exist in both desktop and mobile markets. Although users can set different browsers more easily for desktop computers than on mobile devices, "settings can impact the stickiness over time", such as when a software update overrides a user's preference, requiring them to take "complex steps to restore their browser choice".
[51] CMA (2020).
[52] ACCC (2019: 12): "Google and Facebook have both the ability and incentive to favour their own related businesses (self-preferencing) at the expense of other business users of the platform. They also have the ability and incentive to favour a business with which they have an existing relationship (and through which additional revenue may be generated), such as websites that are members of their display or audience network or use their ad tech services. Given the substantial market power of each of Google and Facebook, their presence in a significant number of related markets and the opacity of their key algorithms, there is significant potential for self-preferencing by Google and Facebook to substantially lessen competition".
[53] International Telecommunication Union and The World Bank, (2020: 45): "Major platforms, Amazon in particular, is vertically integrating both forwards and backwards along the supply (or value) chain, so that it competes with suppliers and customers and exploits central dominance in new markets. Over time

- A 2019 ACCC report highlights that "Competition agencies in other jurisdictions have also recognised the effect of *default bias* on consumer behaviour and its effect on Google's dominance in the general search services market".
- The 2019-2020 US Congressional investigation of Big Tech argues that "Apple leverages its control of iOS and the App Store to create and enforce barriers to competition and discriminate against and exclude rivals while *preferencing its own offering*".[54]
- The EU's 2022 *Digital Markets Act* specifically argues that "A gatekeeper can use different means to *favour its own or third-party services or products* on its operating system, virtual assistant or web browser, to the detriment of the same or similar services that end users could obtain through other third parties. This can for instance happen where certain software applications or services are *pre-installed* by a gatekeeper". This means that "Gatekeepers should also allow end users to easily change the *default settings* on the operating system, virtual assistant and web browser when those default settings favour their own software applications and services".
- The OECD notes that "A particular focus of recent competition policy discussions regarding *vertical integration* is the gatekeeper position of some digital platforms. This refers to the position that digital platforms have when firms rely on them for access to consumers, and may give rise to complaints of anti-competitive conduct (for example if the platform also competes *downstream* in the marketplace it operates)".[55]

A final problem with enclaves is that their controllers set internal 'rules of the game' and control the market information (e.g. preferences, rankings, pricing, etc.) on which end users and business users depend.[56] As such, large digital firms benefit from significant operational and information

these activities have ossified digital markets, creating a "kill zone" around the big firms in which no new entrants can survive".

[54] US House of Representatives (2020: 17).

[55] OECD (2022c).

[56] CMA (2020: 293): "We have found that, by virtue of this position and their market power, large platforms such as Google and Facebook increasingly appear to be acting in a quasi-regulatory capacity in relation to data protection considerations, setting the rules around data sharing not just within their own ecosystems, but for other market participants".

asymmetries.[57] These asymmetries go beyond usual disparities since the very ecosystem infrastructures (e.g. APIs) and rules (e.g. platform terms and conditions) that competitors are required to operate by are set by the enclave controllers and can be changed without consultation and to the advantage of the controllers.[58]

### *3.2.3 Techno-economic Issues*

Most policymakers identify a range of overlapping technological and economic processes in the construction of digital ecosystems. An ecosystem is more than a digital platform: it is the configuration of technical devices; applications and software; platforms; users and developers; payment systems; terms and conditions, and other legal rights and claims; and standards.[59] As such, competition policy has to consider a range of *techno-economic* aspects of any digital ecosystem, especially when it comes to key concerns about interoperability,[60] switching costs,[61] and data portability.[62] As the EU's *Digital Markets Act* (DMA) notes:

> "The ability of end users to acquire content, subscriptions, features or other items outside the core platform services of the gatekeeper should not be undermined or restricted. In particular, a situation should be avoided whereby gatekeepers restrict end users from access to, and

[57] See ACCC (2019) on the advertising and media sectors.
[58] A range of examples of this emerged during the US House Judiciary Committee investigation when it came to the operations of Apple, Amazon, Alphabet/Google, and Meta/Facebook (US House of Representatives 2020).
[59] See *Autoriteit Consument & Markt [The Netherlands Competition Body]* (2019).
[60] Borchert & Winters (2021:7 ): "Depending on the exact problem to be addressed, there is a very strong case for ensuring, for example, the interoperability of different platforms or the portability of data, so that consumers can stimulate competition via easy switching". See also CMA (2020); G7 (2021), and OECD (2022e).
[61] *Comisión Federal de Competencia Económica, Mexico* (2018: 25): "Switching costs are another factor that can reduce the entry of competitors (see Box 7). The more expensive it is for a user to switch networks, the less likely it will be for a new platform to become attractive. These costs can arise when, for example, the user has provided a great deal of information, which will allow the company to fine-tune and customize the content, products or services offered to users, or if there are costs associated to learning how to use the alternative network". Also see US House of Representatives (2020: 41): "Switching costs present another barrier for potential market entrants. In many cases, large technology firms can maintain market power in part because it is not easy for users to switch away from the incumbent's technology".
[62] OECD (2022c: 54): "Data portability measures aimed at promoting competition seek to reduce user switching costs and reduce the frictions associated with trying new services. This could, in turn, stimulate competition by making it easier for new entrants to attract users and potentially alleviate barriers to entry associated with data access (in those markets for which individual level data is valuable". See also Furman Review (2019).

> use of, such services via a software application running on their core platform service".

Interoperability between digital platforms and ecosystems is vital to ensure competitive markets, the DMA argues. For example, Article 7 of the DMA requires interoperability between "communication services" by requiring gatekeepers to provide "the necessary technical interfaces" to ensure that competitors can offer a similar service. Similar concerns are evident in the *American Innovation and Online Choice Act*, which proposes "rules of the road" for things like interoperability.

