

ON THE SYSTEMIC IMPORTANCE OF DIGITAL PLATFORMS

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INTRODUCTION	142
I. A THEORY OF SYSTEMIC IMPORTANCE	150
A. The Scope of Systemic Importance	150
B. Evaluating the SITI-SIFI Analogy	154
1. Parallel Crises	154
2. Comparable Moral Hazards	157
3. Analogous Externalities	159
II. PLATFORM POWERS AND EXTERNALITIES	161
A. Platform Powers	163
1. Quasi-Governmental and Supra-Sovereign Status....	164
2. Concentrations of Power	172
3. Lords of the Information Ecosystem.....	177
B. Platform Externalities	180
1. Health Effects.....	180
2. Dis/Misinformation.....	186
3. Violence & Criminal Activity.....	190
4. Consequences of Failure	192
III. PLATFORM IDENTIFICATION AND OVERSIGHT	193
A. About the SIFI Framework	194
1. FSOC’s Authority to Designate SIFIs	194
2. Identification of SIFIs.....	195
3. Oversight of SIFIs.....	197
B. Towards a SITI Framework	198
1. Identification of SITIs.....	198
2. Oversight of SITIs	201
CONCLUSIONS	206

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At the dawn of the Great Recession, the bankruptcy of Lehman Brothers shook the economy to its core. With other Wall Street institutions on the brink of insolvency, the financial system slid towards a free fall. Governments around the world responded with more than \$11 trillion in emergency bailouts. Financial institutions deemed too-big-to-fail were rescued in the hopes of escaping an economic abyss. In the aftermath of the collapse, Congress acted to address dangerous risks and externalities in the financial sector. With the enactment of the Dodd-Frank Act, Congress codified the logic of “systemic importance” in financial regulation. In essence, if an institution is consequential enough to pose systemic risks to the entire economy, that institution should receive heightened regulatory scrutiny.

A distinct but parallel set of questions now exists about certain digital platforms. A small number of companies—some governed by dual-class share structures—have immense power over social behavior, human health, and the information ecosystem. Yet, despite the enormous externalities generated by their business models, digital platforms remain virtually unregulated. This Article addresses two primary questions. First, have some digital platforms attained systemically important status? And second, if so, does their systemic importance warrant enhanced regulatory oversight? In addressing those questions, we consider parallels with financial regulation, drawing lessons from the framework for systemically important financial institutions in the Dodd-Frank era.

INTRODUCTION

Once a storied icon of Wall Street, Lehman Brothers earned a dubious distinction on September 15, 2007: protagonist in the largest bankruptcy in history.¹ The next day, the Fed scrambled to rescue American International Group (AIG) from the brink of insolvency with an \$85 billion loan.² In the weeks that followed, the financial sector unraveled, igniting a global economic crisis—the worst in nearly a century. Government officials cobbled together emergency packages worth hundreds of billions of dollars,

1. ANDREW ROSS SORKIN, *TOO BIG TO FAIL: THE INSIDE STORY OF HOW WALL STREET AND WASHINGTON FOUGHT TO SAVE THE FINANCIAL SYSTEM—AND THEMSELVES* 355–63 (2009).

2. *The U.S. Financial Crisis*, COUNCIL ON FOREIGN RELS., <https://www.cfr.org/timeline/us-financial-crisis> [<https://perma.cc/BEN8-ZSLA>] (last visited Oct. 6, 2022). During this time, Goldman Sachs and Morgan Stanley also announced that they would be converting to bank holding companies in an apparent effort to gain access to more loans from the Fed. *Id.*

rescuing “too-big-to-fail” institutions, hoping to avert a total collapse. Three years later, in the wake of the Great Recession, the Dodd-Frank Act³ was signed into law with the stated purpose of ending too-big-to-fail and protecting the American taxpayer by ending bailouts.⁴ Central to the Dodd-Frank approach to managing systemic risk was a heightened prudential regulatory regime for systemically important financial institutions (SIFIs), administered by the Fed.⁵ According to the logic of the SIFI framework, if a financial institution is consequential enough to endanger the broader economy, heightened regulatory scrutiny applies.⁶

About twelve years after the Lehman bankruptcy, another jolting series of events—this time not financial but sociopolitical in nature—highlighted a different source of systemic risks and externalities.⁷ On January 6, 2021, fueled by rage and disinformation, a frenzied mob stormed the Capitol Building as lawmakers processed electoral vote counts, halting the American electoral process.⁸ Not since the War of 1812 had the Capitol been overrun by an attack.⁹ Four people died in the insurrection, which injured 150 police officers.¹⁰ Another four police officers who responded to the attack later

3. Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010, Pub. L. No. 111–203, 124 Stat. 1376 (codified as amended at 12 U.S.C. §§ 5301–5641).

4. H.R. 4173, 111th Cong. pmb. (2010); *accord* S. REP. NO. 111-176, at 1, 4–6 (2010).

5. The Financial Stability Oversight Council (the “FSOC”), a council of regulators, was authorized to designate non-bank financial firms as systemically important by a qualified two-thirds vote. *See* MARC LABONTE, CONG. RSCH. SERV., IN10141, DESIGNATING SYSTEMICALLY IMPORTANT FINANCIAL INSTITUTIONS (SIFIs) (2015), <https://sgp.fas.org/crs/misc/IN10141.pdf> [<https://perma.cc/9ZFC-ECXF>]. Note, the Dodd-Frank Act does not use the term “systemically important financial institution” to describe a financial company that is subject to the statute’s systemic risk regime, but this Article will generally refer to such companies as SIFIs. *See generally* Dodd-Frank.

6. Ben S. Bernanke, Chairman, Fed. Reserve Bd., Financial Reform to Address Systemic Risk, Address Before the Council on Foreign Relations (Mar. 10, 2009), <http://www.federalreserve.gov/newsevents/speech/bernanke20090310a.htm> [<https://perma.cc/BFA9-USPR>].

7. *See infra* Part I (defining and addressing systemic risks and externalities in the context of digital platforms).

8. *See* Craig Timberg, Drew Harwell, Razzan Nakhlawi & Harrison Smith, ‘Nothing Can Stop What’s Coming’: Far-Right Forums That Fomented Capitol Riots Voice Glee in Aftermath, WASH. POST (Jan. 7, 2021, 3:05 PM), <https://www.washingtonpost.com/technology/2021/01/07/trump-online-siege/> [<https://perma.cc/2LY3-JRGM>].

9. British forces stormed Washington D.C. in 1814, torching government buildings including the White House and the Capitol. *See* Matthew Ward, *The US Capitol Has Been Stormed Before—When British Troops Burned Washington in 1814*, THE CONVERSATION (Jan. 8, 2021, 11:09 AM), <https://theconversation.com/the-us-capitol-has-been-stormed-before-when-british-troops-burned-washington-in-1814-152843> [<https://perma.cc/MJ6B-2M9R>].

10. Chris Cameron, *These Are the People Who Died in Connection with the Capitol Riot*,

committed suicide.¹¹ In terms of injured personnel, it was one of the worst days for U.S. law enforcement since September 11, 2001.¹² The world watched in disbelief as acts of theft, vandalism, and violence overcame the federal legislature of the most powerful government on Earth.

A deplatforming frenzy followed, targeting prominent accounts and content that incited the mob.¹³ Twitter announced a ban on Donald Trump’s personal account as well as the President’s official accounts.¹⁴ Facebook and YouTube enacted similar suspensions, as did a number of smaller platforms.¹⁵ The result was striking: the head of state of a powerful democracy was swiftly expelled from the digital public square by a handful of corporations. There was also a wave of business-to-business deplatforming as tech giants rushed to purge other companies—like Parler, a fringe social platform—that were involved in fomenting the January 6 insurrection.¹⁶

These events unmasked a number of uncomfortable realities. Effectively, a handful of corporations—some with dual-class share structures—were the digital “first responders” to a violent threat to electoral democracy.¹⁷ Policing themselves and the public square they control, certain platforms acted with extraordinary power in both online commercial and information environments.¹⁸ A grim set of externalities were on display too.

N.Y. TIMES (Oct. 13, 2022), <https://www.nytimes.com/2022/01/05/us/politics/jan-6-capitol-deaths.html> [<https://perma.cc/A87F-9J7Q>].

11. See Jan Wolfe, *Four Officers Who Responded to U.S. Capitol Attack Have Died by Suicide*, REUTERS (Aug. 2, 2021, 11:19 PM), <https://www.reuters.com/world/us/officer-who-responded-us-capitol-attack-is-third-die-by-suicide-2021-08-02/> [<https://perma.cc/8TL5-PSHV>].

12. See Michael S. Schmidt & Luke Broadwater, *Officers’ Injuries, Including Concussions, Show Scope of Violence at Capitol Riot*, N.Y. TIMES (July 12, 2021), <https://www.nytimes.com/2021/02/11/us/politics/capitol-riot-police-officer-injuries.html> [<https://perma.cc/CNU2-8WC8>].

13. It is worth noting that this deplatforming occurred only once it became clear that the 2020 presidential election results would, in fact, be confirmed by Congress.

14. Cameron Peters, *Every Online Platform That Has Cracked Down on Trump*, VOX (Jan. 10, 2021, 3:30 PM), <https://www.vox.com/2021/1/10/22223356/every-platform-that-banned-trump-twitter-facebook-snapchat-twitch> [<https://perma.cc/QP77-S7PW>].

15. *Id.*

16. Amazon, Apple, and Google dropped Parler for violating their terms of service. Alex Fitzpatrick, *Why Amazon’s Move to Drop Parler Is a Big Deal for the Future of the Internet*, TIME (Jan. 21, 2021, 3:06 PM), <https://time.com/5929888/amazon-parler-aws/> [<https://perma.cc/Z3J4-ZF7Q>].

17. Facebook and Alphabet (the parent company of Google) both have dual-class share structures, but Twitter does not. See *infra* Section II.A.2 (discussing the governance implications of dual-class structures in SITs/digital platforms).

18. Although a precise definition of “platforms” is elusive, we use the term interchangeably with “technological institutions,” which we define *infra* Section III.B.1.

The insurrection itself was planned and coordinated on social media platforms, then livestreamed and posted in real time.¹⁹ Social networks were also instrumental in cultivating the violent extremism on display that day.²⁰ Ironically, the same platforms responsible for fanning the flames of insurrection—trafficking in misinformation and fostering extremism—were also the digital first responders, underscoring an extreme concentration of power in the online information ecosystem.²¹

January 6 was not an isolated event. Across the world, the importance of digital platforms has proven to be pervasive and far-reaching. Virtually all matters of human activity are orchestrated on digital platforms, from neighborhood bake sales to election interference campaigns.²² Although their economic and sociopolitical impacts loom large, platform business models and algorithms are often obscured from the public. In some instances, it has taken whistleblowers and investigative reporting to unearth long-held suspicions about internal practices at platforms and the externalities they produce.²³

While some externalities are benign—or outright positive—the scope

19. U.S. Dep't. of Just., Press Release on Three Individuals Affiliated with the Oath Keepers Indicted in Federal Court for Conspiracy to Obstruct Congress on Jan. 6, 2021 (Jan. 27, 2021), <https://www.justice.gov/opa/pr/three-individuals-affiliated-oath-keepers-indicted-federal-court-conspiracy-obstruct> [<https://perma.cc/P4N6-92HN>] (describing charges against three members of a paramilitary group that coordinated and posted on social media before and during the January 6 attack); see also Elizabeth Dwoskin, *Facebook's Sandberg Deflected Blame for Capitol Riot, But New Evidence Shows How Platform Played Role*, WASH. POST (Jan. 13, 2021, 3:27 PM) <https://www.washingtonpost.com/technology/2021/01/13/facebook-role-in-capitol-protest/> [<https://perma.cc/7PTH-M86M>].

20. See *infra* notes 85–91 and accompanying text (discussing the #StopTheSteal campaign on social media).

21. Thomas Brewster, *Sheryl Sandberg Downplayed Facebook's Role in The Capitol Hill Siege—Justice Department Files Tell a Very Different Story*, FORBES (Feb. 7, 2021, 10:54 AM), <https://www.forbes.com/sites/thomasbrewster/2021/02/07/sheryl-sandberg-downplayed-facebook-role-in-the-capitol-hill-siege-justice-department-files-tell-a-very-different-story/> [<https://perma.cc/2C63-EBPU>]; *Capitol Hill Siege*, GEO. WASH. U. PROGRAM ON EXTREMISM, <https://extremism.gwu.edu/Capitol-Hill-Cases> [<https://perma.cc/RDB2-FE2L>] (last visited Sept. 12, 2021).

22. See e.g., S. REP. NO. 116-XX, at 3, 43–63 (2016), https://www.intelligence.senate.gov/sites/default/files/documents/Report_Volume2.pdf [<https://perma.cc/P7WY-Q8B9>] (chronicling the use of social media platforms to undermine U.S. elections); Matthew Smith, *Facebook Wanted to Be a Force for Good in Myanmar. Now It Is Rejecting a Request to Help with a Genocide Investigation*, TIME (Aug. 18, 2020, 1:18 AM), <https://time.com/5880118/myanmar-rohingya-genocide-facebook-gambia/> [<https://perma.cc/RC5Q-JMFE>].

23. See, e.g., Jeff Horwitz, *The Facebook Whistleblower, Frances Haugen, Says She Wants to Fix the Company, Not Harm It*, WALL ST. J. (Oct. 3, 2021, 7:36 PM), <https://www.wsj.com/articles/facebook-whistleblower-frances-haugen-says-she-wants-to-fix-the-company-not-harm-it-11633304122> [<https://perma.cc/8R2K-ZKW5>].

and cumulative impacts of digital platforms beg the question of systemic importance.²⁴ Official efforts to manage the Covid-19 pandemic were so hampered by vaccine misinformation on social platforms that the Surgeon General dedicated his first formal advisory to the subject.²⁵ Even as a standalone product, there are serious risks—particularly for the mental health of young people—associated with the use of social media.²⁶ Digital platforms have become, in many instances, *de facto* moderators of public speech,²⁷ property and privacy rights,²⁸ and information markets.²⁹ Data management alone produces enormous systemic implications, including for industries outside of the tech sector.³⁰ Even the relatively mundane contracting practices of the biggest platforms have a hand in shaping the legal environment. For instance, with almost three billion users, Facebook’s terms-of-use agreement is perhaps the most widely accepted contract in human history.³¹

This Article explores the theoretical basis for imposing a prudential regulatory regime modeled after the SIFI framework for what we refer to as

24. See, e.g., Caleb N. Griffin, *Systemically Important Platforms*, 107 CORNELL L. REV. 445 (2022) (assessing tradeoffs in the benefits and harms of manipulative technologies deployed by digital platforms).

25. U.S. DEP’T. OF HEALTH & HUM. SERVS., CONFRONTING MISINFORMATION (2021), <https://www.hhs.gov/sites/default/files/surgeon-general-misinformation-advisory.pdf> [<https://perma.cc/PMR2-ETS8>].

26. Georgia Wells, Jeff Horwitz & Deepa Seetharaman, *Facebook Knows Instagram is Toxic for Teen Girls Company Documents Show*, WALL ST. J. (Sept. 14, 2021, 7:59 AM), <https://www.wsj.com/articles/facebook-knows-instagram-is-toxic-for-teen-girls-company-documents-show-11631620739> [<https://perma.cc/A5WU-NF7J>]; see also *infra* Part II.B.1.

27. Daphne Keller, *Facebook Restricts Speech by Popular Demand*, THE ATLANTIC (Sept. 22, 2019), <https://www.theatlantic.com/ideas/archive/2019/09/facebook-restricts-free-speech-popular-demand/598462/> [<https://perma.cc/RE8X-KZP6>].

28. See Thomas Kadri, *Platforms as Blackacres*, 68 UCLA L. REV. 1184 (2022) (applying property doctrine and privacy rights to social media platforms).

29. Shaimaa Khalil, *Facebook and Google News Law Passed in Australia*, BBC (Feb. 25, 2021), <https://www.bbc.com/news/world-australia-56163550> [<https://perma.cc/RPL4-W646>].

30. Iain Withers & Huw Jones, *For Bank Regulators, Tech Giants Are Now Too Big to Fail*, REUTERS (Aug. 20, 2021, 10:55 AM), <https://www.reuters.com/world/the-great-reboot/bank-regulators-tech-giants-are-now-too-big-fail-2021-08-20/> [<https://perma.cc/P9YL-R8ZE>].

31. See Michael L. Rustad & Maria Vittoria Onufrio, *Reconceptualizing Consumer Terms of Use for a Globalized Knowledge Economy*, 14 U. PA. J. BUS. L. 1085, 1086 (2012) (labeling social media TOUs as “the most widely used standard form contracts in world history[,] with potentially billions of users”); see also Section II.A.1. (describing the implications of consumer contracting at this scale).

systemically important technological institutions (SITIs).³² In doing so, we first address the theory and meaning of systemic importance. Much of the focus relating to the systemic importance of financial institutions is on the consequences of failure. The fixation with failure is due, in part, to the fact that SIFI designation is often conflated with the “too big to fail” label.³³ The intention of designating a firm as a SIFI, however, was not to signal that the company would be bailed out in the event of failure, but rather to prevent those firms from needing a bailout in the first place.³⁴ Even then, failure is not the lone focus of the SIFI designation. The framework provides two separate standards for designation. While one standard is based on the effects of a firm’s “material financial distress,” the second asks whether the nature, scope, size, scale, concentration, interconnectedness, or mix of the activities of the firm could pose a threat to financial stability.³⁵ In other words, a firm could be designated as systemically important due to the risks posed by its on-going activities.³⁶

Turning to digital platforms, our inquiry is not whether they are “too big to fail,” but rather whether some possess enough systemic importance to merit oversight analogous to that of SIFIs.³⁷ However, assessing the systemic

32. Carl Öhman and Nikita Aggarwal coined this term, drawing from the concept of SIFIs. Carl Öhman & Nikita Aggarwal, *What if Facebook Goes Down? Ethical and Legal Considerations for the Demise of Big Tech*, 9 INTERNET POL’Y REV., Aug. 2020, at 1, 6, <http://doi.org/10.14763/2020.3.1488>. Öhman and Aggarwal’s framework identifies platforms as systemically important based on the potential consequences of their failure. *Id.* at 4–6. By contrast, our proposed framework takes the consequences of failure into account, but posits that the systemic importance of digital platforms is a function of the broad risks posed by their immense power and the far-reaching externalities created by their business models. *See infra* Section I.A (analyzing the scope of systemic importance).

33. *See, e.g.*, Lucinda Shen, *MetLife Ruled Not Too Big to Fail*, FORTUNE (Mar. 30, 2016, 12:51 PM), <https://fortune.com/2016/03/30/metlife-too-big-to-fail/> [<https://perma.cc/DK9V-BYRR>] (reporting that “MetLife is no longer too big to fail” because it was de-designated as a SIFI).

34. This was meant to be accomplished through additional supervision and regulation by the Federal Reserve, including risk-based capital, leverage, liquidity, and risk management requirements. *See* Jeremy C. Kress, *The Last SIFI: The Unwise and Illegal Deregulation of Prudential Financial*, 71 STAN. L. REV. ONLINE 171 (2018), <https://www.stanfordlawreview.org/online/the-last-sifi-the-unwise-and-illegal-deregulation-of-prudential-financial/> [<http://perma.cc/4CMQ-XN3V>].

35. Financial Stability Oversight Council Guidance for Nonbank Financial Company Determinations, 12 C.F.R. pt. 1310 app. A (2019).

36. FSOC has yet to designate a SIFI using the second standard.

37. The framework applied to Systemically Important Financial Market Utilities (SIFMUs), the systems that provide the infrastructure for transferring, clearing, and settling transactions, could serve as an analog to SITIs as well. The recognition of the systemic importance of certain digital platforms undergirds our proposal regardless of the specific analog from financial regulation.

importance of digital platforms is, by necessity, a broader inquiry. The risks and impacts generated by platforms extend far beyond a single industry, such as the financial sector.³⁸ We argue that the systemic importance of digital platforms is a function of the risks posed by their immense power and far-reaching externalities. While in the context of SIFIs, the focus is on threats to financial stability, digital platforms pose a wide-ranging set of risks to social systems, public institutions, and human well-being.

Although many scholars and policymakers have proposed regulating digital platforms, this Article makes novel proposals for a heightened regulatory regime for platforms based on their systemic importance, drawing on frameworks for the regulation of SIFIs.³⁹ The notion that digital platforms possess systemic importance is gaining traction.⁴⁰ Since Öhman and Aggarwal coined the term “systemically important technological institution,” an emerging body of literature has responded to social and regulatory dilemmas posed by extreme concentrations of power and externalities among certain digital platforms.⁴¹ The literature reflects the vast reach and complexity of platform power. Packin, for instance, raises the question of whether some digital service providers have become too big to

38. See *infra* Part II (discussing platform powers and externalities).

39. This Article responds to recent calls by scholars to explore the systemic importance of digital platforms. See Öhman & Aggarwal, *supra* note 32, at 2 (calling for further research on the SIFI parallel with large digital platforms); see also AGUSTÍN CARSTENS ET AL., REGULATING BIG TECHS IN FINANCE 3 (2021), <http://dx.doi.org/10.2139/ssrn.3901736> (suggesting a study of the systemic relevance of big tech firms and the potential need to implement safeguards to ensure operational resilience).

40. Implicit in proposals to regulate platforms more like big financial institutions is the logic of systemic importance. Views on the wisdom and merits of the analogy differ, of course. Compare Martin Chavez, *Martin Chavez on How to Regulate Big Tech Like Big Banks*, THE ECONOMIST (Mar. 15, 2021), <https://www.economist.com/by-invitation/2021/03/15/martin-chavez-on-how-to-regulate-big-tech-like-big-banks> [<https://perma.cc/X3E4-H7CT>] (arguing for “cross-applying the spirit of banking regulations onto web platforms”), with Jennifer Huddleston, *Why Technology Should Not Be Regulated Like Finance*, AM. ACTION F. (Sept. 30, 2020), <https://www.americanactionforum.org/insight/why-technology-should-not-be-regulated-like-finance/> [<https://perma.cc/NEE9-RV2S>] (arguing that the analogy between the largest tech platforms and banking does not work). Explicit calls for applying systemic importance to the digital realm draw on regulatory experience with financial risk and the SIFI framework. See, e.g., CARSTENS ET AL., *supra* note 39.

41. Öhman & Aggarwal, *supra* note 32, at 11 (coining the term SITI and calling for deeper consideration of the concept in digital markets). Packin explored similar themes as well, focusing on potential consequences of failure of what she calls “Critical Service Providers,” a group that would include providers of social networks, search engines, and cloud computing services. Nizan Geslevich Packin, *Too-Big-to-Fail 2.0? Digital Service Providers as Cyber-Social Systems*, 93 IND. L.J. 1211, 1216 (2018). Packin calls for a systematic approach to regulating these entities inspired by not only Dodd-Frank but also the European Union’s directive for digital service providers. *Id.* at 1220.

fail.⁴² Öhman and Aggarwal explore the implications of failure risks posed by Facebook specifically.⁴³ Griffin’s framework for systemic importance addresses the addictive and manipulative designs of certain platforms.⁴⁴ Meanwhile, Werbach and Zaring address the risks of failure within the connective tissue of systemically important network institutions.⁴⁵

Our proposals echo the prevailing logic of systemic importance in the above literature. We observe a convergence in the literature around the view that certain digital platforms have attained varying forms and degrees of systemic importance. There is a degree of consensus around the idea that—as with financial institutions—when platforms do attain systemic importance, a regime for enhanced regulatory oversight is justified. Yet our proposals diverge from previous works in key respects. Fundamentally, we imagine the theoretical foundations of systemic importance in broader terms.⁴⁶ In our view, the systemic importance of platforms is a composite of power and externalities across a wide spectrum of economic, social, political, and even cultural matters.⁴⁷ In other words, we consider the “long shadow” that platforms cast over human systems as part and parcel of systemic importance.⁴⁸

In Part I we outline a theory of systemic importance around two fundamental questions: (a) What constitutes systemic importance? (b) How

42. See Packin, *supra* note 41, at 1216–35 (arguing that certain digital service providers be considered critical service providers subject to systematic regulation).

43. See Öhman & Aggarwal, *supra* note 32, at 3–10 (analyzing the societal risk presented by Facebook’s potential failure).

44. See Griffin, *supra* note 24, at 449 (“Understanding—and regulating—the addictive design at the core of so many Big Tech platforms is a necessary complement to work on Big Tech’s antitrust, privacy, and speech issues.”). Griffin proposes a special designation for systemically important platforms centered on their use of manipulative technologies. See *id.* at 449–50 (noting that systemically important platforms using manipulative technologies have two defining features that under the status quo lead to insufficient protections for users of these platforms).

