ON THE SYSTEMIC IMPORTANCE OF DIGITAL PLATFORMS

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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. The next day, the Fed scrambled to rescue American International Group (AIG) from the brink of insolvency with an $85 billion loan. 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,

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 Act was signed into law with the stated purpose of ending too-big-to-fail and protecting the American taxpayer by ending bailouts. 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. According to the logic of the SIFI framework, if a financial institution is consequential enough to endanger the broader economy, heightened regulatory scrutiny applies.

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. 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. Not since the War of 1812 had the Capitol been overrun by an attack. Four people died in the insurrection, which injured 150 police officers. Another four police officers who responded to the attack later

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.
7. See infra Part I (defining and addressing systemic risks and externalities in the context of digital platforms).
10. Chris Cameron, These Are the People Who Died in Connection with the Capitol Riot,
committed suicide. In terms of injured personnel, it was one of the worst days for U.S. law enforcement since September 11, 2001. 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. Twitter announced a ban on Donald Trump’s personal account as well as the President’s official accounts. Facebook and YouTube enacted similar suspensions, as did a number of smaller platforms. 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.

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. Policing themselves and the public square they control, certain platforms acted with extraordinary power in both online commercial and information environments. A grim set of externalities were on display too.


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.


15. Id.


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 SITIs/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. Social networks were also instrumental in cultivating the violent extremism on display that day. 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.

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. 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.

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


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


This Article explores the theoretical basis for imposing a prudential regulatory regime modeled after the SIFI framework for what we refer to as...
systemically important technological institutions (SITIs). 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. 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. 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. In other words, a firm could be designated as systemically important due to the risks posed by its on-going activities.

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. 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).


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. 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. The notion that digital platforms possess systemic importance is gaining traction. 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. 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

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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).


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

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. 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. In other words, we consider the “long shadow” that platforms cast over human systems as part and parcel of systemic importance.

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).
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.
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. 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. For example, Hal Scott defines

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. Schwarz, 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.”

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. 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.

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. 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.” 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.

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

54. Kress, supra note 34, at 173.
55. Id.
Yet the inquiry into systemic importance—even in the context of SIFIs—is not limited solely to the risks of failure. Congress passed Dodd-Frank in the wake of the greatest financial crisis in nearly a century. As the crisis unfolded, the federal government rescued titans of industry and finance with unprecedented interventions. 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. Congress also set out to address the lack of accountability and transparency in the financial system.

In light of far-reaching importance, Congress considered the systemic risks generated by on-going activities in addition to the potential consequences of failure. 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. In other words, a non-bank could be designated as systemically important due to the risks posed by its on-going activities. 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

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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.


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

61. Id.


63. Id.

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. 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. 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. 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

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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.  

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.  

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.”

While a crisis is not necessary for Congress to act, historically, regulation of financial services has followed a predictable pattern. 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).


the financial sector found itself firmly in a period of deregulation. 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.

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. By this time, Lehman Brothers and other investment banks had invested heavily in residential and commercial real estate. Because the major investment banks were thinly capitalized and tightly interconnected, the losses in real estate values were unbearable. 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. In 2010, Congress acted again to prevent another crisis, in part, by imposing a prudential regime on our largest financial institutions.

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. 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. This reporting brought a new level of intensity to the scrutiny that the company had already been facing. The internal documents

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73. Id. at 544.
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.
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 resharred 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 53.5 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
Congressional hearing that focused on their companies’ role in spreading disinformation, extremism, and misinformation.\textsuperscript{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.\textsuperscript{93} Though both parties seem to be in agreement that these digital platforms should be held to account, each legislative effort has stalled.\textsuperscript{94} Thus, as a multi-faceted crisis in our information markets continues, digital platforms remain essentially unregulated.\textsuperscript{95}

2. Comparable Moral Hazards\textsuperscript{96}

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.\textsuperscript{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.\textsuperscript{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.\textsuperscript{99} Lawmakers faced increasing pressure to mitigate the risk of moral hazard by increasing regulatory oversight of large


\textsuperscript{93} Id.

\textsuperscript{94} Id.

\textsuperscript{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”).


\textsuperscript{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.

