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Will National Sovereignty Splinter the Internet?

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Abstract

In a global economy defined by growing geoeconomic tensions, the platform economy has become a stage where international political and economic conflict unfolds. Aware of the power of platform firms and the risks of the platform economy, large economies are abandoning the dominant laissez faire approach in favor of strategies that differ dramatically as a function of political goals, domestic political coalitions, internal industrial structure, and available policy and market instruments. We examine the trajectories and strategies of the four largest economies: the US, the EU, China and India and ask whether these strategies will lead to superficial or deep splintering that affects the structure and interoperability of networks. As efforts to govern the platform economy expand to emerging technologies such as AI, our analysis presages broader changes to the structure of what was until recently a global internet.

Keywords:

Platform economy, China, United States, European Union, India

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11,414

1. The battle to govern the Internet

In July 2023, the European Commission appointed Fiona Scott Morton, a US citizen who had worked with the US government's Antitrust Division and advised large US tech companies, to the post of Chief Economist at DG Competition. The appointment of an American for such a high-ranking strategic position that would regulate the 'gatekeeper' platforms identified by virtue of the Digital Markets Act, was met with intense criticism from the European Parliament and raised questions about Europe's agency. Ultimately Scott Morton declined the position, but the episode illustrates the degree to which the internet is becoming a contentious international political arena, showcases the US' position of power, and the underscores the challenges that others face to exercise agency. But how did we arrive here? And what does it portend?

In the second half of the 1990s, the commercial internet, a global infrastructure of decentralized, yet interconnected networks of computers, emerged as a remarkable connectivity tool that promised ever tighter integration of economies and societies (Castells 2011). The development of the 'World Wide Web' protocols enabled the emergence of a myriad of websites built upon the internet that provided valuable new services. The transformative power of the internet and the services provided through it meant the internet diffused globally with astonishing speed (Abbate 2000; Greenstein 2015; Kogut 2003). By the end of the 1990s, internet service was ubiquitous in developed nations and expanding rapidly in the rest of the world. As of 2023, over five billion people use it (Statista 2023a). The internet's deep impact on economic and social life and its infrastructural character was clear (Kenney and Zysman 2016; van Dijck et al. 2018; Plantin et al. 2018). Later, many governments became a cognizant

of a dramatic concentration of power in the hands of a few platform firms, virtual N-sided markets that intermediate transactions and other exchanges of goods, services or data/information (Cusumano et al. 2019). Further, this alerted them to the US' preeminent role in the technical architecture of the internet, the layout and operation of critical global infrastructures, and the provision of indispensable services (Farrell and Newman 2023). Awareness came on the heels of a shifting global context characterized by a change of heart regarding neoliberal globalization, rising geopolitical tensions between the US, China, and Russia, the online coordination of various Arab Springs and subsequent government cyber-crackdowns, and Snowden's revelations about wide sweeping US internet surveillance programs of US citizens and those in other countries.

In an emerging global economy dominated by geoeconomic tensions, early characterizations of the internet as a free universal community that empowered individuals against the state (Barlow 1996; Goldsmith and Wu 2006) were superseded by a view of the internet as the ultimate tool for surveillance, control, and the projection of political power (DeNardis 2012; Farrell and Newman 2019; Malcomson 2016; Zuboff 2019). Aiming to gain a measure of control, states began departing from the laissez-faire principles initially adopted in most of the world. Instead, states, or in the case of Europe, also the EU, extended their various battles for political and economic power into the development of governance regimes for the platform economy – the most lucrative layer of the internet and the locus of direct connection with consumers. As efforts to govern and control the internet expand from platforms to other parts of the internet stack and to emerging technologies such as AI (Blinken and Raimondo 2023; Farrell and Newman 2023; Gross et al. 2023), these various emergent platform governance regimes and their diverging trajectories presage broader changes to the structure of

what was, until recently, with a few notable exceptions, largely a global internet dominated by the giant US platform firms.

We examine the structure and the evolution of platform governance regimes since the emergence of online platform firms in the late 1990s. We focus on the characteristics of platform economy models in the four most significant jurisdictions in the global economy: the US, the EU, China, and India. Our analysis explores the evolutionary trajectories in these central political economies and whether these divergent regulatory regimes may lead to a shift from global to national or regional internets. Will these regimes become hurdles that can be circumvented by platforms firms, or will they lead to deeper splinters that affect the interoperability of the networks and lead to greater decoupling? The paper starts with a short review of evolving debates about governing the internet, we then present a comparison of current platform governance regimes in our four polities and their historical evolution before discussing their implications in terms of internet operability and conflict. We conclude by situating platform governance within a broader context.

2. From Optimism about the Internet to Concern about Online Platforms

The commercial internet emerged in a unipolar moment in which the US reigned as the sole superpower, US technological advantage was unrivalled, neoliberalism dominated economic thinking, and the end of the Cold War unleashed a wave of globalizing euphoria (Abate 2000; Krauthammer 1990; Fukuyama 1989; Stiglitz 2002; Malcomson 2016).

