

Shaping competition policy in the era of digitalisation

Mozilla contribution to European Commission DG COMP consultation

September 30, 2018

Dear Sir, dear Madam,

Thank you for this opportunity to contribute to the European Commission's reflection process and forthcoming conference on competition policy in the rapidly evolving digital world. The internet has had, and continues to have, a transformative impact on our society and our economy. In many ways the legal and regulatory frameworks built decades ago for older communications and information systems still serve admirably; but in others, they have fallen short. We thus welcome the Commission's timely consideration of the many complex elements of competition online.

The Mozilla Corporation produces the Firefox web browser and the family of Firefox products, including Firefox for iOS, Firefox for Android, Firefox Focus, and Rocket, used by hundreds of millions of individual internet users around the world. Mozilla is also a foundation that focuses on fueling the movement for a healthy internet. Finally, Mozilla is a global community of technologists, thinkers, and builders, including thousands of contributors and developers who work together to keep the internet alive and accessible. From Mozilla's unique perspective, we are therefore both involved in and affected by the ongoing digitisation of the economy, and of our entire lives both online and offline.

We have identified decentralisation as one of five central issues in promoting internet health, and we devote a large portion of our annual [internet health report](#) to research and case studies of centralization and competition online.¹ Our 2018 report incorporated a focus on concentration in the technology sector through the spotlight article, "[Too big tech?](#)"² Our view is that we are headed today down a path of excessive centralisation and control, where someday the freedom to code and compete will be realised in full only for those who work for a few large corporations.

Although there are many elements of competition law and policy that contribute to today's challenging circumstances, we will use this contribution to focus on two specific, related issues: the challenge of measuring competitive harm in a data-powered and massively

¹ The Decentralization section of our 2018 internet health report is available online at: <https://internethealthreport.org/2018/category/decentralization/>

² Mozilla Internet Health Report 2018, "Spotlight: Too big tech?", available online at: <https://internethealthreport.org/2018/too-big-tech/>

vertically integrated digital ecosystem, and the role played by interoperability (in particular, through technical interfaces known as APIs) in powering the internet as we know it.

We look forward to working with DG COMP and other stakeholders throughout this process, and we remain at your disposal for any information or clarification of these points or any other contributions we can provide.

1. Increasing centralisation poses competition concerns.

Throughout the history of the internet, many have held as a fundamental assumption that today's big companies won't be the same as tomorrow's, because the internet is inherently disruptive. That assumption can no longer be taken for granted. Today five technology companies—Alphabet (parent company of Google), Amazon, Apple, Facebook, and Microsoft—have all achieved substantial market capitalisation, and in fact are often the five largest companies in the world, in any industry, by that measure.³ Farhad Manjoo in the *New York Times* calls them “[a new superclass of American corporate might](#).”⁴ It seems plausible that they will still have those industry leading positions many years from now.

Big isn't inherently bad, either under competition law or general policy considerations. However, significant competitive problems can arise where software or services with substantial market presence are technically interconnected with other software or services operated by the same business—vertical integration in competition terms, typically powered in the internet context through the exchange of data and/or the remote calling of services through Application Programming Interfaces (APIs). Several high-profile mergers over recent years have increased the number of vertically integrated businesses even further.⁵

Vertical mergers that involve large user bases at one part of a stack of technologies pose a particular risk of competitive harm because of the nature of these combinations. In this context, the harm arises where future innovation in one layer or a subset of layers in the vertical stack becomes impeded by the practical necessity of functional integration with a key technology (often but not necessarily a “platform”) anchoring that stack. To put it more bluntly, new and superior services could be squashed by inferior competitors who receive special technical treatment by one or more platforms (perhaps because they're operated by the same business). The advantages conferred by the proprietary technical integration can become intractable or even permanent, given the difficulty of reverse-engineering interoperability into established technology stacks. Investment euros and market entry into

³ Quarterly rankings of top ten publicly traded companies by market capitalization worldwide, from Wikipedia: https://en.wikipedia.org/wiki/List_of_public_corporations_by_market_capitalization

⁴ Farhad Manjoo, “Tech Giants Seem Invincible. That Worries Lawmakers.” *New York Times* (Jan. 4, 2017), at:

<https://www.nytimes.com/2017/01/04/technology/techs-next-battle-the-frightful-five-vs-lawmakers.html>

⁵ Facebook's mergers with Instagram and WhatsApp, and Microsoft's with LinkedIn, are illustrative examples.

that sector then decline and disappear, resulting in a permanent loss of user choice and competition.

APIs are the fundamental connective tissue of the internet.⁶ They're also a powerful tool for efficient, rapid scaling market entry, when a new app or service developer can reach users through existing APIs offered by platforms that have already achieved significant economies of scale. Yet, platform operators that have already hit a critical mass (and are thus less dependent for network effects on interconnection with others) face natural incentives to restrict the use of APIs by third parties. Some of these incentives are anti-competitive in intent and effect, for example if a platform operator obstructs a downstream market of services to its own detriment in order to prevent the growth of an emergent competitor. Others are driven by privacy and security concerns, for example shutting down third-party access to user data via an API to limit exposure and risk (even where resources could be invested to design the API to facilitate effective interconnection while also protecting privacy and security).