\textsuperscript{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).

\textsuperscript{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...
selectively curate users’ content, plaintiffs have argued that such platforms have become “information content providers” as opposed to “interactive computer services.” 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.

Although the benefits take a different form, moral hazard is still a relevant concern in the context of digital platforms. Mary Anne Franks contends that courts’ broad interpretation of Section 230 has created moral hazard in the tech industry. Section 230, Franks argues, encourages firms to be increasingly reckless with regard to “abusive and unlawful content” on their platforms. 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. 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). The macroprudential regulation imposed via the Dodd-Frank Act

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110. Id. at 68–69.
112. Franks, supra note 111.
113. Id.
114. Id.
aimed to address the negative externalities caused by the mismanagement of financial intermediaries.\footnote{116} For example, the Act implemented changes intended to protect consumers from abusive practices and to increase transparency and accountability in the financial system.\footnote{117} Further, when such institutions have faltered during a crisis period, consequences have extended well beyond a firm’s shareholders.\footnote{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.\footnote{119} Households lost $17 trillion in wealth and unemployment reached a peak of 10.1% in October of 2009.\footnote{120} Although the recession technically ended in June of 2009, its long-lasting effects on employment,\footnote{121} investments,\footnote{122} and output\footnote{123} persisted long after.

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


\footnote{117. \textit{Dodd-Frank Preamble.}, supra note 53.}

\footnote{118. Id.}


\footnote{120. \textit{Financial Crisis Inquiry}, supra note 74, at 389.}

\footnote{121. See Lisa McCorkell & Sarah Hinkley, \textit{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).}

\footnote{122. See \textit{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-compared-28-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).}

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.\textsuperscript{124} The outage also impacted access to popular platforms, including Tinder, Instacart, Venmo, and Netflix, demonstrating the increasing interconnectedness of digital platforms.\textsuperscript{125} Further, four tech giants—Google, Amazon, Facebook, and Microsoft—increasingly dominate the Internet’s critical cable infrastructure.\textsuperscript{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.\textsuperscript{127} In spite of the depth and breadth of these externalities, digital platforms continue to enjoy minimal regulatory oversight.

\section*{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

\begin{footnotesize}
\begin{enumerate}
\item \textsuperscript{125} \textit{Id.}
\item \textsuperscript{126} Christopher Mims, \textit{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.”).
\item \textsuperscript{127} \textit{See infra} Section II.B (discussing externalities with regard to health effects, misinformation, and violence).
\end{enumerate}
\end{footnotesize}

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.\footnote{134}{See, e.g., Anupam Chander, \textit{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.”).}

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
platforms.\textsuperscript{135}

\textit{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.\textsuperscript{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.\textsuperscript{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 \textit{quasi-governmental} acts;\textsuperscript{138} other times, with \textit{supra-sovereign} status, platforms govern above or beyond the orbit of sovereign states.\textsuperscript{139} At this extraordinary scale, even relatively mundane practices—like consumer contracting—have systemic

\textsuperscript{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.

\textsuperscript{136} By the end of 2020, the combined market value of Facebook, Alphabet, Amazon, Microsoft, and Apple was \$7.511 trillion. \textit{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).

\textsuperscript{137} \textit{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.

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

\textsuperscript{139} Lacking an ideal term to describe the composite forms of sovereignty that platforms have assumed, we settle on “\textit{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 Switzerland,” for instance, have been used to describe these phenomena. \textit{See supra} notes 133—134. And the term “\textit{quasi-sovereign},” for instance, already has an established meaning unsuitable for this context. \textit{See, e.g.,} Anna Gelpern, \textit{Bankruptcy Backwards: The Problem of Quasi-Sovereign Debt}, 121 YALE L.J. 888, 891 n.7 (2012) (discussing the term “\textit{quasi-sovereign}” in the context of state insolvency).
impacts.¹⁴⁰

1. Quasi-Governmental and Supra-Soberign 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).


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. Today, some of these “composite forms” of sovereignty are evident in SITIs.

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.” Primacy in the digital realm means that platforms are geopolitical protagonists themselves, possessing meaningful agency on the global stage. 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.

