



# BIS Working Papers

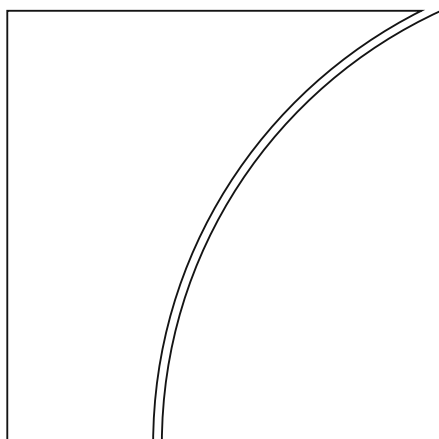
## No 1063

# Regulating big tech

by Luigi Zingales

Monetary and Economic Department

December 2022



JEL classification: L5, L86.

Keywords: Big tech, regulation, market power.

BIS Working Papers are written by members of the Monetary and Economic Department of the Bank for International Settlements, and from time to time by other economists, and are published by the Bank. The papers are on subjects of topical interest and are technical in character. The views expressed in them are those of their authors and not necessarily the views of the BIS.

This publication is available on the BIS website ([www.bis.org](http://www.bis.org)).

© *Bank for International Settlements 2022. All rights reserved. Brief excerpts may be reproduced or translated provided the source is stated.*

ISSN 1020-0959 (print)  
ISSN 1682-7678 (online)

## Foreword

The 21st BIS Annual Conference took place in Basel, Switzerland, on 24 June 2022. The event brought together a distinguished group of central bank Governors, leading academics and former public officials to exchange views on the topic “Central banking after the pandemic: challenges ahead”. The papers presented at the conference are released as BIS Working Papers, nos 1060, 1061, 1062 and 1063.

BIS Papers no 131 contains panel remarks by Lael Brainard (Vice Chair, Board of Governors of the Federal Reserve System), Stefan Ingves (Governor, Sveriges Riksbank) and Eddie Yue (Chief Executive, Hong Kong Monetary Authority).



## Contents

Foreword.....	i
Regulating big tech by Luigi Zingales .....	1
Previous volumes.....	23



# Regulating Big Tech

Luigi Zingales

University of Chicago, NBER & CEPR

First Draft: December 2022

## Abstract

Digital markets are global in nature and prone to “tipping”. The combination of these two factors makes the distortions of the inevitable monopolies in these markets very large, but it also undermines any effort at dealing with these distortions at a national level. I argue that the problem can only be solved by structural interventions that restore conditions for competition. Yet, no national regulator will have the ability to do so. Regulation can only arise in an international context. Paradoxically, the increasing international tension can create political opportunities for such international regulation.

\* Paper prepared for the 21st BIS Annual Conference: "Central banking after the pandemic: challenges ahead". Financial support from the BIS is gratefully acknowledged.

Imagine that the dominant search engine in the world was Yandex and the main social media V Kontakte. Following Russia's invasion of Ukraine, every search for the term "Russian invasion" would only return stories about a special military operation to denazify Ukraine. Any attempt to post links to Ukrainian President Zelensky's desperate video messages would be blocked. Social media would be flooded with the Nazi tattoos and symbols of the Azov Battalion in Mariupol. In other words, at the beginning of the Russian invasion, it would have been impossible for Ukraine to win the communication war.

This hypothetical, but not so unrealistic, example illustrates the fundamental tension in regulating digital platforms. First, digital platforms, and in particular social media platforms, enjoy significant market power, which can be used not just in the economic arena, but also in the political one. Second, economic considerations tend to make digital platforms global. Absent regulatory restrictions, there is no economic reason why the people in India should use a different digital service than the people in Brazil or the United States. Digital markets are essentially global markets and so issues of market power quickly become geopolitical issues. Last but not least, any attempt to regulate digital platforms at the national level will have enormous externalities. This latter issue is not a new one. Since the 1970s, the interdependence of the various national banking systems has made national banking regulation an international matter. This is the reason why an international Institution like the Bank for International Settlement has coordinated the effort to elaborate some core principles for effective banking supervision, later known as the Basel principles.

This paper starts by reviewing the unique conditions that make digital platform markets prone to tipping. I then argue that to restore the competitive conditions in this market, we need to force interoperability and more data sharing. Such interventions might seem very aggressive in the American liberal tradition, but they are perfectly in sync with the European Ordoliberal tradition. As Einaudi (1942) wrote, "the legislator should intervene to level daily the trenches behind which groups of producers barricade themselves so as to acquire privileges that are harmful to other producers and to consumers."

That legislators should intervene does not mean that they will intervene, especially that they will intervene in the socially desirable direction. In fact, an analysis of the political economy of Big Tech regulation highlights that legislators are unlikely to intervene at the national level to make the market more competitive and more efficient. They are only likely to



intervene as a pre-emptive move, as they did in China, to take control of Big Tech before Big Tech takes control of the government. In this case, the “cure” might be worse than the disease. Paradoxically, the biggest chance for welfare-enhancing regulation comes from the international arena. Only at the international level, there are the right incentives to introduce regulation. Only at the international level, effective regulation can be designed. Only at the international level, the potential conflict between BigTech superpowers can be de-escalated.

In the rest of the paper, I describe why this is the case and how the possibility of international regulation can arise in the current geopolitical scenario dominated by increasing tension between the United States and China.