45. Kevin Werbach & David Zaring, *Systemically Important Technology*, 101 TEX. L. REV. (forthcoming 2022), <http://dx.doi.org/10.2139/ssrn.4053890>. Our proposal both echoes and departs from Werbach and Zaring’s framework for addressing the systemic risks posed by Big Tech.

46. See *infra* Part I (articulating a theory of systemic importance for digital platforms).

47. We certainly appreciate the significance of outage and failure risks as well as the manipulative characteristics of certain platforms—all of which we include in our conception of systemic importance. But we also believe that the extraordinary reach of platform business models merits a broad conception of their systemic importance and risks.

48. Compare Werbach & Zaring, *supra* note 45, at 37–55 (assessing Facebook’s outage risk from a predominantly economic standpoint), with Rory Van Loo, *Digital Market Perfection*, 117 MICH. L. REV. 815, 817 (2019) (applying a systemic risk regulatory framework to Google and Apple to mitigate the risks to financial stability posed by their digital-assistants).

does the systemic importance of financial institutions differ from digital platforms? As we interrogate parallels between SIFIs and SITIs, we consider the merits of the analogy alongside critical divergences and contrasts. In Part II we examine the systemic importance of digital platforms. There, we assess evidence that platforms present a novel set of systemic risks for society, political systems, and markets. Part III examines key points in the regulatory framework for SIFIs, comparing the systemic importance of financial institutions and digital platforms. In doing so, we draw lessons from the SIFI regime that could inform potential oversight of digital platforms. A brief conclusion follows.

I. A THEORY OF SYSTEMIC IMPORTANCE

Systemic importance is more than the risk of failure. To be sure, in financial regulation, an institution's collapse due to excessive risk-taking is a core concern of systemic risk. That, in essence, is the scenario that Lehman Brothers summoned to life. But the SIFI framework contemplates risks and externalities beyond just the consequences of failure.⁴⁹ Likewise, we propose a theory of SITIs that considers—but is not limited to—the impact of platform failure. Our theory suggests that systemic importance is a function of extraordinary scale in power and externalities. We also observe that the nature of these inputs will depend on the business models and industry in question. For SITIs, the risks and externalities associated with the ongoing operation of digital platforms, as opposed to their failure, loom much larger than for SIFIs, where the risk of failure is paramount. This Part frames the theory of systemic importance for digital platforms, drawing on the symmetries and asymmetries in the SIFI-SITI analogy.

A. The Scope of Systemic Importance

In academic discourse, discussions of systemic risk and importance often focus on the risks presented by failure.⁵⁰ For example, Hal Scott defines

49. Financial Stability Oversight Council Guidance for Nonbank Financial Company Determinations, 12 C.F.R. pt. 1310 app. A (2019).

50. See e.g., Adam J. Levitin, *In Defense of Bailouts*, 99 GEO. L.J. 435, 435 (2011) (defining systemic risk as, “the possibility that an individual firm’s *failure* will result in broad damages to the economy as a whole” (emphasis added)); Steven L. Schwarcz, *Systemic Risk*, 97 GEO. L.J. 193, 204 (2008) (“Synthesizing these factors, we can reach a working definition of systemic risk: the risk that (i) an economic shock such as market or institutional failure triggers (through a panic or otherwise) either (X) the failure of a chain of markets or institutions or (Y) a chain of significant losses to financial institutions, (ii) resulting in

systemic risk as, “the risk that the *failure* of one significant financial institution can cause or significantly contribute to the *failure* of other significant financial institution as a result of their linkages to each other.”⁵¹ And, under the too-big-to-*fail* theory, federal regulators have repeatedly intervened to save large firms from collapsing in order to avoid cascading effects on the overall economy.⁵² Indeed, Congress’s purpose in enacting Dodd-Frank was, in part, to address the risks of failure by imposing a prudential regime on our largest financial institutions.⁵³

To that end, Dodd-Frank authorized the Financial Stability Oversight Council (FSOC) to identify certain non-banks as systemically important if the Council determined that the firm’s material financial distress could threaten U.S. financial stability. Using this standard, FSOC designated Prudential, AIG, GE Capital, and MetLife as SIFIs.⁵⁴ In designating these firms as SIFIs, FSOC concluded that the potential failure of the companies could destabilize the financial system by “(1) inflicting losses on counterparties with direct exposures to the firm and (2) triggering asset fire sales that might spread through the financial sector.”⁵⁵ With this designation, each firm was subjected to enhanced oversight by the Federal Reserve.

Failure is particularly salient in the financial industry, where an institution’s failure—or brush with failure—can spark full-scale financial crises. By contrast, at this stage, failure is a less salient concern for digital platforms. Although major platforms have faltered, none have undergone an outright failure to date. Still, episodic outages provide a preview of potential disruption, suggesting that failures would reverberate widely in markets and society. For example, a six-hour outage at Facebook, Instagram, and WhatsApp impeded vital communications, internet access, commerce, and humanitarian work in conflict zones.⁵⁶

increases in the cost of capital or decreases in its availability, often evidenced by substantial financial-market price volatility.”).

51. Hal S. Scott, *The Reduction of Risk in the United States Financial System*, 33 HARV. J.L. & PUB. POL’Y 671, 673 (2010) (emphasis added).

52. Ann Graham, *Bringing to Heel the Elephants in the Economy: The Case for Ending “Too Big to Fail,”* 8 PIERCE L. REV. 117, 118–29 (2010) (describing actions taken by the Federal Reserve to prevent large financial institutions from failing and to mitigate losses from banks that did fail).

53. H.R. 4173, 111th Cong. pmb. (2010); *accord* S. REP. NO. 111-76, at 1, 4–6 (2010) [hereinafter DODD-FRANK PREAMBLE.].

54. Kress, *supra* note 34, at 173.

55. *Id.*

56. See, e.g., Avi Asher-Schapiro & Fabio Teixeira, *Facebook Down: What the Outage Meant for the Developing World*, THOMSON REUTERS FOUND. (Oct. 5, 2021, 20:48), <https://news.trust.org/item/20211005204816-qzjft/> [<https://perma.cc/8JC5-69XL>] (discussi-

Yet the inquiry into systemic importance—even in the context of SIFIs—is not limited solely to the risks of failure.⁵⁷ Congress passed Dodd-Frank in the wake of the greatest financial crisis in nearly a century.⁵⁸ As the crisis unfolded, the federal government rescued titans of industry and finance with unprecedented interventions.⁵⁹ And, while devising a plan to prevent the recurrence of these events, Congress recognized risks and externalities in the financial system beyond an institution’s failure. For instance, protecting consumers from abusive practices was considered crucial to economic stability.⁶⁰ Congress also set out to address the lack of accountability and transparency in the financial system.⁶¹

In light of far-reaching importance, Congress considered the systemic risks generated by on-going activities in addition to the potential consequences of failure.⁶² Accordingly, Dodd-Frank provided a second, independent basis for designating a firm as systemically important. FSOC can designate a firm as a SIFI if the nature, scope, size, scale, concentration, interconnectedness, or mix of the activities of the firm could pose a threat to financial stability.⁶³ In other words, a non-bank could be designated as systemically important due to the risks posed by its on-going activities.⁶⁴ Although FSOC has yet to use the second framework to designate a SIFI, the analysis could be informative in the context of determining the systemic

ng the Facebook outage impact on keeping in touch, doing business, and humanitarian work in conflict zones); Mark Sweney, *Facebook Outage Highlights Global Over-Reliance on its Services*, THE GUARDIAN (Oct. 5, 2021, 14.36), <https://www.theguardian.com/technology/2021/oct/05/facebook-outage-highlights-global-over-reliance-on-its-services> [https://perma.cc/TQX9-VKMW] (discussing the Facebook outage impact on communication and business).

57. The preamble to the Dodd-Frank Act declares that its purposes are to “promote financial stability” of the United States “by improving accountability and transparency in the financial system, to end ‘too big to fail,’ to protect the American taxpayer by ending bailouts, to protect consumers from abusive financial services practices, and for other purposes.” DODD-FRANK PREAMBLE., *supra* note 53.

58. Fred Mosely, *The U.S. Economic Crisis: Fundamental Causes and Possible Solutions*, 40 INT’L J. POL. ECON. 59, 59 (2011).

59. See Adrian Blundell-Wignall, Gert Wehinger & Patrick Slovik, *The Elephant in the Room: The Need to Deal with What Banks Do*, 2009 OECD J. 11, 24 tbl.I.1.4 (2009) (showing 6.4 trillion in assistance in the form of capital injections, asset purchases, and guarantees).

60. DODD-FRANK PREAMBLE., *supra* note 53.

61. *Id.*

62. Financial Stability Oversight Council Guidance for Nonbank Financial Company Determinations, 12 C.F.R. pt. 1310 app. A (2019).

63. *Id.*

64. FSOC has yet to designate a SIFI using the second standard. Marion Leydier et al., *Sullivan & Cromwell Discusses FSOC Changes to Nonbank SIFI-Designation*, CLS BLUE SKY BLOG (Jan. 6, 2020), <https://clsbluesky.law.columbia.edu/2020/01/06/sullivan-cromwell-discusses-fsoc-changes-to-nonbank-sifi-designation-guidance/> [https://perma.cc/B6YE-4ECP].

importance of digital platforms.

Subjecting platforms to heightened regulatory scrutiny based on their risks to financial stability alone would address some valid concerns. We argue, though, that this analysis would be incomplete for two reasons. First, while the SIFI factors—the nature, scope, size, scale, concentration, interconnectedness, or mix of the firm’s activities—could inform determinations of a platform’s systemic importance, these criteria alone would produce an over-inclusive list of SITIs. Like SIFIs, the scale of platforms alone creates substantial layers of interdependency. But the systemic importance of digital platforms materializes in distinct ways. Platforms are pervasive, even compared to SIFIs, occupying extraordinary positions in social systems and markets.⁶⁵ Dominant platforms, we observe, have eclipsed their counterparts in finance in terms of sheer global power. With quasi-regulatory roles and supra-sovereign powers, platforms are increasingly identified as geopolitical protagonists in and of themselves.⁶⁶ Thus, any framework that identifies platforms as systemically important must reflect the distinct nature and scale of the *power* that certain platforms wield.

Second, the centrality of financial stability in the SIFI framework does not translate neatly to digital platforms. Although that emphasis is appropriate for systemic risk in the financial industry, it would produce under-inclusive results for SITIs. Mediating virtually all matters of civic life and social behavior, SITIs generate systemic risks well beyond the financial realm. For better or worse, societies, governments, and markets have grown heavily dependent on key platforms. Indeed, platform externalities manifest on an extremely wide spectrum—from threats to electoral democracy and rampant misinformation to risks for personal health and organized criminal activity.⁶⁷ The systemic importance of a platform should be measured, at least in part, by the full range of the negative externalities it generates.

A theory of systemic importance responds to the powers, risks, and externalities particular to the industry in question. Following the Great Recession, the SIFI concept responded to compelling threats to the financial system. We propose a framework that responds to the extraordinary powers, systemic risks, and negative externalities of digital platforms. The interplay between these factors is also key; no one factor is determinative. Just as interconnectedness alone does not make a SIFI, immense power alone does not make a SITI. Rather, when a platform’s power amplifies risks and

65. See *infra* Section II.A (observing the extent of platform power).

66. See Ian Bremmer, *The Technopolar Moment*, 100 FOREIGN AFFS. 112, 112–13 (2021); see also *infra* Section II.A.3.

67. See *infra* Section II.B (taking stock of platform externalities).

extends negative externalities, additional oversight might be warranted.⁶⁸

B. Evaluating the SITI-SIFI Analogy

Considering broad parallels, at the macro level, the SIFI-SITI analogy holds up. Though overlapping in important ways, the analogy is not perfectly symmetrical—there are key divergences too. Further exploring this analogy, this Section identifies additional parallels between the circumstances that gave rise to the imposition of heightened regulatory oversight of SIFIs via Dodd-Frank and the current state of our digital platforms. From moral hazard concerns to the negative externalities caused by these platforms, this Part reviews additional justifications for increasing oversight, determining they are alarmingly similar to those now-obvious concerns that were ignored prior to the financial collapse. First, we compare the 2007-2009 financial crisis to the current state of our online platforms. We then review moral hazard in the financial sector as an impetus for reform and evaluate potentially analogous risks in the context of digital platforms.⁶⁹ Lastly, we examine the negative externalities associated with SIFIs relative to the impacts of digital platforms identified in Part II.

1. Parallel Crises

“Never allow a good crisis go to waste.”⁷⁰

While a crisis is not necessary for Congress to act, historically, regulation of financial services has followed a predictable pattern.⁷¹ First, a crisis emerges. Congress then reacts by enacting legislation to correct the problems that gave rise to the crisis. Next, as the economy recovers, the prophylactic measures are rolled back in the face of political pressure to de-regulate. (Repeat.) For example, Congress enacted the Glass Steagall Act of 1933 in the wake of the Great Depression. With the passage of the Gramm-Leach-Bliley Act in 1999 and the Commodity Futures Modernization Act of 2000, which allowed the largest banks and securities brokers to re-integrate,

68. See *infra* Section III.B.1 (articulating a potential approach to SITI identification).

69. See *infra* Section I.B.2 (exploring the moral hazard analogy between SIFIs and SITIs).

70. Rahm Emanuel, *Opinion: Let's Make Sure This Crisis Doesn't Go to Waste*, WASH. POST (Mar. 25, 2020), <https://www.washingtonpost.com/opinions/2020/03/25/lets-make-sure-this-crisis-doesnt-go-waste/> [<https://perma.cc/V4M5-BAKL>] (quoting himself as Chief of Staff to President Barack Obama).

71. See Lindsay Sain Jones, *Aligning National Bank Priorities with the Public Interest: National Benefit Banks and a New Stakeholder Approach*, 58 AM. BUS. L.J. 5, 24–26 (2021) (describing the regulatory cycle in financial services).

the financial sector found itself firmly in a period of deregulation.⁷² Then, at the dawn of the Great Recession, the systemic risks that Congress sought to avoid nearly a century before again rose to intolerable levels.⁷³

As many will well recall, the crisis that hastened the most recent period of reactionary regulation began in the housing sector. After years of increases in prices, the housing boom sharply reversed course in 2006.⁷⁴ By this time, Lehman Brothers and other investment banks had invested heavily in residential and commercial real estate.⁷⁵ Because the major investment banks were thinly capitalized and tightly interconnected, the losses in real estate values were unbearable.⁷⁶ As the markets seized in panic with the failure of Lehman in September of 2008, the stock market plummeted and the economy plunged into a deep recession.⁷⁷ In 2010, Congress acted again to prevent another crisis, in part, by imposing a prudential regime on our largest financial institutions.⁷⁸

Although online platforms, as part of a much newer industry, have not yet experienced such a regulatory cycle, certain platforms now exist in a near-constant state of crisis.⁷⁹ Take Facebook, for example. Internal documents leaked by a former-employee-turned-whistleblower resulted in a consortium of seventeen newspapers publishing a series of stories called *The Facebook Papers*.⁸⁰ This reporting brought a new level of intensity to the scrutiny that the company had already been facing.⁸¹ The internal documents

72. Arthur E. Wilmarth, Jr., *The Road to Repeal of the Glass-Steagall Act*, 17 WAKE FOREST J. BUS. & INTELL. PROP. L. 441, 541–44 (2017).

73. *Id.* at 544.

74. FIN. CRISIS INQUIRY COMM’N, THE FINANCIAL CRISIS INQUIRY REPORT: FINAL REPORT OF THE NATIONAL COMMISSION ON THE CAUSES OF THE FINANCIAL AND ECONOMIC CRISIS IN THE UNITED STATES 214–15 (2011) [Hereinafter FINANCIAL CRISIS INQUIRY].

75. *Id.* at xx (reporting that Lehman had accumulated \$111 billion in real estate holding and securities).

76. *Id.* at xix (“By one measure, their leverage ratios were as high as 40 to 1, meaning for every \$40 in assets, there was only \$1 in capital to cover losses.”) The losses were further exacerbated by derivate products, such as synthetic securities. *Id.*

77. *Id.* at xvi.

78. Charles W. Murdock, *The Dodd-Frank Wall Street Reform and Consumer Protection Act: What Caused the Financial Crisis and Will Dodd-Frank Prevent Future Crises*, 64 S.M.U. L. REV. 1243, 1249–50 (2011).

79. Nelson Granados, *Facebook in Crisis*, FORBES (Sep. 10, 2021), <https://www.forbes.com/sites/nelsongranados/2021/10/11/facebook-in-crisis-how-social-media-platforms-can-stay-out-of-trouble/> [<https://perma.cc/W6CL-32B5>].

80. Clare Duffy, *The Facebook Papers May Be the Biggest Crisis in the Company’s History*, CNN (Oct. 25, 2021), <https://www.cnn.com/2021/10/25/tech/facebook-papers/index.html> [<https://perma.cc/MPY9-QPN3>]. Similarly, the Wall Street Journal has produced a three-part podcast series on the negative impacts of TikTok as well. *The TikTok Spiral, Part 3: Escape the Algorithm*, WALL ST. J. (Dec. 29, 2021) (downloaded using Apple Podcasts).

81. Duffy, *supra* note 80.

confirmed that “[m]isinformation, toxicity, and violent content are inordinately prevalent among reshares” on the platform.⁸² According to the documents, Facebook’s algorithms amplify this reshared content by making it more likely to appear in users’ News Feeds.⁸³ The leaks confirmed what many had suspected: Facebook’s nearly three billion users are more likely to see misinformed, toxic, and violent content than all other content.⁸⁴

That firestorm arrived on the heels of yet another firestorm, ignited after the attack on the U.S. Capitol in January of 2021.⁸⁵ In the days that followed, the role that digital platforms played in the insurrection was revealed.⁸⁶ A forensic study found that over 8,200 news articles containing the words “Stop the Steal” or “#StopTheSteal” circulated online between September 1, 2020 and February 2, 2021.⁸⁷ Users engaged with these articles more than 70 million times during this period on different platforms, 43.5 million times in December alone.⁸⁸ Nearly 59 million of the total engagements were registered on YouTube videos, which appeared on multiple platforms, including Facebook, Twitter, Pinterest, and Reddit.⁸⁹ Further, Facebook and others had allowed anti-government militias to openly organize on their platforms.⁹⁰ In the midst of the violent uprising, Facebook advertised tactical gear adjacent to user posts that promoted the riot.⁹¹

Social media executives have been called upon to testify during a

82. Keach Hagey & Jeff Horwitz, *Facebook Tried to Make Its Platform a Healthier Place. It Got Angrier Instead.*, WALL ST. J. (Sep. 15, 2021, 9:26 AM), <https://www.wsj.com/articles/facebook-algorithm-change-zuckerberg-11631654215> [<https://perma.cc/7TMB-6DCB>].

83. *Id.*

84. *Id.*

85. *See supra* notes 8–12 and accompanying text.

86. *#StopTheSteal: Timeline of Social Media and Extremist Activities Leading to 1/6 Insurrection*, JUST SECURITY (Feb. 10, 2021), <https://www.justsecurity.org/74622/stopthesteal-timeline-of-social-media-and-extremist-activities-leading-to-1-6-insurrection/> [<https://perma.cc/XJ3S-2EWS>].

87. *Id.*

88. *Id.*

89. *Id.*

90. *Facebook’s Militia Mess*, TECH TRANSPARENCY PROJECT (Mar. 24, 2021), <https://www.techtransparencyproject.org/articles/facebooks-militia-mess> [<https://perma.cc/2Z8N-JNZR>]. A study by the Tech Transparency Project identified 201 militia pages and thirteen militia groups on Facebook. *Id.* The study also found that Facebook directs users who like militia pages to other similar militia groups, which helps these organizations recruit members. *Id.*

91. Press Release, House Committee on Energy and Commerce, E&C Democrats Demand Accountability for Facebook’s Advertising Practices in Light of Attack on the Capitol (Mar. 8, 2020), <https://energycommerce.house.gov/newsroom/press-releases/ec-democrats-demand-accountability-for-facebook-s-advertising-practices-in> [<https://perma.cc/ULM9-NBJS>].

Congressional hearing that focused on their companies' role in spreading disinformation, extremism, and misinformation.⁹² Since 2018, Mark Zuckerberg of Facebook has testified seven times, Jack Dorsey of Twitter has testified four times, and Sundar Pichai of Google has testified four times regarding issues ranging from disinformation to data privacy.⁹³ Though both parties seem to be in agreement that these digital platforms should be held to account, each legislative effort has stalled.⁹⁴ Thus, as a multi-faceted crisis in our information markets continues, digital platforms remain essentially unregulated.⁹⁵

2. Comparable Moral Hazards⁹⁶

In the months and years the followed the financial collapse, the U.S. federal government provided more than \$6 trillion in assistance to financial institutions through loans, guarantees, asset purchases, and capital infusions.⁹⁷ Resentment grew as media outlets reported on bailouts that saved wealthy firms from financial ruin but provided little to regular people who were also struggling.⁹⁸ Moral hazard became a key concern, as these institutions could continue to take unhealthy risks and expect to be bailed out when they became insolvent.⁹⁹ Lawmakers faced increasing pressure to mitigate the risk of moral hazard by increasing regulatory oversight of large

92. David McCabe & Cecilia Kang, *Lawmakers Grill Tech C.E.O.s on Capitol Riot, Getting Few Direct Answers*, N.Y. TIMES (Oct. 23, 2021), <https://www.nytimes.com/2021/03/25/technology/facebook-twitter-google-capitol-riots-hearing.html> [<https://perma.cc/AL49-5R8M>].

93. *Id.*

94. *Id.*

95. *See, e.g.*, Griffin, *supra* note 24, at 499 (observing that regulatory efforts to address the addictive and manipulative effects of digital platforms are “clearly preliminary”).

96. At a basic level, “moral hazard” means that “if you cushion the consequences of bad behavior, then you encourage that bad behavior.” Tom Baker, *On the Genealogy of Moral Hazard*, 75 TEX. L. REV. 237–38 (1996). The term is borrowed from insurance where moral hazard refers to loss increasing behavior caused by insurance. David Rowell & Luke B. Connelly, *A History of the Term “Moral Hazard,”* 79 J. RISK & INSUR. 1051, 1051 (2012).

97. Arthur E. Wilmarth, Jr., *The Dodd-Frank Act: A Flawed and Inadequate Response to the Too-Big-to-Fail Problem*, 89 OR. L. REV. 951, 957 (2011). For example, Congress passed the Troubled Asset Relief Program (“TARP”), which allowed for the use of \$700 billion in taxpayer funds to stabilize the markets. FINANCIAL CRISIS INQUIRY, *supra* note 74, at 371.

98. *See* Julia Marden, *Occupy Wall Street: A Brief History of the 99 Percent*, 41 DOCUMENTS TO THE PEOPLE, Winter 2013, at 47–48 (chronicling the history of the Occupy Wall Street movement).

99. *See* Wilmarth, Jr., *supra* note 97, at 981 (stating that evidence confirms that bailouts create significant economic distortions and promote moral hazard).

financial institutions.¹⁰⁰ The continued pressure culminated in the passage of the Dodd-Frank Act, which aimed to curb moral hazard.¹⁰¹

And now, as people around the world continue to struggle through a global pandemic, the wealth of Big Tech firms has grown exponentially.¹⁰² As reports revealing the power wielded by these companies continue to surface, some lawmakers have turned their attention to the statutory immunity these companies enjoy.¹⁰³ As an analog to the subsidies provided to the financial industry during the financial crisis, the benefits to digital platforms have materialized in the form of immunity rather than bailouts. Section 230 of the Communications Decency Act, a twenty-five-year-old law, provides online platforms immunity from liability for content published on their sites by third parties.¹⁰⁴ Notably, this immunity broadly extends to a platform's failure to remove unlawful content as well as removal of lawful content.¹⁰⁵

In 1996, the drafters of Section 230 were concerned that liability would destroy fledgling Internet companies.¹⁰⁶ Using that standard, Section 230 has surpassed expectations—Amazon, Google, and Facebook are each now valued at over \$1 trillion.¹⁰⁷ Section 230 has faced and withstood legal challenges since its enactment.¹⁰⁸ As platforms' algorithms have evolved to

100. See, e.g., Gary Burtless, *Too Big to Fail: "Systemic Importance" and Moral Hazard*, BROOKINGS INST. (Sept. 30, 2009), <https://www.brookings.edu/blog/up-front/2009/09/30/too-big-to-fail-systemic-importance-and-moral-hazard/> [<https://perma.cc/J36T-4C5L>] (proposing to reduce the size or increase the oversight of large financial institutions to mitigate risks of moral hazard).

101. Ethan T. Mobley, *Regulating Moral Hazard: The True Risk of Dodd-Frank's Risk Retention Requirement*, 10 J. BUS. ENTREPRENEURSHIP & L. 45, 46 (2016).

102. Shira Ovide, *Big Tech Has Outgrown This Planet*, N.Y. TIMES (Oct. 12, 2021), <https://www.nytimes.com/2021/07/29/technology/big-tech-profits.html> [<https://perma.cc/ED52-UMEX>].

