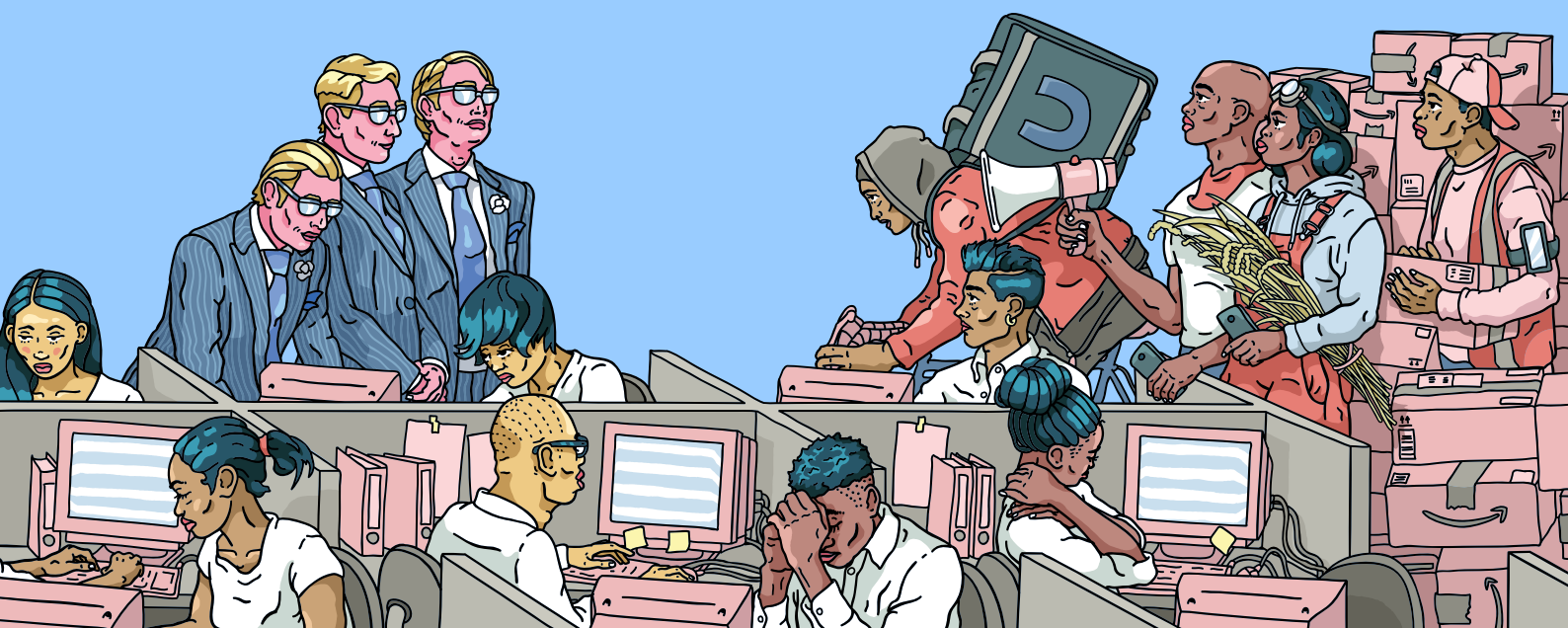
tni 50 years 1974 - 2024

WEEK 2

Big Tech and the Digital Overlords



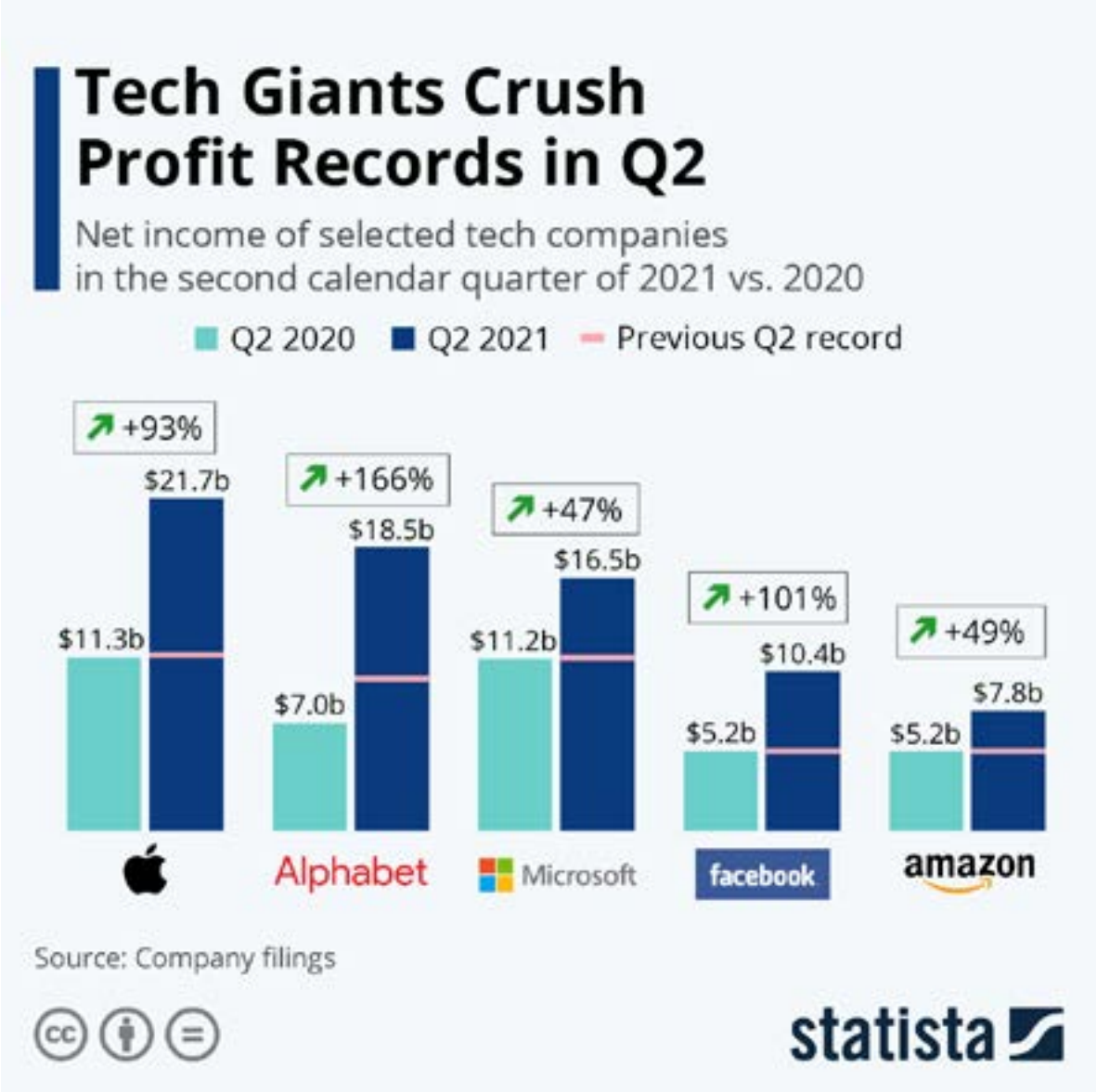
1 Rise of platform models and tech monopolies

As mechanization of economic processes defined the industrial economy, datafication – involving data and digital intelligence as the key factors of production – has come to signify the digital economy.[1] Across various economic sectors, from agriculture to **predictive manufacturing**, retail commerce and even paid care work, the 'platform model' has today become an essential infrastructural layer for how we access the internet for services.[2] These include, for example, Amazon and Alibaba for online shopping, Uber for taxi and delivery services, Instacart for shopping. As for the Global South, we can mention Mercado Libre for online Shopping and Rappi for delivery services.