After the privatization of the US internet backbone in 1995, the internet expanded rapidly around the world (Abbate 2000) helped by the adoption in most countries of what could be characterized as purposefully laissez-faire or benignly neglectful policy approach. This is not to say that internet governance was not a political issue. In the 1990s and 2000s there was

significant conflict around the design of key architectural elements necessary for the security and stability of the internet such as the Domain Name System (DNS) and the development and maintenance of internet protocols (Greenstein 2015; DeNardis 2014). However, the US remained the key steward of these elements, which means debates were primarily domestic. Also, their technical nature meant they tended to remain out of the public eye (DeNardis 2014). Instead, at the time, policy decisions outside the US concentrated on promoting internet service adoption, stimulating the use of world wide web applications, and the development of e-commerce. Where necessary, policies also focused on building appropriate telecommunications infrastructures (see for instance; Information Office of the State Council of the People's Republic of China 2010; Directive 95/46/EC; Directive 2000/31/EC; Information Technology Act, 2000). In this context, the internet and the services provided through it expanded rapidly. Between 1995 and 1996 alone, the global number of internet users jumped from 15 to 36 million, by 2000, the number had increased to 361 million and continued climbing rapidly (Internet World Stats 2023).

Several factors played a role in shaping these initial policy responses, including policymakers' lack of familiarity with the internet and its potential economic and social impact, the spread and acceptance of neoliberal ideas, the preferences of internet technologists, and a desire to stimulate innovation and economic growth. For instance, when Section 230 of the 1996 US Communications Decency Act was adopted, 52% of senators and a similar rate of congressmen had no internet connection (Cox 2020). Except in China, neoliberal ideas were often explicitly embedded in policy decisions. A 1994 European Council recommendation on the development of the so-called 'information society' stated that the main role of government was to safeguard competitive forces and called for 'the minimum of regulation needed'

(European Council 1994). Similarly, the first three principles of the US' 1998 Framework for Electronic Commerce stated that: 1. 'the private sector should lead'; 2 'governments should avoid undue restrictions on electronic commerce', and 3. when government intervention is necessary, the aim 'should be to support and enforce a predictable, minimalist, consistent and simple legal environment for commerce' (White House 1998). These preferences were aligned with the pragmatic, and often libertarian views of prominent US computer scientists and entrepreneurs (Barlow 1996; Raymond 1999; Benkler 2008; Lehdonvirta 2022). But also responded to governments' desire 'to stimulate economic growth and investment in innovation' (European Parliament and Council of the European Union 2000), or, in the case of emerging economies such as China, 'accelerate development' (Information Office of the State Council of the People's Republic of China 2010).

In the US, a combination of multiple factors, including the legacy of publicly-funded research, world-class higher education institutions and software and network engineers, a collaborative culture based on technical meritocracy, enormous amounts of venture capital, tightly-held control over the technical architecture of the internet, and light-touch regulation (Chander 2013; Cioffi et al. 2022; Greenstein 2015), unleashed an ongoing process of experimentation and innovation that resulted in the rapid growth of websites and the emergence of what would become known as platform firms.

The first-mover advantage of US platforms in a market dominated by scale economies and network effects (Cusumano et al. 2019) meant that, with a few exceptions such as China or Russia, US platforms expanded internationally and dominated most of the markets in which they operated. The power of US platforms was reinforced in the late 2000s by the transition to the smartphone as the dominant internet-access device and Apple's iOS and Google's Android

control of the smartphone operating system. For example, in 2009, US search engines had a combined market share of 98.28% of global searchers (ex-China); in 2022, it was still 97% (Statcounter 2023a). Giant US platform firms such as Google, Apple (with its Apps Store), Facebook and Amazon, joined with Microsoft from the PC era, became amongst the most valuable companies in the world. But as important, the platform as a business model and technical artifact changed commerce and social communication media, transforming social dynamics and indeed political action (Kenney and Zysman 2016). US platform firms became central intermediaries for an ever-increasing number of social interactions and economic transactions (Kenney et al. 2021). In the process they accumulated ever larger troves of data and with it the ability for commercial, social, and political targeting.

As the business of platforms firms grew, the platform economy attracted political scrutiny. Attention grew due to a confluence of numerous factors including the following: 1. Recognition of platforms' value as essential infrastructures for economic, social and political activities (Kenney and Zysman 2016; Kenney et al. 2021; Gawer 2021; Van Dijck et al. 2018); 2. the Snowden revelations about US large-scale surveillance programs on its own citizens and others (European Commission 2014); 3. evidence of weaponization of the internet by governments (DeNardis 2014; Malcomson 2016); 4. fears of cybercrime (European Commission 2014); 5. growing concern about falsehoods and misleading content on social media (Acemoglu et al 2022; Levy 2021, DeNardis 2014; Pennycook et al. 2020); and 6. in the case of many governments, worries about the accessibility of disagreeable information. All of these factors intensified concerns about platform firms, generating intense debate and increasingly interventionist governmental policies and enforcement actions (Cioffi et al. 2022).

As the main beneficiary of the pre-existing laissez-faire state of affairs, the US has been reluctant to enact any significant measures for regulating the platform economy and only recently began to consider stricter enforcement of antitrust. Yet, evidence of online misinformation and political manipulation have led some to advocate for broader measures to address the risks and downsides of the platform economy (Stiegler Committee on Digital Platforms 2019). Moreover, in the context of growing geopolitical tensions and the increasing size and capability of Chinese platform firms, the US has begun to take a defensive approach toward foreign platforms, especially those from China.

The EU initially adopted a laissez-faire approach that facilitated the development of the single digital market but also led to near total domination by US platforms. In this context, Europe has become a leader in the development of platform regulation to defend its values in the areas of data privacy, illegal content, and antitrust/competition, but has otherwise imposed no limits on market access for foreign (mostly US) platforms or sought to develop domestic alternatives. In contrast, almost from the beginning of the Internet era, China placed market barriers to support the development of domestic platforms and prevent domination by US firms. More recently, China has become a quasi-autarky and imposed sophisticated controls over domestic platforms for several reasons ranging from controlling dissent to, most recently, regulating the economic power of its platform firms (Scott et al. 2022). Finally, India initially adopted a laissez-faire approach that allowed US platforms to dominate the domestic scene, which they still do. Recently, it has introduced selective controls to protect domestic platforms, banned most Chinese platforms for geopolitical reasons, and explored the development of open-source platforms to mitigate the dominance of US platforms. The importance of the

Indian case study is that it appears to be developing unique responses to the challenges of the foreign platform firms.