Many companies are already scaling back their API offerings. Facebook, most notably, has made [major changes](#) in the wake of the Cambridge Analytica scandal.⁷ Some of these changes, such as Facebook's [deprecation of "publish actions"](#),⁸ have had significant and detrimental impact for [smaller, independent](#) technology projects.⁹ This trajectory carries the internet ecosystem in the opposite direction of a decentralised, competitive future.

2. Traditional metrics and tools are insufficient to promote competition.

As noted, a platform operator may have many different reasons for limiting or deprecating public APIs, including the legitimate protection of privacy as well as the natural evolution of technology such as replacing an older API with an improved approach. But it's unclear what mechanism, process, or authority can be invoked to challenge harmful practices regarding APIs.

Standard antitrust metrics used to evaluate potential harm will struggle to measure the effects of API decisions. They depend on cognisable market definitions, a challenging task in the fluid world of modern technology. They often focus on user-facing prices, which makes little sense with so many services offered free to the user and supported by

⁶ See Michael Bock, "WTF is an API? How the Internet Works Behind the Scenes", *Hacker Noon* (Jan. 20, 2015), at: <https://hackernoon.com/apis-how-the-internet-works-behind-the-scenes-690288634c32>

⁷ Josh Constine, "Facebook restricts APIs, axes old Instagram platform amidst scandals", *Tech Crunch* (Apr. 4, 2018), at: <https://techcrunch.com/2018/04/04/facebook-instagram-api-shut-down/>

⁸ Josh Constine, "Facebook shuts down custom feed-sharing prompts and 12 other APIs", *Tech Crunch* (Apr. 24, 2018), at: <https://techcrunch.com/2018/04/24/facebook-api-changes/>

⁹ See "What happened to Facebook", *Bridgy*, at: <https://bridgy/about#rip-facebook>; and "[Publish] Facebook Profiles can no longer be connected to Buffer Publish", *Buffer*, at: <https://faq.buffer.com/article/985-publish-facebook-api-changes>

advertising. And they struggle to measure the [impact of innovation](#) and the lost economic benefits of foreclosed innovation.¹⁰

The technology sector is significant for many reasons, but the sheer size of the biggest businesses, and the 2-sided nature of many of the markets, do not fundamentally distinguish the internet from other industries, which also have big businesses and 2-sided markets. One unique feature of tech in the context of competition is the nature of the vertical integration of distinct and interconnecting digital services, and the fine-grained ability to control that interconnectivity through product and business decisions around integrating code bases and offering APIs—and how the outcomes those decisions can produce run counter to long-standing assumptions of interoperability and openness on which the internet was built. Even before the term ‘platform’ came into common parlance, that was how tech was designed—not in the two-sided market economic sense, but from the technical perspective that software and services are often built on top of other software and services built by others, relying on well-settled norms of openness and the mutual benefits of interoperability. Unfortunately, those norms are no longer settled, nor the mutual benefits guaranteed, in the digital economy prisoner’s dilemma we have today.

Another unique feature of the internet economy is the role played by data, including data collected from users and data generated about them. Some European member state competition authorities have taken the position that data itself can indicate market power.¹¹ Data can improve the quality of a service and the revenue that it can generate in ways that may be impossible to replicate without achieving a comparable data set. Compared to number of users as a measure of size, data is potentially far more robust. When users leave the network, their data and the power that comes with it may stay behind, particularly as a component of aggregated data powering improved machine learning.

Market definitions, user-facing prices, the role of data, and the benefits of innovation all contribute to challenges faced by competition regulators charged with evaluating corporate mergers and single-firm conduct in the tech sector. Against this backdrop, the toolkit of potential interventions must be broadened.

3. Interoperability is a powerful, ready-to-use key to unlock competition in the tech sector.

Alongside traditional remedies, interoperability belongs as an essential tool in the competition policymaker’s toolkit. In particular, interoperability may prove to be a useful tool

¹⁰ Kevin W. Caves and Hal J. Singer, “When the Econometrician Shrugged: Identifying and Plugging Gaps in the Consumer Welfare Standard”, *George Mason Law Review*, 2018, available at SSRN: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3205518

¹¹ Bruno Lasserre and Andreas Mundt, “Competition Law and Big Data: The Enforcers’ View”, Italian Antitrust Review (2017), available at: https://www.bundeskartellamt.de/SharedDocs/Publikation/EN/Fachartikel/Competition_Law_and_Big_Data_The_enforcers_view.pdf?__blob=publicationFile&v=2

to address harms arising from vertical mergers that involve one more more significant digital platforms, and should also be considered in the review of individual platform conduct where specific business actions or practices impede effective interoperability.

In the vertical merger context, interoperability plays a factor in considering how the merging companies are likely to intersect their operations. Where both companies offer software or services that are capable of being technically integrated in the sense of sharing data or functionality, the manner of that integration may change following a merger. Perhaps before the merger there is no effective integration, or there may be transparent, third-party accessible public APIs offered by the respective parties to allow for the integration. The combined business units will certainly explore efficiency and value benefits that could be derived by increasing the degree of integration, whether through new APIs, new data or functionality for existing APIs, or through the more laborious task of integrating code bases.