103. Marguerite Reardon, *Section 230: How it Shields Facebook, and Why Congress Wants Changes*, CNET (Oct. 6, 2021), <https://www.cnet.com/news/politics/section-230-how-it-shields-facebook-and-why-congress-wants-changes/> [<https://perma.cc/26LG-RQUG>].

104. 47 U.S.C. § 230.

105. Rebecca J. Hamilton, *Governing the Global Public Square*, 62 HARV. INT'L L.J. 117, 132 (2021); Danielle Keats Citron & Mary Anne Franks, *The Internet as a Speech Machine and Other Myths Confounding Section 230 Reform*, U. CHI. LEGAL F. 45, 46–47, 50 (2020).

106. Ellen L. Weintraub & Thomas H. Moore, *Section 230*, 4.2 GEO. L. TECH. REV. 625, 626 (2020). Amazon was two years old at the time. *Id.*

107. Michael Grothaus, *Facebook is Now the Fifth U.S. Tech Giant Worth Over \$1 Trillion*, FAST COMPANY (June 29, 2021), <https://www.fastcompany.com/90651160/facebook-is-now-the-fifth-u-s-tech-giant-worth-over-1-trillion> [<https://perma.cc/ZAC5-G5N4>].

108. See, e.g., Chi. Laws.' Comm. for Civil Rts. Under L., Inc. v. Craigslist, Inc., 519 F.3d 666 (7th Cir. 2008) (discriminatory housing ads); *Zeran v. AOL America Online, Inc.*, 129 F.3d 327 (4th Cir. 1997) (defamatory information); *Delfino v. Agilent Techs., Inc.*, 145 Cal.

selectively curate users' content, plaintiffs have argued that such platforms have become "information content providers" as opposed to "interactive computer services."¹⁰⁹ Yet the majority of courts have continued to provide broad immunity in spite of the use of algorithms, only finding platforms liable when they "materially contributed" to the unlawful nature of the content at issue.¹¹⁰

Although the benefits take a different form, moral hazard is still a relevant concern in the context of digital platforms.¹¹¹ Mary Anne Franks contends that courts' broad interpretation of Section 230 has created moral hazard in the tech industry.¹¹² Section 230, Franks argues, encourages firms to be increasingly reckless with regard to "abusive and unlawful content" on their platforms.¹¹³ While vulnerable individuals suffer threats, harassment, and defamation, platforms are protected from liability relating to these harms and even benefit from this content, as abusive posts garner considerable engagement and, thus, generate revenue.¹¹⁴ Under the broad interpretation of Section 230, accountability for harmful content is minimal. In the absence of liability to disincentivize reckless content management, enhanced oversight may be necessary for platforms to internalize the costs of their harms and mitigate the risks of moral hazard.

3. Analogous Externalities

A negative externality occurs when a transaction results in costs that accrue, in part, to one or more third parties (for instance, to society as a whole).¹¹⁵ The macroprudential regulation imposed via the Dodd-Frank Act

App. 4th 790 (2006) (threats); *Gentry v. eBay, Inc.*, 99 Cal. App. 4th 816, 830 (2002) (false information); *Doe v. Am. Online, Inc.*, 783 So. 2d 1010, 1013–17 (2001) (sexually explicit content and minors).

109. *Force v. Facebook, Inc.*, 934 F.3d 53, 63–64 (2d Cir. 2019).

110. *Id.* at 68–69.

111. Mary Anne Franks, *Moral Hazard on Stilts: 'Zeran's' Legacy*, LAW.COM (Nov. 10, 2017, 3:30 AM), <https://www.law.com/therecorder/sites/therecorder/2017/11/10/moral-hazard-on-stilts-zerans-legacy/> [<https://perma.cc/NK46-DXKX>]. Others have argued that Section 230 creates a tragedy of the commons. See generally Michael A. Cusumano, Annabelle Gawer & David Yoffie, *Can Self-Regulation Save Digital Platforms?*, 30 INDUS. & CORP. CHANGE 1259 (2021).

112. Franks, *supra* note 111.

113. *Id.*

114. *Id.*

115. Rick Gorvett, *Systemic Risk as a Negative Externality*, in SOC. OF ACTUARIES, SYSTEMIC RISK, FINANCIAL REFORM & MOVING FORWARD FROM THE FINANCIAL CRISIS 33 (2011), <https://www.soa.org/globalassets/assets/files/resources/essays-monographs/fin-crisis/fin-crisis-essay-2011-gorvett.pdf> [<https://perma.cc/3UDZ-4NKT>].

aimed to address the negative externalities caused by the mismanagement of financial intermediaries.¹¹⁶ For example, the Act implemented changes intended to protect consumers from abusive practices and to increase transparency and accountability in the financial system.¹¹⁷ Further, when such institutions have faltered during a crisis period, consequences have extended well beyond a firm's shareholders.¹¹⁸

For example, the real estate crisis in the financial markets wreaked havoc in communities and neighborhoods across the United States. In the years that followed, nearly ten million homeowners lost their homes to foreclosure.¹¹⁹ Households lost \$17 trillion in wealth and unemployment reached a peak of 10.1% in October of 2009.¹²⁰ Although the recession technically ended in June of 2009, its long-lasting effects on employment,¹²¹ investments,¹²² and output¹²³ persisted long after.

In the context of digital platforms, once platforms attain status as

116. FINANCIAL CRISIS INQUIRY, *supra* note 74, at 389. Underlying the Dodd-Frank Act is the economic theory that government should regulate when there is a market failure. Viral Acharya & Matthew Richardson, *The Dodd-Frank Act, Systemic Risk and Capital Requirements*, CTR. FOR ECON. POL'Y RSCH. (Oct. 25, 2011), <https://voxeu.org/article/dodd-frank-act-systemic-risk-and-capital-requirements> [<https://perma.cc/VWA3-HY2G>]. Indeed, a purpose of financial regulation generally is to improve the functioning of the financial system by, among other things, preventing market failures, limiting externalities, and protecting vulnerable parties. See JOHN ARMOUR ET AL., *PRINCIPLES OF FINANCIAL REGULATION* 51–80 (2016) (discussing the four main rationales for financial regulation).

117. DODD-FRANK PREAMBLE., *supra* note 53.

118. *Id.*

119. See Viktoria Ney, *Many Americans Ended Up Homeless During the Real Estate Crisis 10 Years Ago—Here's Where They Are Now*, INSIDER (Aug. 7, 2018, 9:43 AM), <https://www.businessinsider.com/heres-where-those-who-lost-homes-during-the-us-housing-crisis-are-now-2018-8> [<https://perma.cc/HDD9-69WK>] (reporting that ten million Americans lost their homes between 2006 to 2014).

120. FINANCIAL CRISIS INQUIRY, *supra* note 74, at 389.

121. See Lisa McCorkell & Sarah Hinkley, *The Post-Recession Labor Market: An Incomplete Recovery*, INST. FOR RSCH. ON LAB. & EMP. (Mar. 25, 2019), <https://irle.berkeley.edu/the-post-recession-labor-market-an-incomplete-recovery/> [<https://perma.cc/HY9P-ELMJ>] (showing that the unemployment rate reached pre-recession levels in 2017 and that the employment-to-population ratio remained below pre-recession levels even in 2019).

122. See *Market Crashes Compared: -28% Coronavirus Crash vs. 4 Historic Market Crashes*, FORBES (Mar. 13, 2020), <https://www.forbes.com/sites/greatspeculations/2020/03/16/market-crashes-compared28-coronavirus-crash-vs-4-historic-market-crashes/> [<https://perma.cc/575D-K234>] (showing that it took the stock market four years to recover to pre-recession levels).

123. BUREAU OF ECON. ANALYSIS, U.S. DEP'T OF COM., *GROSS DOMESTIC PRODUCT: THIRD QUARTER 2011 (SECOND ESTIMATE), CORPORATE PROFITS: THIRD QUARTER 2011 (PRELIMINARY)* (Nov. 22, 2011), https://www.bea.gov/system/files/2019-02/gdp3q11_2nd.pdf [<https://perma.cc/ZWK8-F7TV>] (showing that the GDP did not recover to its pre-recession level until the third quarter of 2011).

critical infrastructure, potential failure scenarios pose systemic risks as well. A temporary outage at Amazon Web Services disrupted access to a broad swath of industries ranging from airlines to fast food.¹²⁴ The outage also impacted access to popular platforms, including Tinder, Instacart, Venmo, and Netflix, demonstrating the increasing interconnectedness of digital platforms.¹²⁵ Further, four tech giants—Google, Amazon, Facebook, and Microsoft—increasingly dominate the Internet’s critical cable infrastructure.¹²⁶ With the same companies controlling not only access to the Internet, but also the web of physical connections that support the world’s Internet traffic, the potential externalities generated in a failure scenario are expansive.

But like SIFIs, risk of failure is not the sole source of externalities. As further discussed in Part II, there is growing evidence of digital platforms’ profound effects on personal health, public health, and personal privacy as well as their frequent use in inciting political violence and facilitating criminal activity.¹²⁷ In spite of the depth and breadth of these externalities, digital platforms continue to enjoy minimal regulatory oversight.

II. PLATFORM POWERS AND EXTERNALITIES

From supra-sovereign functions to sheer market dominance, platform power exists on a wide spectrum. As a result, accounting for the systemic importance of platforms poses distinct challenges. By contrast, consistency within the financial industry facilitated the identification of key indicators—such as asset size and interconnectedness—for the SIFI framework. Social platforms are more divergent in their business models and generate broader systemic impacts. Consider the variety of frameworks employed to describe

124. Associated Press, *Amazon Web Services Outage Impacts Google, Venmo, DoorDash, Spotify, Multiple Banks*, USA TODAY (Dec. 7, 2021, 1:47 PM), <https://www.usatoday.com/story/tech/2021/12/07/amazon-web-services-outage-impacts-google-fidelity-capital-one/6419782001/> [<https://perma.cc/4GUR-VG6B>].

125. *Id.*

126. Christopher Mims, *Google, Amazon, Meta and Microsoft Weave a Fiber-Optic Web of Power*, WALL ST. J. (Jan. 15, 2022, 12:00 AM), <https://www.wsj.com/articles/google-amazon-meta-and-microsoft-weave-a-fiber-optic-web-of-power-11642222824> [<https://perma.cc/7P2H-Y3QW>] (“In less than a decade, four tech giants—Microsoft, Google parent Alphabet, Meta (formerly Facebook) and Amazon—have become by far the dominant users of undersea-cable capacity.”).

127. See *infra* Section II.B (discussing externalities with regard to health effects, misinformation, and violence).

the power of digital platforms: information fiduciaries,¹²⁸ public utilities,¹²⁹ essential infrastructure,¹³⁰ surveillance intermediaries,¹³¹ market makers/breakers,¹³² and even quasi-governmental or supra-sovereign entities.¹³³

Accordingly, an inquiry into the systemic importance of platforms is a broader endeavor than for financial institutions. Like SIFIs, the systemic importance of platforms is derived from the scale and gravity of their externalities; it is a function of risks posed by their pervasive power and externalities in markets, information ecosystems, society, and everyday human life.¹³⁴ Put another way, SITIs have emerged from acute concentrations in market power and governance. As platforms have scaled to extraordinary proportions, so too have their systemic risks. This Part addresses the systemic importance of the powers and externalities of digital

128. Compare Jack M. Balkin, *Information Fiduciaries and the First Amendment*, 49 U.C. DAVIS L. REV. 1183 (2016) (discussing how the First Amendment permits greater regulation of information fiduciaries because of their special power over others), with Lina M. Khan & David E. Pozen, *A Skeptical View of Information Fiduciaries*, 133 HARV. L. REV. 497 (2019) (seeking to disrupt the emerging consensus regarding information fiduciaries).

129. See, e.g., K. Sabeel Rahman, *The New Utilities: Private Power, Social Infrastructure, and the Revival of the Public Utility Concept*, 39 CARDOZO L. REV. 1621 (2018) (exploring the regulation of modern-day forms of private power).

130. See, e.g., Nikolas Guggenberger, *Essential Platforms*, 24 STAN. TECH. L. REV. 237, 238 (2021) (“[D]igital platforms serve as essential facilities for the digital economy—a sector that is omnipresent in modern life.”).

131. See, e.g., Alan Z. Rozenshtein, *Surveillance Intermediaries*, 70 STAN. L. REV. 99 (2018) (exploring “how government surveillance is checked by *surveillance intermediaries*”).

132. See, e.g., Frank Pasquale, *From Territorial to Functional Sovereignty: The Case of Amazon*, L. & POL. ECON. PROJECT (Dec. 6, 2017), <https://lpeproject.org/blog/from-territorial-to-functional-sovereignty-the-case-of-amazon/> [<https://perma.cc/6RFP-5LPZ>] (discussing how major digital firms displace the state in certain spaces); see also Sara Morrison, *Amazon’s Strategy to Squeeze Marketplace Sellers and Maximize Its Own Profits is Evolving*, VOX (Dec. 1, 2021 8:00 AM), <https://www.vox.com/recode/22810795/amazon-marketplace-prime-report> [<https://perma.cc/6Q5M-QZJ7>] (explaining how Amazon uses its monopoly power to exploit small businesses).

133. See, e.g., Kristen E. Eichensehr, *Digital Switzerlands*, 167 U. PA. L. REV. 665, 667 (2019) (observing that technology companies are “increasingly standing as competing power centers that challenge the primacy of governments”); see also Nancy S. Kim & D. A. Jeremy Telman, *Internet Giants as Quasi-Governmental Actors and the Limits of Contractual Consent*, 80 MO. L. REV. 724, 767 (2015) (discussing quasi-governmental aspects of platform contracting); see also *infra* notes 138–139 and Part II.A.1 (defining and addressing these terms in the context of digital platforms).

134. See, e.g., Anupam Chander, *Facebookistan*, 90 N.C. L. REV. 1807, 1809 (2012) (“Facebook increasingly records our lives, mediates our interactions, and serves as a platform for businesses, media, organizations, and even governments to engage the world.”).

platforms.¹³⁵

A. Platform Powers

The market power of the largest digital platforms is exceptional, even by historical standards. Their extraordinary economic position—a combined market capitalization of more than \$7 trillion for five companies—is one component of their systemic importance.¹³⁶ But the power of platforms extends well beyond the financial realm. Digital platforms manage a large segment of the information ecosystem—the modern public square.¹³⁷ Exercising quasi-governmental powers, platforms routinely make determinations about matters of high-order public interests. And the largest platforms even possess a degree of supra-sovereign status, wielding the power to undermine and defy governmental authority. In other words, platforms sometimes govern alongside states through *quasi-governmental* acts;¹³⁸ other times, with *supra-sovereign* status, platforms govern above or beyond the orbit of sovereign states.¹³⁹ At this extraordinary scale, even relatively mundane practices—like consumer contracting—have systemic

135. Our effort to identify high-level platform powers and externalities is not exclusive or perfectly exhaustive. The vast dimensions and complexity of those powers and externalities render them difficult to catalog concisely. We also acknowledge the difficulty of neatly categorizing platform characteristics as powers and externalities—in some cases they are intertwined.

136. By the end of 2020, the combined market value of Facebook, Alphabet, Amazon, Microsoft, and Apple was \$7.511 trillion. *How Big Tech Got Even Bigger*, WALL ST. J. (Feb. 6, 2021, 12:00 AM), <https://www.wsj.com/articles/how-big-tech-got-even-bigger-11612587632> [<https://perma.cc/RS44-LUDY>] (explaining technology giants increased their market dominance during the pandemic).

137. See *Packingham v. North Carolina*, 137 S. Ct. 1730, 1737 (2017) (pertaining to a defendant who was convicted for accessing a social networking website). Although the “public square” label has some appeal as shorthand for the extraordinary importance of certain platforms in modern public discourse and information ecosystems, those platforms are perhaps more like digital private squares with enormous public implications.

138. We employ the term “quasi-governmental” to describe characteristics or functions that reflect a degree of regulatory power or are traditionally the domain of governments. See generally Kim & Telman, *supra* note 133 (relying on the term to describe platform powers).

139. Lacking an ideal term to describe the composite forms of sovereignty that platforms have assumed, we settle on “supra-sovereign” to describe the ability of large platforms to conduct themselves beyond the reach of territorial sovereigns and even, in some cases, regulate sovereign power. Terms like “Facebookistan” and “Digital Switzerlands,” for instance, have been used to describe these phenomena. See *supra* notes 133–134. And the term “quasi-sovereign,” for instance, already has an established meaning unsuitable for this context. See, e.g., Anna Gelpern, *Bankruptcy Backwards: The Problem of Quasi-Sovereign Debt*, 121 YALE L.J. 888, 891 n.7 (2012) (discussing the term “quasi-sovereign” in the context of state insolvency).

impacts.¹⁴⁰

1. Quasi-Governmental and Supra-Sovereign Status

In a lot of ways Facebook is more like a government than a traditional company.

—Mark Zuckerberg¹⁴¹

Modern digital platforms are far from the first private entities to attain supercharged powers on a global scale. Consider the British East India Company (EIC), founded in 1600, an early example of a joint-stock company.¹⁴² By any standards, the EIC was an exceedingly powerful multinational force, toppling the once-mighty Mughal Empire and ruling India by force for over a century.¹⁴³ Acting as “a state in the guise of a merchant,” the EIC exercised quasi-governmental powers, behaving much like a sovereign, but without the attendant legal status, responsibilities, and recognition of a Westphalian state.¹⁴⁴ Among the EIC’s quasi-governmental behaviors were minting its own coinage, enacting and enforcing laws, waging war, conducting diplomacy, and collecting taxes.¹⁴⁵ At one point, the Company directed an army of 260,000 soldiers.¹⁴⁶ Wielding those powers, the EIC attained a status akin to corporate sovereignty—at once embodying

140. See Kim & Telman, *supra* note 133, at 767; see also *infra* notes 186–187 and accompanying text (addressing the role of platform contracts in shaping consumer rights and privacy).

141. Ezra Klein, *Mark Zuckerberg on Facebook’s Hardest Year, and What Comes Next*, VOX (Apr 2, 2018, 6:00 AM), <https://www.vox.com/2018/4/2/17185052/mark-zuckerberg-facebook-interview-fake-news-bots-cambridge> [<https://perma.cc/V6S8-24C6>] (discussing Facebook’s various difficulties in 2018 and its outlook).

142. See WILLIAM DALRYMPLE, *THE ANARCHY: THE RELENTLESS RISE OF THE EAST INDIA COMPANY* 7–8 (2019) (describing the EIC’s joint stock structure, which separated ownership from management, a precursor to the structure of modern corporations) [hereinafter *THE ANARCHY*].

143. See William Dalrymple, *The East India Company: The Original Corporate Raiders*, *THE GUARDIAN* (Mar. 4, 2015, 12:59 AM), <https://www.theguardian.com/world/2015/mar/04/east-india-company-original-corporate-raiders> [<https://perma.cc/WE5E-GXVZ>] (“[A]lmost all of India south of [Delhi] was by then effectively ruled from a boardroom in the City of London.”) [hereinafter *Corporate Raiders*].

144. That quip belongs to Edmund Burke. See *THE ANARCHY*, *supra* note 142, at 3.

145. *THE ANARCHY*, *supra* note 142, at 9; see also PHILIP J. STERN, *THE COMPANY STATE: CORPORATE SOVEREIGNTY AND THE EARLY MODERN FOUNDATIONS OF THE BRITISH EMPIRE IN INDIA* 3–6 (2012) (exploring the “nature of corporations, states, sovereigns, and imperial power in the early modern period”).

146. *Corporate Raiders*, *supra* note 143 (“By 1803, when the EIC captured the Mughal capital of Delhi, it had trained up a private security force of around 260,000—twice the size of the British army—and marshalled more firepower than any nation state in Asia.”).

and defying concepts such as state-like, semi-sovereign, quasi-governmental.¹⁴⁷ Today, some of these “composite forms” of sovereignty are evident in SITIs.¹⁴⁸

SITIs are much more than businesses with super-sized market capitalization. When Denmark appointed an ambassador to Silicon Valley, the Foreign Minister compared technology companies to “a type of new nation.”¹⁴⁹ Primacy in the digital realm means that platforms are geopolitical protagonists themselves, possessing meaningful agency on the global stage.¹⁵⁰ That status translates into important roles in modern governance—platforms routinely perform *quasi-governmental* functions and exercise *supra-sovereign* powers. In doing so, the status quo of sovereignty has eroded, and state control over core aspects of society, markets, and national security is substantially less absolute as a result.¹⁵¹

In a digital economy, because data management *is* governance, we increasingly find platforms in quasi-governmental roles, regulating alongside sovereign states.¹⁵² Platforms, for instance, play crucial roles in shaping privacy and speech rights at the global scale.¹⁵³ Managing the digital public square sometimes means curbing the behavior of elected officials,¹⁵⁴ or even heads of state.¹⁵⁵ As the “rails” of the digital marketplace, a handful of dominant platforms set the rules for large tracts of the economy and

147. See STERN, *supra* note 145, at 4–6 (delineating the decidedly state-like features of the East India Company).

148. See *id.* at 3 (observing “composite forms of sovereignty” in the early history of the corporate form).

149. Robbie Gramer, *Denmark Creates the World’s First Ever Digital Ambassador*, FOREIGN POL’Y (Jan. 27, 2017, 2:37 PM), <https://foreignpolicy.com/2017/01/27/denmark-creates-the-worlds-first-ever-digital-ambassador-technology-europe-diplomacy/> [<https://perma.cc/CZQ2-XM6D>] (“Denmark unveiled plans to put in place a digital ambassador to liaise with some of the world’s top tech companies.”).

150. See Bremmer, *supra* note 66, at 128 (observing that platforms are “geopolitical actors in and of themselves”).

151. *Id.* at 112–13.

152. See JACQUES CRÉMER ET AL., EUR. COMM’N, COMPETITION POLICY FOR THE DIGITAL ERA 60 (2019), <https://ec.europa.eu/competition/publications/reports/kd0419345enn.pdf> [<https://perma.cc/YHX6-57AR>] (analyzing competition regulation with regard to large digital firms); see also Niamh Dunne, *Platforms as Regulators*, 9 J. ANTITRUST ENFORCEMENT 244, 247 (2021) (assessing the coherence of the platforms-as-regulators concept).

153. See Dunne, *supra* note 152, at 247.

154. See, e.g., Davey Alba, *Twitter Permanently Suspends Marjorie Taylor Greene’s Account*, N.Y. TIMES (Jan. 2, 2022), <https://www.nytimes.com/2022/01/02/technology/marjorie-taylor-greene-twitter.html> [<https://perma.cc/8RM4-QTDT>] (reporting Twitter’s decision to suspend the personal account of U.S. Representative Marjorie Taylor Greene).

155. Following the January 6th riots, President Donald Trump was banned or suspended by Twitter, Facebook/Instagram, YouTube, Snapchat, Reddit, Twitch, and Shopify. See *supra* notes 14–15 and accompanying text.

information ecosystem.¹⁵⁶ Platforms mediate data, commerce, and all manner of human interactions at a global scale, some of which sovereign states are in no position to govern.¹⁵⁷ Decisions made by the largest platforms, though conducted in private, have extraordinary reach and public implications.¹⁵⁸

Platforms perform vital para-governmental functions. Modern law enforcement, cybercrime control, and government surveillance have grown heavily dependent on platforms for data.¹⁵⁹ The extent of this dependency is reflected in the scope and volume of data requests, which now number in the hundreds of thousands per year.¹⁶⁰ Meta, for instance, received about 365,000 government requests for data worldwide in 2022.¹⁶¹ In the United States alone, Meta received 63,657 requests during the first half of 2021.¹⁶² For platforms that control critical infrastructure in the digital universe,

156. See Guggenberger, *supra* note 130, at 240 (“What the railroads were to the early twentieth century, digital platforms have become to the early twenty-first century.”); see also *infra* Section II.A.2 (discussing the market powers of SITIs).

157. See Jennifer Daskal, *Borders and Bits*, 71 VAND. L. REV. 179, 182 (2018) (“The multinational companies that manage our data have taken on a form of international governance in ways that traditional governments can’t and won’t.”).

158. See, e.g., Kate Klonick, *The New Governors: The People, Rules, and Processes Governing Online Speech*, 131 HARV. L. REV. 1598, 1601 (2018) (categorizing social platforms as “self-regulating private entities” that govern public speech).

159. See Rozenshtein, *supra* note 131, at 113–15; Jack Nicas, *What Data About You Can the Government Get From Big Tech?*, N.Y. TIMES (June 14, 2021), <https://www.nytimes.com/2021/06/14/technology/personal-data-apple-google-facebook.html> [<https://perma.cc/9NHS-Q5NK>] (explaining the type of data that technology companies collect about their users); Eichensehr, *supra* note 133, at 688–89 (“In its crime control efforts, Microsoft is acting like U.S. federal law enforcement.”).