The reason that interoperability is so important when it comes to competition policy is that limits on interoperability end up limiting competition. As the OECD notes, interoperability may be attractive if digital technology firms only offer a single product or service, since it will enable others to produce complementary products and services.[63] However, the OECD also highlights that the construction of digital ecosystems, where firms themselves develop and integrate new products and services into their existing offerings, leads to problematic outcomes:

> "In the context of established platforms, however, the incentives of the platform owner may shift away from interoperability due to a desire to protect a downstream subsidiary or eliminate a potentially competing platform".[64]

Increasing vertical integration means that incumbents are better able to bundle, upsell, cross-sell, and self-preference by limiting interoperability. Without requirements to ensure techno-economic interoperability, end users face significant switching costs, especially in light of network effects that reinforce an incumbent's market position.[65] Ends users become 'locked-in' to digital ecosystems, reducing the opportunity for competition, even when products and services (e.g. Gmail, Facebook) are notionally 'free' (see below on this); this is spelled out by the Japan Fair Trade Commission:

[63] OECD (2022c).
[64] OECD (2022a).
[65] Furman Review (2019: 32): "Digital markets also have features that heighten concentration, including economies of scale and scope, a data advantage for incumbents, network effects, limitations to switching and multi-homing including behavioural factors, and access to finance and intangible capital".

> "Regardless of whether it is free or paid for, where a service provided by digital platform enterprises has the market power and it is difficult for users to switch to other similar services (i.e. a "lock-in" effect), users will find it hard to stop using the service even if the terms of use of the service are changed in a way that is disadvantageous to them, and they may find themselves just having to put up with the changes".[66]

Policymakers have presented data portability as one solution to this form of market power and for promoting competition, by Australian, EU, UK, South Korean, and Japanese policymakers amongst others.[67] For example:

- The ACCC suggests that data portability "may deliver significant benefits to current and potential future markets, including through innovation and the development of new services"; and
- The UK Furman Review suggests that: "Active efforts should also make it easier for consumers to move their data across digital services, to build systems around open standards, and to make data available for competitors, offering benefits to consumers and also facilitating the entry of new businesses".

There is a need, according to these policy analyses, for common and open standards that make it easier for end users to switch between digital products and services.[68]

## 3.3 Challenges of Digital Personal Data for Canada's Competition Policy

[66] Japan Fair Trade Commission (2017).
[67] For example, see Japan Fair Trade Commission (2017), Furman Review (2019), ACCC (2019), and OECD (2022a).
[68] See OECD (2022a, 2022c); also see Furman Review (2019: 57): "overcoming network effects which cause markets to tip by requiring systems to 'talk' to each other using open, standardised formats. This will mean consumers can port their data between networks, interact with users on other, similar networks, and smaller firms can plug their services into those of bigger ones. New business opportunities will open up that use, manage, and combine data made available. Consumers in turn will have new choices of digital services, with switching made much easier"; and see G7 (2021: 64): "Mindful that consumer welfare standard may imply the evaluation of factors other than price and quantity, such as quality and innovation, the three authorities promote the establishment of a coherent and consistent framework on data collection and utilization, which enhances transparency by reducing asymmetric information between users and digital platforms, facilitates data portability and data mobility between platforms through the adoption of open and interoperable standard".

In this section of the report, we focus on personal data as an important resource and asset in the digital economy.[69] Personal data refers to information about identifiable persons: it can be anonymous or pseudonymous (i.e. deidentified), although it has become increasingly easy technically to connect different datasets, even anonymous ones, to identify individuals.[70] There is a long history to the collection and use of personal data, but digital technologies have increased the so-called volume, velocity, variety, and value of personal data as a result of the 'massification' of its collection and use.[71] All of which means that, today, personal data has important implications for competition policy, which policymakers around the world are trying to understand and grapple with.

Here, we outline the structural, systemic, and epistemic issues that emerged from our policy analysis.

### *3.3.1 Structural Issues*

According to several policymakers, including competition agencies and authorities, personal data is now an important resource or asset for digital (and other) firms. As the EU Competition Commissioner, Margrethe Vestager, noted in a talk at the American Enterprise Institute in 2017: "you have data that is not to be replicated, that has a very long duration, that effectively can serve as an asset that can foreclose competitors from entering your market". This policy perspective reflects long-standing discussions and debates by international institutions like the World Economic Forum,[72] OECD,[73] and UN's System of National Accounts.[74] For example, the OECD noted:

> "The idea that exclusive access to a rare input grants market power is well established in competition law (even if cases about leveraging that

[69] Contemporary economies are increasingly dependent upon the collection and use of all sorts of *digital data*. Digital data include public information produced by governments (e.g. demographics), health information produced by hospitals (e.g. medical records), business or industrial information produced by companies (e.g. marketing, industrial performance), and personal information produced by and about identifiable individuals.
[70] See, in particular, the discussion by Edwards (2018).
[71] There is a large literature on this, so we only highlight a few references here: Pasquale (2015), Prainsack (2020), Birch et al. (2021), Viljoen (2021), and Hutchison (2022).
[72] https://www.weforum.org/reports/personal-data-emergence-new-asset-class.
[73] OECD (2022a, 2022e).
[74] SNA (2021) and see: https://unstats.un.org/unsd/nationalaccount/default.asp

> market power to foreclose competition downstream remain subject to debate). In digital markets, data are often identified by competition authorities as such an input, and thus a contributor to market power. For instance, the *Australian*, *Canadian*, *European Commission*, *UK and US competition authorities* have all indicated in case decisions that the accumulation of data by an incumbent represents a significant barrier to entry, given the associated network effects and economies of scale. *German* competition law has also been amended to include data as a contributor to market power. Economies of scope, and the potential for market power stemming from data to be leveraged in new markets, have also been considered by the European Commission in recent merger decisions" (our emphasis).[75]

Policymakers are working out how to manage the implications of personal data for competition policy because it raises several new issues that competition authorities have not had to deal with before.

Key amongst these new issues are the network effects of digital platforms and ecosystems. Two major UK investigations of competition and the digital economy highlight the negative implications network effects have for competition, emphasizing the centrality of personal data in constituting these negative implications:

- 2019 Cairncross Review: "The second foundation of the platforms' superiority is data. Publishers gather user data from their own sites, including login data for their subscribers, but this pales in comparison to the power of online platforms, which have a rich set of user data giving them significant advantage over others in the market."
- 2019 Furman Review: "The challenges to effective competition in digital markets do not come about solely because of platforms' anti-competitive behaviour and acquisition strategies. Their network-based and data-driven platform business models also tend to tip markets towards a single winner."

[75] OECD (2022a).