In practice, greater technical integration post-merger is likely to occur via the creation of new, private APIs made available only to the other party. Private APIs have their place in the overall technical ecosystem, but they offer limited interoperability, by design. However, they create an opportunity for effective, targeted, pro-competitive merger intervention: require APIs developed for or made available to the other merging party to also be made available to third parties under fair, reasonable, and nondiscriminatory terms and conditions. Such a constraint ought to impose minimal or no limitations on the merging parties' abilities to realise the efficiency benefits of the merger; however, those benefits can imbue to third parties at the same time, resulting in a greater economic output.

Single-firm conduct practices regarding APIs represent a similar, though somewhat murkier, view into the relationship between competition and interoperability. Where a platform shuts down an existing API, limits the data and/or functionality made available through the API, or changes the terms or policies associated with use of the API, the outcome of the decision may be a substantial net reduction in consumer welfare. Again, many of these actions are motivated by legitimate interests including privacy and security considerations; but the potential and the incentives exist for anti-competitive practices as well. The Commission should make clear its intention to review problematic changes to platform's APIs, and to sanction platform operators who engage in anti-competitive API practices.

The question of "what" lingers over the principle of interoperability: What data and/or functionality must be included in order to reach a standard of effective interoperability? The answers to this question are very context-specific based on the products of the two interoperating parties, and the policy consequences of erring on either side of the balance can be significant—restricting competition and innovation in one direction, and potentially putting privacy and security at risk in the other. There's no general articulation of sufficiency that could cover all use cases. But all would be covered by the same basic principle: enable effective interoperability while preserving user control.

That principle was not met in the original version of Facebook's Graph 1.0 API.¹² Users did not have effective control over how their information was made available via Facebook's APIs, and the consequences of that poor design led to substantial data breaches and high-profile legislative inquiry on both sides of the Atlantic Ocean. But the reaction to the Cambridge Analytica controversy must not be to shut down the offering of core data and functionality necessary for effective interoperability, or competition will suffer greatly.

Fortunately, competition authorities have a long history of working case-by-case to interpret and apply high-level principles. Technical and economic expert input in the context of specific mergers or single-firm conduct can help inform individual determinations as to how best to promote interoperability and competition.

Interoperability is a related concept to data portability. While both promote user choice and competition, they do so in different ways and to different effect. Interoperability depends on real-time exchanges of data and functionality with digital platforms; in that sense, while a user may face broader choices of interfaces and applications to communicate, they would still be exchanging data with the original platform and thus be beholden to it. Data portability, in contrast, is designed to extract the key elements of a user's experience in a manner that can free the user entirely. Both have their appeal, but as a tool to promote competition, data portability is limited in a world of network effects. Other services must acquire a minimum viable threshold of users to scale network effects enough to be true competitors to existing platforms, and the advantage of existing services is tough to overcome when their user counts number in the billions. Interoperability mitigates this advantage by allowing users of one service to reach users of another, and thus benefit from the other platform's scale and network effects.

4. Changes to law, policy, and practice regarding internet competition should be grounded in technology and built to benefit all internet users and businesses.

As an unfortunate consequence of the concentration of power in the internet ecosystem, regulatory interventions are sometimes designed to respond to the business practices and models of a few technology giants, yet applied universally across the internet ecosystem - thus leaving smaller businesses and startups struggling to compete, and (ironically) reinforcing the concentration rather than mitigating it. Here, where the dynamic of centralisation is very much on display, it makes obvious sense to target market intervention where it is warranted: to the practices and mergers of powerful companies, where those actions would harm competition. We encourage DG COMP to consider in particular effects

¹² For context on problems with the Graph 1.0 API, see, e.g., Jonathan Albright, "The Graph API: Key Points in the Facebook and Cambridge Analytica Debacle," at: <https://medium.com/tow-center/the-graph-api-key-points-in-the-facebook-and-cambridge-analytica-debacle-b69fe692d747>

on smaller companies and non-traditional technology development, not merely the most visible market players.

We furthermore urge DG COMP to ground its policies and practices applicable to the internet in a thorough technical understanding of that ecosystem, and work to support, not stymie, the internet's fundamental characteristics of openness and interoperability. Interventions that do not benefit from a fulsome understanding of technology run a far greater risk of undermining its many social and economic benefits, and failing to have the transformative effect sought by policymakers and the broader public in today's challenging competitive environment.

We welcome the public process adopted by DG COMP to consider these complex ideas, and we appreciate the opportunity to submit contributions. The Commission has been a world leader in promoting competition in technology and online in recent years, and we are glad to see that leadership continue.

Sincerely,

A handwritten signature in black ink, appearing to read "Chris Riley". The signature is fluid and cursive, with the first name "Chris" and the last name "Riley" clearly distinguishable.

Chris Riley
Director, Public Policy
Mozilla Corporation