160. Companies frequently comply with official requests for data, an increasingly prevalent practice. See, e.g., Matt O’Brien & Michael Liedtke, *How Big Tech Created a Data “Treasure Trove” for Police*, ASSOC. PRESS (June 22, 2021), <https://apnews.com/article/how-big-tech-created-data-treasure-trove-for-police-e8a664c7814cc6dd560ba0e0c435bf90> [<https://perma.cc/TS3J-3RFM>] (“In just the first half of 2020—the most recent data available—Apple, Google, Facebook and Microsoft together fielded more than 112,000 data requests from local, state and federal officials.”); see also Karl Colbary, Note, *Outsourcing the Police: How Reliance on the Private Sector for Law Enforcement Threatens Privacy Legislation Around the World*, 41 NW. J. INT’L L. & BUS. 213, 214 (2021) (“[G]overnment is one of the biggest consumers of the data that tech providers collect”).

161. *Government Requests for Data: Global Overview*, META, <https://transparency.fb.com/data/government-data-requests/> [<https://perma.cc/KC5S-HRBK>] (last visited Feb. 12, 2022) (documenting the number of government request for user data).

162. *Government Requests for Data: United States, January 2021–June 2021*, META, <https://transparency.fb.com/data/government-data-requests/country/US/> [<https://perma.cc/GCD4-6NYH>] (last visited Feb. 10, 2022). Twitter received 12,400 such requests during the same period. *Transparency*, TWITTER, <https://transparency.twitter.com/> [<https://perma.cc/4Q4F-PJQR>] (last visited Feb. 10, 2022).

systemic importance is strategic importance. Intelligence agencies, too, rely heavily on data collected and managed by platforms—a relationship partially exposed by Edward Snowden in 2013.¹⁶³ And, long before more recent digital dependencies emerged between government and digital platforms, Silicon Valley has been an integral part of the modern military-industrial complex.¹⁶⁴

In their para- and quasi-governmental capacities, platforms alternate between cooperation and conflict with various sovereign interests.¹⁶⁵ Although technology companies are often cooperative with powerful states, high-profile divergences underscore the extent of platform prerogatives.¹⁶⁶ Apple, for instance, famously refused to cooperate with the Federal Bureau of Investigation (FBI) during an investigation of terrorism suspects, delaying official investigations of the deadliest attack of terrorism on American soil since 9/11.¹⁶⁷ Ultimately, the FBI spent well over a million dollars to access data on the phone.¹⁶⁸ From jurisdictional battles¹⁶⁹ to clashes over content

163. Joseph Menn, *Strong Ties Bind Spy Agencies and Silicon Valley*, REUTERS (July 3, 2013, 3:12 PM), <https://www.reuters.com/article/us-usa-security-siliconvalley/strong-ties-bind-spy-agencies-and-silicon-valley-idUSBRE96214I20130703> [<https://perma.cc/YG44-VFXY>] (“Former U.S. officials and intelligence sources say the collaboration between the tech industry and spy agencies is both broader and deeper than most people realize, dating back to the formative years of Silicon Valley itself.”).

164. *See id.* (“The close and symbiotic relationship between U.S. tech companies and government defense and intelligence agencies is frequently underplayed in the mythology of Silicon Valley. Defense contracts were its lifeblood through much of the 1950s and 1960s.”); *see also* Margaret O’Mara, *Silicon Valley Can’t Escape the Business of War*, N.Y. TIMES (Oct. 26, 2018), <https://www.nytimes.com/2018/10/26/opinion/amazon-bezos-pentagon-hq2.html> [<https://perma.cc/ZLW4-BCYK>] (“The American tech economy rests on the foundations of the military-industrial complex.”).

165. Chloe Goodwin, *Cooperation or Resistance?: The Role of Tech Companies in Government Surveillance*, 131 HARV. L. REV. 1722, 1722 (2018) (framing the decisions of intermediary platforms in terms of assistance or resistance).

166. *See, e.g.*, O’Brien & Liedtke, *supra* note 160 (citing reports that companies agreed to hand over some data in 85% of a sample of more than 112,000 requests). Compliance rates can vary substantially, from company to company. *See, e.g.*, *Government Information Requests*, TWITTER, <https://transparency.twitter.com/en/reports/information-requests.html#2021-jan-jun> [<https://perma.cc/7HWY-E32Y>] (last visited Feb. 23, 2022) (reporting a 36.2% compliance rate with government requests during the first half of 2021).

167. *See* Rozenshtein, *supra* note 131, at 102–03 (recounting the events surrounding the investigation of the San Bernardino attack).

168. Julia Edwards, *FBI Paid More Than \$1.3 Million to Break into San Bernardino iPhone*, REUTERS (April 21, 2016, 2:25 PM), <https://www.reuters.com/article/us-apple-encryption-fbi/fbi-paid-more-than-1-3-million-to-break-into-san-bernardino-iphone-idUSKCN0XI21IB> [<https://perma.cc/439F-AHAZ>].

169. Data is often the subject of jurisdictional and substantive tensions. *See, e.g.*, Stephanie Bodoni, *Facebook Fights Irish Privacy Watchdog’s Data-Transfer Curbs*,

moderation,¹⁷⁰ tensions between platform power and territorial sovereigns have emerged on a wide spectrum.

For better or for worse, most sovereigns lack the regulatory leverage to shape the digital ecosystem. Even relatively powerful states have found material limitations in dealing with the largest platforms—for instance, when attempting to investigate platform externalities. In the United States, Alphabet was noticeably absent—symbolically marked by a conspicuously empty chair—at a Senate hearing on election interference during the 2016 elections.¹⁷¹ The United Kingdom, too, has encountered difficulties in persuading executives to appear at parliamentary hearings.¹⁷² Platforms have, at times, behaved aggressively when facing unfavorable regulatory developments. Facebook blocked users in Australia from sharing and viewing news on the platform in response to a proposed law.¹⁷³ Meta has made similar threats in response to proposed legislation in the European Union.¹⁷⁴

The practical dimensions of platform power are considerable too. Leading platforms have immense resources. At \$258 billion, Alphabet's revenues in 2021 were greater than the GDPs of countries such as Greece and New Zealand.¹⁷⁵ Meanwhile, Apple's 2021 revenues were over \$365

BLOOMBERG (Sept. 11, 2020, 5:41 AM), <https://www.bloomberg.com/news/articles/2020-09-11/facebook-sues-irish-privacy-watchdog-over-data-transfer-spat> [<https://perma.cc/69WX-VHBF>].

170. For instance, in a clash with social platforms, Brazilian President Jair Bolsonaro attempted to prevent social platforms from removing certain content. See Jack Nicas, *Brazil's President Bans Social Networks from Removing Some Posts*, N.Y. TIMES (Sept. 9, 2021), <https://www.nytimes.com/2021/09/09/world/americas/bolsonaro-social-networks.html> [<https://perma.cc/BUU9-WKLLK>].

171. Tim Mak, *Senate Committee Vents About Hijacking of Big Tech for Information War*, NPR (Sep. 5, 2018, 5:00 AM), <https://www.npr.org/2018/09/05/644607908/facebook-twitter-heavies-set-to-appear-at-senate-hearing-google-may-be-mia> [<https://perma.cc/4ZHY-VSR5>].

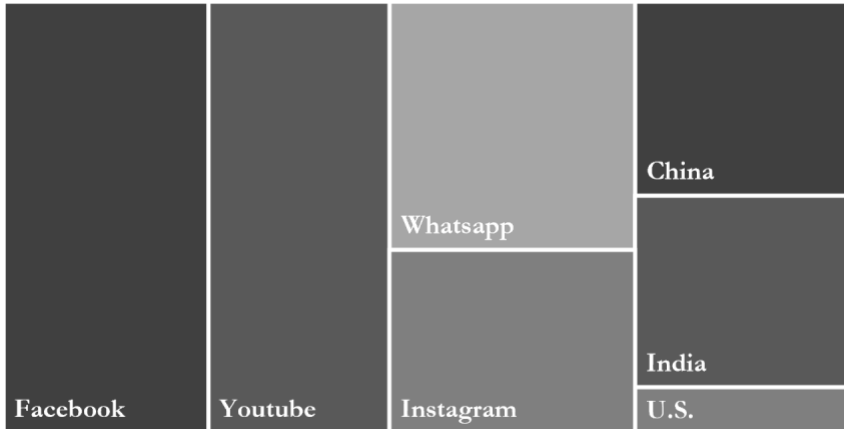
172. Mark Zuckerberg, for instance, dismissed multiple requests by lawmakers in the United Kingdom to testify in parliamentary hearings. Lauren Feiner, *Mark Zuckerberg Turns Down UK Parliament Request to Answer Questions About Fake News and Data Privacy on Facebook*, CNBC (Nov. 7, 2018, 9:19 AM), <https://www.cnn.com/2018/11/07/mark-zuckerberg-declines-uk-parliament-invite-to-discuss-privacy.html> [<https://perma.cc/C4UB-HEK9>].

173. James Clayton, *Facebook Blocks Australian Users from Viewing or Sharing News*, BBC (Feb. 18, 2021), <https://www.bbc.com/news/world-australia-56099523> [<https://perma.cc/HF6B-NAEQ>].

174. Jillian Deutsch & Stephanie Bodoni, *Meta Renews Warning to EU It Will Be Forced to Pull Facebook*, BLOOMBERG (Feb. 7, 2022), <https://www.bloomberg.com/news/articles/2022-02-07/meta-may-pull-facebook-instagram-from-europe-over-data-rules> [<https://perma.cc/PG8C-YUTK>].

175. *GDP (Current US\$)*, WORLD BANK GRP., <https://data.worldbank.org/indicator/NY.GDP.MKTP.CD> [<https://perma.cc/Q4WM-6GDR>] (last visited Nov. 29, 2022).

billion, roughly on par with the GDPs of Egypt and Denmark.¹⁷⁶ In addition to extraordinary market power, the user bases and reach of the largest platforms is also considerable.¹⁷⁷



Notes: This figure illustrates the number of monthly active users of the top four social platforms alongside the three most populous countries in the world as of December 2022. Three of the four top platforms (Facebook, WhatsApp, and Instagram) are controlled by Meta Platforms, Inc. under a dual-class share structure.

*Figure 1: Platform Users vs. Country Populations*¹⁷⁸

Facebook has far more users than any one country has citizens. The total number of users on Facebook, WhatsApp, and Instagram—all ultimately controlled by one person under Meta’s dual-class share structure—is almost 6.4 billion (see Figure 1 above). YouTube generates about five billion views *every day*.¹⁷⁹ Platforms increasingly leverage their

176. *Id.*

177. Comparing user bases to populations and revenues to GDP are rough analogies, as sovereign-citizen and platform-user relationships differ substantially. Still, as reflections of reach and power, these indications of scale are worth considering. *See, e.g.,* Eichensehr, *supra* note 133, at 685–87 (identifying the constituencies and financial resources of platforms as parallels to sovereign power).

178. *Most Popular Social Networks Worldwide as of January 2022, Ranked by Number of Monthly Active Users*, STATISTA (March 8, 2022), <https://www.statista.com/statistics/272014/global-social-networks-ranked-by-number-of-users/> [<https://perma.cc/LE7Z-BELS>].

179. Danny Donchev, *40 Mind Blowing YouTube Facts, Figures and Statistics—2022*, FORTUNELORDS (Feb. 4, 2022), <https://fortunelords.com/youtube-statistics/> [<https://perma.cc/9KV7-ZFXR>].

financial resources and extraordinary reach to exert influence. Large platforms have become aggressive lobbyists¹⁸⁰ and powerful advocates in regulatory matters.¹⁸¹

Even a mundane business practice—such as routine contracting with consumers—can have an outsized impact on law and governance.¹⁸² Legally speaking, platforms interface with users via terms-of-use (TOU)¹⁸³ agreements that consumers rarely read or understand.¹⁸⁴ Users typically agree to TOUs with a cursory scroll, swipe, or tap. TOUs are unilaterally drafted and, in the United States, are subject to minimal intervention from legal and regulatory bodies.¹⁸⁵ Though seemingly mundane, TOUs play a large role in defining legal dynamics—including rights to data, dispute resolution, and privacy—between society and technology.¹⁸⁶ In the absence of comprehensive data regulation, for instance, TOUs play a pivotal role in defining privacy rights at a global scale.¹⁸⁷

180. Lobbying expenditures in 2021 were as follows: Meta (\$20.1 million), Amazon (\$19.3 million), Google (\$9.6 million), Apple (\$6.5 million), and Microsoft (\$10.2 million). Anna Edgerton & Bill Allison, *Google Splurges on 30% Lobbying Boost Amid Rising D.C. Hostility*, BLOOMBERG (Jan. 20, 2022), <https://www.bloomberg.com/news/articles/2022-01-21/google-lobbying-soars-in-washington-as-antitrust-scrutiny-grows> [<https://perma.cc/LS42-7MSM>].

181. Abbey Stemler, *Platform Advocacy and the Threat to Deliberative Democracy*, 78 MD. L. REV. 105, 117–18 (2018).

182. See Daniel T. Ostas, *Postmodern Economic Analysis of Law: Extending the Pragmatic Visions of Richard A. Posner*, 36 AM. BUS. L.J. 193, 226–27 (1998) (“Form contracting has become the predominant way of doing business in the twentieth century.”); see also Kim & Telman, *supra* note 133, at 767 (identifying quasi-governmental aspects of platform contracting).

183. In this Article, we refer to both terms-of-use and terms-of service (and similar agreements by other names) as “TOUs.”

184. See Uri Benoliel & Shmuel I. Becher, *The Duty to Read the Unreadable*, 60 B.C. L. REV. 2255 (2019) (showing that TOUs are often unreadable for the general public); see also Shmuel I. Becher, *Asymmetric Information in Consumer Contracts: The Challenge That Is Yet to Be Met*, 45 AM. BUS. L.J. 723, 726 (2008) (observing that users often face a choice not among terms but between accessing a service or not using it at all).

185. See Scott R. Peppet, *Freedom of Contract in an Augmented Reality: The Case of Consumer Contracts*, 59 UCLA L. REV. 676, 706 (2012) (“The information infrastructure of the economy has shifted underneath the feet of contract doctrine.”).

186. See, e.g., Nancy S. Kim, *Adhesive Terms and Reasonable Notice*, 53 SETON HALL L. REV. 85, 86–87 (2022); *Trump v. Twitter Inc.*, No. 21-CV-08378, 2022 WL 1443233 (N.D. Cal. May 6, 2022) (finding that the TOU “gave Twitter contractual permission to act as it saw fit with respect to any account or content for any or no reason”); *Selden v. Airbnb, Inc.*, 4 F.4th 148, 157 (D.C. Cir. 2021) (finding that an arbitration clause prevented an Airbnb user’s racial discrimination claims from proceeding in the judicial system).

187. See Kim & Telman, *supra* note 133, at 754 (“The business practices of Internet giants set online standards, restrict or delete consumers’ rights, establish business norms, and dictate

Contracts create private legal obligations—small halos of law that encompass the parties to an agreement. But, when contracting by the billions, the halos become private realms of law at unprecedented scale. Binding hundreds of millions or billions of users at once, platform TOUs are the most widely used contracts in history.¹⁸⁸ In the attention economy, because data is *everything*, these TOUs carry systemic weight.¹⁸⁹ The TOUs of SITIs represent a significant source of private lawmaking with public implications. They play a systemic role in defining the relationship between technology, data, and society.

As platforms obtain quasi-governmental and supra-sovereign power, they increasingly act like states as well. Like the EIC once did, the most powerful platforms have assumed state-like functions—conducting diplomacy, attempting to establish currencies, and performing quasi-regulatory functions—all while building governance structures that mimic apparatuses of the state. Facebook so resembles a government that it established a faux judicial branch, known as the Oversight Board.¹⁹⁰ Platforms have selectively adopted certain principles of public governance, such as transparency reporting, which has proliferated widely since Google issued its first report in 2010.¹⁹¹ However, the scope and content of transparency reporting is unilaterally determined by platforms. Platforms tend to be eager to share information about benign content management

behavior that shapes and affects the lives of citizens.”); Sarah Perez, *TikTok Just Gave Itself Permission to Collect Biometric Data on U.S. Users, Including ‘Faceprints and Voiceprints,’* TECHCRUNCH (June 3, 2021), <https://techcrunch.com/2021/06/03/tiktok-just-gave-itself-permission-to-collect-biometric-data-on-u-s-users-including-faceprints-and-voiceprints/> [https://perma.cc/86PE-5T54] (outlining some implications of TikTok’s privacy policy modifications).

188. See Michael L. Rustad & Maria Vittoria Onufrio, *Reconceptualizing Consumer Terms of Use for a Globalized Knowledge Economy*, 14 U. PA. J. BUS. L. 1085, 1086 (2012) (describing platform terms as “the most widely used standard form contracts in world history[,] with potentially billions of users”).

189. *The World’s Most Valuable Resource Is No Longer Oil, but Data*, THE ECONOMIST (May 6, 2017), <https://www.economist.com/leaders/2017/05/06/the-worlds-most-valuable-resource-is-no-longer-oil-but-data> [https://perma.cc/TK3E-4FR6].

190. Although the Oversight Board has been likened to the “Supreme Court” of Facebook, in reality the body is neither a court nor supreme. See, e.g., Kate Klonick, *Inside the Making of Facebook’s Supreme Court*, NEW YORKER (Feb. 12, 2021), <https://www.newyorker.com/tech/annals-of-technology/inside-the-making-of-facebooks-supreme-court> [https://perma.cc/ZRC7-6R7N]. Between the dual-class governance structure at Facebook and the Board’s limited prerogatives, the mechanism is more of a distraction than a real check on power. See discussion *supra* Section II.A.2.

191. See Laura A. Dickinson, *Regulating the Privatized Security Industry: The Promise of Public/Private Governance*, 63 EMORY L.J. 417, 419 (2013) (identifying public participation, transparency, and accountability as “core public values”); see also Eichensehr, *supra* note 133, at 719–20 (observing the adoption of transparency practices at platforms).

while shielding data about problematic tendencies and negative externalities.¹⁹²

Likewise, platforms are incentivized to adopt governance practices that improve their public image but stop short of ceding power or interfering with their business models.¹⁹³ Despite their parallels with sovereign states, platforms tend not to govern like representative governments. Their lack of enfranchisement—in addition to the absence of regulatory oversight and even content liability—means that platforms are minimally accountable to public interests.¹⁹⁴ The public, as a constituency, has little to no say. And users certainly do not vote on the priorities of algorithmic design or content moderation. Even the contractual terms of the platform-user relationship are unilaterally designed, and typically can be modified at will, unilaterally by the platform.¹⁹⁵ Corporate governance at platforms responds only to shareholders. Even then, dual-class share structures at some platforms cancel any influence shareholders might have over internal governance.¹⁹⁶ Critical aspects of platform governance—for instance, algorithmic design—are opaque, and off limits to the public. Considering the implications of their systemic importance, transparency and accountability is remarkably low.

2. Concentrations of Power

At an astonishing pace, the digital revolution has transformed the modern economy and even reshaped contemporary life.¹⁹⁷ Apple's iPhone

192. See, e.g., Julie Cohen, *Law for the Platform Economy*, 51 U.C. DAVIS. L. REV. 133, 175 (2017) (“[A]lthough the major platforms widely publicize information about the takedown notices they receive from copyright owners and, to the extent permitted, about government production requests, they provide no comparable public transparency about the details of their own automatic filtering and manipulation.”).

193. See Ian Bremmer, *Conflict Between Big Tech and Governments Invites Technopolar World*, NIKKEI (Jan. 14, 2022), <https://asia.nikkei.com/Opinion/Conflict-between-Big-Tech-and-governments-invites-technopolar-world> [<https://perma.cc/3MEL-KU44>] (“Like a country with surging economic growth that cannot yet educate its citizens or keep them safe, Big Tech has neither the capacity nor the willingness to govern the new spaces and tools it is creating.”).

194. See Eichensehr, *supra* note 133, at 715–16 (discussing the undemocratic nature of platforms).

195. Facebook abandoned a small-scale voting experiment, initiated in 2009, amid low participation. See, Adi Robertson, *Mark Zuckerberg Wants to Democratize Facebook—Here's What Happened When He Tried*, THE VERGE (April 5, 2018), <https://www.theverge.com/2018/4/5/17176834/mark-zuckerberg-facebook-democracy-governance-vote-failure> [<https://perma.cc/V4PG-FHW2>].

196. See *infra* notes 221–225 and accompanying text.

197. See Glenn S. Gerstell, *I Work for N.S.A. We Cannot Afford to Lose the Digital*

launched in 2007, then spawning the App Store, an ecosystem of applications (or “apps”) and a vibrant new marketplace for mobile computing.¹⁹⁸ The App Store opened with five hundred applications. Today, the App Store carries about 2.2 million apps, while Google Play carries almost 3.5 million.¹⁹⁹ Together, in the course of a year, those two application platforms account for over 143 billion downloads.²⁰⁰ With standard commissions at 30%—across the App Store, Google Play, the Amazon Appstore, and the Samsung Galaxy Store—the fees collected are staggering.²⁰¹ Transactions on the App Store alone exceeded well over \$0.5 trillion in 2020.²⁰²

Power in the digital marketplace has tended towards concentration. In 2021, the market capitalization of Big Tech captured headlines when just five companies—Amazon, Alphabet, Apple, Facebook, and Microsoft—exceeded 20% of the S&P 500.²⁰³ Within key markets, concentration is extreme. Google holds almost 93% of the internet search market.²⁰⁴ In 2021,

Revolution, N.Y. TIMES (Sept. 10, 2019), <https://www.nytimes.com/2019/09/10/opinion/nsa-privacy.html> [<https://perma.cc/KAW2-U828>] (“The digital revolution thus far is distinguished by its ability to become ubiquitous in our daily personal and commercial lives in an astonishingly rapid time, a time frame that is really without precedent.”).

198. THOMAS L. FRIEDMAN, THANK YOU FOR BEING LATE 19-36 (2016) (singling out 2007 as a particularly transformative year for technological change and computing power).

199. *Number of Apps Available in Leading App Stores as of 2021*, STATISTA (Dec. 14, 2021), <https://www.statista.com/statistics/276623/number-of-apps-available-in-leading-app-stores/> [<https://perma.cc/Q99P-JST7>].

200. *Combined Global Apple App Store and Google Play App Downloads From 1st Quarter 2015 to 3rd Quarter 2021*, STATISTA (Dec. 14, 2021), <https://www.statista.com/statistics/604343/number-of-apple-app-store-and-google-play-app-downloads-worldwide/> [<https://perma.cc/R2AY-2NDN>] (illustrating downloads on the App Store and Google Play since 2015).

201. Fees vary based on the nature of the transaction, typically ranging from 15% to 30%. *Commission Rates for Leading App Stores Worldwide as of July 2020*, STATISTA (July 22, 2020), <https://www.statista.com/statistics/975776/revenue-split-leading-digital-content-store-worldwide/> [<https://perma.cc/W5V3-7ER6>].

202. Billings and sales on the App Store ecosystem were estimated at \$643 billion in 2020. See JONATHAN BORCK, JULIETTE CAMINADE & MARKUS VON WARTBURG, ANALYSIS GRP., A GLOBAL PERSPECTIVE ON THE APPLE APP STORE ECOSYSTEM 2 (June 2021), <https://www.apple.com/newsroom/pdfs/apple-app-store-study-2020.pdf> [<https://perma.cc/4HRC-BK7V>].

203. See Dion Rabouin, *Big Tech’s Share of the S&P 500 Reached Record Level in August*, AXIOS (Sept. 28, 2020), <https://www.axios.com/big-techs-share-of-the-sp-500-reached-record-level-in-august-cebc64b0-68b9-4906-b45f-f3e241a059fd.html> [<https://perma.cc/T7CV-GHQS>].

204. *Worldwide Desktop Market Share of Leading Search Engines from January 2010 to December 2021*, STATISTA (Jan. 26, 2022), <https://www.statista.com/statistics/216573/worldwide-market-share-of-search-engines/> [<https://perma.cc/4QBE-8YPX>] (citing Google’s 92.47% market share as of June 2021).

Meta controlled three out of the five top social applications.²⁰⁵ Between their dominant market share and non-traditional business models, social platforms challenge traditional paradigms of market power, outstripping legal and regulatory frameworks.²⁰⁶ To take one prominent example, key antitrust concepts—particularly those fixated on pricing as consumer welfare—are increasingly under strain in today’s digital markets.²⁰⁷ Antitrust blind spots run parallel with broader trends—governments and legal systems have struggled to keep pace with rapid changes in the digital marketplace.²⁰⁸

Social platforms traced a similar path—rapid proliferation accompanied by dramatic concentration. In a matter of years, social platforms went from a novelty to an element of daily human existence, particularly for younger cohorts.²⁰⁹ Owing to network effects, social platforms have natural tendencies towards market concentrations. Put differently, when more users generate more utility, concentration is a feature. Ride-sharing platforms like Uber and Lyft become far less attractive if users or drivers are too scarce. The largest social platforms offer vast networks of content and interaction—most of it generated by users. Social networks have become so integral to communication, they are often understood as the new digital public squares, home to a large swath of public dialogue.²¹⁰

205. *Most Popular Social Networks Worldwide as of October 2021, Ranked by Number of Active Users*, STATISTA (Jan. 7, 2022), <https://www.statista.com/statistics/272014/global-social-networks-ranked-by-number-of-users/> [<https://perma.cc/326J-8ZJC>].