In sum, since its commercialization in the mid-1990s the internet has become a vital infrastructure for all economies. As importantly, the rise and maturity of the platform economy has enabled US giant platforms to dominate most markets. This domination has impelled other governments to address the power of platform firms through increasingly comprehensive policy measures that go beyond conventional competition and antitrust mechanisms. These strategies are still evolving, but in their current form (see Table 1) they reveal differing political objectives and power struggles between platforms and governments. The following section provides a historical overview of how these regimes have evolved and the logic behind these transitions.

Emerging Online Platform Governance Models

	United States	European Union	China	India
Model	Open market with minimal regulation	Open market with bureaucratic regulation	Closed market with increasing domestic regulation	Open market with increasing regulation
Structure	Large, globally dominant domestic platforms	US platforms dominant	Large domestic platforms with increasing international success	US platforms dominant Experimentation with open-source alternatives
Goals	Stimulate innovation National security Project international power	Develop single EU digital market Protect individual rights and freedoms (especially privacy)	Maintain the CPP's power Stimulate innovation National security Economic development Protect domestic market	Economic development Seize opportunities in the context of US-China tensions National security
Governance	Multistakeholder approach Laissez-faire International engagement	Multistakeholder approach Respect for human rights Safe, predictable and trusted internet Fair and contestable markets	State oversight Cyber-sovereignty International engagement through multilateral organizations and bilateral agreements	Multistakeholder approach
Key features	Antitrust + Minimal regulation State-platform cooperation especially on cybersecurity Leverage within technical organizations (ICANN, ITU) National security barriers for foreign platforms	Comprehensive regulation Few barriers to foreign platforms Increasing attempts to constrain platforms' behavior.	Comprehensive and effective regulatory activity Sophisticated censorship system Civil and criminal liability on platforms and citizens Exclusion of foreign platforms International expansion of domestic platforms	Increasing regulatory activity Selective censorship Incentives and protection for domestic platforms Exclusion of Chinese apps Open source to stimulate the platformization of the economy.
Empirical outcomes	Discussion of blocking Chinese platforms.	Ambition to set global standard for platform governance principles. Limited leverage due to lack of domestic platform firms.	De facto autarky at the level of the platform. Recently, Chinese apps experience global success.	Blocking of several Chinese platforms. Increasing use of antitrust to limit the power of US platforms.
Foreign Acquisition Policy	Relatively open but block Chinese	Open except Chinese – US platforms have made major acquisitions	Closed	Open except Chinese – US platforms have made major acquisitions

3. Governing the Platform Economy

3.1 United States: First Mover Advantage

Although some contributions such as the World Wide Web protocols originated in Europe, the US played the role of the architect in the development of the internet. To accomplish this, the US relied on long-term government funding and coordination, world-leading research institutions, excellent software and network engineers, massive amounts of venture capital, and unparalleled capacity to coordinate and scale up complex, multidisciplinary, frontier research and innovation projects (Greenstein 2015; Hart 2023, Abbate 2000).

The US' ownership of the pre-commercial internet and its predecessor, the ARPANET, meant that all design decisions over the technical arrangements that make the internet and its applications operational, stable, and secure at global level were taken by, and reflected the preferences of the US scientific community. Among these decisions were key principles such as end-to-end, which empowered internet service providers and application developers relative to telecommunications operators. The principle also contributed to creating physical internet chokepoints in the form of Internet Exchange Points (IXPs), most of which are located in the US and Europe, and which can be used as a tool for surveillance over global data flows (Greenstein 2015; DeNardis 2014; Global IXP Database 2023). Key technical decisions about the internet also included the establishment of three entities that govern critical software and standards: The Internet Corporation for Assigned Names and Numbers (ICANN) and its function IANA (Internet Assigned Numbers Authority), the Internet Engineering Task Force (IETF), and the World Wide Web Consortium (W3C). Although these are now non-governmental organizations, they continue to be based in the US and some argue that their

statutes, principles, and work methods serve to preserve the US view of the internet as an open, interoperable system that is not controlled by any single entity (see, e.g. Cristou and Simpson 2007). When applied globally, such principles confer advantage to first-mover platforms, most of which are US firms.

The privatization of the US internet backbone in the mid-1990s turned what had been until then a state-directed effort, into an enormous decentralized commercial infrastructure (Greenstein 2015; Kenney 2003). Privatization ignited a massive gold rush of investment of venture capital in all manner of web-based business models (Zook 2002). The speed with which US and, in particular, Silicon Valley entrepreneurs were able to raise enormous quantities of capital allowed them to launch and take advantage of first-mover advantages that particularly in network-based industries can determine competitive success. As importantly, because these websites could be accessed anywhere with an internet connection, these firms were adopted rapidly by users globally. VC investors, highly concentrated in Silicon Valley, allowed these firms to scale up rapidly, thereby blocking the entry of potential rivals. Further, the enormous amount of capital provided by venture capitalists and initial stock offerings allowed the successful firms to acquire competitors not only in the US but also globally and, in particular, in Europe (Maier 2021).