Several competition issues arise from "network effects".[76] Network effects result from the number of users in a network (e.g. social media platform, search engine) and that way the more users there are the more useful the network becomes for its users, thereby raising its attractiveness for new users. Consequently, network effects lead to a self-reinforcing cycle in which users tend to migrate to the fastest growing network.[77] For example, users moved to Facebook because more and more of their friends and family started using it, making it more convenient to stay in touch with everyone in their social world. Network effects are important because they can lead to "winner-takes-all" (or "-most") markets in which a growing proportion of all users ends up on one network.[78] This has become an increasingly pertinent issue as major digital firms have extended their data collection outside their ecosystems and moved into adjacent markets, potentially extending network effects across multiple markets.

Competition is significantly impacted by network effects (and economies of scale) in several other ways, all of which are compounded by (1) the concentration of personal data generated by digital firms in and through their ecosystems, and (2) the further combination and concentration of personal data acquired through mergers and acquisitions. The Australian Competition and Consumer Commission (ACCC) states:

> "The ACCC considers that the role of data in future markets is likely to be significant and will be an important factor to be taken into account in assessing the likely competitive effect of relevant mergers and acquisitions. The breadth and depth of user data collected by the incumbent digital platforms provides them with a strong competitive advantage, creating barriers to rivals entering and expanding in relevant markets, and allowing the incumbent digital platforms to expand into adjacent markets".

Similar concerns are evident in the 2020 South African Competition Commission report on the implications of the digital economy.[79] These

[76] See ACCC (2019: 618): "Present when the number of users in one type of user group increases (or decreases) the value of the platform for users in that same type of user group".
[77] CMA (2020: 21).
[78] See Stucke (2022).
[79] South African Competition Commission (2020).

implications are underpinned by the collection of personal and other digital data, which can provide the capacity to do the following:

- Expand into adjacent markets through greater access to market, competitor, and consumer information;[80]
- Develop new products and services currently offered by (competing or complementary) third-parties in the ecosystem, again, through greater access to market, competitor, and consumer information;[81]
- Reinforce winner-takes-all (or most) dynamics through the concentration of users who benefit from access to information in the ecosystem;[82] and

[80] See paragraph 2 of the Recital of the DMA (2022): "At the same time, among those digital services, core platform services feature a number of characteristics that can be exploited by the undertakings providing them. An example of such characteristics of core platform services is extreme scale economies, which often result from nearly zero marginal costs to add business users or end users. Other such characteristics of core platform services are very strong network effects, an ability to connect many business users with many end users through the multisidedness of these services, a significant degree of dependence of both business users and end users, lock-in effects, a lack of multi-homing for the same purpose by end users, vertical integration, and data driven-advantages". See also BRICS Competition (2019: 71): "First, Big Tech companies have amassed rich customer data in other markets where they have already gained a strong presence (e.g. social media, online marketplace, etc.). These data are much more vast and, importantly, update almost instantly, than any data owned by a single bank let alone a Fintech start-up. On top of that, Big Techs benefit from emerging technologies, such as Big Data, AI, predictive analysis, that constitute further architectural advantage as it allows the setting of standards for the whole ecosystem. Big Techs can leverage their strong position, revenues and consumer network in adjacent markets to gain a foothold in the financial sector".

[81] OECD (Background Note by Petropoulos, 2020: 4): "The data as an asset and input in the algorithmic systems employed by platforms to provide their services can have an important role in this process of dominance. Machine learning and artificial intelligence (AI) has vastly improved the value of data for firms. By collecting, analyzing and aggregating large amounts of data, firms can improve product quality (data-driven economies of scope) and expand their activities into new areas. When users join platforms, they volunteer some personal information which typically remain constant over time (e.g., name, age, location). During their engagement with the platform and their interactions with other users as well as content, their actions and behavior are observed. These actions may change over time as platform content is usually updated in a dynamic way. This observation of user behavior allows platform to follow closely their users' preferences over time. Platforms combine data that is volunteered with data that is observed, and use them as an input to their algorithmic system whose objective is to infer users' preferences. While volunteered data is non-rival, observed data is only collected by the platform on which users interact. This exclusive access can generate significant benefits and a comparative advantage against competitors that do not have the ability to observe users' actions in the ecosystem".

[82] Furman Report (2019: 9): "the central importance of data as a driver of concentration and barrier to competition in digital markets is a key theme of the evidence gathered by the review (House of Commons, Canada, 2018, P 56)- quoting a Bank of Canada Managing Director: "Bank of Canada official appeared before the Committee on 18 October 2018. Eric Santor, the Canadian Economic Analysis Managing Director, expanded on the idea expressed by Ms. Wilkins – in the above-mentioned speech – to the effect that there is the impression that the winner-takes-all effect is magnified in the digital economy because user data has potentially become another source of monopoly".

- Raise switching costs through limiting the ability of users to access and transfer their personal data.[83]

A significant concern going forward, moreover, is the role that personal (and other) data will play in the development of new algorithmic or artificial intelligence technologies.[84] Two things matter here: first, certain firms (e.g. Big Tech) will control the resources (i.e. data) to develop new algorithmic technologies; and second, competition authorities will not be able to analyse the implications of those technologies. For example, the 2019 UK Cairncross Review highlighted this latter problem with the lack of transparency in algorithmic technologies. Changes made by dominant digital firms in their ecosystems can also have a significant impact on other businesses (and users), which those impacted businesses (and users) have no say in:

> "Perhaps the biggest issue, and the one that publishers have complained about the most, is the impact of algorithm changes. It is an algorithm – a careful specification of how to perform a task or solve a problem – that determines how prominently a news story appears on a screen. But news publishers often feel left in the dark about how algorithms operate (i.e. what criteria are taken into account). News publishers frequently complain that they have to spend a great deal of money tailoring their content only for a disruptive change in the algorithm to make the effort worthless."[85]

The same point was reiterated by the OECD, which highlighted the way that such algorithms can end up being a "black box" which competition authorities will not be able to unpack or analyse.[86] This will make it difficult, or near impossible, to assess the competitive (and other) impacts of new algorithmic technologies.