Section 1 describes why the digital world is different and prone to tipping. Section 2 describes the geopolitical dimension of regulation. Section 3 tries to outline what the optimal regulation should be. Section 4 discusses why this optimal regulation will not be introduced at the national level. Section 5 speculates how an international regulatory process can be ignited in the current geopolitical situation.

## **1. What Is Different in the Digital World**

### *1.1 Market Power in the Digital World*

As is now well-known (Stigler Committee, 2019), there are several factors that make digital markets more prone to tipping. First is the strong economies of scale associated with information. Information goods generally require a fixed cost up-front and little variable cost. Thus, the average unit cost decreases when sales expand. These economies of scale are further amplified by the use of data. In digital markets, the larger the scale, the more data a producer has access to. Thus, larger firms can apply machine learning to extensive data sets to improve their products, further reducing the average quality-adjusted unit cost.

Second, strong economies of scope. Digital firms derive economies of scope from their data, leveraging them to generate unique insights into the needs of their clients in other markets. For example, AngelList was born as the “Match.com” of investors and startups. It quickly gathered information on the job needs of start-ups and successfully opened Job, a job placement platform for start-ups.<sup>1</sup> But digital firms with direct access to customers can also leverage this

---

<sup>1</sup> <https://www.cnet.com/tech/gaming/angellist-launches-talent-recruiting-portal/>.

access to offer new products. For example, in India Facebook (now Meta) leveraged its messaging system to enter the market for mobile payment services, while PayTm, an Indian mobile payment system, leveraged its payment business to enter into the messaging one. This process, known as envelopment, provides a unique comparative advantage to digital firms with a large customer base.

The third factor leading to concentration is network effects. I want to share my children's pictures on the site where my friends and family can see them and vice versa. All too often, these network effects are seen as immutable technological features. In fact, as I will explain in Section 4, the existence of network effects is an immutable technological feature only at the industry level, not at the firm level. At the firm level, network effects are generally the result of specific companies' choices.

The fourth factor is that digital goods often have low to zero marginal costs of offering their service to another user. The existence of a positive marginal cost creates the opportunity for imitators to enter by offering a lower quality good at a lower cost. This entry reduces the ability of a dominant firm to capture the whole market. In the digital world marginal costs are effectively zero, making it impossible for competitors to grab some market share offering a lower quality product at a lower cost.

Last but not least, the zero marginal cost allows firms to offer services at a zero price, making switching costs more salient. Switching costs are not unique to the digital world. In fact, they are often much larger in the physical world. Yet, in a world of positive prices, firms can attract customers with positive switching costs by reducing their prices. In a world of zero prices, this strategy does not work as well, since paying customers to switch can attract a lot of opportunists instead of the desired clients.

Economies of scale and scope, network effects, and switching costs are significant barriers to entry. The winner in these settings has a massive cost advantage from its scale of operations, and a massive benefit advantage from the scale of its data. An entrant cannot generally overcome these without either a similar installed base (network effects) or a similar scale (scale economies), both of which are difficult to obtain quickly and cost-effectively.

Incumbents cannot be easily unseated even by new entrant with a superior technology. As Kamepalli et al. (2022) show, the expectation that the new entrant will be acquired or imitated will lead customers to stick to the incumbent, preventing new entrants from capturing the return on their innovation.

Given these characteristics, digital markets are prone to become highly concentrated. With sufficient heterogeneity in preferences (e.g. teenagers prefer not to be on the same social network as their parents), the resulting market structure is an oligopoly, not necessarily a monopoly. In the presence of this tipping tendency, the competitive process shifts from competition *in* the market to competition *for* the market. In that case, consumers may only benefit from competition among several firms for the relatively short time period in which the firms compete to be the ultimate winner of very large economic profits.

Not only do consumers only benefit from competition for a very short period of time, the nature of that competition is often very different from the standard one and ends up hurting consumers rather than benefitting them. The assumption that competition is beneficial to consumers obtains in a setting where competition takes the form of products of similar quality offered at lower prices or products offered at the same price but with higher quality. In markets prone to tipping, however, firms have powerful incentive to disadvantage a competitor, because the positive feedback loop described above can turn a small temporary advantage into a large and permanent one. For example, in the FTC's amended complaint against Facebook we read (paragraphs 144/145):

“In an email from December 2013, a Facebook software engineer wrote:

[S]o we are literally going to group apps into buckets based on how scared we are of them and give them different APIs? How do we ever hope to document this? Put a link at the top of the page that says “Going to be building a messenger app? Click here to filter out the APIs we won't let you use!” And what if an app adds a feature that moves them from 2 to 1? Shit just breaks? And a messaging app can't use Facebook login? So the message is, “if you're going to compete with us at all, make sure you don't integrate with us at all.”? I am just dumbfounded.

Facebook's Head of Developer Products responded, noting that Facebook already targeted competitive threats for access restrictions: “[Y]eah, not great, but this already happens to some degree -e.g. Path isn't allowed to use certain things. . . .”<sup>2</sup>

Similarly, in paragraph 87 “imo, photos (along with comprehensive/smart contacts and unified messaging) is perhaps one of the most important ways we can make switching costs very high for users.”

---

<sup>2</sup> [https://www.ftc.gov/system/files/documents/cases/ecf\\_75-1\\_ftc\\_v\\_facebook\\_public\\_redacted\\_fac.pdf](https://www.ftc.gov/system/files/documents/cases/ecf_75-1_ftc_v_facebook_public_redacted_fac.pdf) .