The US facilitated the development of these new firms through a laissez-faire approach based on lax enforcement of copyrights, antitrust, taxation of retail sales, and privacy (Chander 2013; Cioffi et al. 2022; Greenstein 2015). In fact, except for areas such as cybersecurity, pornography, online bullying, and a few other issues, the US exercised little regulatory oversight. US platform firms also benefited from exemptions from obligations applicable to brick-and-mortar businesses. The most important of these was the interstate commerce clause

forbidding the direct collection of state and local sales taxes on goods shipped across state borders (Einav et al. 2014), which made e-commerce cheaper than off-line commerce. Perhaps even more importantly, Section 230 of the 1996 Communications Decency Act exempted platforms from liability for content posted by third parties, providing the basis for the business of platforms (Kosseff 2019). The 1998 Digital Millennium Copyright Act also provided important protection for websites whose users upload copyrighted material, effectively laying responsibility for the discovery of such material on the copyright owners and allowing the website to deliver the material until it is notified (Chander 2013; Sag 2017).

The minimal regulation approach was complemented by a strong reliance on a judiciary that had internalized the neoliberal ideology (Cioffi et al. 2022; Khan 2017). Thus far, antitrust interventions have had little impact on the activities of large platforms because they are necessarily case-by-case and after the fact, which is often too late in markets where network effects and winner-take-all markets exist –by the time there is a ruling the market has already become monopolized (Parker et al. 2021). Furthermore, the predominant interpretation of antitrust is ill equipped to gauge situations in which market dominance does not necessarily translate into high prices for consumers and preemptive acquisitions of potential rivals do not immediately lead to increases in market share (Stigler Committee on Digital Platforms 2019). In addition, the enormous resources wielded by the platforms and sympathetic courts make it very difficult to prevail in legal action. The relative impunity and general lack of regulation made it possible for Uber and Lyft to ignore local taxi regulation (Thelen 2018) and Airbnb to ignore local zoning regulations (Nieuwland and Van Melik 2020).

The transition to the smartphone as the dominant internet-access device, cemented US platforms' control in most markets. The monopoly-like power of US platform firms, together

with a recognition of their value as essential infrastructures for economic, social and political activities (Kenney and Zysman 2016; Kenney et al. 2021; Van Dijck et al. 2018) and greater awareness of the risks of the platform economy, led some to argue in favor of managing platforms more tightly (Stigler Committee on Digital Platforms 2019; Wheeler et al. 2020). Yet, so far, the main response has been to lean more heavily on antitrust. The appointment of Lina Khan as chair of the Federal Trade Commission in 2021 led to a rise in the number of ongoing cases against big tech (Lasarte 2023). However, there are doubts that antitrust may achieve its intended goal due to the particularities of platform competition (Teece and Kahwaty 2020; Thatchenkery and Katila 2022) and the breadth of issues in other areas such as misinformation or political manipulation raised by the platform economy.

The US commitment to an open-platform economy has been challenged recently as Chinese platforms such as TikTok, Shein, and Temu have achieved significant market share in the US market (Wong 2023). In the context of growing geopolitical tensions, the US has begun to take a defensive approach toward foreign platforms, especially those from China. In 2022, the US government banned the downloading of the TikTok app to federal government devices (Berman 2023) and threatened to ban the app in the US unless it transferred ownership of its US operations to a US firm (Murphy et al. 2023). In addition, the 2023 RESTRICT Act provides considerable latitude to limiting the operations of foreign ICT companies, including platforms, on the basis of national security risks.

In summation, the US largely continues to adhere to the *laissez-faire* strategy that created the context for the global success of the US platform firms. Yet, the US is grappling with tensions between supporting domestic firms and reining in their power, between supporting domestic platforms abroad and defending the domestic market from foreign

platforms, and between maintaining a neoliberal approach, and reacting to firms from the closed Chinese environment that are, for the first time, capturing significant domestic market share.

3.2. European Union: A Conflicted Reaction to US Platform Firms

Initially committed to neoliberal ideas, the EU's drive to support the development of the single market in the 1990s and 2000s led the Union to adopt measures that facilitated cross-border flows of personal data and harmonized national legislations, facilitating the expansion of US platform firms into Europe at the expense of European nascent national platform firms. As the pervasiveness and power of the US platform firms, fears of cybercrime, and US surveillance programs became more obvious, the EU established laws and regulations with the overarching goal of limiting the power of platform giants - which by default meant the power of US platform firms - and protecting individuals' human rights. The European conundrum is that the same measures that enabled the development of the single digital market weakened European firms capable of challenging US giants in their national markets. This lack of platforms and firms with enormous caches of data means that US cloud computing vendors and their technical experience in managing truly big data has resulted in Europe having few indigenous capabilities and resources for becoming a significant power in the platform economy or in AI.

European countries were among the first to be connected to the internet. Given the high penetration rate of computers and widespread English-language capabilities, Europeans quickly adopted and used early US-based internet services such as Yahoo!, Amazon, Netscape, and Google; all of which rapidly translated their websites into the major European languages. There was little consideration of whether small European internet firms should be protected or

supported beyond the provision of venture capital. The predominant neoliberal ideas of the time militated strongly against protectionism. From the mid-1980s, the European Commission's main goal was to create a space for 'fair competition' and exchange (European Parliament and Council of the European Union 2000). In line with this goal, the Commission launched the single market in 1993, which is still considered Europe's biggest asset (European Commission 2020). To facilitate the development of the digital single market, the Commission harmonized previously existing rules to eliminate barriers to trade and investment, reformed competition rules, and imposed limits of state-level subsidies (European Parliament and Council of the European Union 1995). These reforms, and the logic of the single market, left member states with few resources to support their local platform startups.