In a digital economy, because data management is governance, we increasingly find platforms in quasi-governmental roles, regulating alongside sovereign states. Platforms, for instance, play crucial roles in shaping privacy and speech rights at the global scale. Managing the digital public square sometimes means curbing the behavior of elected officials, or even heads of state. 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).
150. See Bremmer, supra note 66, at 128 (observing that platforms are “geopolitical actors in and of themselves”).
151. Id. at 112–13.
153. See Dunne, supra note 152, at 247.
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.
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. Decisions made by the largest platforms, though conducted in private, have extraordinary reach and public implications.

Platforms perform vital para-governmental functions. Modern law enforcement, cybercrime control, and government surveillance have grown heavily dependent on platforms for data. 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. Meta, for instance, received about 365,000 government requests for data worldwide in 2022. In the United States alone, Meta received 63,657 requests during the first half of 2021. For platforms that control critical infrastructure in the digital universe,
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.\textsuperscript{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.\textsuperscript{164}

In their para- and quasi-governmental capacities, platforms alternate between cooperation and conflict with various sovereign interests.\textsuperscript{165} Although technology companies are often cooperative with powerful states, high-profile divergences underscore the extent of platform prerogatives.\textsuperscript{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.\textsuperscript{167} Ultimately, the FBI spent well over a million dollars to access data on the phone.\textsuperscript{168} From jurisdictional battles\textsuperscript{169} to clashes over content...
moderation, 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. The United Kingdom, too, has encountered difficulties in persuading executives to appear at parliamentary hearings. 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. Meta has made similar threats in response to proposed legislation in the European Union.

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. Meanwhile, Apple’s 2021 revenues were over $365

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

\textit{Figure 1: Platform Users vs. Country Populations}\textsuperscript{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 \textit{every day}.\textsuperscript{179} Platforms increasingly leverage their

\begin{itemize}
\item \textsuperscript{176} \textit{Id.}
\item \textsuperscript{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. \textit{See, e.g.}, Eichensehr, \textit{supra} note 133, at 685–87 (identifying the constituencies and financial resources of platforms as parallels to sovereign power).
\end{itemize}
financial resources and extraordinary reach to exert influence. Large platforms have become aggressive lobbyists and powerful advocates in regulatory matters.

Even a mundane business practice—such as routine contracting with consumers—can have an outsized impact on law and governance. Legally speaking, platforms interface with users via terms-of-use (TOU) agreements that consumers rarely read or understand. 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. Though seemingly mundane, TOUs play a large role in defining legal dynamics—including rights to data, dispute resolution, and privacy—between society and technology. In the absence of comprehensive data regulation, for instance, TOUs play a pivotal role in defining privacy rights at a global scale.


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).


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”).


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.

while shielding data about problematic tendencies and negative externalities.\textsuperscript{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.\textsuperscript{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.\textsuperscript{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.\textsuperscript{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.\textsuperscript{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.\textsuperscript{197} Apple’s iPhone

\begin{itemize}
\item[192] See, e.g., Julie Cohen, \textit{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.”).
\item[194] See Eichensehr, \textit{supra} note 133, at 715–16 (discussing the undemocratic nature of platforms).
\item[196] See infra notes 221–225 and accompanying text.
\item[197] See Glenn S. Gerstell, \textit{I Work for N.S.A. We Cannot Afford to Lose the Digital

Meta controlled three out of the five top social applications.\textsuperscript{205} Between their dominant market share and non-traditional business models, social platforms challenge traditional paradigms of market power, outstripping legal and regulatory frameworks.\textsuperscript{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.\textsuperscript{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.\textsuperscript{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.\textsuperscript{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.\textsuperscript{210}


\textsuperscript{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).