These switching costs are hurting consumers, but are hurting competitors even more. Only recently the FTC has started to complain about these anticompetitive practices.

### *1.2 Global Nature of Digital Markets*

In the theory of international trade (e.g., Antras and Yeaple (2014)) firms have some (tangible or intangible) critical resources (such as proprietary technology or reputation) that provide them with a cost advantage. If transportation costs and trade barriers are low, firms use this advantage to produce at home and export their products throughout the world. If transportation costs are large, then firms might choose to produce in different locations as long as their source of comparative advantage can be used simultaneously in a non-rival manner. Either way, the market expansion takes time, as firms have to set up trading posts or production facilities in other countries.

The problem is even more severe when the good or service sold requires some maintenance. Cars and tractors need to be serviced periodically. Even television sets, which do not need maintenance, can malfunction and need to be repaired. For these goods, distant sales can take place only when the seller has a network of service centres to assist distant clients. This specialized network, however, takes time to build. Not only does this delay slow down adoption of an innovation, it also creates some space for competitors to enter the market and grab some market share.

This delay is not present in the digital world. There are no transportation costs and products can easily be serviced at a distance. The first effect is a much faster innovation adoption. Anderson (2017) shows the time it took for new innovation to grab a 25% of the market share. It took telephones 50 years, televisions 22, and personal computers 14. In the post-internet world, the diffusion of software has taken much much less. While Facebook still required 2 years to reach 25% of the market, Twitter only took 9 months, and Pokemon Go 19 days. During these short time spans, it is impossible for any rival to come up with a competing product.

The second effect is a strong market concentration. Amazon retail, which needs brick and mortar operations, took years if not decades to spread throughout the world and, in the meantime, several local competitors emerged. By contrast, Amazon web service spread almost

instantaneously throughout the world, making it all but impossible for local competitors to emerge.

## **2 Geopolitical Dimensions**

### *2.1 International competition in markets prone to tipping*

Digital markets tend to be global in nature, prone to tipping, and—when the tipping occurs—highly profitable. This is a very dangerous combination in an international setting. National governments do not have any incentives to prevent platforms from gaining market power or to restrict their anticompetitive conduct. Imagine Instagram were to decide to violate some privacy law to acquire a competitive advantage over TikTok. Would U.S. authorities intervene? Most likely not.

Wrapping oneself with the national flag to protect national producers is a time-honored strategy, even when the global market is competitive. When the global market tends towards a monopoly and the monopoly rents to be enjoyed are very large, however, it is all but impossible for national governments to resist the temptation to defend their national champions in the international arena. Not surprisingly, when he testified in front of Congress, Mark Zuckerberg had a note from his lawyers reminding him to mention the Chinese threat in the social media market, to appease the anger of Congressmen against Facebook. Similarly, in a recent interview former Treasury Secretary Lawrence Summers mentioned the international threat as a reason not to pass aggressive antitrust legislation of digital platforms.

### *2.2 Data Control*

The desire to ensure monopolistic profits for American firms, however, is limited by the fact that most of these firms transferred their profits to tax heavens. Yet, national Governments have an even stronger reason to protect national champions: strategic considerations.

The first of these considerations is data control. Digital platforms accumulate an enormous amount of information about individuals and transactions in foreign countries. This information can be used to fight tax evasion or organized crime, to prevent terrorism, to anticipate foreign threats, or to influence elections. Recently, the Chinese government has

cracked down on its own digital platforms for fear that they could become more powerful than the Communist Party. In the United States that battle is long lost: Facebook and Google are much more powerful than either the Republican or the Democratic Party. Yet, it would be hard for the United States to accept that a foreign company, especially a Chinese company, controlled massive amount of information about U.S. consumers, producers, and voters.

A particularly sensitive area are financial transactions. The SWIFT system, which is based in Brussels, used to back up all the European transactions in New York. Now it has relocated its backup to Switzerland to prevent the United States to see what transactions have been made. If this is the level of worries among allies, one can only imagine the sensitivity on data control among potential rivals.

### *2.3 Threat Power*

In 1936 Italy invaded Ethiopia. In response to that unprovoked invasion, the League of Nations introduced the first set of global sanctions against a major power (Mulder, 2022). Those sanctions, however, did not include a blockade of the Suez Canal to Italian ships. It is unclear whether existing treaties allowed Great Britain to block the Canal to Italian ships. Yet, Mussolini feared that possibility enough that he decided to accelerate the end of the war at all costs, including the use of gas, which had been made illegal by the Geneva Convention in 1925.

This historical episode is just one illustration of the importance that threat power plays, even if that threat does not materialize in equilibrium. In fact, the greatest power is the power that does not need to be used to be effective. Digital platforms and in particular social media have that power.

Provided the exclusion is not based on sex, religion, or race, U.S. companies have the right to exclude certain players from their platforms. This is what Twitter and Facebook did with President Trump. Trump's behavior surrounding January 6<sup>th</sup>, 2021 could justify that exclusion. Yet, many foreign dictators are still granted access to the same platforms.

In recent years, we have seen how U.S. control over the payment network has been used to fight terrorism, sanction Iran, and more recently sanction Russia. It provides the United States with a power that is harder than the soft power of persuasion, but softer than the military power. To take this power away from any Western power, China has built a great internet wall. Russia has started doing the same. If something is not done, we can arrive very quickly at a balkanization of the internet.