206. Although we do not enter the antitrust debate, the market concentration and power of certain platforms relate to our questions of systemic importance. For a treatment of competition issues in the digital marketplace, see Gregory Day & Abbey Stemler, *Are Dark Patterns Anticompetitive?*, 72 ALA. L. REV. 1, 4–5 (2020) (discussing antitrust gaps in digital markets); Gregory Day & Abbey Stemler, *Infracompetitive Privacy*, 105 IOWA L. REV. 61, 65–66 (2020) (discussing “blind spots” in antitrust).

207. Amazon alone poses a broad set of vexing problems for market competition, having in many ways already outstripped antitrust frameworks. See generally Lina M. Khan, Note, *Amazon’s Antitrust Paradox*, 126 YALE L.J. 710 (2017). Likewise, “free” platforms that harvest consumer attention and user data defy classic antitrust models. Given the true costs of platform usage, consumer attention, and user data, “zero-cost” is more accurate than free. See generally John M. Newman, *The Myth of Free*, 86 GEO. WASH. L. REV. 513 (2018); Chris Jay Hoofnagle & Jan Whittington, *Free: Accounting for the Costs of the Internet’s Most Popular Price*, 61 UCLA L. REV. 606 (2014).

208. See, e.g., Makena Kelly, *Congress Is Way Behind on Algorithmic Misinformation*, THE VERGE (April 27, 2021, 2:13 PM), <https://www.theverge.com/2021/4/27/22406054/facebook-twitter-google-youtube-algorithm-transparency-regulation-misinformation-disinformation> [<https://perma.cc/2S3X-2RY9>] (“Congress’ slow walk was particularly notable compared with the expert panelists, who presented algorithmic disinformation as an existential threat to our system of government.”).

209. *Social Media Fact Sheet*, PEW RSCH. CTR. (April 7, 2021), <https://www.pewresearch.org/internet/fact-sheet/social-media/> [<https://perma.cc/3CQF-2GYQ>]

210. See *supra* Section I.A.3.

The Covid-19 pandemic deepened these trends, as screen time surged, especially among children and adolescents.²¹¹ The pandemic also accelerated broad trends towards market concentration—Google, Facebook, and Amazon now collect more than half of all advertising dollars spent in the United States.²¹² And, in the digital advertising realm, that “triopoly” has a market share closer to 90%.²¹³ Google has already claimed almost all of the critical search engine market.²¹⁴ Amazon’s e-commerce business breached \$1 billion-a-day revenue in 2021 while also dominating cloud markets, running a media company, and much more.²¹⁵

A compounding factor for governance concentration at certain platforms—namely, Alphabet/Google and Meta/Facebook—is the dual-class share structure, a controversial but increasingly popular creature of corporate law.²¹⁶ By amplifying voting rights for a select class of shares, the dual-class model concentrates governance. For instance, a class with enhanced voting rights might receive ten or twenty votes per share rather than the one vote per share default. A bit like gerrymandering, dual-class share structures can effectively neutralize corporate governance.²¹⁷ In more extreme cases, dual-class structures implement monarchy-like governance within companies, with effective control for life.²¹⁸ Such is the case at

211. Stephan Bohn, Nicolas Friederici & Ali Aslan Gümüşay, *Too Big to Fail Us? Platforms as Systemically Relevant*, INTERNET POL’Y REV. (Aug. 11, 2020), <https://policyreview.info/articles/news/too-big-fail-us-platforms-systemically-relevant/1489> [<https://perma.cc/TNT2-28SU>].

212. Keach Hagey & Suzanne Vranica, *How Covid-19 Supercharged the Advertising ‘Triopoly’ of Google, Facebook and Amazon*, WALL ST. J. (Mar. 19, 2021, 10:22 AM), <https://www.wsj.com/articles/how-covid-19-supercharged-the-advertising-triopoly-of-google-facebook-and-amazon-11616163738> [<https://perma.cc/3HVT-7QE5>].

213. *Id.*

214. See BORCK, CAMINADE & VON WARTBURG, *supra* note 202 and accompanying text.

215. Ryan Vlastelica, *Amazon’s \$1 Billion in Daily Sales Highlights Market Dominance*, BLOOMBERG (Feb. 3, 2021, 3:02 PM), <https://www.bloomberg.com/news/articles/2021-02-03/amazon-s-1-billion-in-daily-sales-highlights-market-dominance> [<https://perma.cc/T6U9-WGWD>].

216. Almost a third of IPOs from 2017 to 2019 featured dual-class structures. See Dhruv Aggarwal et al., *The Rise of Dual-Class Stock IPOs*, (Eur. Corp. Governance Inst., Working Paper No. 28609) (Dec. 13, 2021), <https://dx.doi.org/10.2139/ssrn.3690670>. However, the structure is not new. See Mike Colias, *Ford Tries to Soothe Weary Shareholders*, WALL ST. J. (May 14, 2020, 5:09 PM), <https://www.wsj.com/articles/ford-tries-to-soothe-weary-shareholders-11589472858> [<https://perma.cc/VZG2-458V>] (reporting that a shareholder proposal to end Ford’s dual-class stock structure, which has been in place since the share began trading publicly in 1956, received 35% of total share votes).

217. Dov Solomon, Rimona Palas & Amos Baranes, *The Quality of Information Provided by Dual-Class Firms*, 57 AM. BUS. L. J. 443, 445 (2020).

218. See, e.g., Kara Swisher, *You Can’t Fire Mark Zuckerberg’s Kid’s Kids*, N.Y. TIMES

Meta/Facebook, which has been tagged as “an extreme example” of shareholder disenfranchisement.²¹⁹

When companies like Lyft, DoorDash, or Zillow concentrate governance under the dual-class model, problematic scenarios may arise for investors or employees at those companies. But when systemically important titans like Alphabet and Meta are governed by dual-class structures, there are consequences for societies at large—not just for shareholders. Dual-class structures at SITIs can deliver veto power over a majority of the global social media market to a single individual.²²⁰ In the absence of external moderation via regulatory oversight, corporate governance is one of few viable avenues for behavioral modification in Big Tech. But the dual-class structure effectively removes internal checks and balances at Alphabet/Google and Meta/Facebook.

Dual-class governance risks are more than theoretical. Facebook shareholders, for instance, have pushed for important changes on the platform. One shareholder resolution at Facebook last year sought enhanced reporting on the abuse and exploitation of children perpetrated on its platforms.²²¹ Another shareholder initiative expressed concerns about Facebook’s “use as a tool for gross disinformation, hate speech, and to incite racial violence.”²²² That proposal aimed to promote transparency and reporting around those problems.²²³ Both were voted down by the Facebook

(Nov. 27, 2019), <https://www.nytimes.com/2019/11/27/opinion/tech-dual-class-stock.html> [<https://perma.cc/KN4C-6BDC>]; Felix Salmon, *The Founder Control Premium*, AXIOS (April 30, 2021), <https://www.axios.com/2021/04/30/company-founders-elon-musk-tesla-stock> [<https://perma.cc/J48N-K6PV>] (“These founders are following the trail blazed by Mark Zuckerberg, who has retained dynastic control of Facebook for himself despite owning only a small fraction of the company. (Zuckerberg’s control does not end even when he dies: He can bequeath it to his daughter, should he so wish.)”).

219. That observation was made by Jackie Cook, Morningstar’s director of investment stewardship research. Tom Lauricella & Leslie Norton, *How Facebook Silences Its Investors*, MORNINGSTAR (Oct. 7, 2021), <https://www.morningstar.com/articles/1061237/how-facebook-silences-its-investors> [<https://perma.cc/3WGW-DUXL>].

220. Effectively, that is corporate governance at Meta/Facebook. Mr. Zuckerberg, controls almost 90% of the Class B shares (he owns 81.7% directly and controls another 7.4% through an irrevocable proxy). Despite owning less than 13% of the market value of the company, Mr. Zuckerberg wields a 58% majority of Meta’s voting power, giving him sole control the direction of the company and its board of directors. *See id.*

221. Facebook, Inc. Proxy Statement (Schedule 14A) 74–76 (2021) [hereinafter Facebook Proxy Statement, 2021], <https://www.sec.gov/Archives/edgar/data/1326801/00013268012100022/facebook2021definitiveprox.htm> [<https://perma.cc/L3EW-XDFS>]. The petition, led by a widely-known investment advisor, Lisette Cooper, was considered one of the year’s most notable shareholder initiatives. *See* Lauricella & Norton, *supra* note 219.

222. Facebook Proxy Statement, 2021, *supra* note 221, at 80–81.

223. *Id.*

board, controlled singlehandedly by Mr. Zuckerberg. Meanwhile, at Alphabet, the board has dismissed a range of shareholder proposals for greater transparency and accounting of externalities.²²⁴ At both companies, shareholder proposals to reform—and, essentially, democratize—governance by enacting equal voting rights across shares have met a similar (and predictable) fate.²²⁵

3. Lords of the Information Ecosystem

Social platforms are central in the information ecosystem—perhaps even essential to modern speech and democratic culture.²²⁶ As of 2021, in the United States, about three in four people use some kind of social media.²²⁷ About half of Americans consume news through social platforms on a regular basis.²²⁸ Facebook, YouTube, Twitter, and Instagram are the top platforms for news consumption in the United States.²²⁹ Although Facebook and YouTube are considerable leaders in overall usage, Twitter users consume news at a higher frequency.²³⁰ Social media use exploded after the proliferation of smartphones—from 2007 to 2013, Twitter went from

224. See, e.g., Nico Grant & Jillian Ward, *Alphabet Investors Reject all Shareholders' Proposals, Again*, BLOOMBERG (June 2, 2021), <https://www.bloomberglaw.com/bloomberglawnews/tech-and-telecom-law/X5H213OK000000> [<https://perma.cc/4NTC-JDXV>] (reporting on Alphabet's dismissal of proposals on whistleblower protections, content management, racial bias, and anticompetitive practices); *Alphabet Shareholders reject Diversity Proposal Backed by Employees*, REUTERS (June 6, 2018, 1:14 PM), <https://www.reuters.com/article/us-alphabet-inc-agm/alphabet-shareholders-reject-diversity-proposal-backed-by-employees-id-USKCN1J22BS> [<https://perma.cc/H9PF-EL9N>].

225. Facebook Proxy Statement, 2021, *supra* note 221, at 70–71; see also Tess Townsend, *Alphabet Shareholders Want More Voting Rights but Larry and Sergey don't Want It that way*, VOX (June 13, 2017, 11:32 PM), <https://www.vox.com/2017/6/13/15788892/alphabet-shareholder-proposals-fair-shares-counted-equally-no-supervote> [<https://perma.cc/5U6A-6DF5>].

226. See Klonick, *supra* note 158, at 1601 (observing the “essential nature” of platforms to “modern free speech and democratic culture”); see also *Packingham*, 137 S. Ct. 1730 at 1737 (“These websites can provide perhaps the most powerful mechanisms available to a private citizen to make his or her voice heard.”).

227. *Social Media Fact Sheet*, PEW RSCH. CTR. (April 7, 2021), <https://www.pewresearch.org/internet/fact-sheet/social-media/> [<https://perma.cc/737T-74SE>].

228. MASON WALKER & KATERINA EVA MATSA, NEWS CONSUMPTION ACROSS SOCIAL MEDIA IN 2021, PEW RSCH. CTR. (2021), <https://www.pewresearch.org/journalism/2021/09/20/news-consumption-across-social-media-in-2021/> [<https://perma.cc/3VW2-H6RS>].

229. Smaller platforms are less frequently regular sources of news. See *id.* at 4 (“Fewer than one-in-ten Americans say they regularly get news from Reddit (7%), TikTok (6%), LinkedIn (4%), Snapchat (4%), WhatsApp (3%) and Twitch (1%).”).

230. *Id.* at 4–5.

producing five thousand tweets per day to 500 million.²³¹ At this point, it might be an understatement to observe that the tendencies of platform algorithms have a significant role in shaping the arc of public discourse.

Beyond merely transferring news as neutral content intermediaries, platforms shape the information ecosystem in profound ways.²³² Algorithmic tendencies on key platforms play a major role in shaping information exposure—and thus the reality—of billions of people.²³³ Even the tone and nature of human interactions on platforms are colored by algorithmic tendencies.²³⁴ Platforms that design and manage algorithms for ad-based, attention-driven business models are incentivized to make content as engaging as possible.²³⁵ Unfortunately, the most engaging content tends towards the novel and outrageous.²³⁶

As lords of the digital public squares, platforms make society-level determinations about policy and algorithmic design. To a large extent, those determinations shape the contours of public discourse around the world. While reckoning with the behavior of public figures and organizations,

231. *Twitter Usage Statistics*, INTERNET LIVE STATS, <https://www.internetlivestats.com/twitter-statistics/> [<https://perma.cc/B7N2-LEMK>] (last visited Feb. 23, 2022); *see also supra* note 198 and accompanying text (discussing the emergence of the iPhone as a pivotal moment for technology and society).

232. For instance, a systemic shift towards the consumption of new and novel information is a by-product of the digital information environment. Jonathan Haidt & Tobias Rose-Stockwell, *The Dark Psychology of Social Networks*, THE ATLANTIC (Dec. 2019), <https://www.theatlantic.com/magazine/archive/2019/12/social-media-democracy/600763/> [<https://perma.cc/W4Q2-FVYS>] (“When the majority of Americans began using social media regularly, around 2012, they hyper-connected themselves to one another in a way that massively increased their consumption of new information . . .”).

233. *See supra* notes 224–229 and accompanying text (citing statistics about news access and usage at leading platforms).

234. *See, e.g., The Facebook Files, Part 4: The Outrage Algorithm*, WALL ST. J. (Sept. 18, 2021), <https://www.wsj.com/podcasts/the-journal/the-facebook-files-part-4-the-outrage-algorithm/E619FBB7-43B0-485B-877F-18A98FFA773F> [<https://perma.cc/XSP2-4SSV>].

235. *See* Karen Hao, *How Facebook Got Addicted to Spreading Misinformation*, MIT TECH. REV. (Mar. 11, 2021), <https://www.technologyreview.com/2021/03/11/1020600/facebook-responsible-ai-misinformation/> [<https://perma.cc/38DU-LPFV>] (“The algorithms that underpin Facebook’s business weren’t created to filter out what was false or inflammatory; they were designed to make people share and engage with as much content as possible by showing them things they were most likely to be outraged or titillated by.”); *see also* Zeynep Tufekci, *YouTube, the Great Radicalizer*, N.Y. TIMES (Mar. 10, 2018), <https://www.nytimes.com/2018/03/10/opinion/sunday/youtube-politics-radical.html> [<https://perma.cc/EC5T-5Q6M>] (“Its algorithm seems to have concluded that people are drawn to content that is more extreme than what they started with—or to incendiary content in general.”).

236. *See* Hao, *supra* note 235 (“The models that maximize engagement also favor controversy, misinformation, and extremism: put simply, people just like outrageous stuff.”); *see also supra* Section II.B (outlining externalities associated with algorithmic tendencies).

companies define the boundaries of acceptable speech. Platforms have suspended numerous public figures, including democratically-elected officials from powerful countries.²³⁷ At times, platforms respond to, or play a role in, matters of urgent public interest—a risk of ethnic cleansing, hate crime, or human trafficking.²³⁸ Other times, the electoral process of a major democracy is at stake. Those decisions, conducted almost entirely in private, shape modern communications and public discourse at a societal scale. At the scale of SITIs, even seemingly minor adjustments to algorithmic tendencies can generate major externalities in the aggregate.²³⁹

Platforms even play a pivotal role in shaping the borders of the information ecosystem. Consider journalism. When determining the taxonomy of news outlets, platforms are faced with boundary questions about where journalism begins and ends. News organizations exist on a spectrum of credibility and independence, rendering those determinations is difficult and controversial. Are *People's Daily* and *RT* in the same category of journalism as the *New Yorker* and the *Financial Times*? Or, as state-controlled media, do they belong to another category? Arguably, state-controlled media outlets such as China's *People's Daily* and *RT*, more likely to engage in promoting the interests of their sovereign ownership, are categorically distinct from independent news outlets. For instance, disinformation campaigns around Covid-19 vaccines were often waged on social platforms through the official accounts of state-controlled media.²⁴⁰

Difficult categorical definitions, then, give rise to policy dilemmas in content management. The taxonomy of news outlets may determine labeling, credentialing, and ordering within the platform.²⁴¹ Platforms not only decide how to categorize and present content from state-controlled outlets versus more independent media, but also whether to grant equal or disparate

237. See *supra* notes 13–15 and accompanying text; see also *Elected Officials Suspended or Banned From Social Media Platforms*, BALLOTPEDIA, https://ballotpedia.org/elected_officials_suspended_or_banned_from_social_media_platforms [<https://perma.cc/ECA9-R8HZ>] (last visited Feb. 23, 2022).

238. See *infra* Section II.B.3.

239. For instance, the “meaningful interactions” newsfeed change at Facebook. See Mark Zuckerberg, FACEBOOK (Jan. 11, 2018), <https://www.facebook.com/zuck/posts/10104413015393571?pnref=story> [<https://perma.cc/9BDR-KA2D>] (announcing the change in algorithms to “encourage meaningful interactions between people”).

240. See, e.g., Brett Schafer, et al., *Influence-enza: How Russia, China, and Iran Have Shaped and Manipulated Coronavirus Vaccine Narratives*, ALL FOR SECURING DEMOCRACY (Mar. 6, 2021), <https://securingdemocracy.gmfus.org/russia-china-iran-covid-vaccine-disinformation/> [<https://perma.cc/UK7S-RZ79>].

241. See Emily Bell, *How Tech Platforms Decide What Counts as Journalism*, COLUM. JOURNALISM REV. (Spring 2021), <https://existential.cjr.org/who/tech-platforms-labels/> [<https://perma.cc/MJ9P-94AY>].

amplification to their content. Labeling is frequently part of the policy answer on platforms. Some state-controlled outlets have been labeled as state-controlled media by platforms.²⁴² For instance, YouTube’s labeling of *RT*—formerly known as *Russia Today*—acknowledges state control.²⁴³ Labeling is not straightforward, but it offers platforms a way to manage taxonomy issues without reducing accounts and removing content—measures that are inconsistent with profit motives. Platforms reckon with these difficult and important questions largely in secret; transparency is low, a recurring theme across key areas of platform governance.²⁴⁴

B. Platform Externalities

1. Health Effects

Driven by profit motives, some platforms stand accused of pursuing growth with only passing regard for potential externalities.²⁴⁵ The insatiable demand for increasing shareholder returns spurs tech platforms to compete for larger shares of users’ attention. Incentives to design addictive interfaces and content raise particular ethical dilemmas in the attention economy.²⁴⁶ Addicting users to maximize attention and data extraction is a core element of established platform business models.²⁴⁷ An ad-based, attention-driven business model is not an entirely new innovation.²⁴⁸ The scale, speed, and

242. *Id.*

243. A small label at the bottom of the video panel announces, “RT is funded in whole or in part by the Russian government,” and includes a link to RT’s Wikipedia page. *See, e.g.*, RT, *RT News | Livestream 24/7*, YOUTUBE, <https://web.archive.org/web/20211231150308/https://www.youtube.com/watch?v=V0I5egIJMRI> (last visited Feb. 23, 2022). Twitter and Facebook have also rolled out labeling initiatives for media outlets funded or controlled by sovereigns. *See* Courtney C. Radsch, *Tech Platforms Struggle to Label State-Controlled Media*, COMM. TO PROTECT JOURNALISTS (Aug. 12, 2020, 11:45 AM), <https://cpj.org/2020/08/tech-platforms-struggle-to-label-state-controlled-media/> [<https://perma.cc/T5DF-N2D3>].

244. *See* Bell, *supra* note 241 (“Yet the result of [content moderation and fact-checking] changes has been hard to examine, since the data is both scarce and incomplete.”); *see also infra* notes 281–282 and accompanying text (discussing the unevenness of transparency at important platforms).

245. Bernard Aroyaswamy, *Big Tech and Societal Sustainability: An Ethical Framework*, 35 AI & SOCIETY 829, 830 (2020).

246. *See e.g.*, Vikram R. Bhargava & Manuel Velasquez, *Ethics of the Attention Economy: The Problem of Social Media Addiction*, 31 BUS. ETHICS Q. 321, 322 (2021). In an “attention economy,” the users of the product are not the source of revenue, but rather the user’s attention is sold to advertisers and other buyers. *Id.* at 321.

247. *See* Day & Stemler, *supra* note 206, at 10–11.

248. *See* TIM WU, *THE ATTENTION MERCHANTS* 3–5 (2016) (providing an example of a school allowing advertising to their students in exchange for funding).

intimacy of today's social platforms is unprecedented, however—and, in turn—these platforms pose novel risks to personal and public health.

Tech companies employ a variety of “brain hacking” techniques—neurochemical stimulation, variable reward schedules, feedback loops, and gamification—to render platforms more addictive.²⁴⁹ This engineered addiction can substantially impact individual mental health,²⁵⁰ particularly where young people are concerned.²⁵¹ For example, neurological disorders have been observed in connection with TikTok.²⁵² During the pandemic, when TikTok use grew exponentially, some young women developed debilitating physical tics after exposure to videos of others with tics on the platform.²⁵³

Platform addiction carries other second-order externalities for personal health, which are still coming into focus.²⁵⁴ Social media addiction has been connected with increased rates of depression,²⁵⁵ low self-esteem, anxiety,²⁵⁶ alienation from family and peers, hostility toward others, and poor

249. See Griffin, *supra* note 24, at 6–14 (outlining manipulative features and addictive potential of prominent platforms); see also Anderson Cooper, *What is “Brain Hacking”?* *Tech Insiders on Why You Should Care*, CBS NEWS (Apr. 9, 2017, 7:05 PM), <https://www.cbsnews.com/news/brain-hacking-tech-insiders-60-minutes/> [<https://perma.cc/XN3D-WU3U>].

250. See generally Gregory Day, *Antitrust, Attention, and the Mental Health Crisis*, 106 MINN. L. REV. (forthcoming 2022).

251. Bhargava & Velasquez, *supra* note 246, at 338.

252. See Mariam Hull & Mered Parnes, *Tics and TikTok: Functional Tics Spread Through Social Media*, 8 MOVEMENT DISORDERS 1248, 1248 (2021) (finding evidence that suggests “social media may contribute to the spread of functional neurologic symptom disorder”); Tamara Pringsheim et al., *Rapid Onset Functional Tic-Like Behaviors in Young Females During the COVID-19 Pandemic*, 36 MOVEMENT DISORDERS 2707, 2708–11 (2021) (assessing connection between rapid-onset tics and social media content).

253. *Teens Are Developing Tics. Doctors Say TikTok May Be a Factor*, WALL ST. J. (Nov. 8, 2021) (downloaded using Apple Podcasts).

254. Jonathan Haidt, Professor of Ethical Leadership, N.Y.U. Stern Sch. of Bus., Testimony Before the Senate Judiciary Committee, Subcommittee on Technology, Privacy, and the Law: Teen Mental Health Is Plummeting, and Social Media is a Major Contributing Cause, (May 4, 2022), <https://www.judiciary.senate.gov/imo/media/doc/Haidt%20Testimony.pdf> [<https://perma.cc/35NX-9D87>].

255. Liu yi Lin et. al., *Association Between Social Media Use and Depression Among U.S. Young Adults*, 33 DEPRESSION & ANXIETY 323 (2016). Exacerbating this problem, certain platforms deliver potentially dangerous content to minors. Rob Barry et al., *How TikTok Serves Up Sex and Drug Videos to Minors*, WALL ST. J. (Sept. 8, 2021, 7:59 AM), <https://www.wsj.com/articles/tiktok-algorithm-sex-drugs-minors-11631052944> [<https://perma.cc/3M9X-MBCK>].