As the platform economy grew, the Commission introduced legislation in new and emerging areas aimed at preempting the development of national-level norms that, they believed, could result in the fragmentation and lack of interoperability of EU digital markets (see for instance the Electronic Commerce Directive and the Digital Services Act Regulation (EU) 2022/2065). The problem is that, because the EU startups were smaller and less well-funded than their US counterparts, the measures unintentionally facilitated the market entry and domination of larger US platforms across the EU, a domination that has endured. To illustrate, in 2023 Google accounted for 92% of searchers in the EU (Statcounter 2023b) and Facebook, Instagram, Twitter, Pinterest and YouTube accounted for more than 99% of EU social media activities (Statcounter 2023c).

In the mid-2010s, the EU recognized the implications of the platform economy, and began developing regulations to address some of the impacts of platform firms on society. The impulse for this change stemmed from a combination of factors, including concerns about the

impact of platforms on democracy and human rights, loss of trust in the aftermath of the Snowden revelations, and worries that national states may develop governance structures that could lead to the fragmentation of the digital single market (European Commission 2014). The ensuing initiatives did not change the commitment to equal treatment of all internet firms and thus did not involve efforts to hinder the operations of the US platform firms. The policies centered upon human rights, illegal content, and eventually on competition.

The first major piece of legislation of this period was the 2016 General Data Protection Regulation (GDPR, Regulation (EU) 2016/679). The GDPR sets limits to the operations of platform firms by protecting individual rights and freedoms, especially the right to privacy, and by limiting the free movement of personal data on the basis of the European Charter of Human Rights. Platform firms are responsible for compliance. An important provision of the GDPR is that data transfers to third countries are only allowed if the non-EU country offers a level of protection that is equivalent to that of the GDPR. The measure had significant implications for US platforms, which did not want to be limited regarding data transfers. An initial EU-US agreement on data transfers was struck down in 2020. Following a record €1.2 bn fine of Meta (Murphy and Espinoza 2023), the EU and the US reached a new agreement on transatlantic data transfers in 2023 (European Commission 2023). The agreement, called the EU-US Data Privacy Framework, is based on a system by which US organizations certify their adherence to a set of principles issued by the US Department of Commerce. The principles, which provide a level of protection deemed equivalent to that of the EU, are enforced by the Federal Trade Commission and the Department of Transport (European Commission 2023). The agreement though, as its predecessor, is open to challenge in court. Stakes are high, since data flows

between the US and Europe underpin over \$1 trillion in transatlantic trade annually (White House 2022).

The passage in 2022 of the Digital Services Act (DSA) Regulation (EU) 2022/2065 and the Digital Markets Act (DMA) Regulation (EU) 2022/1925 increased platform regulation significantly and thus marked a more decisive move away from laissez-faire. These two expansive regulations address a broad range of concerns about how platforms operate. The DSA introduces a set of rules on how online platforms must address online disinformation and information, products, services and illegal activities according to existing offline rules. The DMA aims to regulate the power of dominant ‘gatekeeper’ platforms to ensure fair and contestable markets through prohibitions related to the processing, combination, and cross-use of personal data, favorable treatment of the platforms’ own products, and obligations toward members of the platform ecosystem. The DMA establishes a set of thresholds to determine whether a platform qualifies as a ‘gatekeeper’. These are based on the platform’s annual turnover in Europe, its market value, the number of EU countries in which the platform operates, and the number of active users on ‘core’ platform services such as search engines, social networking services, and operating systems. As of August 2023, seven companies had declared meeting the thresholds and were pending a formal evaluation by the EU: Alphabet, Amazon, Apple, ByteDance, Meta, Microsoft, and Samsung (European Commission 2023b).

While the EU’s motivations to introduce comprehensive regulation are domestic, its approach has been accompanied by a hope that the EU can influence internet governance norms internationally. In the EU’s favor is the sheer volume of data traffic it manages. More data flows between the United States and Europe EU than anywhere else in the world (White House 2022). Also, Europe is the base of the world’s largest concentration of IXPs, including

seven of the ten IXPs with the largest number of Autonomous Systems (entities that provide internet service) (Global IXP Database 2023). This enables the EU to require that data that flows through its territory conform to EU regulation. On the other hand, the lack of large information technology firms, generally, and platforms, in particular, limits the EU's ability to influence the global debates regarding platform governance.

3.3 China: A Developmental, Autarkic Response and a Domestic Platform Economy

Given the political system and relationship to the US and China's own developmental objectives, an early goal of the Chinese government was to build an indigenous high-technology industry. Thus, in contrast to the EU, almost from the beginning of the Internet era, the Chinese government-imposed limits on the expansion of US platform firms and supported the development of its own domestic infrastructure and internet firms, a number of which have evolved into platform giants. Despite significant differences in business model from US platform firms, and in part because they did not control the device operating systems, Chinese firms expanded by moving up the stack to developing what have been termed 'superapps' and horizontally by creating new services (Jia and Kenney 2022). While these Chinese platform firms attempted to enter global markets as they grew, they initially failed almost entirely (Jia et al. 2018). However, the domestic Chinese market provided enormous scale needed to support growth and innovation. The Chinese platform economy grew behind government-erected barriers reinforced by very different user patterns. As a result, it developed its own largely autarchic ecosystem, even as China's hardware producers and assemblers developed a powerful position in global electronics industry division of labor (Yeung 2022). Interestingly, as the Chinese platform firms became increasingly central intermediaries for their burgeoning platform economy, the Chinese party state, roughly contemporaneously with developments in

the US and Europe, recognized the implications of platform power and dramatically increased regulatory oversight of Chinese platform firms (McKnight et al. 2023). Finally, and importantly, in the last three years, Chinese smartphone-based platforms, such as Tiktok, Shein, and now Temu have become among the most downloaded applications globally including in the US and the EU.