## 2.4 *Social Media*

As the opening example suggests, when it comes to social media digital platforms have an extra power: the power of selective censorship. As Epstein and Robertson (2015) show, simply ranking differently (not altering) the bad and the good news about a political candidate can have large effects on undecided voters.

Private companies have the right to filter the content they accept and promote. Big Tech's preferencing is used for two purposes. One is commercial. The social media business model is based on stimulating customers to extend their permanence on the platform as much as possible. To achieve this goal, social media's algorithms promote the most titillating pieces of information to customers. The promotion of radical positions, thus, is not a social media bug: it is their feature, their business model. If QAnon and various conspiracy theories circulate fast on social media it is not because users forward them, it is because social media promote them. Once I was interested in watching a lecture by Chomsky. Immediately, YouTube started to promote on my feed a number of videos produced by an obscure TV network: Telesur. Only thanks to Wikipedia did I discover that Telesur is the "Latin socialist answer to CNN", founded by late Venezuelan President Hugo Chavez.

A related form of preferencing is Facebook's "cross-check" system revealed by the Wall Street Journal.<sup>3</sup> It was a system that exempted some of its high-profile users from some of its rule. For example, in 2019 it allowed soccer player Neymar to show nude photos of a woman who had accused him of rape, something it would not have allowed regular users to do.

The second use of preferencing is political. For example, in October 2020, both Twitter and Facebook blocked any link to the NY Post story about Hunter Biden's laptop. This exclusion could easily have swung the election in Biden's favor. This decision was made with the pretense this was Russian disinformation. As it turns out, it was all true. Similarly, after Russia's invasion of Ukraine, Twitter and Facebook decided to allow posts containing death threats to Russians, when cast in military terms. Neither company allowed Russian posts that threaten the Ukrainians. Even if we agree with these choices, we cannot deny they are discretionary and they end up favoring one side versus another.

---

<sup>3</sup> <https://www.wsj.com/articles/facebook-files-xcheck-zuckerberg-elite-rules-11631541353>.

The fact these choices are centralized does not necessarily imply that they will be weaponized by one country against another, especially if the companies are located in a democratic country. Yet, it is very difficult for other countries to trust that they will not be weaponized. First, this weaponization can take place voluntarily, without any government pressure, as is the case with the Ukrainian war, just because companies' stakeholders want (Hart et al., 2022). Second, there are many subtle forms of pressure a domestic government can exert to induce a company to follow its wishes. Third, when push comes to shove, domestic governments can use their power to induce companies to use preferencing in their favor. This mere possibility engenders fear in everybody else.

### **3. How Big Tech Should Be Regulated**

At this point, the reader may be very depressed. There are important technological reasons why digital services in general, and digital platforms in particular, tend to be highly concentrated. This concentration generates important economic rents and even more important political rents. The fight for these rents will impede any national regulation and will inevitably lead to international conflict. Is there a solution? The good news is that the answer is affirmative. The bad news is that this solution is not simple to implement either technically or politically. The rest of the paper will deal with these issues. In particular, this section will deal with the technical issues and the next with the political ones.

#### *3.1 Interoperability*

All too often, we take network externalities as a technological constraint. Yet, network externalities are a technological feature at the industry level, not at the firm level. In the early phone industry, there were enormous network externalities because one could only call people on the same phone network. The problem was fixed when the U.S. government mandated interoperability among the various phone-service providers. At the industry level, the network externalities are still present: I can only call people with a phone. Yet, the network externalities for any single phone operator are gone: I do not care which phone operator other people subscribe to, since I can reach all of them at the same price.



The same is true for social media. If I could reach Facebook users from my Twitter account or post on Pinterest from my Instagram one, the network externalities will disappear. Not only did Facebook choose not to make possible this interoperability with other social media (except with Instagram and WhatsApp after the acquisition), it fought a very aggressive legal battle to prevent other firms from offering interoperability to its clients. In 2008, Power Ventures, a small California startup, offered a middleware to manage all social media simultaneously. Facebook sued Power Ventures and succeeded in making its strategy illegal.<sup>4</sup> Thus, not only do private companies have no interest in reducing the frictions that create the network externalities, but they also have a very strong interest in maximizing them, thereby increasing the switching costs, as the above passage from the FTC complaint against Facebook shows.

This interoperability can easily be achieved by mandating an open Application Program Interface (API), or even better a common API (i.e., the same procedure for all APIs).<sup>5</sup> This is not science fiction. It is what the Second Payment Services Directive has mandated for banking services in the European Union and the Open Banking Standard in the United Kingdom. It is the same principle applied to social media.

The problem is not limited to social media. Think about ridesharing services. A driver would like to publicize her location in all possible apps, while for a given price a passenger would like to be picked up by the closest driver, no matter whether this driver works for Uber or Lyft. Thus, the restrictions Uber and Lyft are imposing on their users are only designed to gain market share and eventually drive competitors out of existence. With an open API, this segmentation would become impossible, because other software companies would enter the market to arbitrage away the friction. Thus, mandating interoperability through an open API is an important step toward reducing the economic forces that push toward monopolies.