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[83] DMA (2022).
[84] See Hutchison (2022) for some potential concerns: for example, citizen's loss of control over their own privacy and the threat for new competitors of (automated) horizontal collusion. Also see CCCS (2017) and Vivic Research (2021) for discussions of the use of algorithms in pricing and their anticompetitive implications.
[85] Cairncross Review (2019).
[86] OECD (2022b): "Lack of transparency – a common attribute amongst the large online platforms is that they rely on sophisticated algorithms to make a large volume of decisions in real-time. One of the consequences of this reliance on 'black box' decision-making is that consumers and businesses that interact with them find it difficult to understand or challenge how decisions are made and may find it harder to exercise choice effectively".

As personal data has become a critically important asset for large digital firms (e.g. Big Tech), the level of capital investment needed by startups / competitors for collecting personal data in order to challenge those incumbents has become prohibitively expensive. Incumbents have (1) a huge advantage when it comes to the existing mass concentration of personal data, and (2) a secondary advantage when it comes to the computing capacity needed to leverage that data. Capital markets recognize these advantages by enabling incumbents to access capital cheaper than startups.[87] Startups do not have access to this cheap capital without significant private capital backing, which is often not available due to investors' fears about the so-called "kill zone" around incumbents, reflecting the difficulties startups face when trying to grow and scale their businesses.[88]

A 2016 report by the OECD highlighted these problematic dynamics with reference to Google:

> "Google's vast and ongoing investments to continuously develop new products that are offered to users at a zero price also reflect the perceived value of data. By combining all the data collected through Android and other products, and using its own algorithms as well as machine-learning programmes, Google is able to enhance its detailed user profiles with information that no other competitor has and which should be valuable enough to recover the money invested."

One solution to this situation offered by the 2019 UK Furman Review is to force open the data holdings of dominant digital firms, as a way to "unlock competition" in their terms:

> "…the central importance of data as a driver of concentration and barrier to competition in digital markets is a key theme of the evidence

[87] On the challenges confronted by start-ups because of the concentration of data in the hands of incumbents, see Competition Bureau Canada (2022) and see Galloway (2018) on Amazon in particular.
[88] Here's how the USA's 2022 proposed *American Innovation and Choice Act* puts it: "But overall, the House report found that if there was true competition, we would have a more dynamic and innovative tech center with more small and medium-sized businesses. Maybe if Facebook hadn't bought them—remember, "I would rather buy than compete"—an independent Instagram, an independent WhatsApp—because Meta now owns them—could have developed the bells and whistles and privacy controls". Also see Kamepalli et al. (2022) for an academic analysis of the "kill-zone" and its threat to innovation.

> gathered by the review. There may be situations where opening up some of the data held by digital businesses and providing access on reasonable terms is the essential and justified step needed to unlock competition. Any remedy of this kind would need to protect personal privacy and consider carefully whether the benefits justified the impact on the business holding the data. But the ability to pursue data openness is an essential tool for the unit".

### *3.3.2 Systemic Issues*

Personal data is an important asset for digital firms,[89] even if it cannot (yet) be included on their balance sheets according to current accounting standards (e.g. FASB, IASB). It is important, therefore, to understand what kind of asset personal data is. The International Accounting Standards (IAS) define an asset as follows:

> "An asset is a resource that is controlled by the entity as a result of past events (for example, purchase or self-creation) and from which future economic benefits (inflows of cash or other assets) are expected."

Personal data, then, can be understood as an asset where it can be *controlled* by a digital firm and where it generates *future 'economic' benefits* for that firm. Whereas personal data is often framed as a non-rivalrous good (i.e. multiple entities can use it at once), its value rests on it being made excludable; that is, on limiting and/or controlling access to it.[90] This is often the case with large digital firm (e.g. Big Tech), which control significant data holdings that can be used to develop products and services or enroll users and third-

[89] See OECD (2022c), "Data are a central element many digital markets, as a competitive asset, potential entry barrier, and even dimension of quality. They have also led to new markets, and enabled new business models as well as strategies, such as personalised pricing". Also, see Birch et al. (2021) for a discussion of data assets and Big Tech.

[90] See the UK's Furman Review (2019) on this point: "the central importance of data as a driver of concentration and barrier to competition in digital markets is a key theme of the evidence gathered by the review. There may be situations where opening up some of the data held by digital businesses and providing access on reasonable terms is the essential and justified step needed to unlock competition. Any remedy of this kind would need to protect personal privacy and consider carefully whether the benefits justified the impact on the business holding the data. But the ability to pursue data openness is an essential tool for the unit".

parties in digital ecosystems, thereby growing their ecosystem and making them more valuable.[91]

When it comes to the digital economy, policymakers stress the fact that large digital firms have a competitive advantage precisely because of their personal data holdings *and* their capacity to restrict other firms' access to said data. Any digital firm can collect personal data, but large data holdings provide a major innovation and business advantage, as the UK Competition and Markets Authority (CMA) points out:

> "Unequal access to user data – data about users is highly valuable for developing and providing digital services, such as targeting advertising and personalised timelines with relevant suggested content. The scale of data available to powerful digital firms acts as a competitive advantage, while creating a barrier to entry and expansion to smaller potential rivals".[92]

Such access restrictions reflect technological and economic means of control, including restrictions on interoperability and control over application programming interfaces (APIs), as well as control over terms of service and ecosystem rules.

Rules and regulations matter here, including those relating to privacy and data protection, since they help frame the way that personal data can and is collected and used. However, these sorts of privacy and data protection rules and regulations are often explicitly excluded from current competition policy,[93] despite their increasing systemic interconnectedness as policy areas; for example, when it comes to false or misleading advertising.[94]

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[91] See US House of Representatives (2020) on how Big Tech firms like Facebook control access to their data holdings, even allegedly restricting access to firms deemed to be competitive threats.
[92] OECD (2022b).
[93] See, for example, *Meta vs. Bundeskartellamt* [Case C-252/21].
[94] See Canada's Competition Bureau (2018), for example: "There is potential for overlapping enforcement activities under the [Competition] Act and under privacy law. Canada's Office of the Privacy Commissioner (OPC) has a mandate under the Personal Information Protection and Electronic Documents Act (PIPEDA) to protect and promote privacy rights in the collection, use, and disclosure of personal information. One principle holds that PIPEDA 'is intended to prevent organizations from collecting information by misleading or deceiving individuals about the purpose for which information is being collected.' Similarly, the Act condemns representations made to the public that are false or misleading in a material respect. Therefore, the Bureau's mandate to ensure truth in advertising may

Privacy and data protection regulations are important for citizens as they provide some means to control the collection and use of their personal data.[95] Many countries, including Canada, have already or are currently updating their privacy and data protection regulations in light of importance that personal plays in our digital economies.[96] Other countries are doing the same.[97] As the 2019 ACCC Report noted:

> "Enforcement of consumer and privacy laws as well as competition law is critical in addressing potential harms associated with the impact of digital platforms on markets and consumers in Australia".