Platforms leverage 'network effects' (recruiting and locking in large numbers of users and maximizing the advantages of a large network) to retain and expand a vast user base, to build an intelligence advantage through incessant algorithmic mining of the data-based insights they control, and by hyper-optimizing network interconnections. Data accumulation plays a central role in the monopoly power of platforms – to expand their reach and create new markets where none existed previously (Srnicek 2016, Gurumurthy et al 2019).[3]

Control over data-based intelligence also gives platforms a unique vantage point, the power to shape the nature of interactions among its members. For instance **Amazon** can use data based insights to **segment and hyper-target** consumers.[4] The simple act of shopping on Amazon sets in motion an assemblage of techno-enabled processes that personally tailor product catalogs, dynamically set prices and guide navigation, based on any number of data points gleaned about the individual user and the digital intelligence derived from all the platform's users. The entire transaction is AI driven and pans out without human intervention, including placing orders with merchants or warehouses, activating the logistics provider, as well as the payments and delivery loop. Similarly, ride-hailing platforms are able to optimize and tightly control a vast labor force they technically do not employ through their vast algorithmic apparatus.

The once open network of the internet has transmuted into a privatized and concentrated economic ecosystem where the flows of traffic and value circulate and within a select few entities. The idea of 'Big Tech' – referring to a handful of digital companies at the apex of the digital economy – signifies the inordinate power that a few tech corporations have accrued. Having established themselves as the go-to interfaces for online communication, media, and e-commerce, Big Tech companies are more invested than ever in perpetuating and expanding their control and claiming the **'next billion users'**.[5] These firms have benefited from the increased reliance on the internet during the pandemic from 2020–2021, reflected in the **massive jumps in their profits** (see figure below). **Research** indicates that even before the pandemic, nearly 50 percent of the internet's global traffic was shared by only six firms (Google, Netflix, Facebook, Microsoft, Apple, and Amazon).[6]



A Visual History of the Largest Companies by Market Cap (1999–Today)

2 What and who is Big Tech?

What is Big Tech?

Big Tech is a shorthand term used to refer to the leading companies in the information and communications technology industry (ICT) sector. It is a flexible term, referring to the size and importance of these firms. The term is mostly used to refer to the US tech giants – Apple, Google, Amazon, Microsoft and Facebook (sometimes called GAFAM), though, at times, it is expanded to include other tech giants like the Chinese Alibaba and Tencent.

Big Tech firms are known for providing a variety of services and products, many for free. This at times means that their main source of income may not be so noticeable, nor the ways their 'free' services support their business model. Looking at their annual accounts[7] can help here:

- Apple makes the majority of its money by selling devices like the iPhone but it also provides services such as the App Store
- Microsoft is mostly in the software business, including cloud services
- Amazon's main business is e-commerce but that includes the fees it charges independent businesses to sell through Amazon and advertising & its cloud services keep growing in importance
- Google and Facebook are mostly in the advertising business
- Alibaba focuses on e-commerce
- Tencent, the owner of the Chinese super-app WeChat, extracts revenue from a mix of services and advertising.

Big Tech firms are not completely uniform: they vary in their area of activity (social media, software, search engine, ecommerce, devices), the power their founders have, when they were created (Microsoft and Apple vs everyone else) and their headquarters (Silicon Valley & Seattle vs Shenzhen).

However, there is also much that unites them. To start, they stand out financially.

Company revenue in US dollars Billions	2021	2020	2019	2018	2017	2016
Amazon	469.8	386.1	280.5	232.9	177.9	136.0
Apple	365.8	274.5	260.2	265.6	229.2	215.6
Google	257.6	182.5	161.9	136.8	110.9	90.3
Microsoft	168.1	143.0	125.8	110.4	90.0	85.3
Facebook	117.9	86.0	70.7	55.8	40.7	27.6
Alibaba	105.8	73.2	56.2	37.8	23.5	15.9
Tencent Holdings Ltd	86.83	69.87	54.62	47.27	35.19	22.88

If Amazon were a country it would be the 26th richest in the world ahead of Thailand, Iran, Austria, Norway and the United Arab Emirates.[8]