256. Anna Vannucci, Kaitlin M. Flannery & Christine McCauley Ohannessian, *Social Media Use and Anxiety in Emerging Adults*, 207 J. AFFECTIVE DISORDERS 163, 165–66 (2017) (finding a positive association between social media and anxiety).

interpersonal relationships.²⁵⁷ Although some platforms claim to take active measures to address these issues, others obscure these harms.²⁵⁸ The negative effects extend beyond the mental realm.²⁵⁹ A recent study found that social media use was positively correlated with higher levels of inflammation, chest pain, headaches, and more visits to the doctor.²⁶⁰

Digital platforms impact health at a macro-level as well. Among the many realities spotlighted by the Covid-19 pandemic is the vast importance of platforms in public health management. Officials now rely heavily on social media, in addition to more traditional outlets, to distribute information and communicate with the public.²⁶¹ In theory, social platforms offer enormous potential for constructive engagement in public health, but the reality is complicated.²⁶² Platforms amplify and disseminate a great deal of public health misinformation, as evident during the Covid-19 pandemic.²⁶³ Covid-19 information problems grew so acute that the World Health Organization identified a parallel “infodemic” that undercut official efforts

257. Bhargava & Velasquez, *supra* note 246, at 332. Lawsuits are beginning to test tort claims for personal harms. See Robert Burnson, *Meta, Snap Sued Over Social Media ‘Addicted’ Girl’s Suicide*, BLOOMBERG (Jan. 21, 2022), <https://www.bloomberg.com/news/articles/2022-01-21/meta-snap-sued-over-social-media-addicted-girl-s-suicide> [<https://perma.cc/Y9NJ-RUZW>].

258. Wells, Horwitz & Seetharaman, *supra* note 26 (reporting that Facebook obscured evidence that Instagram is particularly toxic for the mental health of teenage girls).

259. See, e.g., Griffin, *supra* note 24, at 18–20 (describing negative impacts on productivity).

260. David S. Lee et al., *Social Media Use and Its Link to Physical Health Indicators*, 25 CYBERPSYCHOLOGY, BEHAV. & SOC. NETWORKING 87, 89–91 (2022).

261. See, e.g., Amy Burnett Heldman, Jessica Schindelar & James B. Weaver III, *Social Media Engagement and Public Health Communication: Implications for Public Health Organizations Being Truly “Social,”* 35 PUB. HEALTH REVS. 1, 3–4 (2013) (outlining the importance of social media for public health communication and engagement).

262. See Victor Suarez-Lledo & Javier Alvarez-Galvez, *Prevalence of Health Misinformation on Social Media: Systematic Review*, 23 J. MED. INTERNET RSCH. 1, 1 (2021) (finding substantial rates of misinformation on social platforms across health topics); see also David A. Broniatowski, *Weaponized Health Communication: Twitter Bots and Russian Trolls Amplify the Vaccine Debate*, 108 AM. J. PUB. HEALTH 1378, 1378 (“Despite significant potential to enable dissemination of factual information, social media are frequently abused to spread harmful health content, including unverified and erroneous information about vaccines.”).

263. Early in the pandemic, for instance, a large portion of videos—viewed tens of millions of times—on YouTube were found to contain misleading information. Heidi Oi-Yee Li et al., *YouTube as a Source of Information on COVID-19: A Pandemic of Misinformation?*, 5 BMJ GLOB. HEALTH 1, 1 (2020). In the United States, for instance, the Surgeon General’s first formal advisory addressed pandemic-related misinformation. See generally CONFRONTING MISINFORMATION, *supra* note 25.

to manage the pandemic.²⁶⁴ Infodemics are an established phenomenon in public health management, particularly during outbreaks, but they are exceptionally difficult to mitigate on digital platforms.²⁶⁵

Social platforms in particular played a major role in the infodemic that accompanied Covid-19.²⁶⁶ Studies on the role of social platforms in propagating health misinformation, including misinformation about the pandemic, are now abundant.²⁶⁷ These findings underscore the vital importance of platforms in modern public communication as well as their vast potential for misuse. Misinformation about public health has circulated extensively on platforms, often amplified by engagement-driven algorithms.²⁶⁸ In many ways, public health misinformation is ideal content—novel, outrageous, and emotional—for the algorithms of major social platforms.²⁶⁹ Because rumors and lies are likely to prevail over factual content, social platforms generate challenging externalities for public health management.²⁷⁰ Amplified misinformation has concrete outcomes: vaccine

264. Infodemics may be understood as an overabundance of information (of varying quality and credibility) during a public health emergency. *Infodemic*, WORLD HEALTH ORG., <https://www.who.int/health-topics/infodemic> [<https://perma.cc/L6JV-6LZV>] (last visited Feb. 23, 2022) (defining an infodemic as “too much information including false or misleading information in digital and physical environments during a disease outbreak”); see also Md Saiful Islam et al., *COVID-19–Related Infodemic and Its Impact on Public Health: A Global Social Media Analysis*, 103 AM. J. TROPICAL MEDICINE & HYGIENE. 1621, 1621 (2020) (identifying infodemics as “an overabundance of information—some accurate and some not—that makes it hard for people to find trustworthy sources and reliable guidance when they need it”).

265. See Islam et al., *supra* note 264, at 1627 (identifying misinformation challenges in previous public health emergencies).

266. Matteo Cinelli et al., *The COVID-19 Social Media Infodemic*, 10 SCI. REPS., Oct. 6, 2020, <https://doi.org/10.1038/s41598-020-73510-5c>.

267. See, e.g., Li et al., *supra* note 263; Merve Azak et al., *YouTube as a Source of Information About COVID-19 for Children: Content Quality, Reliability, and Audience Participation Analysis*, 62 J. PEDIATRIC NURSING 32 (2022).

268. Filippo Menczer & Thomas Hills, *Information Overload Helps Fake News Spread, and Social Media Knows It*, SCI. AM. (Dec. 1, 2020), <https://www.scientificamerican.com/article/information-overload-helps-fake-news-spread-and-social-media-knows-it/> [<https://perma.cc/37JA-CTR2>].

269. See *infra* Section II.B.2 (discussing the prevalence of novel and outrageous information on social platforms).

270. See *infra* notes 288–291 and accompanying text (discussing the proliferation of lies over truth online).

hesitancy,²⁷¹ the emergence of fringe treatments and therapeutics,²⁷² an erosion of trust in public institutions and science,²⁷³ staggering economic costs,²⁷⁴ and deeper social divisions and politicization around public health management.²⁷⁵

Platforms have responded to pressure to address mis/disinformation with a variety of *soft* (tags and warning labels) and *hard* (content removal and account bans) measures.²⁷⁶ Today, most social platforms prohibit Covid-19 misinformation in some fashion.²⁷⁷ And some platforms have specific, freestanding Covid-19 misinformation policies.²⁷⁸ However, enforcement is

271. See, e.g., Sahil Loomba et al., *Measuring the Impact of COVID-19 Vaccine Misinformation on Vaccination Intent in the UK and USA*, 5 NATURE HUM. BEHAV. 337, 337 (2021) (finding misinformation increases vaccine hesitancy).

272. See, e.g., Davey Alba, *Facebook Groups Promoting Ivermectin as a Covid-19 Treatment Continue to Flourish*, N.Y. TIMES (Sept. 28, 2021), <https://www.nytimes.com/2021/09/28/technology/facebook-ivermectin-coronavirus-misinformation.html> [<https://perma.cc/DKY4-9CGD>] (discussing Facebook's removal of content related to the sale of ivermectin, a drug that allegedly cures or prevents Covid-19).

273. See, e.g., Ryan Cross, *Will Public Trust in Science Survive the Pandemic?*, 99 CHEM. & ENG'G NEWS (Jan. 25, 2021), <https://cen.acs.org/policy/global-health/Will-public-trust-in-science-survive-the-pandemic/99/i3> [<https://perma.cc/EG3F-77Q9>] (discussing misinformation as a threat to public trust in science); Colleen Barry, Hahrie Han & Beth McGinty, *Trust in Science and COVID-19*, JOHNS HOPKINS BLOOMBERG SCH. OF PUB. HEALTH (June 17, 2020), <https://publichealth.jhu.edu/2020/trust-in-science-and-covid-19> [<https://perma.cc/ZNT2-HYBL>] (finding that distrust in science allowed misinformation about Covid-19 to proliferate).

274. The Center for Health Security at Johns Hopkins University estimated that vaccine misinformation caused between \$50 and \$300 million per day since May 2021. See Richard Bruns et al., *COVID-19 Vaccine Misinformation and Disinformation Costs an Estimated \$50 to \$300 Million Each Day*, CTR. FOR HEALTH & SEC. (2021), https://www.centerforhealthsecurity.org/our-work/pubs_archive/pubs-pdfs/2021/20211020-misinformation-disinformation-cost.pdf [<https://perma.cc/F4A6-FMSJ>].

275. See Public Health on Call, *Social Media, Scientific Uncertainty, and Political Polarization—COVID-19's Misinformation Storm*, JOHNS HOPKINS BLOOMBERG SCH. OF PUB. HEALTH (Apr. 30, 2020), <https://johnshopkinssph.libsyn.com/social-media-scientific-uncertainty-and-political-polarization-covid-19s-misinformation-storm> [<https://perma.cc/AY92-XG7R>] (discussing the threat of politicization and partisan polarization centered around public health management in response to Covid-19 misinformation).

276. Nandita Krishnan et al., *Research Note: Examining How Various Social Media Platforms Have Responded to COVID-19 Misinformation*, 2 HARV. KENNEDY SCH. MISINFORMATION REV., Dec. 15, 2021, <https://doi.org/10.37016/mr-2020-85> (explaining distinctions between soft and hard countermeasures to Covid-19 disinformation).

277. See *id.* (finding that eight out of twelve major social media platforms had prohibitions on Covid-19 misinformation).

278. See, e.g., *COVID-19 Misleading Information Policy*, TWITTER (Dec. 2021), <https://help.twitter.com/en/rules-and-policies/medical-misinformation-policy> [<https://perma.cc/RUS9-4VFM>] (“Content that is demonstrably false or misleading and may lead to

uneven, at best.²⁷⁹ Misleading content and misinformation have persisted on platforms, routinely generating large-scale engagements and views.²⁸⁰ Furthermore, the management of pandemic-related misinformation is lacking in transparency and clarity.²⁸¹ Platforms do not regularly disclose critical information about content management and the enforcement of misinformation policies. Because platforms decide what, how, and when to report on content exposure and user engagement, the public is often left to wonder.²⁸²

Once again, motivations are problematic. With engagement-oriented business models, platforms have distorted incentives around content management. Algorithms are designed to reward content that captures and holds the attention of users—key to creating value within an ad-based business model.²⁸³ As long as outrageous information and controversial users drive user engagement, platforms are only incentivized to clean up content to the extent necessary to placate critics or to maintain appearances. For instance, platforms only addressed the so-called “Disinformation Dozen” after a civic organization, the Center for Countering Digital Hate, identified accounts responsible for a significant portion of falsehoods circulating on social platforms.²⁸⁴ Delayed, incremental responses that occur only after urging by lawmakers and negative reports in the press are commonplace and, perhaps not coincidentally, protect engagement-driven business models aimed at maximizing engagement despite externalities.²⁸⁵

significant risk of harm (such as increased exposure to the virus, or adverse effects on public health systems) may not be shared on Twitter.”). After five “strikes,” Twitter permanently suspended the account of U.S. Representative Marjorie Taylor Greene. *See* Alba, *supra* note 154.

279. *See* Krishnan, *supra* note 276.

280. *See, e.g.,* Shannon Bond, *Facebook’s Most Viewed Article in Early 2021 Raised Doubt About COVID Vaccine*, NPR (Aug. 21, 2021, 11:58 PM), <https://www.npr.org/2021/08/21/1030038616/facebooks-most-viewed-article-in-early-2021-raised-doubt-about-covid-vaccine> [<https://perma.cc/CB8X-KT4Z>].

281. *See* Krishnan, *supra* note 276.

282. *See, e.g.,* Bond, *supra* note 280.

283. *See, e.g., COVID-19 Vaccine Misinformation*, U.K. PARLIAMENT (Apr. 26, 2021), <https://post.parliament.uk/covid-19-vaccine-misinformation/> [<https://perma.cc/6FW5-TLGZ>] (acknowledging tensions between business model incentives and accurate information).

284. CTR. FOR COUNTERING DIGIT. HATE, *THE DISINFORMATION DOZEN 6* (Mar. 21, 2021), <https://counterhate.com/wp-content/uploads/2022/05/210324-The-Disinformation-Dozen.pdf> [<https://perma.cc/DNB6-5XAZ>].

285. *See* Keach Hagey et al., *Facebook’s Pushback: Stem the Leaks, Spin the Politics, Don’t Say Sorry*, WALL ST. J. (Dec. 29, 2021, 10:14 AM), <https://www.wsj.com/articles/facebook-whistleblower-pushback-political-spin-zuckerberg-11640786831> [<https://perma.cc/3E XA-FYZR>].

2. Dis/Misinformation²⁸⁶

Lies spread faster than truth, especially online.²⁸⁷ An age-old quip observes that a lie can travel around the world and back again while the truth is still lacing up its shoes.²⁸⁸ That has never been truer. In the online information ecosystem, inherent tendencies in human psychology towards sensational information amount to a supercharged glitch. “Our algorithms exploit the human brain’s attraction to divisiveness,” an internal Facebook presentation declared in 2018.²⁸⁹ “We might have just handed a 4-year-old a loaded weapon,” said the developer who helped engineer Twitter’s retweet feature.²⁹⁰ Although externalities for political and social systems are still coming into focus with new research and data, early indications are not encouraging.²⁹¹ At the macro level, evidence suggests that platforms are bending the arc of public discourse towards outrage and polarization.²⁹²

286. Misinformation is incorrect or false information shared *without* an intent to harm, whereas disinformation is incorrect or false information shared *with* intent to cause harm. The distinction has practical implications as well. For instance, platforms have implemented clearer guidelines regarding disinformation associated with foreign interference operations. See, e.g., Miles Parks, *Few Facts, Millions of Clicks: Fearmongering Vaccine Stories Go Viral Online*, NPR (Mar. 25, 2021, 5:00 AM), <https://www.npr.org/2021/03/25/980035707/lying-through-truth-misleading-facts-fuel-vaccine-misinformation> [<https://perma.cc/9R8Y-PT35>].

287. See Soroush Vosoughi, Deb Roy & Sinan Aral, *The Spread of True and False News Online*, 359 SCI. 1146, 1146 (2018), <https://www.science.org/doi/10.1126/science.aap9559>.

288. Though frequently attributed to Mark Twain, this quip appears to have evolved from a line written by satirist Jonathan Swift. See Niraj Chokshi, *That Wasn’t Mark Twain: How a Misquotation Is Born*, N.Y. TIMES (Apr. 26, 2017), <https://www.nytimes.com/2017/04/26/books/famous-misquotations.html> [<https://perma.cc/BJ45-6A7P>].

289. Jeff Horwitz & Deepa Seetharaman, *Facebook Executives Shut Down Efforts to Make the Site Less Divisive*, WALL ST. J. (May 26, 2020, 11:38 AM), <https://www.wsj.com/articles/facebook-knows-it-encourages-division-top-executives-nixed-solutions-11590507499> [<https://perma.cc/8VAG-CC8H>].

290. Alex Kantrowitz, *The Man Who Built the Retweet: “We Handed a Loaded Weapon to 4-Year-Olds,”* BUZZFEED NEWS (July 23, 2019, 4:05 PM), <https://www.buzzfeednews.com/article/alexkantrowitz/how-the-retweet-ruined-the-internet> [<https://perma.cc/9TVB-MVB5>] (quoting former Twitter developer Chris Wetherell).

291. A group of fifteen university researchers addressed the question of social media’s role in political sectarianism. See Eli J. Finkel et al., *Political Sectarianism in America*, 370 SCI. 533, 534 (2020), <https://www.science.org/doi/10.1126/science.abe1715> (“In recent years, social media companies like Facebook and Twitter have played an influential role in political discourse, intensifying political sectarianism.”).

292. See, e.g., William J. Brady et al., *How Social Learning Amplifies Moral Outrage Expression in Online Social Networks*, 33 SCI. ADVANCES (2021) <https://www.science.org/doi/10.1126/sciadv.abe5641> [<https://perma.cc/6PYA-7W99>]; *Critical Posts Get More Likes, Comments, and Shares Than Other Posts*, PEW RSCH. CTR. (Feb. 21, 2017), <https://www.pew>

Misinformation-at-scale is now widely identified as an existential threat to democratic governance.²⁹³

Content on social networks is filtered through algorithmic curation and artificial intelligence that can reinforce bias, amplify moral outrage,²⁹⁴ and deepen echo chambers.²⁹⁵ To be clear, major social media platforms—such as Facebook, Twitter, and YouTube—are not alone in fueling misinformation and extremism.²⁹⁶ Misinformation has proliferated in other realms of traditional media as well, including cable news and talk radio.²⁹⁷ Podcasts are also an increasingly prominent source of news and misinformation.²⁹⁸ And, of course, smaller digital platforms have contributed

research.org/politics/2017/02/23/partisan-conflict-and-congressional-outreach/pdl-02-23-17_antipathy-new-00-02/ [https://perma.cc/VKH2-PZVP].

293. See *Reinforcing Democracy: Preventing and Combating Misinformation and Disinformation*, ORG. FOR ECON. COOP. & DEV. (Feb. 23, 2022), <https://www.oecd.org/governance/reinforcing-democracy/> [https://perma.cc/YTE7-35BE] (identifying mis- and disinformation among the biggest threats to democracy in the world); see also Kelly, *supra* note 208 (quoting Joan Donovan, research director at Harvard’s Shorenstein Center on Media, Politics and Public Policy, referring to misinformation as the “biggest problem facing our nation”); YOCHAI BENKLER ET AL., NETWORK PROPAGANDA: MANIPULATION, DISINFORMATION, AND RADICALIZATION IN AMERICAN POLITICS 5 (2018) (“Echo chambers ringing with false news make democracies ungovernable.”).

294. See Jordan Carpenter et al., *Political Polarization and Moral Outrage on Social Media*, 52 CONN. L. REV. 1107, 1114–17 (2021) (discussing several factors of social media content that exacerbate the effects of moral outrage and lead to dehumanization); M. J. Crockett, *Moral Outrage in the Digital Age*, 1 NATURE HUM. BEHAV. 769, 771 (2017) (“[T]here is a serious risk that moral outrage in the digital age will deepen social divides.”).

295. See PAUL M. BARRETT, JUSTIN HENDRIX & J. GRANT SIMS, N.Y.U. STERN CTR. FOR BUS. & HUM. RIGHTS, FUELING THE FIRE: HOW SOCIAL MEDIA INTENSIFIES U.S. POLITICAL POLARIZATION—AND WHAT CAN BE DONE ABOUT IT 9–10 (2021), <https://bhr.stern.nyu.edu/blogs/2021/report-fueling-the-fire> [https://perma.cc/JTT2-R8QN] (discussing the role of echo chambers in political polarization through an analysis of studies, one of which found that Facebook’s content-ranking algorithm might limit the user’s exposure to contrary viewpoints).

296. See, e.g., Duncan J. Watts & David M. Rothschild, *Don’t Blame the Election on Fake News. Blame It on the Media.*, COLUM. JOURNALISM REV. (Dec. 5, 2017), <https://www.cjr.org/analysis/fake-news-media-election-trump.php> [https://perma.cc/8NME-B23P] (acknowledging problems posed by fake news on social platforms while also calling attention to the “culpability of the *mainstream media*” (emphasis added)).

297. See BENKLER ET AL., *supra* note 293, at 8–20 (mapping out some of the actors and technological drivers of the information disorder, such as Donald Trump and Rush Limbaugh).

298. See, e.g., Stuart A. Thompson, *Election Falsehoods Surged on Podcasts Before Capitol Riots, Researchers Find*, N.Y. TIMES (Jan. 4, 2022), <https://www.nytimes.com/2022/01/04/technology/apple-google-spotify-podcast-election-misinformation.html> [https://perma.cc/W4QY-GY84] (“[P]odcasters frequently advanced the false belief that the election was illegitimate, first as a trickle before the election and then as a tsunami.”). Controversies

too.²⁹⁹ However, unlike smaller platforms, the largest social platforms operate at unprecedented speed and scale.³⁰⁰ As a result, the risks and externalities of inflammatory content on leading platforms are systemic rather than localized.

Research suggests that social media platforms may exacerbate political polarization, deepening fault lines and aggravating pre-existing conditions.³⁰¹ To a certain extent, such outcomes are guided by the platforms' prioritization of engagement—the predominant aim of platforms with ad-based business models is to capture and sustain the user's attention.³⁰² Pursuing those aims, recommendation tools on platforms steer users towards more extreme content and associations. A majority of users joining extremist groups on Facebook, for instance, were prompted by recommendation algorithms.³⁰³ Algorithms may also steer users to increasingly sensational content in order to hold their attention for longer periods of time.³⁰⁴ YouTube's algorithms, for instance, funnel provocative

surrounding the Joe Rogan Experience on Spotify provide perhaps the most prominent example. *See, e.g.*, Nik Popli, *Spotify's Joe Rogan Controversy Isn't Over Yet*, TIME (Feb. 11, 2022), <https://time.com/6147548/spotify-joe-rogan-controversy-isnt-over/> [<https://perma.cc/4725-ATXT>] (“The wildly popular podcaster has been accused of spreading false narratives about the coronavirus.”).

299. *See, e.g.*, Shannon Bond, *Unwelcome on Facebook and Twitter, QAnon Followers Flock to Fringe Sites*, NPR (Jan. 31, 2021, 6:00 AM), <https://www.npr.org/2021/01/31/962104747/unwelcome-on-facebook-twitter-qanon-followers-flock-to-fringe-sites> [<https://perma.cc/B5SU-FK9J>] (mentioning the social network Gab and the messaging app Telegram as alternatives to mainstream platforms for politically extreme content).

300. *See supra* notes 178–181 and accompanying text (observing the extraordinary scale of user bases and content generation at leading platforms).

301. *See supra* notes 287, 291–292 and accompanying text.

302. *See supra* notes 233–237 and accompanying text (discussing the business models of prominent social platforms); *see also infra* notes 304–306 and accompanying text (addressing YouTube's algorithms specifically).

303. Horwitz & Seetharaman, *supra* note 289 (referencing internal research at Facebook that found that “64% of all extremist group joins are due to our recommendation tools”).

304. *See* Jack Nicas, *How YouTube Drives People to the Internet's Darkest Corners*, WALL ST. J. (Feb. 7, 2018, 1:04 PM), <https://www.wsj.com/articles/how-youtube-drives-viewers-to-the-internets-darkest-corners-1518020478> [<https://perma.cc/68MP-LYNV>] (“YouTube engineered its algorithm several years ago to make the site ‘sticky’—to recommend videos that keep users staying to watch still more . . . Those videos often tend to be sensationalist and on the extreme fringe, the [former Youtube] engineers said.”); *see also* Kevin Roose, *The Making of a YouTube Radical*, N.Y. TIMES (June 8, 2019), <https://www.nytimes.com/interactive/2019/06/08/technology/youtube-radical.html> [<https://perma.cc/XGU6-XY55>] (“YouTube has inadvertently created a dangerous on-ramp to extremism by combining two things: a business model that rewards provocative videos with exposure and advertising dollars, and an algorithm that guides users down personalized paths meant to keep them glued to their screens.”).

content to prolong user engagement.³⁰⁵

Content algorithms are critical. At YouTube, for instance, of the billion hours (or more) of videos viewed on YouTube daily, a significant amount—at least 70%—is driven by artificial intelligence.³⁰⁶ Because content algorithms prioritize engagement, they—intentionally or inadvertently—prey upon vulnerabilities in human psychology, which tend to gravitate towards outrage and novelty.³⁰⁷ Strategically-deployed disinformation on platforms exploits the same vulnerabilities, weaponizing information in interference campaigns among sovereign states.³⁰⁸ Yet, as important as algorithms are for social and political systems, the public knows surprisingly little about how platforms handle content moderation and manage algorithmic tendencies.³⁰⁹ Indeed, opacity is the standard, even at leading platforms and publicly traded companies.

305. See, e.g., Annie Y. Chen et al., *Exposure to Alternative & Extremist Content on YouTube*, ANTI-DEFAMATION LEAGUE (May 3, 2023), <https://www.adl.org/resources/reports/exposure-to-alternative-extremist-content-on-youtube> [<https://perma.cc/68V3-XSZD>] (discussing how YouTube’s recommendation algorithm led users to hate speech and debunked political and scientific misinformation).

306. Joan Solsman, *YouTube’s AI is the Puppet Master Over Most of What You Watch*, CNET (Jan. 10, 2018), <https://www.cnet.com/tech/services-and-software/youtube-ces-2018-neal-mohan/> [<https://perma.cc/7JRY-NEQ5>] (quoting YouTube’s Chief Product Officer, Neal Mohan).

307. See Brady et al., *supra* note 292, at 7–10 (“Even if platform designers do not intend to amplify moral outrage, design choices aimed at satisfying other goals such as profit maximization via user engagement can indirectly affect moral behavior because outrage-provoking content draws high engagement.”); see also *supra* note 294 and accompanying text.