\textsuperscript{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]

\textsuperscript{210.} See supra Section I.A.3.
The Covid-19 pandemic deepened these trends, as screen time surged, especially among children and adolescents.\textsuperscript{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.\textsuperscript{212} And, in the digital advertising realm, that “triopoly” has a market share closer to 90%.\textsuperscript{213} Google has already claimed almost all of the critical search engine market.\textsuperscript{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.\textsuperscript{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.\textsuperscript{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.\textsuperscript{217} In more extreme cases, dual-class structures implement monarchy-like governance within companies, with effective control for life.\textsuperscript{218} Such is the case at

\begin{itemize}
\item 213. Id.
\item 214. See BORCK, CAMINADE & VON WARTHURG, supra note 202 and accompanying text.
\item 217. Dov Solomon, Rimona Palas & Amos Baranes, The Quality of Information Provided by Dual-Class Firms, 57 AM. BUS. L. J. 443, 445 (2020).
\item 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


\(^{220}\) 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/1326801/000132680121000022/facebook201definitiveprox.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.\textsuperscript{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.\textsuperscript{225}

3. Lords of the Information Ecosystem

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


\textsuperscript{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.”).


\textsuperscript{229}. Smaller platforms are less frequently regular sources of news. See \textit{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%).”).

\textsuperscript{230}. \textit{id} at 4–5.
producing five thousand tweets per day to 500 million.\textsuperscript{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.\textsuperscript{232} Algorithmic tendencies on key platforms play a major role in shaping information exposure—and thus the reality—of billions of people.\textsuperscript{233} Even the tone and nature of human interactions on platforms are colored by algorithmic tendencies.\textsuperscript{234} Platforms that design and manage algorithms for ad-based, attention-driven business models are incentivized to make content as engaging as possible.\textsuperscript{235} Unfortunately, the most engaging content tends towards the novel and outrageous.\textsuperscript{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,

\begin{footnotesize}
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\item 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).
\item See supra notes 224–229 and accompanying text (citing statistics about news access and usage at leading platforms).
\item 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.”).
\item 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).
\end{enumerate}
\end{footnotesize}
companies define the boundaries of acceptable speech. Platforms have suspended numerous public figures, including democratically-elected officials from powerful countries.\textsuperscript{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.\textsuperscript{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.\textsuperscript{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.\textsuperscript{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.\textsuperscript{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

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

\textsuperscript{238} See infra Section II.B.3.

\textsuperscript{239} For instance, the “meaningful interactions” newsfeed change at Facebook. See Mark Zuckerberg, FACEBOOK (Jan. 11, 2018), https://www.facebook.com/zuck/posts/1010441301539357?pnref=story [https://perma.cc/9BDR-KA2D] (announcing the change in algorithms to “encourage meaningful interactions between people”).

\textsuperscript{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].

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.¹² For instance, YouTube’s labeling of RT—formerly known as Russia Today—acknowledges state control.¹³ 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.¹⁴

B. Platform Externalities

1. Health Effects

Driven by profit motives, some platforms stand accused of pursuing growth with only passing regard for potential externalities.¹⁵ 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.¹⁶ Addicting users to maximize attention and data extraction is a core element of established platform business models.¹⁷ An ad-based, attention-driven business model is not an entirely new innovation.¹⁸ The scale, speed, and

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¹² Id.

¹³ 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=V0I5eglJMRI (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].

¹⁴ 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).


¹⁶ 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.

¹⁷ See Day & Stemler, supra note 206, at 10–11.

¹⁸ 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


\(^{251}\) 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 S. J. (Nov. 8, 2021) (downloaded using Apple Podcasts).


\(^{256}\) 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. Although some platforms claim to take active measures to address these issues, others obscure these harms. The negative effects extend beyond the mental realm. 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.

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. In theory, social platforms offer enormous potential for constructive engagement in public health, but the reality is complicated. Platforms amplify and disseminate a great deal of public health misinformation, as evident during the Covid-19 pandemic. Covid-19 information problems grew so acute that the World Health Organization identified a parallel “infodemic” that undercut official efforts


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).


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.\textsuperscript{264} Infodemics are an established phenomenon in public health management, particularly during outbreaks, but they are exceptionally difficult to mitigate on digital platforms.\textsuperscript{265}

Social platforms in particular played a major role in the infodemic that accompanied Covid-19.\textsuperscript{266} Studies on the role of social platforms in propagating health misinformation, including misinformation about the pandemic, are now abundant.\textsuperscript{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.\textsuperscript{268} In many ways, public health misinformation is ideal content—novel, outrageous, and emotional—for the algorithms of major social platforms.\textsuperscript{269} Because rumors and lies are likely to prevail over factual content, social platforms generate challenging externalities for public health management.\textsuperscript{270} Amplified misinformation has concrete outcomes: vaccine

\textsuperscript{264} Infodemics may be understood as an overabundance of information (of varying quality and credibility) during a public health emergency. \textit{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., \textit{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”).