### *3.2 Data Ownership*

Information has one of the characteristics of a public good: it is not rivalrous. Neither is data. Yet, data do not share the other characteristic of a public good, because one can easily exclude other people from accessing the data one person has accumulated. The result is that unless they

---

<sup>4</sup> <https://www.eff.org/cases/facebook-v-power-ventures>.

<sup>5</sup> <https://www.nytimes.com/2017/06/30/opinion/social-data-google-facebook-europe.html>

are in the public domain, data are not efficiently used. Yet, transferring all the existing data to the public domain would eliminate any incentive to accumulate them.

Historically, the major problem was the inefficiently low accumulation of data. Gathering, storing, and processing data was very expensive, and very little of it was done. The dramatic reduction in the cost of storing and processing data we have experienced in the last two decades has made data accumulation privately profitable. Yet, it has not eliminated all the inefficiencies.

As with inventions, there are big economic benefits to transferring them to the public domain. As with inventions, there might be incentive reasons to grant temporarily exclusive access to the data to the person/company who paid the cost of accumulating them. This trade-off, however, depends crucially on the size of the benefits obtained by putting the data in the public domain and the cost born to those who accumulated them.

In economics, there is a rich debate on the benefits of patents for new inventions (see Boldrin and Levine (2008)). Similar reasoning can be applied to ownership of data. As for inventions, there might be incentive reasons to restrict temporarily access to data to the person/company who paid the cost to accumulate them. This trade-off, however, depends crucially on the size of the benefits obtained by putting them in the public domain and the cost born to accumulate them.

If this was the only trade-off, however, it will be easy to argue in favor of data sharing. Most of the data are simply a by-product of other transactions and the cost of accumulating them is just the cost of storing them, which has been plummeting thanks to technological innovation.

For data, however, unlike for inventions, there are also privacy issues. An economic analysis of privacy is beyond the scope of this paper (for a reference, see Acquisti et al. (2016)). For the purpose of this paper, it suffices to say that there are positive and negative externalities arising from data sharing. A major source of positive externality is the analysis of large behavioral and medical datasets to identify the root causes of certain diseases or their early signs. The latter analysis is particularly useful when a disease can be treated if caught early but cannot be treated in advanced stages. The main economic externality arising from data sharing is the ability to infer private information on other people. If I share my DNA code, I end up revealing some genetic characteristics of my close relatives, without their consent. Non-consensual data sharing has also chilling effects on the willingness to share information with a doctor. If there is

a stigma associated with a certain disease, I would be reluctant to be treated if treatment comes with the automatic diffusion of my status. Last but not least, there is an important freedom component in privacy, a component that is particularly important in societies that are intolerant of diversity. For example, in American universities, conservatives are often shunned. If all political donations and even magazine subscriptions are made public, the faculty's ability to patronize alternative magazines might be in jeopardy.

The patent system, with its quid-pro-quo of a temporary legal monopoly in exchange for the revelation of the underlying discovery, is a clever compromise between the conflicting objectives. While we can quibble on the optimal length of a patent, the economic logic of this trade-off has its appeal. This trade-off, however, was not identified immediately, but it emerged slowly through the centuries. We are just at the beginning of the digital revolution, thus we should not expect the optimal solution to be readily available yet. Nevertheless, the ideal trade-off is clear. Most of the benefits of data sharing can be obtained from anonymized data, as long as the personal data of an individual can be linked together. In other terms, researchers do not need to know my actual name, as long as they can link my food-purchasing decisions with my health outcomes. Thus, if all the data could be credibly anonymized, maximum data pooling would be optimal.

There are two main problems with this arrangement. First, even if each dataset is fully anonymized, somebody should be able to know how to connect the different codes to bridge the different datasets, if we want the data to be linked for research or marketing purposes. That somebody, however, will have disproportionate power and will be subject to a lot of cyber attacks. Last but not least, it is not obvious how the person controlling the code can commit not to share it. Of course, one could design large penalties for such behavior in the hope it will dissuade people from doing so. Yet, if the entity doing the breach is sufficiently politically powerful, it can change the penalty ex-post or wave it.

The second concern is that even if the code itself is not leaked, clever researchers can de-anonymize the data. If a cellular number associated with a certain code spends most nights at a particular address, it is very likely that the owner of that phone lives there. Then, it is relatively easy to learn the real identity of that person. Even if this obvious information is kept out of the system, others can be used. For example, the one household in my 9-digit zip code that spends a lot of money on air trips to Italy is probably mine. Thus, it is very easy to infer my actual identity

from that particular detail. For other households, the identifying detail might be different, but it is likely to exist.

An interesting compromise is the one proposed by Barrientos et al. (2018): to share a transformation of the data that maintains the essential statistical property but adds sufficient noise to make the identification of individual people difficult (ideally impossible).

### *3.2.1 Existing Data Ownership Arrangements*

What complicates any economic analysis of privacy is that the preferences for privacy do not appear to be fixed, but differ greatly with the tradition of the country of origin. In Scandinavian countries, the right to privacy is very limited and large datasets including sensitive medical information are freely available to researchers (albeit anonymized). By contrast, Continental Europe is obsessed with the protection of privacy and the General Data Protection Directive (GDPR) has been designed to protect privacy even at the cost of economic efficiency. Finally, in the United States people are reluctant to have their information in the state's hands, but they are happy (or at least they do not bitterly complain) if companies have that information and use it for marketing purposes.