From the late 1990s to the mid-2000s, China saw the internet predominantly as a tool to expedite economic development, push forward scientific and technological advancement, and accelerate the informational transformation of social services (Information Office of the State Council of the People's Republic of China 2010). In line with these goals, the Chinese government concentrated on developing a state-of-the-art nationwide broadband network. Between 1997 and 2009, China invested 4.3 trillion yuan (approximately \$500 billion) to build an 8,267 km optic cable network that provided internet access to over 90% of China's towns and villages (Information Office of the State Council of the People's Republic of China 2010). This massive infrastructure investment enabled China to overcome historically low levels of telecommunications service penetration - in 1990 only had 1.1 telephones per 100 inhabitants (Katsuno 2005) and to create a large domestic internet market, despite China's low levels of income per capita. Of particular importance was the introduction of the smartphone, which was almost universally adopted. By 2021, 70% of China's population used the internet, less than advanced economies like the US (91%) or the EU (87%) but substantially more than other large emerging countries such as India (43%) (World Bank Development Indicators, 2023).

When the internet was first introduced to China, many US firms such as Yahoo!, Google, and Amazon opened offices there. However, the Chinese government limited their growth and encouraged the establishment of domestic internet firms. The magnitude of China's

infrastructure investment, combined with China's willingness to experiment with new policy approaches during the 1990s and 2000s (Breznitz and Dupree 2011), and a fast-growing domestic market, encouraged entrepreneurship and resulted in the formation of hundreds of new firms seeking to provide internet-enabled services (McKnight et al. 2023; Tse 2015). The government supported the growth of domestic platforms because platform firms were economically valuable and it was believed that they would enable China to rapidly advance technologically (Hughes and Wacker 2003), increasing technological self-sufficiency (Fan 2006).

To support platform development, the Chinese government introduced regulatory measures that provided investment tax benefits, facilitated investment in China by foreign VC firms, and allowed Chinese firms to list in foreign markets (Wei 2012; Huang et al. 2015; Ahlstrom et al. 2007; White et al. 2005). However, foreign investors could not directly own internet firms but rather owned them through legal work arounds. Responding to the use of the internet to criticize the government, censorship policies were soon introduced that made it politically difficult for foreign internet firms to continue to operate in China (Jiang 2010), thereby creating space for domestic firms.² Out of this ferocious competition, a number of global-class platform firms such as Alibaba, Baidu, Tencent and others emerged, though these firms remained largely confined to the Chinese market.

The combination of support for domestic platforms and constraints on the operations of foreign rivals intensified throughout the 2000s and most of the 2010s to the benefit of Chinese platforms. Chinese platforms expanded into an increasing number of sectors including finance,

² Google refused the Chinese government's demand that it institute censorship and decided to leave China. In quick succession a number of other US platform firms abandoned the Chinese market (Leskin 2019).

entertainment, and logistics (Jia and Kenney 2022). Simultaneously, the government upgraded its firewalls blocking US platforms that provided internet search (Google), social media (Facebook), and video streaming (YouTube) services (Leskin 2019; Wauters, 2009; Hille, 2009; Schiller & Sandvig, 2010; Yang, 2014). The effect was to leave lucrative market segments virtually empty. The most capable Chinese platforms, supported by ample VC-funding, provided substitute websites, a number of which went public on US or Chinese markets. Their revenues increased dramatically but as important, the market capitalization turned some of these firms into some of the most valuable firms in the world. To illustrate, Alibaba was valued at \$243 billion, Tencent \$415 billion, and Baidu trailed these two being valued at \$51 billion (CompaniesMarketCap 2023). The result was a market dominated by domestic, increasingly capable and wealthy platforms (Hermes et al. 2020).

In addition to encouraging their domestic expansion, from 2013, the government stimulated the international expansion of domestic platforms under the ‘Internet Plus’ program, a strategy that conceived of the internet as a connective tissue across a broad range of economic activities. The strategy had limited success (Greeven and Wei, 2018, 134; Jia et al., 2018). It is only since 2020 the presence of some Chinese platform has exploded. Between 2019 and 2020, Tiktok’s users in the US jumped from 35 to 67 million (Statista 2023b) and Shein’s from 5.6 to 15.5 million (Bevan 2023). As of 2023, Tiktok reportedly had 150 million users in the US (Murphy et al. 2023) and about as many in Europe (Murphy 2023), while Shein had approximately 50 million users worldwide (Bevan 2023).

As Chinese platforms grew, the party-state came to view their capacity to concentrate wealth, accumulate vast amounts of data, and reorganize large sectors of society and the economy as a threat to the government’s ability to maintain stability, control vital societal

infrastructures, and balance competing societal interests. Accordingly, beginning in the late 2010s, the party-state intensified efforts to curb the power of domestic platforms, relying on four types of instruments: greater oversight of platform's financial activities (Patterson et al. 2020); more stringent antitrust rules and an increase in antitrust investigations (Cheng, 2021; Yang, 2021; Zhong, 2020a; Zhong 2020b), more expansive control over information (Shirk 2022), and public golden shares that carry special rights and directorship appointments (McMorrow et al. 2023). One partial response was that the platform firms looked for further growth abroad, which may partly explain their recent international success. Such expansion has prompted the US (Maheshwari and Holpuch 2023), the EU (Goujard 2023), and India (Phartiyal 2023) to either ban or explore various types of bans and restrictions in their domestic markets.