Company revenue in US dollars Billions	2021	2020	2019	2018	2017	2016
Apple	94.7	57.4	55.3	59.5	48.4	45.7
Google	76.0	40.3	34.3	30.7	12.7	19.5
Microsoft	61.3	44.3	39.2	16.6	21.2	16.8
Facebook	39.4	29.1	18.5	22.1	15.9	10.2
Tencent	34.85	23.17	13.51	11.90	10.58	6.19
Amazon	33.4	21.3	11.6	10.1	3.0	2.4
Alibaba	22.2	21.4	13.1	9.7	6.5	11.2

These companies not only handle a lot of money, they are also some of the most profitable. While the average publicly listed company declared a profit margin of around 10%, Big Tech firms were declaring 20% profit, sometimes much higher even. The only exception was Amazon which regularly reported low profits though that is likely the result of tax avoidance accounting.[9]

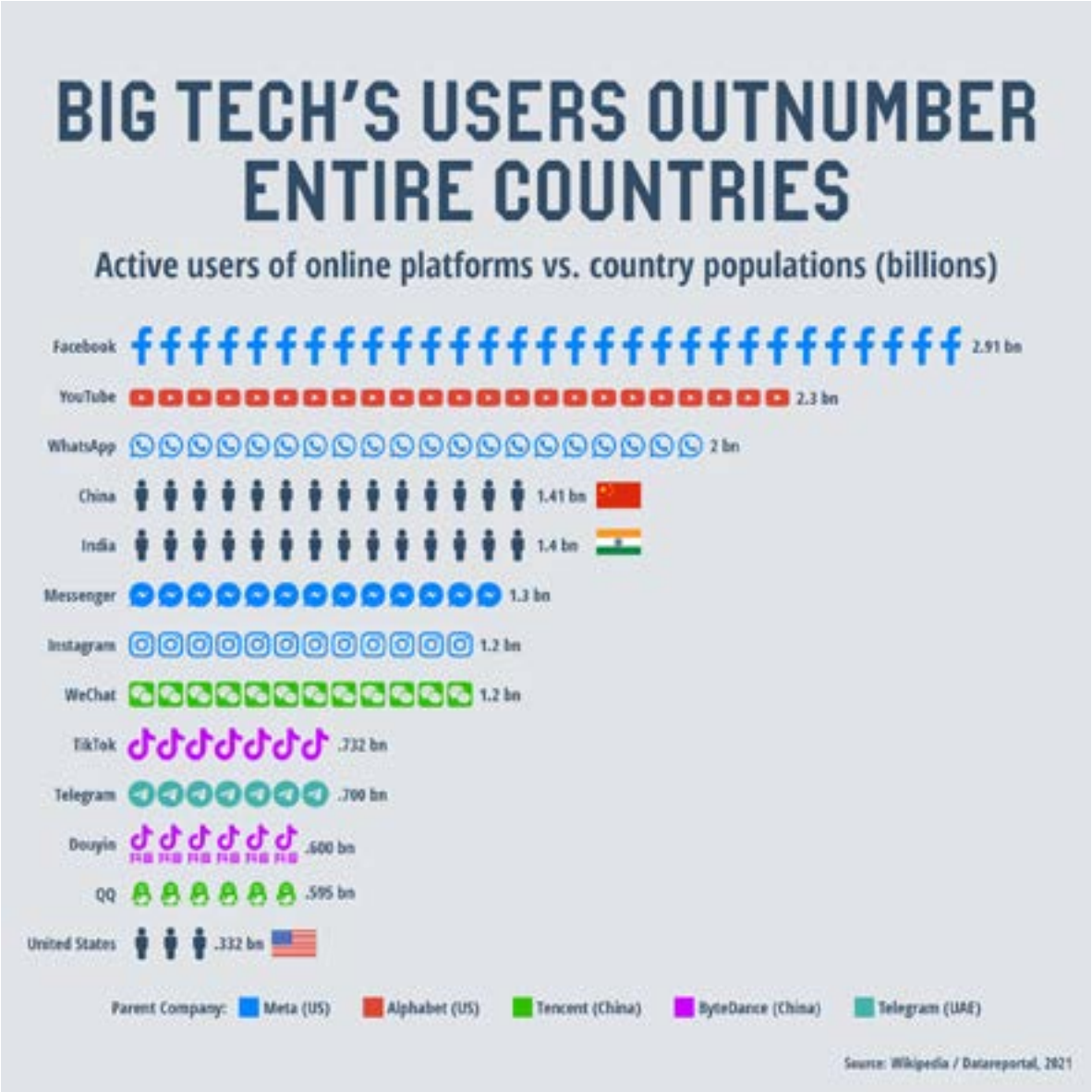
Big Tech also stands out in the stock market. In 2023, Apple, is the most valuable company in the world, worth an outstanding $2.716 trillion dollars.[10,11] Microsoft comes close, as the second most valuable firm at $2,289 trillion, followed by Google (Alphabet) in 4th with $1.425 trillion and Amazon at $1.137 trillion in 5th. Only the fossil fuel firm Saudi Aramco reaches the heights of US Big Tech firms when it comes to its market valuation.