In part, these differences are the result of a different historical experience. Eighty years ago most of Continental Europe was under the yoke of a Nazi dictatorship. Thirty-five years ago Eastern Europe was under the yoke of a Communist dictatorship. These historical memories are difficult to erase. In part, they are also the result of different default arrangements. Most people are not so aware of what happens to their data, so they tend to stick to the default.

Finally, these preferences might depend upon the other socio-economic policies in place. The fear of having some genetic defects exposed might depend upon the level of social insurance offered by the state. For example, in Scandinavian countries, where there is universal medical care and a strong form of welfare, individuals are less protective of their medical information. By contrast, in the United States, where neither form of insurance is very widespread, individuals are more protective of their medical information.

### *3.2.2 Data socialism*

Jones and Tonetti (2020) analyze the economic efficiency of two data ownership arrangements: one where firms own the data and another where individuals do. They conclude that giving data

ownership to consumers can lead to allocations that are closer to the social optimum. Their very useful analysis, however, has two limitations. First, it ignores the inertia shown by consumers. In most cases, more than the data ownership what is relevant is the data-sharing default. Second, they ignore other possibilities, like common ownership of the data. Imagine that, like patents, data becomes available to everybody after a certain period, possibly very short. On the one hand, the over-hoarding of data that occurs when data are owned by firms is eliminated (at least in the limit). On the other hand, consumers' over-hoarding of data driven by the fact consumers do not internalize the positive externality of data sharing is eliminated as well. In addition, this system will reduce the friction created by consumers' inertia.

Such an arrangement would be very beneficial from a competition point of view because it will eliminate the gigantic barrier to entry represented by data ownership. Firms will compete on equal footing for the best way to use the data. It will also maximize the benefits of the information extractable from the existing data. This arrangement, however, does not appear very protective of individual rights to privacy. Note that it is not much less protective of individual privacy than the current U.S. system, where firms can de facto gather all the data they want, with very formalistic consent rules. Yet, it is much more efficient than the current U.S. system, since it promotes competition and maximizes the social benefits of data.

Yet, to alleviate the concerns that this arrangement does not properly protect people with a very high value of privacy, the system could include the possibility of paying a fee to opt-out of the data-sharing system. The rationale for the fee is that even the people who opt out will benefit from the innovation generated by data sharing. Since they benefit from other people sharing their data while not sharing theirs, charging them a fee is reasonable. The level of the fee could be determined as the average benefit each individual receive from other people sharing their data.

The problem is more severe at the international level. Can a country, like the United States, adopt common ownership of data alone? I do not see any legal reason why this would not be possible. The economic incentives to adopt such a policy, however, might be reduced by the positive externality that the United States generates on other countries. As individuals would like to free ride, so will nations, with two qualifications. First, it should be feasible for countries to limit data access to their citizens or domestic companies, unless reciprocal arrangements are in

place. Second, countries like the United States might be large enough to internalize part of the externality of the public good, as shown long ago by Olson (1965).

#### **4. The Political Economy of Regulation**

Thus far, we have discussed the optimality of various arrangements, ignoring the political economy of regulation. In this section, we will tackle this thorny issue. We will first discuss why the political economy of regulating Big Tech at the country level is so difficult. Only later will we present some advantages of attempting regulation at the international level.

##### *4.1 Domestic regulation*

The final report of the Stigler Committee (2019) lists six sources of firms' political power: 1) Structural Power arising from the economic resources that such firms deploy into politics; 2) Financial Power that can be spent in lobbying; 3) their role as a Media Outlet, which allows them to set the agenda; 4) Complexity, which protects from political interference; 5) Connectivity, which allows firms to mobilize consensus; 6. The "National Champions" status, which protects firms from unfavorable legislation. In general, firms have at most one or two of these sources of power. Banks are complex and have a lot of structural power, but they are unable to mobilize voters in their favor, nor can they effectively control news. Defense contractors, such as Boeing, are national champions and are complex, but they do not control the news nor can they mobilize voters in their favor.

In contrast, Big Tech firms are able to assemble all these powers at the same time. Their structural power is enormous. If Google, Facebook, or Twitter choose to shadowban a politician, this politician is severely affected in her ability to be re-elected. The mere threat of such retaliation discourages most politicians from speaking against the tech giants, let alone voting against their interests. If it were not enough, 17 children of Senators and Congressmen, including both the daughters of Senate Majority Leader Chuck Schumer, work for tech giants.<sup>6</sup> Not surprisingly, Senator Schumer did not bring the antitrust bills to the floor when the Democrats controlled both Houses.

---

<sup>6</sup> <https://www.politico.com/newsletters/morning-tech/2022/02/22/lawmakers-family-connections-to-tech-spur-scrutiny-00010468>

Big Techs are among the firms spending the most on lobbying, they have the ability to influence which news circulates. As the Congressional Hearings showed, Congress people find it difficult to penetrate the complexity of Big Tech firms. At the same time, Big Techs have direct contact with all their customers, which they can use to mobilize them in case of need. Last but not least, as Zuckerberg was not afraid to say in Congress, Big Tech firms are perceived as national champions. In this situation, what are the odds that any reform will occur inside the United States? Very small.