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

\textsuperscript{266} Matteo Cinelli et al., \textit{The COVID-19 Social Media Infodemic}, 10 SCI. REPS., Oct. 6, 2020, https://doi.org/10.1038/s41598-020-73510-5c.

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


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

\textsuperscript{270} See infra notes 288–291 and accompanying text (discussing the proliferation of lies over truth online).
hesitancy, the emergence of fringe treatments and therapeutics, an erosion of trust in public institutions and science, staggering economic costs, and deeper social divisions and politicization around public health management.

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. Today, most social platforms prohibit Covid-19 misinformation in some fashion. And some platforms have specific, freestanding Covid-19 misinformation policies. However, enforcement is


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

uneven, at best. Misleading content and misinformation have persisted on platforms, routinely generating large-scale engagements and views. Furthermore, the management of pandemic-related misinformation is lacking in transparency and clarity. 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.

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. 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. 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.

significant risk of harm (such as increased exposure to the virus, or adverse effects on public health systems) may not be shared on Twitter.

279. See Krishnan, supra note 276.
281. See Krishnan, supra note 276.
282. See, e.g., Bond, supra note 280.
2. Dis/Misinformation

Lies spread faster than truth, especially online. 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. 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. “We might have just handed a 4-year-old a loaded weapon,” said the developer who helped engineer Twitter’s retweet feature. Although externalities for political and social systems are still coming into focus with new research and data, early indications are not encouraging. At the macro level, evidence suggests that platforms are bending the arc of public discourse towards outrage and polarization.

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-P35].


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.”).

Misinformation-at-scale is now widely identified as an existential threat to democratic governance.\textsuperscript{293} Content on social networks is filtered through algorithmic curation and artificial intelligence that can reinforce bias, amplify moral outrage,\textsuperscript{294} and deepen echo chambers.\textsuperscript{295} To be clear, major social media platforms—such as Facebook, Twitter, and YouTube—are not alone in fueling misinformation and extremism.\textsuperscript{296} Misinformation has proliferated in other realms of traditional media as well, including cable news and talk radio.\textsuperscript{297} Podcasts are also an increasingly prominent source of news and misinformation.\textsuperscript{298} And, of course, smaller digital platforms have contributed
too. However, unlike smaller platforms, the largest social platforms operate at unprecedented speed and scale. 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. 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. 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. Algorithms may also steer users to increasingly sensational content in order to hold their attention for longer periods of time. 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”).

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. Because content algorithms prioritize engagement, they—intentionally or inadvertently—prey upon vulnerabilities in human psychology, which tend to gravitate towards outrage and novelty. Strategically-deployed disinformation on platforms exploits the same vulnerabilities, weaponizing information in interference campaigns among sovereign states. 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. Indeed, opacity is the standard, even at leading platforms and publicly traded companies.

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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).


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.


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 Spring\textsuperscript{310} to “meme stock” trading,\textsuperscript{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,\textsuperscript{312} political kidnappings,\textsuperscript{313} human trafficking,\textsuperscript{314} and hate crimes,\textsuperscript{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.\textsuperscript{316} In 2017, for example, Myanmar’s military used Facebook to spread dehumanizing posts about the country’s Muslim population, the Rohingya.\textsuperscript{317} Although the

\begin{footnotesize}
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  \item See DANIELLE CITRON, HATE CRIMES IN CYBERSPACE 16 (2014) (finding cyber harassment to be destructive and endemic).
  \item 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.").
  \item 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.").
  \item 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).
  \item See supra notes 291–293 and accompanying text (discussing the role of social media platforms in aggravating political polarization).
  \item 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”).
\end{enumerate}
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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

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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 platform-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.*