During the pandemic all US Big Tech firms crossed the impressive marker of 1 trillion dollars in market capitalisation. The end of social isolation, combined with the rising inflation[12] saw Amazon and Facebook take a hit, with the former losing 70% of its value in less than a year,[13] but they have both recuperated value since.

Alibaba and Tencent never reached the trillion dollars capitalisation but, in spite of an anti-monopoly crackdown from the Chinese government,[14] they still figure in the top most valuable companies worldwide – Tencent at number 18 with $397.32 billion and Alibaba at 42 with $220.40 billion.

Big Tech firm	Ranking	Market Capitalisation
Apple	1	$2.012 T
Microsoft	3	$1.798 T
Alphabet (Google)	4	$1.156 T
Amazon	5	$868.57 B
Tencent	11	$431.49 B
Meta (Facebook)	22	$325.44 B
Alibaba	35	$245.50 B

Their value is only part of the story though, the other is their dominance.



Google and Facebook dominate advertising[21] to the extent that they are often referred to as the ad duopoly.[22] The two companies achieved this near total control by pioneering what is at times called personalised or tracking advertising, more aptly described as surveillance advertising, using the immense data it collects on everyone via their free services (either Gmail, search or the social networks) and across other websites to build detailed profiles of Internet users. These profiles are then used to target users with ads.

Less visible is Big Tech's dominance in the cloud sector: together Amazon (via AWS) and Microsoft (via Azure) control more than half of the world's cloud[23] which is used by other companies or governments to store or process their own digital operations.

Two companies control the mobile operating systems, Google and Apple, and consequently manage the two app stores that set the terms and collect fees from all app makers. This is particularly important as over 60% of Internet traffic is created by people using their phones.[24]

By achieving this level of control, the firms have been able to impose their logic and their rules on smaller businesses, people and society. For instance, imposing commercial surveillance on users even though most people would rather not be tracked online.[25]

3 Platform economy explained

Big Tech firms are paragons of a new type of company: the platform. At its core, a platform is a firm that provides the means (and controls the interactions) between two or more types of customers/users.[26] For example, Facebook enables the interaction between advertisers and social media users; Apple intermediates the relationship between app developers and iPhone users; Amazon and Alibaba intermediate the connection between retailers and online shoppers. This is often described as operating in a dual or multi-sided market.

And while Big Tech firms are the standout leaders of the category this model has been adopted by a wide variety of companies: from Uber, AirBnB, Mercado Libre,[27] and many, many more. Platform companies have consistently outperformed other firms in the stock market.[28] For Professor Anabelle Gawer the platform and its ecosystems are the "emblematic organizational form of the digital age".[29]

In "Platform Capitalism", Nick Srnicek lays out the common characteristics of platforms:[30]

- Act as the digital infrastructure that intermediate the connection between two or more sets of users. As the digital middleman, platforms have a privileged position to collect data on those interactions and the wider market;
- Platforms rely on 'network effects' – in other words, the platform's products and services are built in such a way that their quality/value increases as more people use it. This leads and enables a 'winner-takes all' approach, the constant expansion of scale and scope, and monopolization;
- To enable the exploitation of 'network effects', platforms will often need to cross-subsidise unprofitable services – for instance, Google provides a vast array of products for free, including Gmail and Google Drive. These get users unto the Google world, meaning they can then be monetised by Google's advertising arm. To do this, platforms build a wide but closed array of services to attract users/advertisers/customers;
- In spite of platforms' self-proclaimed neutrality, they set the rules for an ever-increasing set of activities and interactions.