#### *4.2 The Advantages of International Regulation*

Paradoxically, there is greater hope that the pressure to reform might come from the international community. There are several reasons for this paradox. First, structural power is harder to exercise across jurisdictions. Explicit bribes are easier to detect and they carry a greater legal penalty and social stigma. “Electoral bribes” must be custom-tailored for every country, making it difficult to administer and organize without being explicitly perceived to have done a corrupt deal. Revolving doors are more difficult to implement because there is no legitimate use for elected representatives and their “princelings”. Most importantly, all the countries, except for the USA and China, will find themselves to have powerful electoral interests to defend consumers over producers because they do not have domestic producers.

Second, Big Tech’s ability to mobilize local voters against any legislation that might interfere with their power is severely limited by the fact that these firms are foreign and the “national champion” argument can be used against them, not in their favor. The natural antipathy toward foreign firms is now exacerbated by a nascent movement in favor of “digital sovereignty.” As Heinemeier Hansson (2022) eloquently states “Europe became a digital colony. A region of 750 million people with few to no major, native tech services. Reduced to a vast pool of data, a captive collection of eyeballs, and potential in-app payment taxes for the great powers of the internet to contest.”

Third, the world of Big Tech is highly concentrated, with most of the non-Chinese Big Tech companies concentrated in the United States. Hence, in any international organization, the interest of Big Tech will be represented by at most two countries, while the interest of consumers by all the others. While the United States has been very successful in punching above its weight

in all international organizations, it has generally done so with the support of its Western allies (Tucker, 2022). Doing it completely alone is much harder.

Last but not least, in the current arrangement individuals end up selling their data to American Big Tech firms too cheaply, in part because they do not fully appreciate the value of the data, in part because the number of potential buyers is limited and thus they exert monopsony power. Thus, local politicians can easily capture some of that value by forming a data union, which bargains collectively for the right of all domestic “data producers.” In fact, the national government provides a ready-made and effective structure to bargain with foreign Big Techs. The monopoly on the legal use of force that statehood provides allows local governments the credible threat to exclude a Big Tech company from the country. Australia tried to do it to force Google and Facebook to subsidize local news and succeeded above expectations.<sup>7</sup>

#### *4.3 Too Powerful to Rule*

The power of Big Tech generates a dangerous dilemma described in other contexts by Zingales (2017). Inside each country, either Big Tech owns the government or the government owns Big Tech. There is no other option. In China, the government has acted to prevent the takeover by Big Tech, and thus now the government de facto controls Big Tech and its power. In the United States, it is the other way around: Big Tech owns the Government. The combination of economic rents and political control in the hands of Big Tech is such that Big Tech is forced to exercise it to control the government. If it were not to do so, the government will seize control of the platforms, as it did in China.

The only possibility to exit this impasse is to find an impartial referee sufficiently powerful to exert some control over Big Tech, but not so powerful to seize control of Big Tech. An impartial referee who cannot easily be bought by Big Tech, but who can, at the same time, be influenced by efficiency arguments. An impartial referee who has a larger fraction of the world, if not all the world, at heart. Only an international organization can become such a referee. First, an international organization has no power to seize control of firms in other countries. Thus, Big Tech should not fear being expropriated. At the same time, collectively the members of an international organization have sufficient ability to retaliate against Big Tech not to be ignored.

---

<sup>7</sup> <https://www.nytimes.com/2021/02/17/business/media/australia-google-pay-for-news.html>



The ability of Big Tech to capture all foreign governments is limited, but at the same time, they will have some influence. In other terms, it is precisely the fragmentation of power that allows a more independent structure to emerge.

Mokyr (2018) makes a similar argument in support of the emergence of an independent academic network in 17<sup>th</sup> Century Europe. It was precisely the fragmentation of political power that made it credible that no individual country could squelch the academic network. Knowing that the academic network would thrive even without each individual country, each state competed to attract academics while providing them with a sufficient degree of independence.

## **5. How to Ignite the Regulatory Process?**

The escalating tension between China and the United States makes highly unlikely any form of agreement between the two Big Tech superpowers. Precisely this tension, however, creates the incentives for all the other nations to ameliorate the problem. We envision two likely scenarios.

The first one is simply a new Cold War scenario, where the two superpowers need to make concessions to retain and enlarge their sphere of influence. After all, during the Cold War between the United States and the USSR, both superpowers made significant concessions to allies to gain influence. In this scenario, the most likely outcome would be a transfer payment from Big Tech to the local governments to appease them. If these payments are large enough, U.S. and Chinese Big Techs will try to find alternative (and more cooperative) solutions. In this scenario, it is unlikely, however, that the competition will lead to more desirable arrangements, like the ones described in Section 3.

The second scenario is a multipolar world, where the laggards of the “platformization” game (i.e., the EU and India) could try to use their consumer power to alter the very structure of this market. The political possibility of this scenario depends upon many factors, including the outcome of the Russian-Ukrainian war and the effective re-armament of Germany. Speculating about the likelihood of this scenario is beyond the scope of this paper (and of the author’s expertise), yet it would be interesting to speculate how this scenario could unfold. In a situation of growing mistrust between the USA and China, India and Europe could act as impartial referees. After all, the prospect to lose simultaneously the Indian and European markets to Chinese Big Tech firms might induce American Big Tech firms to accept more interoperability

and data sharing. The same is true for Chinese firms: the prospect to conquer these markets might make them amenable to major compromises.

## **6. Conclusions**

Regulating BigTech is an international problem, not only in the sense that the international spillovers are such that it should be dealt with at the international level but also in the sense that it can only be solved at the international level. Only at the international level, there are the right incentives to introduce regulation. Only at the international level, effective regulation can be designed. Only at the international level, the potential conflict between BigTech superpowers can be de-escalated. International regulation of technology is not just a desirable goal, it is a necessity to keep our world at peace.