308. See, e.g., Michael R. Gordon & Dustin Volz, *Russian Disinformation Campaign Aims to Undermine Confidence in Pfizer, Other Covid-19 Vaccines, U.S. Officials Say*, WALL ST. J. (Mar. 7, 2021, 10:00 AM), <https://www.wsj.com/articles/russian-disinformation-campaign-aims-to-undermine-confidence-in-pfizer-other-covid-19-vaccines-u-s-officials-say-11615129200> [<https://perma.cc/828Z-VYLK>] (discussing Russia’s connection to disinformation campaigns aimed at undermining public confidence in Western vaccines); see also Bret Schafer et al., *Influence-enza: How Russia, China, and Iran Have Shaped and Manipulated Coronavirus Vaccine Narratives*, ALL. FOR SECURING DEMOCRACY (Mar. 6, 2021), <https://securingdemocracy.gmfus.org/russia-china-iran-covid-vaccine-disinformation/> [<https://perma.cc/975R-4ZNT>] (“[F]or example, British Foreign Secretary Dominic Raab accused Russia of running an overt and covert disinformation campaign to damage the reputation of the AstraZeneca vaccine.”).

309. Mathew Ingram, *What Should We Do About the Algorithmic Amplification of Disinformation?*, COLUM. JOURNALISM REV. (Mar. 11, 2021), https://www.cjr.org/the_media_today/what-should-we-do-about-the-algorithmic-amplification-of-disinformation.php [<https://perma.cc/SPC9-6QXR>] (“But the algorithms themselves, and the inputs they use to choose what we see in our feeds, are opaque.”).

3. Violence & Criminal Activity

Platforms enable the coordination and scaling of human activity at unprecedented speed and scale. From the Arab Spring³¹⁰ to “meme stock” trading,³¹¹ the power of coordination on digital platforms is wide-ranging. Enabling rapid coordination—particularly when paired with varying degrees of anonymity—on digital networks also carries serious risks. Organized crime—cyber harassment,³¹² political kidnappings,³¹³ human trafficking,³¹⁴ and hate crimes,³¹⁵ to name just a handful—flourishes. The same features that make social media platforms useful for recruiting volunteers for a school bake sale may also facilitate the recruitment of extremists and terrorists.

On their own, platforms have not proven to destabilize political systems on a national scale. However, they may amplify and accelerate destabilizing factors, which exacerbate conditions along preexisting fault lines.³¹⁶ In 2017, for example, Myanmar’s military used Facebook to spread dehumanizing posts about the country’s Muslim population, the Rohingya.³¹⁷ Although the

310. See, e.g., Heather Brown et al., *The Role of Social Media in the Arab Uprisings*, PEW RSCH. CTR. (Nov. 28, 2012), <https://www.pewresearch.org/journalism/2012/11/28/role-social-media-arab-uprisings> [https://perma.cc/6TZJ-CER9].

311. See, e.g., Roomy Khan, *Social Media Fueled Stock Market Trading*, FORBES (Mar. 8, 2021), <https://www.forbes.com/sites/roomykhann/2021/03/08/social-media-fueled-stock-market-trading-the-unsuspecting-need-to-be-protected/> [https://perma.cc/66VM-KLAJ] (“[Fifty] meme stocks added \$276 billion in value from the end of 2020 to the mania height.”).

312. See DANIELLE CITRON, *HATE CRIMES IN CYBERSPACE* 16 (2014) (finding cyber harassment to be destructive and endemic).

313. See, e.g., Charlie Warzel, *Facebook and the Group That Planned to Kidnap Gretchen Whitmer*, N.Y. TIMES (Oct. 8, 2020), <https://www.nytimes.com/2020/10/08/opinion/facebook-gretchen-whitmer.html> [https://perma.cc/MKR3-LMSU] (“The complaint [released by the F.B.I.] mentions Facebook three times as one of the communications platforms that the group used to coordinate their [political kidnapping] activities.”).

314. Justin Scheck et al., *Facebook Employees Flag Drug Cartels and Human Traffickers. The Company’s Response Is Weak, Documents Show*, WALL ST. J. (Sept. 16, 2021, 1:24 PM), <https://www.wsj.com/articles/facebook-drug-cartels-human-traffickers-response-is-weak-documents-11631812953> [https://perma.cc/P5Q3-E2DL] (“Employees flagged that human traffickers in the Middle East used the site to lure women into abusive employment situations in which they were treated like slaves or forced to perform sex work.”).

315. See generally Karsten Müller & Carlo Schwarz, *Fanning the Flames of Hate: Social Media and Hate Crime*, 19 J. EURO. ECON. ASS’N 2131 (2020) (discussing the association between social media content and violent hate crimes).

316. See *supra* notes 291–293 and accompanying text (discussing the role of social media platforms in aggravating political polarization).

317. Steve Stecklow, *Why Facebook is Losing its War on Hate Speech in Myanmar*, REUTERS (Aug. 15, 2018, 3:00 PM), <https://www.reuters.com/investigates/special-report/myanmar-facebook-hate/> [https://perma.cc/VC4V-KDTX] (describing Facebook posts that referred to Rohingya as “dogs” and “maggots” who must be “exterminated”).

persecution of the Rohingya existed long before Facebook, the algorithms primed users for engagement with extremist content and allowed the military to rally domestic support for genocide.³¹⁸ The results were devastating. Nearly seven thousand Rohingya, including 730 children under the age of five, were murdered at the hands of the military and its civilian supporters; many others suffered displacement and sexual violence.³¹⁹

In addition to promoting content that incites violence, digital platforms have provided an expanded and underground market for illegal trafficking. Crimes that had once been carried out in plain view are now increasingly occurring indoors and online.³²⁰ A 2020 human trafficking report showed that 41% of defendants in active sex trafficking cases met their victims over the Internet.³²¹ Digital platforms have played an evolving role in child sex trafficking. Despite Facebook's reputation as being a less popular platform among younger users, 65% of child victims recruited on social media were recruited through Facebook.³²² Over a five-year period, the National Center for Missing and Exploited Children experienced an 846% increase in reported suspected child sex trafficking, which was "directly correlated to the increased use of the Internet to sell children for sex."³²³

Digital platforms have played a role in violent crimes as well. On social media platforms, users have sought attention by livestreaming violent crimes.³²⁴ With the resharing of these videos via these platforms, the

318. Rebecca J. Hamilton, *Closing the Accountability Gap for Social Media Companies that Facilitate International Crimes*, 63 B.C. L. REV. (forthcoming 2022). According to Rebecca Hamilton, to determine whether a crime is platformed-enabled hinges upon whether the platform was integral to the crime. *Id.* Hamilton asks whether the principal perpetrator would have committed a crime if the practice/policy of the intermediary had been different. *Id.*

319. Human Rights Council, Rep. of the Detailed Findings of the Indep. Int'l Fact-Finding Mission on Myan., U.N. Doc. A/HRC/39/CRP.2 (2018).

320. Julia Dahlstrom, *The Elastic Meaning(s) of Human Trafficking*, 108 CAL. L. REV. 379, 407 (2020).

321. KYLEIGH FEEHS & ALYSSA CURRIER WHEELER, HUM. TRAFFICKING INST., 2020 FEDERAL HUMAN TRAFFICKING REPORT 44 (2020), <https://traffickinginstitute.org/wp-content/uploads/2022/01/2020-Federal-Human-Trafficking-Report-Low-Res.pdf> [<https://perma.cc/M2KY-RYFA>].

322. *Id.* After Facebook, Instagram and Snapchat were the most frequently cited social media platforms for recruiting child victims, accounting for 14% and 8% of child recruitment, respectively. *Id.*

323. *Hearing Before the Permanent Subcommittee on Investigations of the Committee on Homeland Security*, 115th Cong. 1 (2017) (Statement of Sen. Robert Portman).

324. See, e.g., Mike McPhate, *Teenager Is Accused of Livestreaming a Friend's Rape on Periscope*, N.Y. TIMES (Apr. 18, 2016), <https://www.nytimes.com/2016/04/19/us/periscope-rape-case-columbus-ohio-video-livestreaming.html> [<https://perma.cc/K9GF-K6PK>] (report-

potential for copycat violence may be increased.³²⁵ There is evidence to indicate that some mass killings may be influenced by other violent acts.³²⁶ Other research indicates that youths who perpetrated serious crimes were significantly more likely to have viewed violent online content.³²⁷ There is a risk that certain platform features might actually embolden would-be assailants as well. For example, users may encourage the violent activity by commenting and liking posts in real time.³²⁸ These features also serve digital platforms' profit model by sustaining user engagement, and yet, they are almost never held to account for their complicity in the resulting harms.³²⁹

4. Consequences of Failure

The systemic costs of failure are key to the theory underpinning the SIFI regime.³³⁰ Even after Lehman's bankruptcy threatened to drive the economy into an abyss, the full consequences of simultaneous failures among large financial institutions remain unknown—precisely because banks were bailed out to avoid that scenario.³³¹ Staring down the precipice so unnerved

ing a woman livestreaming her friend's sexual assault); J. Weston Phippen, *The Desire to Live-Stream Violence*, THE ATLANTIC (Jan. 6, 2017), <https://www.theatlantic.com/news/archive/2017/01/chicago-beating-facebook-live/512288/> [<https://perma.cc/V6VM-NJZ4>] (reporting that two men and two women livestreamed attacking a mentally-disabled man on Facebook); Drew Harwell, *Fewer Than 200 People Watched the New Zealand Massacre Live. A Hateful Group Helped It Reach Millions*, WASH. POST (Mar. 19, 2019, 4:40 PM), <https://www.washingtonpost.com/technology/2019/03/19/fewer-than-people-watched-new-zealand-massacre-live-hateful-group-helped-it-reach-millions/> [<https://perma.cc/U9CC-PVXU>] (reporting that a gunman livestreamed killing fifty people in two mosques on Facebook).

325. Meredith E. Gansner, "The Internet Made Me Do It"—*Social Media and Potential for Violence in Adolescents*, PSYCHIATRIC TIMES (Sept. 5, 2017), <https://www.psychiatrictimes.com/view/-internet-made-me-do-itsocial-media-and-potential-violence-adolescents> [<https://perma.cc/UUK5-A7QH>].

326. Sherry Towers et al., *Contagion in Mass Killings and School Shootings*, 10 PLOS ONE, July 2, 2015, at 1, <https://doi.org/10.1371/journal.pone.0117259>.

327. Michele L Ybarra et al., *Linkages Between Internet and Other Media Violence with Seriously Violent Behavior by Youth*, 122 PEDIATRICS 929, 929–37 (2008).

328. See, e.g., Daxton R. Stewart & Jeremy Littau, *Up, Periscope: Mobile Streaming Video Technologies, Privacy in Public, and the Right to Record*, JOURNALISM & MASS COMM. Q., 312, 315–16 (2015) (discussing the "two-way interaction" between livestreaming users and their audiences). These design features are particularly problematic for younger users—a study found that "youth violence, including bullying, gang violence, and self-directed violence, increasingly occurs in the online space." Desmond Upton Patton et al., *Social Media as a Vector for Youth Violence: A Review of the Literature*, 35 COMPUTS. HUM. BEHAV. 548, 548 (2014).

329. Hamilton, *supra* note 318.

330. See *supra* Part I.

331. See *supra* Section I.B.2.

policymakers that they decided not to find out. In the digital context, as platform powers expand, so do the consequences of their failures.

What would happen if a major platform collapsed?³³² When Facebook, Instagram, and WhatsApp went down for just six hours in October of 2021, the world's dependence on these platforms came into sharp relief.³³³ The outages impeded vital communications, Internet access, commerce, and humanitarian work in conflict zones.³³⁴ As the effects of this short outage demonstrate, once platforms attain status as critical infrastructure, a complete failure poses systemic risks.³³⁵ Research by Carol Öhman and Nikita Aggarwal identified key stakeholders who would suffer in the event of a major platform failure: existing users, non-users, dependent communities, and future generations.³³⁶

The primary risk of platform failure to existing users is losing control of their data—jeopardizing their privacy, dignity, and self-identity.³³⁷ Even non-users—a category that includes the deceased and former users—share similar concerns, as their data could be sold to the highest bidder in the event of a platform's insolvency.³³⁸ Meanwhile, dependent communities—those who develop around a platform and depend on its existence—could be cut off from the Internet entirely.³³⁹ For future generations, the potential loss of historical archives would be culturally significant.³⁴⁰ Platforms' concentrated market positions amplify the potential risks of failure to each of these stakeholders and to the entire system.

III. PLATFORM IDENTIFICATION AND OVERSIGHT

As explained in Part I, certain platforms should be identified for their systemic importance, akin to how certain financial institutions have been designated as SIFIs. Much like SIFIs, the systemic risks generated by certain platforms warrants subjecting them to additional oversight. However, if the

332. See Öhman & Aggarwal, *supra* note 32, at 3 (“[T]he demise of a global online communication platform such as Facebook could have catastrophic social and economic consequences for innumerable communities that rely on the platform on a daily basis . . .”).

333. Asher-Schapiro & Teixeira, *supra* note 56.

334. *Id.*

335. As the concept of systemic risks applies to digital platforms, it is necessarily broader than in the banking context.

336. Öhman & Aggarwal, *supra* note 32, at 5.

337. *Id.* at 7.

338. *Id.* at 8–9.

339. *Id.* at 5–7. For example, Facebook's Free Basics platform provides free access to Facebook services in less developed countries. *Id.* at 6.

340. See *id.* at 13–14 (arguing that future generations have an interest in the preservation of historically significant data on Facebook).

circumstances call for certain digital platforms to be regulated, the question of designation arises. Although we would propose considering the potential effects of the failure of a tech platform to determine which platforms might require oversight, we would not end our analysis there.³⁴¹ Rather, drawing from Parts I and II, this Part proposes a broader definition of systemic importance—one based on the platform’s power and externalities it generates—to determine which platforms have risen to the level of being SITIs. Then, once the SITIs have been identified, we propose subjecting them to specialized regulatory oversight.

A. About the SIFI Framework

The macroprudential regulation imposed by the Dodd-Frank Act seeks to (i) provide tools for measuring systemic risk, (ii) designate firms that pose systemic risk, and (iii) provide for enhanced regulation of such firms.³⁴² This Section reviews this framework in order to determine whether any mechanisms used to designate or oversee SIFIs could be applied to SITIs.

1. FSOC’s Authority to Designate SIFIs

Scholars and policymakers spent the months and years that followed the Great Recession struggling to understand the causes of the financial collapse.³⁴³ Although opinions differed as to the primary cause, consensus emerged that systemic risk played a key role, and that it had spread beyond the traditional banking sector.³⁴⁴ Nonbanks had contributed to the crisis in two crucial ways: by producing derivative products that connected the fates of the largest financial firms, and by failing or nearly failing in the midst of the crisis.³⁴⁵ With this understanding, Congress resolved to strengthen the

341. Öhman and Aggarwal have similarly proposed identification of systemically important technological institutions. See Öhman & Aggarwal, *supra* note 32, at 9. Again, Öhman and Aggarwal’s framework focuses on consequences of *failure* of a platform to determine its systemic importance. *Id.* at 11.

342. Acharya & Richardson, *supra* note 116.

343. FINANCIAL CRISIS INQUIRY, *supra* note 74, at 27–34, 255.

344. Jeremy C. Kress, Patricia A. McCoy & Daniel Schwarcz, *Regulating Entities and Activities: Complementary Approaches to Nonbank Systemic Risk*, 92 S. CAL. L. REV. 1455, 1458 (2019); Hilary J. Allen, *The SEC as Financial Stability Regulator*, 43 J. CORP. L. 715, 718–22 (2018); Daniel Schwarcz & Steven L. Schwarcz, *Regulating Systemic Risk in Insurance*, 81 U. CHI. L. REV. 1569, 1601 (2014).

345. See Daniel Schwarcz & David Zaring, *Regulation by Threat: Dodd-Frank and the Nonbank Problem*, 84 U. CHI. L. REV. 1813, 1824–30 (2017) (detailing the role of nonbanks in the financial crisis).

regulation of systemically important nonbanks (SIFIs).³⁴⁶

Through Dodd-Frank, Congress aimed to impose discipline on SIFIs and large banks alike by imposing stringent regulatory requirements that force these firms to internalize the potential costs of their status.³⁴⁷ Because bank holding companies with over \$250 billion in assets are automatically subject to the heightened regulatory regime,³⁴⁸ the key issues involving designation revolve around the designation of nonbanks as SIFIs. To determine which nonbanks merit heightened regulatory scrutiny, Congress established FSOC, comprised of the heads of the key financial regulators, as an umbrella organization with systemic risk oversight authority.³⁴⁹

2. Identification of SIFIs

Dodd-Frank authorizes FSOC to determine which nonbank financial institutions could pose a threat to U.S. financial stability.³⁵⁰ Pursuant to this authority, FSOC originally focused on designating SIFIs using a three-stage process.³⁵¹ Initially, FSOC designated Prudential, AIG, and GE Capital as SIFIs in 2013.³⁵² The following year, the Council added MetLife to the list of designated SIFIs.³⁵³ In 2019, however, FSOC voted unanimously to shift its focus away from an entity-based approach to an “activities-based” approach.³⁵⁴ Under the new guidance, designation of an individual firm only

346. Kress, *supra* note 34, at 172.

347. Arthur Wilmarth, *The Dodd-Frank Act: A Flawed and Inadequate Response to the Too-Big-to-Fail Problem*, 89 OR. L. REV. 951, 955 (2011).

348. 12 U.S.C. §§ 5325, 5330.

349. The voting members of FSOC include the Secretary of Treasury, Chairman of the Board of Governors, Comptroller of the Currency, Director of the Consumer Financial Protection Bureau, Chairman of the Securities and Exchange Commission, Chairperson of the Federal Deposit Insurance Corporation, Chairperson of the Commodity Futures Trading Commission, Director of the Federal Housing Financing Agency, Chairman of the National Credit Union Administration, and one independent member with insurance experience appointed by the President. *Id.* at § 5321(b).

350. *Id.* at § 5323.

351. See Final Rule and Interpretive Guidance, Authority to Require Supervision and Regulation of Certain Nonbank Financial Companies, 77 Fed. Reg. 21637, 21641–46 (Apr. 11, 2012) (codified at 12 C.F.R. pt. 1310) (describing the three-stage process).

352. See *Financial Stability Oversight Council: Designations*, U.S. DEP’T OF THE TREASURY (Dec. 7, 2018), <https://home.treasury.gov/policy-issues/financial-markets-financial-institutions-and-fiscal-service/fsoc/designations> [<https://perma.cc/W9X6-ERQ6>].

353. *Id.* FSOC has de-designated each of the SIFIs as each firm has reduced its systemic footprint, with the last one being de-designated in October of 2018. Kress, *supra* note 34, at 171.

354. *Financial Stability Oversight Council Issues Final Guidance on Nonbank Designation*, U.S. DEP’T OF THE TREASURY (Dec. 4, 2019), <https://home.treasury.gov/news/press-releases/sm844> [<https://perma.cc/YK68-3UFA>].

occurs after a determination that efforts to address the firm's risk-generating activities have been inadequate.³⁵⁵ After that determination, FSOC may then proceed with a two-stage designation process.³⁵⁶

In the first step, FSOC analyzes the size, interconnectedness, substitutability, leverage, liquidity risk, and maturity mismatch, and extent of existing regulatory scrutiny to identify companies potentially posing risks to financial stability.³⁵⁷ In "Stage 2," for each identified firm in "Stage 1," FSOC determines whether (a) the firm's material financial distress, and/or (b) the nature, scope, size, scale, concentration, interconnectedness, or mix of the activities of the firm could pose a threat to the financial stability of the United States.³⁵⁸ Using these questions, FSOC may determine that a nonbank financial institution should be considered a SIFI and thus be subject to Dodd-Frank's systemic risk regime.³⁵⁹

While this Article focuses on U.S. markets, it is worth noting that a similar process is employed to identify systemically important institutions at the global level.³⁶⁰ In 2009, the G20 formed the Financial Stability Board (FSB) whose purpose was to make the global financial system more resilient.³⁶¹ In this purpose, the FSB aimed to not only strengthen systemically important banks but also to address weaknesses in the regulation of non-bank systemic risks. At the request of the FSB, the International Association of Insurance Supervisors established a framework

355. Final Interpretative Guidance, 84 Fed. Reg. 71740. The Final Guidance also requires FSOC to determine that, before making any proposed entity-specific designation, the "expected benefits justify the expected costs that the determination would impose." *Id.* at 71753.

356. *Id.* at 71742. Prior to the amendments, the first stage required FSOC to analyze whether a non-bank should be considered for designation based on its size and whether it meets at least one other threshold relating to its interconnectedness, leverage, or liquidity risk. Financial Stability Oversight Council Guidance for Nonbank Financial Company Determinations, 12 C.F.R. pt. 1310. The new guidance eliminates the prior "Stage 1" because, according to the Council, "it generated confusion among firms and members of the public and is not compatible with the prioritization of an activities-based approach." Final Interpretative Guidance, 84 Fed. Reg. at 71742. The new guidance also requires FSOC conducts cost-benefit analyses prior to making any recommendation and prior to designating any firm as a SIFI. *Id.*

357. 12 C.F.R. pt. 1310. Under the new guidance, prior "Stage 2" became "Stage 1," and prior "Stage 3" became "Stage 2." Final Interpretative Guidance, 84 Fed. Reg. at 71742.

358. 12 C.F.R. pt. 1310 app. A.

359. *Id.* Dodd-Frank also established the Office of Financial Research (OFR) to support FSOC with data collection, research, and analysis. Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 §§ 152–153, 12 U.S.C. §§ 5342–5343.

360. Jeremy Kress, Patricia McCoy & Daniel Schwarcz, *Activities Are Not Enough! Why Nonbank SIFI Designations Are Essential to Prevent Systemic Risk*, in SYSTEMIC RISK IN THE FINANCIAL SECTOR: TEN YEARS AFTER THE GREAT CRASH 165 (Douglas W. Arner et al. eds., 2019).

361. *Id.*

for identifying global, systemically important insurers based on their size, global activity, interconnectedness, non-traditional activities, and suitability.³⁶² Similarly, the International Organization of Securities Commissions developed a methodology for identifying nonbank, non-insurer, global systemically important financial institutions based on their size, interconnectedness, substitutability, complexity, and global activities.³⁶³

3. Oversight of SIFIs

Once FSOC identifies an organization as a SIFI, that institution will then be subject to enhanced prudential standards proscribed by the Federal Reserve Board (FRB) “[i]n order to prevent or mitigate risks to the financial stability of the United States.”³⁶⁴ Specifically, Dodd-Frank requires the FRB to adopt standards that include risk-based capital requirements, stress-testing, risk management rules, risk concentration limits, and requirements for living wills and credit exposure reports.³⁶⁵ The FRB has, in its discretion, the ability to impose contingent capital requirements, enhanced public disclosures, short-term debt limits, and additional prudential standards.³⁶⁶ Although only available in very limited circumstances, Dodd-Frank also provides tools to break-up SIFIs.³⁶⁷

In addition to these special requirements on SIFIs, the Dodd-Frank Act created a new whistleblower program with the goal of improving accountability and transparency in the financial system.³⁶⁸ Section 922 requires the Securities and Exchange Commission (SEC) to pay an award to eligible whistleblowers who provide information that results in the

362. INT’L ASS’N OF INS. SUPERVISORS, GLOBAL SYSTEMICALLY IMPORTANT INSURERS: INITIAL ASSESSMENT METHODOLOGY 12 (2016), <https://www.iaisweb.org/uploads/2022/01/160616-Updated-G-SII-Assessment-Methodology-New.pdf> [<https://perma.cc/QK2Y-83E5>].

363. FIN. STABILITY BD., ASSESSMENT METHODOLOGIES FOR IDENTIFYING NON-BANK NON-INSURER GLOBAL SYSTEMICALLY IMPORTANT FINANCIAL INSTITUTIONS 5 (2014), http://www.fsb.org/wp-content/uploads/r_140108.pdf [<https://perma.cc/2PEU-M6KT>].

364. Dodd-Frank § 165(a).

365. *Id.* at § 165(b)(1)(A).

366. *Id.* at § 165(b)(1)(B).

367. Dodd-Frank allows the FRB to involuntarily breakup bank holding companies or non-bank SIFIs that “pose[] a grave threat to the financial stability of the United States” so long as the proposed action is approved by at least two-thirds of the FSOC’s voting members. *Id.* at § 121. Also, if a SIFI does not submit its plan for orderly liquidation, it can be ordered to divest. *Id.* at § 165(d)(5)(B).