In effect, the platform economy relies on a mass centralisation of power and value creation into the hands of just a few firms. This has immense consequences for society, including affording too much power to the dominant platforms (e.g. social networks setting the rules for acceptable online speech), the deterioration of the power and rights of workers[31] (with the rise of the gig economy), and the imposition of extensive data collection practices, or in other words, commercial surveillance.[32]

Though we should note that the term platform itself has its critics for being misleading. Tarnoff, for instance, makes a compelling argument for talking about these companies as "shopping malls" instead as these are "privately owned public spaces (...) corporate enclosures with a wide range of interactions transpiring inside them" and whose business relies on rents – whether financial (for instance, fees App Stores charge app developers or that Amazon charges independent sellers) or data rents (the extraction of personal data to be used for advertising and developing other products).[33]

4 Big Tech financial model

Big Tech's business model can also be seen from their financial strategy.

Let's take the example of Amazon. The ecommerce giant's financial strategy was laid out in a 1997 letter that Jeff Bezos wrote to potential investors explaining his strategy. Bezos, a former hedge fund executive, explained he would prioritize long-term shareholder value. In the short term, Bezos was to focus entirely on "growth" and "scale" which he saw as key for the firm's business model. As he put it:

> ***"Market leadership can translate directly to higher revenue, higher profitability, greater capital velocity, and correspondingly stronger returns on invested capital."***[34]

Amazon isn't the only one. Indeed, there is a clear financialization model of Big Tech which relies on the accumulation of financial assets, well-above of other companies; using debt to afford their market expansion; approaching shareholder value via rising share prices rather than dividend payouts; and finally, the accumulation of intangible assets like patents, copyright and data and notably goodwill, the premium paid during mergers and acquisitions.[35]

Big Tech's unique goodwill hints at a key component of its expansion strategy: buying up other companies. In just 10 years, the US Big Tech firms made over 1000 acquisitions.[36] Alibaba and Tencent have similarly used M&A to expand into and control new markets.[37] These acquisitions have allowed Big Tech firms to take over nascent competitors, acquiring innovative technology and know-how and expanding into a wide range of business sectors, from health to education to food distribution.

For instance, Google is said to have acquired 254 companies since 2010 which afforded it a prime position in advertising (e.g. DoubleClick, Youtube), mobile operating systems (Android) and artificial intelligence (DeepMind or Neven Vision).[38]