An important aspect of this systemic relationship between competition and privacy, according to policymakers, is the way that declining or low competition can lead to declining or low privacy protections, as firms lose the incentive to strengthen privacy rights and conditions as the number of their competitors declines. The Furman Report made this point in 2019: "Even when consumers do not have to pay anything for the service, it might have been that with more competition consumers would have given up less in terms of privacy or might even have been paid for their data". A secondary issue is the way that privacy and data protection regulations are frequently deployed by large digital firms to restrict access to their data holdings and argue against sharing data.[98]

Personal data has an ambiguous role in assessments of market power in the digital economy. As noted earlier (re multi-sided markets – Section 3.2.1), digital markets are often framed as providing 'free' goods and services to end users (consumers) while charging fees to business users (advertisers, developers).[99] Hence, it is supposedly difficult to assess the market power of digital ecosystems when evaluating consumer welfare or benefits. A 2016 report by the OECD makes this point:

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overlap with the OPC's mandate to protect privacy rights". See also Douglas (2021) and Vivic Research (2022) on the (often systemic) relationship between competition and privacy policy.

[95] See Edwards (2018), for example, on the introduction of the EU's 2018 *General Data Protection Regulation*.

[96] See Canada's proposed 2022 *Digital Charter Implementation Act*: https://www.parl.ca/DocumentViewer/en/44-1/bill/C-27/first-reading

[97] See APEC (2022).

[98] An example of this is in CMA (2020: 412).

[99] DMA (2022).

> "Market power is particularly difficult to assess when companies provide zero-price services to consumers in exchange for data, in which case enforcers may underestimate the degree of market power, or even assume that the market presents no competition problem. However, a zero-price offer may be part of a profit-maximising strategy to attract price-sensitive consumers and, then, to exert market power over other groups of participants, for example by selling information in other sides of the market (this is, for instance, the model of some types of dating platforms where access may be free for women, but men have to pay)".

Understanding data as an asset, though, helps to shift such assessments of market power because policymakers can assess the value of the personal data (an asset) that end users (consumers) exchange for the notionally 'free' digital product or service. Consequently, it no longer makes sense to think of this as the provision of a 'free' product or service since digital firms are receiving something valuable in return. See the 2019 ACCC report on this point:

> "Australian consumers benefit from the many 'free' services offered by digital platforms and most users now have at least some understanding that *certain types of user data and personal information are collected in return for their use of a service*. However, the ACCC's view is that few consumers are fully informed of, fully understand, or effectively control, the scope of data collected and the bargain they are entering into with digital platforms when they sign up for, or use, their services". (our emphasis)

The collection or creation of (valuable) personal data assets can, then, be thought of as a form of counter-performance in a contract (e.g. terms of services) between users and providers of a digital product or service.[100] Another dimension to this relationship is the provision of 'privacy services', where lack of competition leads to limited choices for end users, something stressed by the 2019 Furman Report:

> "Even when consumers do not have to pay anything for the service, it

[100] On this, see Efroni (2020) for discussion of data as counter-performance.

> might have been that with more competition consumers would have given up less in terms of privacy or might even have been paid for their data".

A final important systemic aspect of personal data that needs to be taken into account in competition policy is the fact that personal data is highly 'relational' in nature when considered as an economic object (e.g. asset).[101] Data is most useful and valuable when it is combined with other data because this enables the use of inferential data analytics to make predictions, or to target individual consumers, or to set personalized prices; that is, single data points (e.g. our names, address, cellphone number, etc.) are not useful or valuable by themselves, but become useful and valuable when combined with thousands or millions of others. As the ACCC points out, data collection is not limited to what we (formally) consent to, by agreeing to specific terms of service for example:

> "Many digital platforms increasingly collect a large amount and variety of user data. The data collected often extends far beyond the data users actively provide when using the digital platform's services. Digital platforms may passively collect data from users, including from online browsing behaviour across the internet, IP addresses, device specifications and location and movement data".

Moreover, the ACCC notes that:

> "Once collected, digital platforms often have broad discretions regarding how user data is used and also disclosed to third parties. The user data collected can enable digital platforms to create more detailed segmented user profiles that are then available for use by advertisers wishing to target advertisements. Consumers have informed the ACCC that they have concerns about the extent and range of information collected by digital platforms."

[101] See Viljoen (2021) for a discussion of data's relational characteristics, especially the fact that inferential data analytics enables organizations to make predictions about individuals *even if* that individual has not consented to the collection of personal data about them; predictions can be made from the characteristics of similar individuals.

The relational dimension to data reflect the need to regulate the 'emergent properties' of mass personal data – sometimes called Big Data. Emergent properties refer to the qualities of a collective system (e.g. data holdings) which come into existence only because of the combination of that system's different individual elements. Emergent properties are not qualities that each individual component has, so emergent properties are not simply the sum of all the system's parts. Combining personal data creates emergent properties *of / for* those data holdings, such as the capacity to predict our behaviours, to manipulate our behaviours, and to limit our choices without our consent. Moreover, individual consent cannot hold digital firms accountable for these emergent properties as individual consent reflects the use of individual data points rather than the unknown and / or unpredictable outcomes of mass data analysis.[102] So-called 'dark patterns' come under these emergent properties of mass data; they include the psychological and technological tricks used by companies to get us to buy something or agree to something, much of which rests on analyses of large population behaviours and practices. In 2022, the USA's Federal Trade Commission (FTC) raised this as a concern:

> "The Commission's enforcement actions have targeted several pernicious dark pattern practices, including burying privacy settings behind multiple layers of the user interface and making misleading representations to 'trick or trap' consumers into providing personal information. In other instances, firms may misrepresent or fail to communicate clearly how they use and protect people's data."