## References

- Acquisti, Alessandro, Curtis Taylor, and Liad Wagman. 2016. "The Economics of Privacy." *Journal of Economic Literature*, 54 (2): 442-92.
- Anderson, Steve, 2017, Technology Timeline – Time To Reach Mass Adoption  
<https://steveanderson.com/2017/04/03/technology-timeline-time-to-reach-mass-adoption/>
- Antràs, Pol, and Stephen R Yeaple. 2014. "Multinational Firms and the Structure of International Trade." *Handbook of International Economics*, 4: 55-130.
- Barrientos, Andres F., Alexander Bolton, Tom Balmat, Jerome P. Reiter, John M. de Figueiredo, Ashwin Machanavajjhala, Yan Chen, Charley Kneifel, Mark DeLong, 2018, "Providing Access to Confidential Research Data Through Synthesis and Verification: An Application to Data on Employees of the U.S. Federal Government," Duke working paper.
- Boldrin, Michele and David K. Levine, "Against Intellectual Monopoly" Cambridge University Press, 2008
- Einaudi, Luigi, 1942, "Economia di concorrenza e capitalismo storico. La terza via fra i secoli XVIII e XIX\*", «Rivista di storia economica», VII, 1942, 2, giugno, pp. 49-72.
- Epstein, R. and Robertson, R.E., 2015. The search engine manipulation effect (SEME) and its possible impact on the outcomes of elections. *Proceedings of the National Academy of Sciences*, 112(33), pp.E4512-E4521.
- Fox, Brooke, 2022, "Larry Summers Cautions Antitrust Regulators Against Broad-Brush Policy," ProMarket.org June 6, 2022
- Hart, O., D. Thesmar, L. Zingales, 2022, "Private Sanctions," NBER working paper.
- Heinemeier Hansson, David, 2022, "European Digital Sovereignty,"  
<https://world.hey.com/dhh/european-digital-sovereignty-fb963e5d>
- Kamapalli, Krishna, Raghu Rajan, and Luigi Zingales, 2022, "Kill Zone" University of Chicago working paper
- Jones, Charles I., and Christopher Tonetti. 2020. "Nonrivalry and the Economics of Data." *American Economic Review*, 110 (9): 2819-58.
- Mokyr, Joel, 2018, "A Culture of Growth: The Origins of the Modern Economy," Princeton University Press
- Mulder, Nicholas, 2022, « The Economic Weapon: The Rise of Sanctions as a Tool of Modern

War », Yale University Press.

Olson, Mancur, 1965, “The Logic of Collective Action: Public Goods and the Theory of Groups.” Harvard University Press.

Posner, Eric A., and E. Glen Weyl. 2018. *Radical Markets: Uprooting Capitalism and Democracy for a Just Society*. Princeton, NJ: Princeton University Press.

Stigler Committee on Digital Platforms, 2019, Final Report,  
<https://www.chicagobooth.edu/research/stigler/news-and-media/committee-on-digital-platforms-final-report>

Tucker, Paul, 2022, *Global Discord*, Princeton University Press

Zingales, Luigi, 2017, “Towards a Political Theory of the Firm” *Journal of Economic Perspectives*, vol. 31, no. 3, Summer: 113-30.

## Previous volumes in this series

1062 December 2022	Systemic Fragility in Decentralized Markets	Alfred Lehar and Christine A Parlour
1061 December 2022	Cryptocurrencies and Decentralized Finance	Igor Makarov and Antoinette Schoar
1060 December 2022	The burst of high inflation in 2021–22: How and why did we get here?	Ricardo Reis
1059 December 2022	FX Intervention to Stabilize or Manipulate the Exchange Rate? Inference from Profitability	Damiano Sandri
1058 December 2022	The Lion’s Share: Evidence from Federal Contracts on the Value of Political Connections	Şenay Ağca and Deniz Igan
1057 December 2022	Macro-financial stability frameworks: experience and challenges	Claudio Borio, Ilhyock Shim and Hyun Song Shin
1056 December 2022	Understanding the food component of inflation	Emanuel Kohlscheen
1055 December 2022	The pandemic, cash and retail payment behaviour: insights from the future of payments database	Raphael Auer, Giulio Cornelli and Jon Frost
1054 November 2022	Inflation risk and the labor market: beneath the surface of a flat Phillips curve	Sirio Aramonte
1053 November 2022	How abundant are reserves? Evidence from the wholesale payment system	Gara Afonso, Darrell Duffie, Lorenzo Rigon and Hyun Song Shin
1052 November 2022	Systemic risk in markets with multiple central counterparties	Iñaki Aldasoro and Luitgard A M Veraart
1051 November 2022	How capital inflows translate into new bank lending: tracing the mechanism in Latin America	Carlos Cantú, Catherine Casanova, Rodrigo Alfaro, Fernando Chertman, Gerald Cisneros, Toni dos Santos, Roberto Lobato, Calixto Lopez, Facundo Luna, David Moreno, Miguel Sarmiento and Rafael Nivin
1050 November 2022	Population aging and bank risk-taking	Sebastian Doerr, Gazi Kabaş and Steven Ongena

All volumes are available on our website [www.bis.org](http://www.bis.org).