On the whole, the Chinese platform economy is almost entirely autarchic. The success is remarkable as China has developed, by some criteria, the largest platform economy in the world and one of the most comprehensive regulatory regimes for platforms. More recently, Chinese platform firms have introduced apps that are among the most widely adopted internationally, thereby becoming the first nation to have domestic platform firms that successfully compete with the US giant platform firms. The interesting thing about the Chinese system is that, although the Chinese internet is virtually autarkic, the existence of Chinese platforms and technology firms with significant international presence means some of these measures, in particular the extensive controls over information, have extraterritorial implications.

3.4. India: An Opportunistic Defense and Innovative Solutions

India's initial focus on the development of business process outsourcing (BPO) and its commitment to neoliberalism meant it welcomed and facilitated the expansion of US platforms, which continue to dominate the market. More recently, India has adopted some measures to constrain the activities of foreign platform firms. US domination of 'core' services such as search engines and social networks, and India's dependence on US foreign investment, constraints the ability of India to curtail the activities of US platform firm. In contrast, India has not hesitated to fully block several Chinese platforms, often for political purposes. Simultaneously, India has launched several innovative open-source initiatives that could provide a different, less drastic way to develop a domestic platform economy than China's autarkic route.

India's approach to the internet can be understood in the context of the country's developmental trajectory and the neoliberal ideas that dominated policymaking in the 1990s and 2000s. From the early 1990s, India sought to leverage its labor force's skills in software and English-language capabilities to provide information technology services to other countries as a catalyst for economic growth (see, for example, Dossani and Kenney 2007). Internet connectivity was vital for the development of the IT and BPO industries. To that end, India's initial strategy focused on the elimination of legal barriers to foreign investment (Srinivasan and Krueger 2005) and the introduction of legislation, such as the 2000 Information Technology Act, that would provide legal validity and certainty to online transactions. By contrast, the government paid scant attention to the activities of US platform firms and was intent upon encouraging them to establish operations in India. While the government encouraged VC investment in Indian internet firms, it was unconcerned when foreign firms such as Walmart invested in and eventually acquired the largest Indian retail platform,

FlipKart, or when Chinese platform firms invested in Paytm, the largest Indian online payment processor and MakeMyTrip, the largest Indian online travel platform.

India's approach was successful in fostering the development of the domestic IT and BPO sectors. In 2022, BPO accounted for 7.4% of India's GDP and employed 3 million people directly (Statista 2023c). Yet, India's strategy of reliance on the private sector shaped its platform economy in ways that have important ramifications. The characteristics of the IT/BPO industry made India heavily dependent on investment from the US and, to a lesser degree, the EU and the UK. Dependence on foreign investment in the IT services business and large operations by US platform firms was seen as an important economic contributor and their operations in the Indian market were not perceived as a potential problem.

The concerns about foreign control of the platform economy only were expressed in the late 2010s (Lasarte 2023). The most substantial actions by the Indian government were multiple waves of bans of Chinese mobile phone apps, including TikTok and WeChat (Mishra et al. 2022). India's initial neglect meant that the US platform firms came to dominate the market for 'core' services such as search, social media, or video streaming. Given the network effects and winner-take-all dynamics of platformized markets, this has made it difficult for domestic platforms to emerge in 'core' segments, leaving them to concentrate on apps that run on these giant foreign (US) platforms. More recently, the Indian government has become more concerned about the dominance of the US platform firms. The response has been two-pronged. The first prong revolves around limiting the operations of foreign platforms, especially in those areas where they compete with established domestic retailers. In 2019, a series of modifications to India's foreign direct investment legislation forced large retail platforms such as Amazon and Flipkart (Walmart) to reconfigure their ownership structures and decrease their ownership

in key vendors on their site (Investment Policy Monitor 2019; Phartiyal 2019; Singh 2022).

The second prong involves the launch of alternative government-supported platforms. Some of these are part of the government's Digital India (2015) flagship program to enhance the delivery of public services through assigning every person in India a digital ID. Another unique initiative is the Open Network for Digital Commerce, a government-sponsored open-source e-commerce platform launched in early 2023, that, if successful, will compete directly with large private e-retailers (Parkin 2022).

In line with predominant neoliberal ideas, primary responsibility for investing in telecommunications infrastructures in India has been entrusted to the private sector. As a result, India has an uneven telecommunications infrastructure with a persistent urban-rural digital divide. For example, in 2021, only 43% of Indians had access to the Internet -a level comparable to that of countries with much lower levels of GDP per capita (World Bank, Development Indicators 2023). In recent years, US platform firms including Meta and Google have invested in both Indian domestic and undersea cables (Press Trust India 2022; Singh 2020). India's infrastructural deficiencies, and the attempts of US platform firms to fill them, increase India's dependence on foreign investors. Effectively, US platform firms inhibit the ability of domestic platform to emerge, and constraint the ability of the Indian government to implement drastic restrictions or bans on US platforms. Yet, the Indian government is constraint by its dependence upon foreign firms for IT offshoring jobs and capital investment and thus it cannot directly challenge the domestic dominance of US platforms. This helps explain India's experimentation with open-source retail platforms and increasing regulatory actions such as the Competition Committee of India (CCI) demanding that Google Android allow side-loading from non-owned app stores. A decision that was later, in part, overturned

upon appeals (Chaturvedi and Vengattil 2023). What is clear is the CCI has been active in regulating the foreign platforms operating in India.