### *3.3.3 Epistemic Issues*

Policymakers highlight several conceptual and definitional issues relating to personal data worth considering when it comes to competition policy. Defining what a market is and what are its boundaries can be very difficult; for example, should the concept of the "digital economy" only include firms that develop digital products and services? Or should it include all firms that digitalize their operations through the introduction of information and communication technologies? The former definition might be too narrow, while the latter might be too wide.

[102] See Esayas (2017) on the problems with individual consent and emergent properties of personal data.

There are several other epistemic issues with personal data worth considering. Although personal data is an important asset for digital (and other) firms,[103] we have already noted that it is not accounted for on those firms' balance sheets. For example, a 2022 APEC report notes:

> "Regulators are particularly grappling with how to set a value on data. Data is not a singular economic input. There are different types of data and a varying worth of data. The definitions of data need to be more flexible in the competition space—as it is difficult to capture the value of data that is created, transferred, and processed—not least because data itself is increasingly both an asset input into supply chain processes, and is being traded as its own discernible commodity".

Academic and policy analyses of the transformation of personal data into an asset or resource emphasize some of these ambiguities around data. First, personal data cannot currently be treated as de jure property (being factual information about someone), which means that its control is based on legal rights other than property rights reflecting de facto forms of ownership (for example, see above Section 3.3.2).[104] Second, as personal data cannot be directly owned, it cannot be accounted for on a digital (or other) firm's balance sheet; this actually affords significant leeway for digital firms, especially larger firms (e.g. Big Tech), to collect and use massive amounts of data. Since no one owns personal data and it cannot be accounted for, there are few mechanisms for accountability in its collection and use *as* a techno-economic object (i.e. asset); for example, it is difficult to work out the tax implications of data holdings because they are not treated as an asset, even though it has significant value for digital firms. Policymakers need to be able to count and measure personal data reliably in order to ensure that its collection and use are (socially) accountable; however, this is still an unresolved issue. This does not yet seem to be part of the competition policy discussion, even though personal data remains critical to the market power of digital firms.

[103] See OECD (2022e): "Data are a central element many digital markets, as a competitive asset, potential entry barrier, and even dimension of quality. They have also led to new markets, and enabled new business models as well as strategies, such as personalised pricing". Also see Birch et al. (2021) for an academic take on this issue.

[104] See Cohen (2019) on this point. There are a range of US court cases dealing with personal data ownership that highlight the difficulties in defining personal data as individual (or other) property; for example, *In re Google, Inc.* (2015) and *Svenson v. Google Inc.* (2016).

Another important point, raised by the OECD and other policymakers,[105] is the issue of whether current competition thresholds (e.g. asset, revenue) are able to capture emerging dynamics in digital markets, especially as this relates to personal data. A 2022 report by Wolfe and Mhlanga – produced for the Canadian Federal Government – argues that:

> "…the [Canadian Competition] Bureau recognizes that deals which fall below these thresholds could have important implications for intangible assets, such as IP or large data sets, which can afford digital firms overwhelming advantages in the platform economy" (p.35).

Thresholds that focus mainly or only on certain kinds of assets (e.g. tangible, physical), for example, are likely to miss the value of intangible assets, especially if those assets are not accounted for on balance sheets. Keldon Bester (2022) reinforces this point by arguing that "Canada's notification threshold misses pre-revenue and low-asset companies and the value of intangible assets such as critical data holdings, even if they are highly valued by incumbents". Other jurisdictions, like the EU, have started to incorporate data assets into their thinking on mergers and acquisitions for these reasons.[106] It is important to work out how to incorporate new kinds of thresholds in the Canadian context (e.g. for data holdings), as a way to address the potential for market concentration in personal (and other) data assets.[107]

A final issue is the treatment of personal (and other) data as another form of price. Academic research has focused on how data has or will replace money and prices – which are framed as proxies for information.[108] Thinking of personal data from this perspective provides a way to reframe the increase in data collection as comparable to an increase in prices. From a consumer

[105] OECD (2016); see also G7 (2021) and German Federal Ministry for Economic Affairs and Energy (2017).
[106] For example, in 2021, Executive Vice-President Vestager specifically noted that "The Commission already considers data as an asset in merger assessments", in response to a Parliamentary Question [E-000274/2021(ASW)] about personal data: https://www.europarl.europa.eu/doceo/document/E-9-2021-000274-ASW_EN.html
[107] Vivic Research (2022).
[108] See, for example, Mayer-Schonberger (2018, 2022).

welfare perspective, then, increasing data collection and data holdings – for example, through mergers and acquisitions – could be conceptualized as an increase in consumer prices, and therefore an important issue in competition policy. This perspective is outlined by the OECD in a 2016 report:

> "In the sense that data has been identified as the 'new currency of the internet', an increase in the collection of private data can be compared, to some extent, to a price increase. Or, equivalently, if consumers value privacy as a desirable characteristic, a reduction in privacy is analogue to a reduction in the quality of the service provided".

Rethinking personal data in these terms means that competition policy would need to address both the growth in data holdings and loss of privacy rights as problematic outcomes.

## 4. WAYS FORWARD: RETHINKING CANADA'S COMPETITION POLICY

As this report should indicate, there are numerous issues worth considering when it comes to the reform of Canada's *Competition Act*. Here we make seven suggestions of issues worth focusing on during this rethinking of competition policy.

1. *Dedicated Digital Economy Unit*

Other jurisdictions have created dedicated digital economy units. For example, the UK's Competition and Markets Authority (CMA) following the 2019 Furman Report. Canada has established a Digital Enforcement Office, but it will need the resources and political support to focus on large digital gatekeepers and their potential impact on startups and/or smaller competitors.

2. *Market Studies*

There is a real need for more market studies on the digital economy and implications of personal data for competition. These market studies need to be transparent and undertaken in public view; for example, like the 2019-2020 US House Judiciary Committee investigation of digital markets.

3. *Portability & Interoperability*

It needs to be both legally and technically easy – not just possible – for individuals to transfer their personal data between digital products and services, as well as easy to use multiple digital products and services at once to ensure that users can 'multi-home' (i.e. use multiple products and services at once using the same personal data).