368. H.R. REP. NO. 4173, 111th Cong. pmb1. (2010); *accord* S. REP. NO. 111-176, at 1, 4–6 (2010).

successful enforcement of securities laws.³⁶⁹ The Act also provides whistleblowers with anti-retaliation protections that prohibit employment discrimination against whistleblowers.³⁷⁰

B. Towards a SITI Framework

Drawing from the systemic risk measures enacted in the Dodd-Frank Act, this Section suggests a framework that could be used to identify SITIs. As detailed in Part II though, platforms pose systemic risks that are distinct from the risks focal to the SIFI designation process. Consequently, identification of SITIs requires inquiry into broader factors, centering around a platforms' power and externalities related to its products and services. After suggesting a framework based on these factors, this Section then introduces a regulatory regime that could be used to minimize the risks that these platforms pose to society.

1. Identification of SITIs

Preliminarily, the agency would begin by creating a list of firms that would qualify as “technological institutions.” Although many have struggled to define similar preliminary terms in setting out to regulate tech firms,³⁷¹ we suggest an approach similar to that taken by the European Union (EU) in the landmark antitrust legislation, the Digital Markets Act (DMA).³⁷² The rules under the DMA will apply to “gatekeepers,” which are defined as “providers of core platform services.”³⁷³ Core platform services include “online search engines,” “online social networking services,” “video-sharing platform services,” “operating systems,” “cloud computing services,” and the like.³⁷⁴ Starting with an initial set of firms that is sufficiently broad to include both social media and cloud platforms prevents the list from being underinclusive at the outset.³⁷⁵

369. Dodd-Frank § 922.

370. *Id.* at § 922(h)(1)(a).

371. For more on the difficulty of defining “platforms” without being overinclusive or underinclusive, see Lina Khan, *The Separation of Platforms and Commerce*, 119 COLUM. L. REV. 973, 1080–82 (2019).

372. Regulation 2022/1925, 2022 O.J. (L 256) (EU) [hereinafter Digital Markets Act].

373. *Id.* at art. 2, ¶ 1.

374. *Id.* at art. 2, ¶ 2.

375. Similar to the Dodd-Frank framework, the list could include U.S. based firms as well as foreign firms operating in the U.S. *See* Dodd-Frank § 113(b)(1)(2010) (authorizing FSO to identify foreign nonbank financial companies to be subjected to heightened prudential standards).

As we outline in Table 1 (below), the proposed stages of SITI identification, once the broad set of technological institutions has been identified, the agency could then work to narrow the field in the next stage. Similar to the original SIFI-designation framework, which only identified non-bank institutions that exceeded a certain amount of assets,³⁷⁶ the agency could eliminate smaller technological institutions based on pre-determined thresholds of site traffic, number of users, and/or revenues.³⁷⁷ Again, this approach is similar to that taken in the DMA, which narrows the field based upon both user counts and revenue/capitalization.³⁷⁸

Of the firms remaining for consideration, the agency could then identify the technological institutions that are systemically important by considering the extent of the firm's power and the externalities generated by the platform. The agency could consider, for instance, the sub-factors identified in Part II that relate to the platform's power—the concentration and extent of that power, quasi-governmental functions, supra-sovereign status, and the extent of control over the information ecosystem.³⁷⁹ And those for externalities—effects on health, dis/misinformation, criminal activity, and the potential consequences of their failure. The technological institutions that present a threshold number of impact factors could be designated SITIs and thus be subjected to specialized regulatory oversight. For example, Facebook likely presents all the impact factors listed and would likely be identified as a SITI.

376. While the identification criteria for SITIs would differ from the factors used to identify SITIs, some aspects of the SIFI identification process could still serve as a model. As discussed *supra* Section III.A.1, the SIFI process was updated in 2019 to add procedural hurdles prior to SIFI designation. To allow the agency more flexibility in identifying SITIs, the SITI designation process could be more aligned with the original SIFI designation process. For an argument that the activities-based approach is insufficient to prevent nonbank systemic risk, see Kress, McCoy & Schwarcz, *supra* note 360.

377. Narrowing the field based on traffic or number of users and/or visits rationally relates to the risks identified *supra* Part II, such as health effects and for mis/disinformation.

378. The DMA's new rules apply to tech companies with at least forty-five million users, or ten thousand business users in the EU, and a market capitalization of at least \$75 billion euros or annual revenues of at least \$7.5 billion euros (within the EU) in the trailing three years. Ryan Browne, *EU Targets U.S. Tech Giants with a New Rulebook Aimed at Curbing Their Dominance*, CNBC (Mar. 25, 2022), <https://www.cnbc.com/2022/03/25/digital-markets-act-eu-targets-big-tech-with-sweeping-new-antitrust-rules.html> [<https://perma.cc/EWL9-BD7J>].

379. Although not necessarily subfactors, Dodd-Frank similarly requires FSOC to consider the following additional factors in making a designation: extent of leverage, extent and nature of off-balance-sheet exposures, extent and nature of transactions/relationships with other institutions, importance of the company as a source of credit, extent to which assets are managed rather than owned, nature/size/scale/concentration/interconnectedness/mix of the activities of the company, degree company is already regulated, amount/nature of financial assets, and amount/types of liabilities. Dodd-Frank § 113(b)(2).

Table 1: Proposed Stages of SITI Identification

Stage	Purpose	Example Criteria
Stage 1	Identify “technological institutions.”	Providers of: (a) online intermediation services; (b) online search engines; (c) online social networking services; (d) video-sharing platform services; (e) number-independent interpersonal communication services; (f) operating systems; (g) cloud computing services; (h) advertising services, including any advertising networks, advertising exchanges and any other advertising intermediation services, provided by a provider of any of the services listed in points (a) to (g). ³⁸⁰
Stage 2	Narrow the field to “technological institutions” of a certain size based on site traffic, number of users, and/or revenues.	>600 million visits per month ³⁸¹ >300 million users >10 billion in annual revenues

380. This list is adapted from the Digital Markets Act proposed by the European Commission. See *Proposal for a Regulation of the European Parliament and of the Council on Contestable and Fair Markets in the Digital Sector (Digital Markets Act)*, at 34, COM (2020) 842 final (Dec. 15, 2020) (defining a core platform service).

381. For example, the following platforms received at least six hundred million visits in February of 2022: Google.com (13.90 billion), YouTube.com (3.60 billion), Facebook.com (2.94 billion), Amazon.com (2.07 billion), Wikipedia.com (1.43 billion), Yahoo.com (1.33 billion), Reddit.com (1.26 billion), Pornhub.com (871 million), Rubiconproject.com (869 million), Twitter.com (767 million), Ebay.com (689 million), Instagram.com (626 million), and Bing.com (609 million). *Most Visited Websites by Traffic in United States for all categories, February 2022*, SEMRUSH (Mar. 29, 2022), <https://www.semrush.com/website/top/united-states/all/> [<https://perma.cc/2D7M-U3RG>].

Stage	Purpose	Example Criteria
Stage 3	Identify “technological institutions” that present minimum threshold of Impact Factors.	<p>Power Impact Factors</p> <ul style="list-style-type: none"> • Concentration of power • Extent of power • Quasi-governmental functions • Supra-sovereign status • Control over the information ecosystem <p>Externality Impact Factors</p> <ul style="list-style-type: none"> • Effects on health • Dis/misinformation • Criminal activity • Negative consequences of failure

2. Oversight of SITIs

Consistent with Dodd-Frank’s targeted oversight of SIFIs, we have identified compelling reasons for an enhanced regulatory approach to SITIs.³⁸² Though it may be premature to specify the finer details of regulatory measures and the exact composition of an oversight agency, design concepts are worth imagining and—we believe—within reach. Below, we map out the foundations and scope of a potential framework for SITI oversight. First, we envision an agency-centered framework, enabled by federal legislation but not driven by legislative acts. That agency would have powers to designate and oversee SITIs, departing from the “antitrust-or-nothing” status quo for digital platform regulation.³⁸³ Second, we identify the mitigation of harmful externalities and the management of broad systemic risks as central aims of SITI oversight.³⁸⁴ Finally, for the sake of illustration, we offer substantive

382. See discussion *supra* note 379 (outlining the systemic importance of digital platforms).

383. See *infra* notes 392–398 and accompanying text (discussing blind spots and weaknesses of antitrust frameworks for addressing the negative externalities and harms of digital platforms).

384. These aims parallel Dodd-Frank’s fundamental goal of preventing and mitigating risks to financial stability. See *supra* note 367 and accompanying text.

examples of potential agency oversight.³⁸⁵ As with the DMA's potential relevance for SITI identification, another EU initiative, the Digital Services Act (DSA), offers interesting points of reference for SITI oversight.³⁸⁶

An agency-centric framework. Overseeing a marketplace as multifaceted and rapidly changing as digital platforms is inherently challenging, particularly for legacy public institutions and frameworks. Put differently, governments are equipped with industrial-era tools for digital-era problems.³⁸⁷ We believe that the fast-paced nature of the technology sector is better suited for ongoing oversight by an expert agency than for legislative solutions. Drawing from common criticisms of SIFI regulation,³⁸⁸ an agency-led framework for SITIs should be flexible and sufficiently nimble to adapt to ongoing iterations in platform business models.³⁸⁹ As algorithms and business models shift, so too will risks and externalities. Although numerous bills have identified meaningful areas of improvement—and have targeted worthwhile goals—legislative responses are likely to remain piecemeal and reactive.³⁹⁰ The ability of Congress to respond to ongoing developments in the technology sector is very much in

385. We do not intend to outline a full agenda of regulatory action in this Article. Likewise, we are reserving details of regulatory design (e.g., agency composition) and substantive aims (e.g., scope and authority) for future research.

386. *Proposal for a Regulation of the European Parliament and of the Council on a Single Market for Digital Services (Digital Services Act) and Amending Directive*, COM (2020) 825 final (Dec. 15, 2020).

387. See Tom Wheeler, Phil Verveer & Gene Kimmelman, *New Digital Realities: New Oversight Solutions in the U.S. The Case for a Digital Platform Agency and a New Approach to Regulatory Oversight*, SHORENSTEIN CTR. ON MEDIA, POL. & PUB. POL'Y (Aug. 2020), <https://shorensteincenter.org/new-digital-realities-tom-wheeler-phil-verveer-gene-kimmelman/> [<https://perma.cc/TJ8L-NKGX>] (“Regulators are stuck with statutes that not only are from a pre-platform era but also are based on industrial era assumptions rather than policies that reflect internet era realities.”).

388. See, e.g., Christina Skinner, *Regulating Nonbanks: A Plan for SIFI Lite*, 105 GEO. L. J. 1379, 1426 (2017) (proposing a regulating SIFIs on a continuum that would offer “regulators more flexibility in setting and adjusting regulatory boundaries as new forms of systemic risk emerge (and dissipate)”).

389. Because platforms themselves will wax and wane—sometimes quite rapidly—the substance of SITI regulation will need to adapt and recalibrate. See, e.g., Niraj Chokshi, *Myspace, Once the King of Social Networks, Lost Years of Data from Its Heyday*, N.Y. TIMES (March 19, 2019), <https://www.nytimes.com/2019/03/19/business/myspace-user-data.html> [<https://perma.cc/BM78-W6CE>] (telling the story of Myspace's lost data).

390. See, e.g., Filter Bubble Transparency Act, S. 2024, 117th Cong. (2021) (requiring internet platforms provide users an experience free from algorithm manipulation); Justice Against Malicious Algorithms Act, H.R. 5596, 117th Cong. (2021) (limiting liability protections for internet services providers who make personalized recommendations using third party information); Kids Internet Design and Safety Act, S. 2918, 117th Cong. (2021) (protecting children's information safety on the internet).

doubt.³⁹¹ Properly designed, a specialized agency could possess greater expertise and independence than legislative bodies. Ideally, an independent agency would be responsive to public sentiments without being captive to electoral cycles, urgent distractions, and direct political pressures.

Beyond Antitrust. Although “Break them up!” has gained traction as a rallying cry for addressing the ills of Big Tech, the viability of antitrust solutions is questionable.³⁹² For one, antitrust paradigms are out of sync with modern digital business models, making tech giants slippery targets for an adjudicatory model of enforcement.³⁹³ Timing and scope are problematic too—because dramatic market concentrations have already accumulated, antitrust will depend on arduous retroactive measures, subject to protracted legal challenges.³⁹⁴ And outcomes are years off, if they happen at all. Importantly, antitrust is too narrowly focused for the sprawling power of digital platforms.³⁹⁵ An antitrust system strictly focused on consumer pricing, for instance, fails to register the full range of platform powers and externalities.³⁹⁶ The blind spots are substantial—antitrust, for instance, lacks answers for social externalities, outage risks, misinformation, health

391. For instance, over two decades of debates in the United States have yet to produce a baseline privacy law at the federal level. See Jessica Rich, *After 20 Years of Debate, It’s Time for Congress to Finally Pass a Baseline Privacy Law*, BROOKINGS (Jan. 14, 2021), <https://www.brookings.edu/blog/techtank/2021/01/14/after-20-years-of-debate-its-time-for-congress-to-finally-pass-a-baseline-privacy-law/> [<https://perma.cc/4LWC-ZE2Q>] (urging the adoption of federal privacy laws in America).

392. See, e.g., Zachary Karabell, *Don’t Break Up Big Tech*, WIRED (Jan. 23, 2020), <https://www.wired.com/story/dont-break-up-big-tech/> [<https://perma.cc/F842-DCHU>] (describing political and social momentum around the idea of breaking up Big Tech).

393. The adjudicatory model of antitrust enforcement is stable and slow in terms of process and doctrinal evolution. See William P. Rogerson & Howard Shelanski, *Antitrust Enforcement, Regulation, and Digital Platforms*, 168 U. PA. L. REV. 1911, 1918 (2021) (“Antitrust jurisprudence can be slow to adjust to changes in economic learning or changes in the underlying economy that alter the effects of a particular kind of business conduct.”); see also *supra* notes 206–207 and accompanying text.

394. See Rogerson & Shelanski, *supra* note 393, at 1918.

395. See Gene Kimmelman, *Key Elements and Functions of a New Digital Regulatory Agency*, PUBLIC KNOWLEDGE (Feb. 13, 2020), <https://publicknowledge.org/key-elements-and-functions-of-a-new-digital-regulatory-agency/> [<https://perma.cc/9XZU-9CNV>] (“Antitrust enforcers, focused on competition, are not well positioned to effectuate user intent and protect users’ personal data on an ongoing basis.”); see also *supra* Section II.A (situating market concentration within the broader powers of platforms).

396. See, e.g., Rogerson & Shelanski, *supra* note 393, at 1940 (citing reasons why “traditional antitrust adjudication is unlikely to remedy the problems of platform markets”); Gregory Day, *Anticompetitive Employment*, 57 AM. BUS. L.J. 1, 5 (2020) (explaining how a narrow focus on the economic terms of consumer welfare thwarts antitrust scrutiny of labor cartels).

impacts, and more.³⁹⁷ Finally, even if antitrust measures were finally enacted, managing risks and externalities in a fragmented technology sector could be even more daunting.³⁹⁸ Furthermore, large platforms can readily absorb the burdens of compliance, whether those obligations involve stress testing, enhancing internal capacities, or developing living wills. We submit that it is well past time to move beyond an “antitrust-or-nothing” paradigm.

Aims of SITI Regulation. Financial stability and consumer protection were centerpiece goals of the SIFI system.³⁹⁹ We suggest that mitigating harmful externalities and managing the broad systemic risks posed by digital platforms should be the overarching aims of SITI regulation. In contrast with the SIFI regime’s focus on financial stability, the aims of SITI regulation are not industry-specific. We acknowledge the challenges inherent in a broader regulatory scope, which is consistent with the far-reaching scope of platform powers and externalities. However, like SIFIs, the identification of SITIs is a critical feature—selection criteria limit the burdens of oversight and compliance to the most powerful platforms with the most problematic externalities.⁴⁰⁰ Carefully targeted SITI selection will help also avoid further entrenching incumbent platforms that can more readily afford or avoid compliance.⁴⁰¹

Substantive Areas of Oversight. In some areas, SITI regulation could draw on ideas and lessons from financial regulation.⁴⁰² For instance, like

397. See *supra* Section II.B (identifying systemic externalities of platforms).

398. In practical terms, a more fragmented platform landscape could complicate oversight. See, e.g., Sinan Aral, *Breaking Up Facebook Won't Fix Social Media*, HARV. BUS. REV. (Sept. 30, 2020), <https://hbr.org/2020/09/breaking-up-facebook-wont-fix-social-media> [<https://perma.cc/V5MJ-HCSV>] (describing the importance of network effects in the case of Facebook).

399. See *supra* note 363 and accompanying text.

400. See *supra* Section III.B.1 (outlining criteria for the identification of SITIs).

401. This is a prominent criticism of GDPR, for instance. See Leonid Bershidsky, *Europe's Privacy Rules Are Having Unintended Consequences*, BLOOMBERG (Nov. 14, 2018, 12:00 AM), <https://www.bloomberg.com/opinion/articles/2018-11-14/facebook-and-google-aren-t-hurt-by-gdpr-but-smaller-firms-are> [<https://perma.cc/GJP7-DKKE>] (“Google and Facebook have largely pretended to comply with GDPR, but they have the legal firepower to protect their clients from claims that their data-based ad campaigns violate privacy. Smaller companies don’t, so their risks are bigger.”); see also Mark Scott, Laurens Cerulus & Steven Overly, *How Silicon Valley Gamed Europe's Privacy Rules*, POLITICO (May 22, 2019, 10:40 AM) <https://www.politico.eu/article/europe-data-protection-gdpr-general-data-protection-regulation-facebook-google/> [<https://perma.cc/5BEQ-XXNG>] (“Smaller firms—whose fortunes were of special concern to the framers of the region’s privacy revamp—also have suffered from the relatively high compliance costs and the perception, at least among some investors, that they can’t compete with Silicon Valley’s biggest names.”).

402. There now exists a sprawling body of literature and commentary for proposals to mitigate the externalities generated by dominant platforms, from middleware to liability

SIFIs, SITIs could be subject to living will and stress testing requirements. Living wills involve planning for failure scenarios, giving platforms and regulators a roadmap for emergencies.⁴⁰³ However, whereas Dodd-Frank focuses on financial distress and insolvency, SITI regulation could focus on contingency plans for prolonged outages in addition to classic distressed scenarios, like a liquidation event.⁴⁰⁴ Similarly, stress testing assesses the ability of banks to withstand economic or financial shocks.⁴⁰⁵ For SITIs, rather than assessing capital reserves, stress tests might examine a platform's capacity to handle a hostile disinformation campaign or a material cybersecurity breach. Basic due diligence rules for banks, such as Know Your Customer requirements, could be implemented to reduce damaging inauthentic and criminal activity online.⁴⁰⁶ Whistleblower protections would be another important feature of a SITI framework with parallels in financial regulation.⁴⁰⁷

Transparency and Auditing. Transparency is fundamental to any eventual SITI framework. Without adequate transparency, reliably identifying externalities and risks is far more difficult, if not impossible. Despite enormous public implications, the status quo of platform governance

reforms. *See, e.g.,* Daphne Keller, *The Future of Platform Power: Making Middleware Work*, 32 J. DEMOCRACY 168 (2021) (developing proposals around middleware solutions); Franks, *supra* note 111 (discussing potential reforms to Section 230). We assess just a handful of substantive proposals for the sake of illustrating the potential scope of our proposals for SITI oversight.

403. *See Living Wills (or Resolution Plans)*, BD. OF GOVERNORS OF THE FED. RES. SYS., <https://www.federalreserve.gov/supervisionreg/resolution-plans.htm> [<https://perma.cc/UKN2-QLU9>] (last visited May 10, 2022) (explaining the characteristics of living wills).

404. In a failure or liquidation scenario, the fate of data harvested and managed by SITIs has major implications for culture and society. *See, e.g.,* Öhman & Aggarwal, *supra* note 32, at 5.

405. Accordingly, stress testing focuses on the sufficiency of a bank's capital during adverse scenarios. *See, e.g., Stress Testing and Capital Planning*, BD. OF GOVERNORS OF THE FED. RES. SYS., <https://www.federalreserve.gov/supervisionreg/stress-tests-capital-planning.htm> [<https://perma.cc/9X39-GAYY>] (last visited May 10, 2022) (explaining stress testing); *see also* Rory Van Loo, *Stress Testing Governance*, 75 VAND. L. REV. 553, 610–11 (2022) (discussing stress testing of technology firms).

406. Proposals like these are part of proposed frameworks for the DSA. *See Questions and Answers: Digital Services Act*, EUROPEAN COMM'N (May 20, 2020), https://ec.europa.eu/commission/presscorner/detail/en/QANDA_20_2348 [<https://perma.cc/QA4D-RPFZ>] (discussing know your business customer requirements).

407. *See supra* notes 368–370 and accompanying text (summarizing Dodd-Frank's whistleblower provisions). In some instances, public knowledge about significant platform externalities was only possible because of whistleblowers. *See, e.g., supra* note 23 and accompanying text. Platforms have proven unwilling to voluntarily implement whistleblower protections. *See Grant & Ward, supra* note 224 (reporting on Alphabet's dismissal of proposals on whistleblower protections).

is remarkably opaque.⁴⁰⁸ Currently, much of what is known has only become public via leaks and scandals.⁴⁰⁹ Some platforms have proven the danger of opacity by obscuring known risks and dangerous externalities from officials and the public.⁴¹⁰ In many instances, independent research is heavily curated and curbed at will by platforms.⁴¹¹ Shareholder initiatives to enhance transparency around harms and externalities have been thwarted by dual-class governance structures.⁴¹² As opacity has limited public awareness of platform externalities, it will also inhibit informed regulation. To address the distinct externalities generated by SITIs, we anticipate specialized transparency-driven reporting related to algorithms, advertising models, and data governance.⁴¹³

CONCLUSIONS

To regulate or not to regulate is a false dilemma. The regulators arrived long ago—platforms filled legal and regulatory voids with various forms of technopolar governance.⁴¹⁴ As it stands, *not to regulate* is to delegate regulatory authority to the most powerful digital platforms. We already know what that looks like. In the absence of oversight, platforms govern their supra-sovereign digital ecosystems and act to preserve their business models,

408. See *Platform Transparency: Understanding the Impact of Social Media Before the Subcomm. on Tech., Privacy & the L. of the S. Judiciary Comm.*, 117 Cong. 3 (2022) (testimony of Nathaniel Persily, Co-Director of the Stanford Cyber Policy Center) (“The public does not have a window into the dynamics of speech regulation in these critically important spaces or how content spreads within and across them.”).

409. See, e.g., *supra* notes 79–82 and accompanying text.

410. See Wells, Horwitz & Seetharaman, *supra* note 26 (reporting that Facebook obscured information about Instagram’s risks, particularly for teenage girls).

411. See, e.g., *The Clash Between Facebook and Independent Researchers*, WALL ST. J. (Aug. 9, 2021, 4:44 PM), <https://www.wsj.com/podcasts/the-journal/the-clash-between-facebook-and-independent-researchers/8fda97fc-203d-4632-bc86-f81c0cbe5faf> [<https://perma.cc/8PZG-PKM7>] (explaining that Facebook suspended the personal accounts of an N.Y.U. Ph.D. candidate studying how well Facebook identified political ads).

412. See *supra* notes 216–217 (discussing the implications of dual-class share structures at certain platforms).

413. Daphne Keller has provided detailed testimony on transparency measures. See *Platform Transparency*, *supra* note 408 (testimony of Daphne Keller, Stanford University Cyber Policy Center). Nathaniel Persily has drafted legislation that would grant outside scholars with access to information while protecting user privacy. See Nathaniel Persily, *Facebook Hides Data Showing It Harms Users*, WASH. POST (Oct. 5, 2021, 7:20 AM), <https://www.washingtonpost.com/outlook/2021/10/05/facebook-research-data-haugen-congress-regulation/> [<https://perma.cc/WE59-CLYC>] (describing the drafted legislation).

414. See Wheeler, Verveer & Kimmelman, *supra* note 387, at 6 (“In the absence of federal oversight, the dominant digital platforms have become governments unto themselves with the ability to impose their own set of rules on economic activities and consumer choices.”).

oftentimes despite costly externalities. What it looks like *to regulate* systemically important platforms is the open question. Our proposals address that question, contributing to an area of emerging research on the systemic importance of digital platforms.⁴¹⁵ We aim to advance the conversation by developing a theory of systemic importance for digital platforms while establishing preliminary guiding concepts for an eventual SITI framework.

Our proposal for an agency-driven approach to regulating systemically important digital platforms draws from financial regulation paradigms. Although we find utility in the SITI-SIFI analogy, we also acknowledge certain asymmetries. In finding that certain digital platforms have, too, attained systemic importance, we also observe that their status is a function of the distinct powers and externalities posed by those platforms. Some divergence is inevitable, especially given the degree of heterogeneity among platform business models and the remarkably broad scope of impacts they generate in our societies, markets, and political systems. In both contexts, though, we suggest that an agency-centric paradigm—as opposed to purely legislative frameworks—allows for more nimble, responsive oversight.

415. *See supra* notes 39–44 (reviewing the emerging literature on the systemic importance of digital platforms).