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.*


potential for copycat violence may be increased.\textsuperscript{325} There is evidence to indicate that some mass killings may be influenced by other violent acts.\textsuperscript{326} Other research indicates that youths who perpetrated serious crimes were significantly more likely to have viewed violent online content.\textsuperscript{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.\textsuperscript{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.\textsuperscript{329}

4. Consequences of Failure

The systemic costs of failure are key to the theory underpinning the SIFI regime.\textsuperscript{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.\textsuperscript{331} Staring down the precipice so unnerved

\begin{thebibliography}{99}
\bibitem{towers} Sherry Towers et al., \textit{Contagion in Mass Killings and School Shootings}, 10 PLOS ONE, July 2, 2015, at 1, https://doi.org/10.1371/journal.pone.0117259.
\bibitem{lybarra} Michele L Ybarra et al., \textit{Linkages Between Internet and Other Media Violence with Seriously Violent Behavior by Youth}, 122 \textit{Pediatrics} 929, 929–37 (2008).
\end{thebibliography}
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? 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. The outages impeded vital communications, Internet access, commerce, and humanitarian work in conflict zones. As the effects of this short outage demonstrate, once platforms attain status as critical infrastructure, a complete failure poses systemic risks. 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.

The primary risk of platform failure to existing users is losing control of their data—jeopardizing their privacy, dignity, and self-identity. 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. Meanwhile, dependent communities—those who develop around a platform and depend on its existence—could be cut off from the Internet entirely. For future generations, the potential loss of historical archives would be culturally significant. 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
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.


regulation of systemically important nonbanks (SIFIs). 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. Because bank holding companies with over $250 billion in assets are automatically subject to the heightened regulatory regime, 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.

2. Identification of SIFIs

Dodd-Frank authorizes FSOC to determine which nonbank financial institutions could pose a threat to U.S. financial stability. Pursuant to this authority, FSOC originally focused on designating SIFIs using a three-stage process. Initially, FSOC designated Prudential, AIG, and GE Capital as SIFIs in 2013. The following year, the Council added MetLife to the list of designated SIFIs. In 2019, however, FSOC voted unanimously to shift its focus away from an entity-based approach to an “activities-based” approach. Under the new guidance, designation of an individual firm only

346. Kress, supra note 34, at 172.
351. 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.
352. Id. at § 5321(b).
353. Id. at § 5323.
occurs after a determination that efforts to address the firm’s risk-generating activities have been inadequate. After that determination, FSOC may then proceed with a two-stage designation process.

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. 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. 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.

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. In 2009, the G20 formed the Financial Stability Board (FSB) whose purpose was to make the global financial system more resilient. 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.


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


361. Id.
for identifying global, systemically important insurers based on their size, global activity, interconnectedness, non-traditional activities, and suitability.\footnote{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.\footnote{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) “in order to prevent or mitigate risks to the financial stability of the United States.”\footnote{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.\footnote{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.\footnote{366} Although only available in very limited circumstances, Dodd-Frank also provides tools to break-up SIFIs.\footnote{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.\footnote{368} Section 922 requires the Securities and Exchange Commission (SEC) to pay an award to eligible whistleblowers who provide information that results in the

\footnote{364}{Dodd-Frank § 165(a).}
\footnote{365}{Id. at § 165(b)(1)(A).}
\footnote{366}{Id. at § 165(b)(1)(B).}
\footnote{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).}
successful enforcement of securities laws. The Act also provides whistleblowers with anti-retaliation protections that prohibit employment discrimination against whistleblowers.

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, we suggest an approach similar to that taken by the European Union (EU) in the landmark antitrust legislation, the Digital Markets Act (DMA). The rules under the DMA will apply to “gatekeepers,” which are defined as “providers of core platform services.” Core platform services include “online search engines,” “online social networking services,” “video-sharing platform services,” “operating systems,” “cloud computing services,” and the like. 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.

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).
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 FSOC 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, the agency could eliminate smaller technological institutions based on pre-determined thresholds of site traffic, number of users, and/or revenues. Again, this approach is similar to that taken in the DMA, which narrows the field based upon both user counts and revenue/capitalization.

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. 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.