5 Reasons for rise

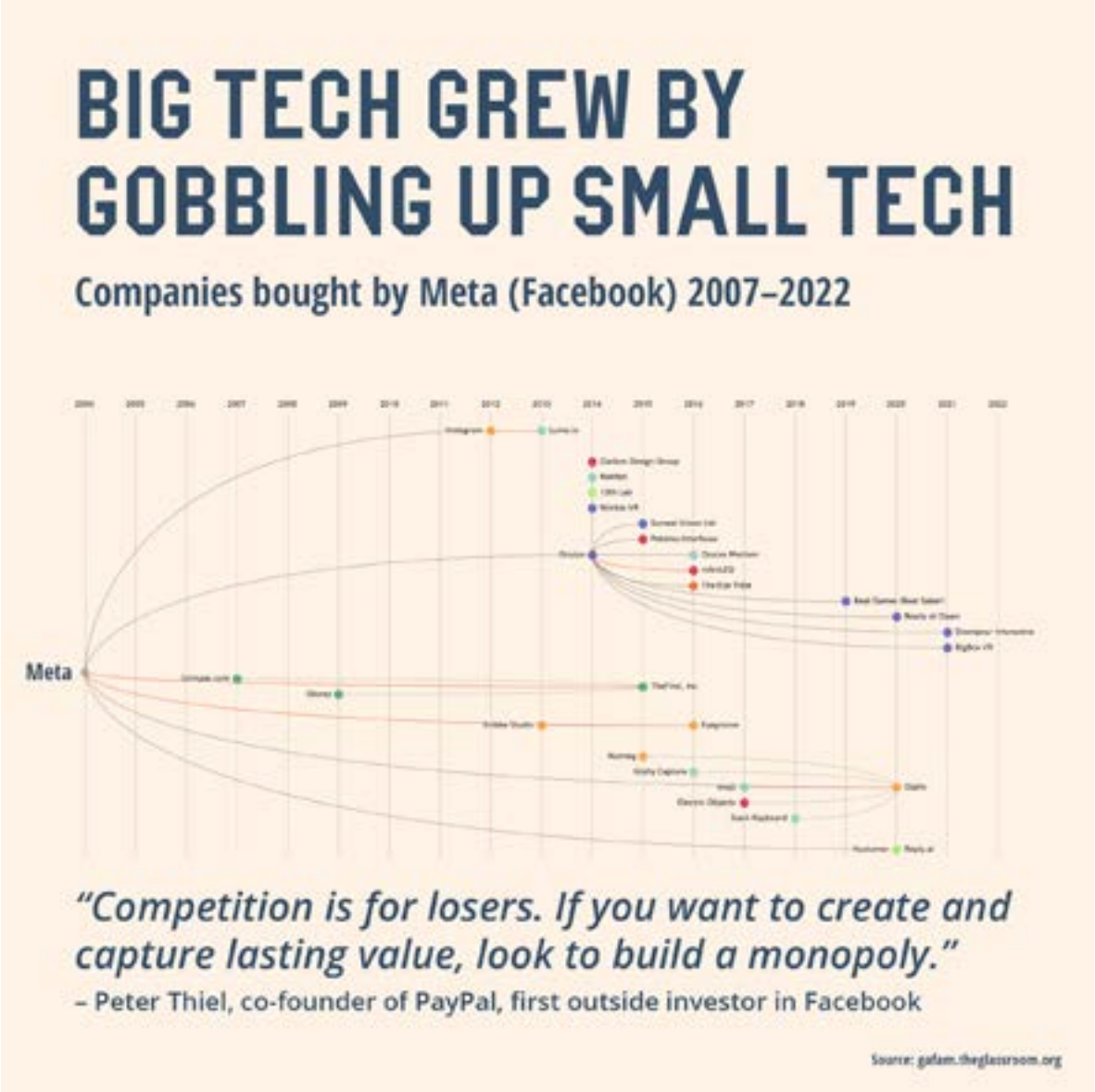
Big Tech's bigness is not an accident. The Big Tech model has been built under an obsession with scaling up and controlling a market niche. Let's take Facebook as an example.

It is by now a well-trodden trope that Mark Zuckerberg, founder and CEO of Facebook, reportedly used to end his weekly meetings by shouting "domination".[39] Zuckerberg's obsession with growth was apparently one of the key lessons he took from two of his role models: Peter Thiel, founder of Paypal and surveillance firm Palantir, engraved in him an obsession over network effects; and Microsoft, the original tech monopolist,[40] taught him the need of building ecosystems offering several products and services[41] to keep the user within a company's realm. From the onset, the one thing that mattered to Zuckerberg was to "connect everyone as quickly as possible because network effects were a massively important part of us".[42]

That meant getting as many users as possible on board to attract (and keep) their friends. The more users there were, the more interest there was for advertisers to pay Facebook.[43]

It then becomes understandable why Facebook would allow its service to amplify hate speech and inflammatory content as that meant that people would spend more time on its platform.[44,45] As Facebook executive Andrew Bosworth has put it in an internal memo leaked to the press: "The best products don't win. The ones everyone uses win."[46]

It also meant a strategy of constant expansion. To keep its position and business model, Facebook had to dominate the social network market. Facebook's strategy to achieve this followed a "copy, kill, acquire" strategy.[47] They acquired market surveillance companies like Onavo that gave them privileged information into possible rising competitors. Internal emails from Facebook executives unearthed during US antitrust investigations showed how the company would then act on that information by either threatening the possible competitor (either with copying them or excluding them from Facebook's systems) or buying them. That is ultimately how the company ended up taking over both WhatsApp and Instagram.[48]



Big Tech's firms have leveraged their power to expand into adjacent sectors.[49] But its success has also motivated other companies, even in distinct fields, to pursue a digitalisation and platformization strategy. For instance, the digitalisation of financial services – like online payment services, data driven insurance products, stock investment apps or even cryptocurrency – have led to the emergence of the fintech industry.