4. *Mandated Data Sharing & Access*

Personal data is a valuable resource; however, it is currently controlled by a few large digital firms. These so-called "gatekeepers" should be mandated to share access to their collected data holdings. Where privacy and data protection regulations limit the capacity to share personal data, large digital

firms should be required to delete that personal data which provides them with a competitive advantage.

5. *Accounting & Accountability of Data Assets*

Accounting and other standards-setters need to develop new standards for personal (and other) data, so that digital firms are forced to include it on their balance sheets. This would afford the opportunity to develop new forms of taxation of digital firms, different notification thresholds for competition investigations, and new ways to hold them accountable for their data collection and use that goes beyond privacy and data protection regulations.

6. *Data Siloes & Ecosystem Breakup*

Digital ecosystems should be broken up so that digital firms cannot combine datasets across their operations (e.g. Meta/Facebook would not be able to combine data from Facebook and Instagram) and from others using their ecosystem (e.g. developers); this would limit a firm's capacity to enter and dominate adjacent markets.

7. *Regulatory Agency Cooperation*

Regulatory agencies often operate in siloes. Competition authorities need to coordinate with other agencies in the digital economy, especially with privacy and data protection regulators.[109] Sharing information between agencies should be a mandated requirement and norm.

[109] Ana Quarri (2022) "Canada Must Reform Competition and Privacy Policy Together to Protect Consumers." *Policy Options*, February: https://policyoptions.irpp.org/magazines/february-2022/canada-must-reform-competition-and-privacy-policy-together-to-protect-consumers/

## 5. REFERENCES

1. ACCC (2019) *Digital Platforms Inquiry*, Canberra: Australian Competition and Consumer Commission.
2. APEC (2022) *Competition Law and Regulation in Digital Markets*, Singapore: Asia Pacific Economic Cooperation.
3. Bester, K. (2022) *Merger Policy for a Dynamic and Digital Canadian Economy*, Waterloo: Centre for International Governance Innovation, CIGI Papers No. 268.
4. Birch, K. (2020) Technoscience rent: Towards a theory of *rentiership* for technoscientific capitalism, *Science, Technology, and Human Values* 45(1): 3-33. Birch, K. and Bronson, K. (2022) Introduction: Big Tech, *Science as Culture* 31(1): 1-14.
5. Birch, K., Cochrane, D.T. and Ward, C. (2021) Data as asset? Unpacking the measurement, governance, and valuation of digital personal data by Big Tech, *Big Data & Society* 8(1): 1-15.
6. Boyer, M. (2022) *Comments on Competition Policy and Labour Markets*, Montreal: CIRANO.
7. BRICS Competition Law and Policy Center (2019) *Digital Era Competition: A BRICS's View*, available at: https://publications.hse.ru/en/books/321442247
8. Cairncross Review (2019) *A Sustainable Future for Journalism*, London: Department for Digital, Culture, Media & Sport.
9. CCCS (2017) *Data: Engine for Growth – Implications for Competition Law, Personal Data Protection, and Intellectual Property Rights*, Singapore: Competition and Consumer Commission Singapore.
10. CCCS (2020) *E-commerce Platforms Market Study*, Singapore: Competition and Consumer Commission Singapore.
11. Chien C. (2014) Startups and Patent Trolls, *Stanford Technology Law Review* 17: 461-505.
12. Ciuriak, D. (2018) *Rethinking Industrial Policy for the Data-Driven Economy*, CIGI Papers No. 192, Waterloo ON: Centre for International Governance Innovation.
13. Cohen, J. (2019) *Between Truth and Power*, Oxford: Oxford University Press.
14. Competition Bureau (2017) *Big Data and Innovation: Implications for Competition Policy in Canada*, Gatineau: Competition Bureau.

15. Competition Bureau (2022) *Unlocking the Power of Health Data: Digital Healthcare Market Study*, Gatineau: Competition Bureau, available at: https://ised-isde.canada.ca/site/competition-bureau-canada/sites/default/files/attachments/2022/04669-DHC-Market-Study-Part-1-Eng.pdf
16. CMA (2020) *Online platforms and digital advertising*, London: Competition & Markets Authority.
17. Determann, L. (2018) No one owns data, *Hastings Law Journal* 70(1): 1-43.
18. Douglas, E. (2021) Digital Crossroads: The Intersection of Competition Law and Data Privacy, *Temple University Legal Studies Research Paper No. 2021-40*, available at SSRN: https://ssrn.com/abstract=3880737 or http://dx.doi.org/10.2139/ssrn.3880737
19. Drexl, J. (2021) Data access as a means to promote consumer interests and public welfare – An introduction, in German Federal Ministry of Justice & Consumer Protection and MPI for Innovation & Competition (eds), *Data Access, Consumer Interests and Public Welfare*, Baden: NOMOS.
20. Dreyfuss, R. and Frankel, S. (2015) From Incentive to Commodity to Asset: How International Law Is Reconceptualizing Intellectual Property, *Michigan Journal of International Law* 36(4): 557-602.
21. Edwards, L. (ed.) (2018) *Law, Policy and the Internet*, Oxford: Hart.
22. Efroni, Z. (2020) Location Data as Contractual Counter-Performance: A Consumer Perspective on Recent EU Legislation, in M. Finck et al. (eds), *Smart Urban Mobility*, Heidelberg: Springer Berlin, pp.257-283.
23. Esayas, S. (2017) The idea of 'emergent properties' in data privacy: towards a holistic approach, *International Journal of Law and Information Technology* 25(2): 139-178.
24. Esteve, A. (2017) The business of personal data: Google, Facebook, and privacy issues in the EU and the USA, *International Data Privacy Law* 7(1): 36-47.
25. European Parliament (2020) *Is data the new oil? Competition issues in the digital economy*, Strasbourg: European Parliament, available at: https://www.europarl.europa.eu/RegData/etudes/BRIE/2020/646117/EPRS_BRI(2020)646117_EN.pdf
26. Ezrachi, A. and Stucke, M. (2022) *How Big-Tech Barons Smash Innovation*, New York: Harper Business.
27. Foroohar, R. (2019) *Don't Be Evil*, New York: Currency.