Overall, the speed of growth and size of its market makes India one of the most important internet markets in the world. Yet, India continues to be dominated by US platforms, as they entered the domestic market organically and through acquisitions. From this former laissez-faire attitude, in the last five years, Indian regulators have evolved to become active regulators. They have gone beyond basic regulation and are experimenting with creating a government-sponsored retail platform in an effort to provide a seller-centric platform that is not controlled by self-interested foreign platform owners. The Indian response differs from Europe in that in addition to regulation, it has launched proactive initiatives such as government-sponsored open retail platform. Such initiatives have the potential to significantly change the existing global platform landscape, as a successful open-source retail platform could be exported to other nations. While India might not be compensated directly, Indian IT outsourcing might be able to sell services to adopters globally. The Indian example suggests that there may be ways to build a domestic platform economy that are not as draconian as the Chinese solution, which essentially banned foreign (US) firms or as light as the EU, regulation-centric regime that does not build domestic capabilities or ensure that the rents platforms create remain in the national economy.

4. From Global to Splintered Internet?

In a shifting global economy defined by rising tensions and geoeconomic competition, the internet has become an arena for political and economic conflict. Among the different layers of the internet stack, the platform economy is a central focus of government attention. Online platforms have become essential infrastructure for social, economic, and political activities. In

doing so, large platform firms, especially those that emerged from and are established in the unique technological, socio-cultural, venture capital-financed milieu of US West Coast, have come to dominate most of the nations within which they operate. As different jurisdictions have become aware of the broader economic, social, and political, implications of the platform economy, states, on in the case of Europe, the EU, have been compelled to regulate the power of platforms in ways informed by the dominance of US platforms and domestic political and economic dynamics.

These emerging governance systems diverge along several dimensions, including their acceptance of the dominance of US platform firms, the degree to which they are abandoning the pre-existing laissez-faire mode of governance, the presence of initiatives to support the development of domestic platforms, and their commitment to markets open to foreign competitors. The US, the first mover, benefited disproportionately from laissez-faire, and has been reluctant to abandon it. Yet, the recent expansion of Chinese platforms challenges the US commitment to open markets. Growing examples of abusive platform power also call for more effective measures to rein in the power of large platforms. Europe and China have veered hard away from laissez-faire, yet, Europe has not imposed formal barriers to the entry of any platform and has not supported the development of domestic platforms either whereas China has done the exact opposite. Also, although both jurisdictions have introduced complex norms to manage the power of giant platform firms, those norms are based on very different principles and pursue almost inverse objectives with regards to data privacy and (mis)information. India has charted a unique approach consisting of blocking many Chinese firms and mildly challenging the dominance of US platform firms whose services and substantial investment

India depends on. Instead of competing directly with US platforms, India is sponsoring the development of open-source platform firms that aspire to change the playing field.

These emerging governance regimes not only vary in their substance but also in their economic implications and their ability to shape the structure of the platform economy beyond their borders. The link between governance regimes and the presence of very large domestic platforms is, in this regard critical, because of the monopolistic/monopsonistic aspect of platform-organized market/spaces, and the ability of platforms to establish rules of behavior. Laissez-faire provided a launching pad for US platform firms. The first mover advantage of US platform firms and their dominance in most of the world promoted the adoption of laissez-faire abroad. As US platform firms have expanded into other segment such as cloud computing and AI, their technological and first mover advantage translated into access to large caches of data that have enabled them to dominate these new segments. The Chinese response provided room for domestic platforms to emerge unencumbered by foreign competition. The presence of large Chinese platforms with international projection and access to enormous caches of data will enable China to play an active role in shaping the platform economy and AI in the coming years. The recent success of Chinese platforms should also help extend some aspects of China's governance regime outside its borders. Yet, due to current geopolitical tensions, to the autarkic character of the Chinese platform economy, and the heavily controlling ethos behind some measures in the Chinese system, other large economies, rather than adopt Chinese norms, have responded by enacting protective measures that limit the impact of the Chinese system. Lacking very large domestic platforms, Europe has become the first mover in the adoption governance measures in the West. In doing so, it has managed to stimulate and shape international regulatory discussions. Yet, regulation, in the absence of large domestic platform

firms, does not address political economic issues and the absence of very large platform necessarily limits Europe's ability to exert influence abroad, despite its desire to do so. Finally, India is looking for ways to develop its domestic platform firms by adopting a less drastic approach to foreign platforms than China and by supporting the development of domestic open-source platforms. To date, India's regime has exerted very limited influence abroad, yet, if its newly launched platforms are adopted abroad and become successful, this could quickly change.

By themselves, these regimes will not cause the splintering of the platform economy, let alone the internet stack. However, they do affect the strategies of platform firms. US platform firms have already been forced to leave China in response to the country's governance regime. They have are also committing significant resources to expanding infrastructure in India, which makes it more difficult for the Indian government to enact drastic measures against them. Several Chinese platforms have also been forced to alter their strategies after being banned in India.

Finally, our analysis of governance systems in the platform economy may provide pointers for ongoing discussions about governing other layers of the internet stack such as AI.³ as government develop their approaches to AI, an understanding of the logic of each country's approach to platforms can help us infer the types of positions each jurisdiction adopts. Yet, a full understanding of these developments will require its own dedicated analysis.

³ We note the remarkable coincidence of the hype regarding generative AI with the decline of interest and confidence in the transformative power of blockchains and cryptocurrencies.

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