Fintech has often been hailed as a positive development that would make financial services more accessible, increase financial inclusion and break apart the power of the banking sector. Besides the curiosity over the many crypto corruption scandals and crashes,[50] this field has mostly been publicly accepted.

Yet, there are rising concerns about fintech products and services – especially regarding its reliance on extreme data collection and the personalisation of financial products which can be discriminatory, the difficulty of scrutinizing the automated decision-making behind crucial financial decisions, new risks of exclusion due to the reliance on technology and the systems' volatile nature. Bypassing many of the traditional financial regulations, this industry was allowed to develop with very minimal regulatory checks.

This is one of the most sought-after developing industries, attracting US$ 226.5 bn in 2021 in investment globally. By now it involves a varied set of companies from startups, to financial institutions that are trying to digitalise their services to Big Tech itself.

Alibaba, with its Alipay service, is a market leader here. Its fintech service has grown to the extent it became a separate entity – Ant Group – which is the world's biggest payment system. Tencent, known for the super app WeChat, also offers many fintech services including in-app payments, insurance and asset management. The Chinese Big Tech's are not alone. Apple, Google, Facebook and Amazon all provide fintech services.

Big Tech's expansion into financial services raises concerns that this will solidify its market power, increase its control over data, and lead to the deterioration of financial services.[51]

6 Ways to rein in power

In spite of Big Tech's power – including political power seen in its immense lobbying operations[52] – the last few years saw a real pushback worldwide against their dominance.

Around the world there are more and more regulatory processes. The EU, for instance, is currently discussing new protections for gig workers including ensuring they are not incorrectly designated as freelancers and strengthening their rights in the face of automated management;[53] and new standards for artificial intelligence products.[54] These discussions are ongoing and there is no telling how they will be resolved, especially considering the influence of corporate lobbying.

But, if approved, these would join the growing number of rules in the EU block, from personal data protection, to increased transparency for Big Tech's advertising systems and automated content ranking,[55] and preventing Big Tech from forcing users to accept their terms and offers.[56]

These sectoral rules are needed but not enough. To rein Big Tech in it will not be sufficient to rely on them to obey rules and standards. We will have to go further and tackle Big Tech's power itself.

Interestingly, Big Tech firms are finally experiencing some antitrust scrutiny into its market power in the United States, EU, India, UK and in many other jurisdictions. Calls to strengthen anti-monopoly tools are increasing, including demands to stop Big Tech's constant expansion and creation of network effects by blocking their mergers and acquisitions and enforcing interoperability (allowing users to drop a service but still interact with it).

But there is also a growing number of advocates for more aggressive anti-monopoly interventions including the breaking up of these firms and unwinding of previous mergers. Supporters argue this will reduce the firms control over the market, limit their power and impact over peoples' lives and make them easier to regulate.

Of course, there will be no silver bullet into solving the Big Tech problem – but there are signs for hope. A combination of antitrust – making the companies smaller – and new sector rules would be an immense step forward. That should be matched by an understanding that some of the functions that Big Tech plays are public functions – they concern us all – and they work as public infrastructure – like roads or schools. It is not enough to simply leave these to corporate entities, state and the public needs to be brought back into the digital realm.

Big Tech will do all that it can do to stop these reforms, leveraging their immense resources and power. To counter it, activists, journalists, trade unionists and technologists will have to engage with regulatory discussions, demanding and building a new Internet.

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11 To measure the value of a company we are refering to their market capitalisation which accounts for the price of a normal share multiplied by the number of outstanding shares of that company.

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