28. G7 (2021) *Compendium of approaches to improving competition in digital markets*, available at: https://www.gov.uk/government/publications/compendium-of-approaches-to-improving-competition-in-digital-markets
29. G7 (2022) *Compendium of approaches to improving competition in digital markets*, available at: https://www.gov.uk/government/publications/2022-compendium-of-approaches-to-improving-competition-in-digital-markets
30. German Federal Ministry of Economic Affairs and Energy (2017) *White Paper -Digital Platforms: Digital Regulatory Policy for Growth, Innovation, Competition and Participation*, available at: https://www.de.digital/DIGITAL/Redaktion/EN/Publikation/white-paper.pdf?__blob=publicationFile&v=4
31. Haucap, J. (2019) Competition and competition policy in a data-driven economy, *Intereconomics* 54(4): 201-208.
32. HM Treasury (2019) *Unlocking Digital Competition* [aka *Furman Report*], London: HM Treasury.
33. Hutchison, C. (2022) Potential abuse of dominance by big tech through their use of Big Data and AI, *Journal of Antitrust Enforcement*, doi.org/10.1093/jaenfo/jnac004
34. Kamepalli, S.A., Rajan, R. and Zingales, L. (2022) *Kill Zone*, NBER Working Paper Series, available at: https://www.nber.org/papers/w27146
35. Moore, M. and Tambini, D. (eds) (2022) *Regulating Big Tech*, Oxford: Oxford University Press.
36. Khan, L. (2017) Amazon's antitrust paradox, *Yale Law Journal* 126(3): 710-805.
37. Klinge, T., Hendrikse, R., Fernandez, R. and Adriaans, I. (2022) Augmenting digital monopolies: A corporate financialization perspective on the rise of Big Tech, *Competition & Change*, doi.org/10.1177/10245294221105573
38. Ma, J. (2022) *Regulating Data Monopolies*, Singapore: Springer.
39. Marciano, A., Nicita, A. and Ramello, G. (2020) Big data and big techs: Understanding the value of information in platform capitalism, *European Journal of Law and Economics* 50: 345-358.
40. Mayer-Schonberger, V. & Ramge, T. (2018) *Reinventing Capitalism in the Age of Big Data*, New York: Basic Books.

41. Mayer-Schonberger, V. & Ramge, T. (2022) *Access Rules*, California: University of California Press.
42. Mazzucato, M. (2018) *The Value of Everything*, London: Allen Lane.
43. Motta, M. (2004) *Competition Policy*, Cambridge: Cambridge University Press.
44. OECD (2016) Big Data: Bringing Competition Policy to the Digital Era, Paris: Organisation for Economic Co-operation & Development.
45. OECD (2018) *Rethinking Antitrust Tools for Multi-sided Platforms*, Paris: Organisation for Economic Co-operation & Development.
46. OECD (2020) *Competition Economics of Digital Ecosystems– Note by Georgios Petropoulos*, Paris: Organisation for Economic Co-operation & Development.
47. OECD (2022a) *The Evolving Concept of Market Power in the Digital Economy*: *OECD Competition Policy Roundtable Background Note*, Paris: Organisation for Economic Co-operation & Development.
48. OECD (2022b) *The Evolving Concept of Market Power in the Digital Economy – Note by the United Kingdom*, Paris: Organisation for Economic Co-operation & Development.
49. OECD (2022c) *Handbook on Competition Policy in the Digital Age*, Paris: Organisation for Economic Co-operation & Development.
50. OECD (2022d) *Analytical note on the G7 inventory of new rules for digital markets*, Paris: Organisation for Economic Co-operation & Development.
51. OECD (2022e) *Going Digital Toolkit: Measuring the Economic Value of Data*, Paris: Organisation for Economic Co-operation & Development.
52. Pasquale, F. (2015) *The Black Box Society*, Cambridge MA: Harvard University Press.
53. Philippon, T. (2019) *The Great Reversal*, Cambridge MA: Belknap Press.
54. Pistor, K. (2019) *The Code of Capital*, Princeton: Princeton University Press.
55. Pistor, K. (2020) Rule by data: The end of markets?, *Law and Contemporary Problems* 83: 101-124.
56. Prainsack, B. (2020) The political economy of digital data: Introduction to the special issue. *Policy Studies* 41(5): 439–446.
57. Schnurr, D. (2022) Regulation of data-driven market power in the digital economy, talk given at PLAMADISO - Weizenbaum Institute for the Networked Society, Germany.

58. Smizer, E. C. (2021) Epic Games v. Apple: Tech-Tying and the Future of Antitrust, *Loyola of Los Angeles Entertainment Law Review* 41: 215-251.
59. SNA (2021) *Guidance Note on Recording and Valuing "Free" Digital Products in an SNA Satellite Account* [SNA/M2.21/4.3], New York: UN Statistical Division.
60. South African Competition Commission (2020) *Competition in the Digital Economy*, Pretoria: Competition Commission.
61. Srinivasan, D. (2020) Why Google Dominates Advertising Markets, *Stanford Technology Law Review* 24(1): 55-175.
62. Strauss, I., O'Reilly, T., Mazzucato, M. and Ryan-Collins, J. (2021). *Crouching tiger, hidden dragons: How 10-K disclosure rules help Big Tech conceal market power and expand platform dominance*. UCL Institute for Innovation and Public Purpose, IIPP Policy Report No. 2021/04, available at: https://www.ucl.ac.uk/bartlett/public-purpose/2021-04
63. Stucke, M. (2022) *Breaking Away*, Oxford: Oxford University Press.
64. US House of Representatives (2020) *Investigation of Competition in Digital Markets*, Washington DC: House of Representatives.
65. UNCTAD (2018) *Trade and Development Report*, Geneva: UNCTAD.
66. UNCTAD (2021) *Digital Economy Report*, Geneva: UNCTAD.
67. Viljoen S (2021) Democratic Data: A Relational Theory for Data Governance, *Yale Law Review*, available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3727562
68. Vivic Research (2022) *Study of Competition Issues in Data-Driven Markets in Canada*, Prepared for the Ministry of Innovation, Science, and Economic Development, Ottawa: Vivic Research.
69. Wolfe, D. and Mhlanga, M. (2022) *The Platform Economy and Competition Policy: Options for Canada*, Innovation Policy Lab Working Paper Series 2022-02, University of Toronto.
70. Zuboff, S. (2019) *The Age of Surveillance Capitalism*, New York: Public Affairs.