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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

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<tr>
<th>Stage</th>
<th>Purpose</th>
<th>Example Criteria</th>
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<tr>
<td>Stage 1</td>
<td>Identify “technological institutions.”</td>
<td>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).</td>
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| 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\textsuperscript{381}  
>300 million users  
>10 billion in annual revenues |

\textsuperscript{380} This list is adapted from the Digital Markets Act proposed by the European Commission. \textit{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).}

\textsuperscript{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). \textit{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].}
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<th>Stage</th>
<th>Purpose</th>
<th>Example Criteria</th>
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<tr>
<td>Stage 3</td>
<td>Identify “technological institutions” that present minimum threshold of Impact Factors.</td>
<td><strong>Power Impact Factors</strong>&lt;br&gt;• Concentration of power&lt;br&gt;• Extent of power&lt;br&gt;• Quasi-governmental functions&lt;br&gt;• Supra-sovereign status&lt;br&gt;• Control over the information ecosystem&lt;br&gt;&lt;br&gt;<strong>Externality Impact Factors</strong>&lt;br&gt;• Effects on health&lt;br&gt;• Dis/misinformation&lt;br&gt;• Criminal activity&lt;br&gt;• Negative consequences of failure</td>
</tr>
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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

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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.\textsuperscript{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.\textsuperscript{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.\textsuperscript{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,\textsuperscript{388} an agency-led framework for SITIs should be flexible and sufficiently nimble to adapt to ongoing iterations in platform business models.\textsuperscript{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.\textsuperscript{390} The ability of Congress to respond to ongoing developments in the technology sector is very much in
doubt. 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. For one, antitrust paradigms are out of sync with modern digital business models, making tech giants slippery targets for an adjudicatory model of enforcement. 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. And outcomes are years off, if they happen at all. Importantly, antitrust is too narrowly focused for the sprawling power of digital platforms. An antitrust system strictly focused on consumer pricing, for instance, fails to register the full range of platform powers and externalities. The blind spots are substantial—antitrust, for instance, lacks answers for social externalities, outage risks, misinformation, health

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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).

impacts, and more.\textsuperscript{397} Finally, even if antitrust measures were finally enacted, managing risks and externalities in a fragmented technology sector could be even more daunting.\textsuperscript{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.

\textbf{Aims of SITI Regulation.} Financial stability and consumer protection were centerpiece goals of the SIFI system.\textsuperscript{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.\textsuperscript{400} Carefully targeted SITI selection will help also avoid further entrenching incumbent platforms that can more readily afford or avoid compliance.\textsuperscript{401}

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

\begin{itemize}
  \item \textsuperscript{397} See supra Section II.B (identifying systemic externalities of platforms).
  \item \textsuperscript{399} See supra Section III.B.1 (outlining criteria for the identification of SITIs).
  \item \textsuperscript{400} This is a prominent criticism of GDPR, for instance. See Leonid Bershidsky, \textit{Europe’s Privacy Rules Are Having Unintended Consequences}, BLOOMBERG (Nov. 14, 2018, 12:00 AM), https://www.bloomberg.com/opinion/articles/2018-11-14/1facebook-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 advertisements violate privacy. Smaller companies don’t, so their risks are bigger.”); see also Mark Scott, Laurens Cerulus & Steven Overly, \textit{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/SBEQ-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.”).
  \item \textsuperscript{401} There now exists a sprawling body of literature and commentary for proposals to mitigate the externalities generated by dominant platforms, from middleware to liability
\end{itemize}
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. 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. Similarly, stress testing assesses the ability of banks to withstand economic or financial shocks. 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. Whistleblower protections would be another important feature of a SITI framework with parallels in financial regulation.

**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.


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.


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.\textsuperscript{408} Currently, much of what is known has only become public via leaks and scandals.\textsuperscript{409} Some platforms have proven the danger of opacity by obscuring known risks and dangerous externalities from officials and the public.\textsuperscript{410} In many instances, independent research is heavily curated and curbed at will by platforms.\textsuperscript{411} Shareholder initiatives to enhance transparency around harms and externalities have been thwarted by dual-class governance structures.\textsuperscript{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.\textsuperscript{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.\textsuperscript{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,
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.\textsuperscript{[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.

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