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Governing Emerging Technology in an Age of Policy Fragmentation and Disequilibrium

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A M E R I C A N E N T E R P R I S E I N S T I T U T E

Executive Summary

Traditional governance mechanisms are being strained by modern technological and political realities. Newer technologies, especially digital ones, are developing at an ever-faster rate and building on top of each other, blurring lines between sectors.

Congress has failed to keep up with the quickening pace of technological change. It also continues to delegate most of its constitutional authority to agencies to deal with most policy concerns. But agencies are overwhelmed too. This situation is unlikely to change, creating a governance gap.

Decentralized governance techniques are filling the gap. Soft law—informal, iterative, experimental, and collaborative solutions—represents the new normal for technological governance. This is particularly true for information sectors, including social media platforms, for which the First Amendment acts as a major constraint on formal regulation anyway. No one-size-fits-all tool can address the many governance issues related to fast-paced science and technology developments; therefore, decentralized governance mechanisms may be better suited to address newer policy concerns.

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In March 2021, the US National Intelligence Council (NIC) published its latest *Global Trends* report, a periodic evaluation of global governance challenges for the coming decades.¹ Rapid technological change figured prominently. “Novel technologies will appear and diffuse faster and faster, disrupting jobs, industries, communities, the nature of power, and what it means to be human,” the NIC report began.² At the same time, growing fragmentation and disequilibrium among nations and their technological governance systems means “there is an increasing mismatch at all levels between challenges and needs with the systems and organizations to deal with them.” “As a result of these disequilibriums,” NIC says, “old orders—from institutions to norms to types of governance—are strained and in some cases, eroding.”³

This is surely true of technological governance in the United States. Our traditional governance mechanisms are strained and eroding: Congress has largely abrogated its role as primary policymaker for many emerging technologies, perhaps permanently. Even if they wanted to, it is unclear whether either Congress or the administrative agencies have the expertise and resources to adequately govern modern technology entities and platforms.

When such traditional sources of governance fail to provide the necessary guidance, alternative forms will emerge, and some already have, albeit unevenly. The US has already witnessed the beginnings of a new

governance framework for many sectors and technologies, though the nature and boundaries of this new paradigm are so amorphous that few recognize it as a governance regime at all. For better or worse, however, the age of “soft law” and decentralized governance is upon us.

The applicability of this new governance regime to online speech platforms will be particularly contentious, but the fact is that soft law is already the norm there too. With the First Amendment acting as a constraint on speech regulation, more flexible governance approaches will be tapped continually to address the wide variety of concerns related to objectionable content and content-moderation practices—as has unofficially been the case for decades.⁴

The speed and complexity of technological innovation, the nature of legislation and the near-permanence of regulation, and the fragmentation of our society combine to make the traditional governance of technological change difficult and, frankly, unlikely. Our second-best option is the embrace of the flexible soft law and decentralized governance that have arisen in its absence.

Congress and the Pacing Problem

Many would argue that it takes a large government to accomplish important things. Of course, some “big government” has and always will be with us for

things like national defense, space, infrastructure, and social-welfare programs. But the largest programs also tend to have the greatest cost overruns, delays, and inefficiencies. Philip K. Howard of Common Good notes that the 1956 Interstate Highway Act ran just 29 pages long and spawned 21,000 miles of new road construction in the following decade. “Today,” he writes, “that project is subject to thousands of pages of detailed rules, and it can take a decade just to get a permit.”⁵

A similar problem exists with regulatory efforts: There tends to be an inverse relationship between the scale of government power and quality of governance, particularly for highly complex matters. Regulators cannot oversee all possible innovation developments and challenges, no matter how much some pundits and policymakers want them to. Not only is it impossible, but attempts to do so stretch resources—human and budgetary—so thin that they are quickly overwhelmed. Trade-offs exist, and hard decisions must be made.

Technological governance was at least somewhat easier when the universe of issues was more limited than it is today. But now regulators also face the so-called “pacing problem,” the relentlessly growing gap between the constantly expanding frontier of technological possibilities and the ability of governments to keep up with the pace of change. “The time to develop, deploy, mature, and then retire technologies is moving from decades to years and sometimes faster,” observes the NIC’s *Global Trends 2040* report.⁶

This gap between emerging technologies and the public policies covering them is referred to as the “governance gap.”⁷ Regulators themselves increasingly acknowledge the challenge posed by this problem. In a 2016 speech about drone policy, then-Federal Aviation Administration Administrator Michael Heurta noted, “I have said more than once that innovation moves at the speed of imagination and that government has traditionally moved at, well, the speed of government.”⁸

Further complicating the problem are “combinatorial innovation”⁹ and “parallel technological breakthroughs,”¹⁰ which occur as new technologies

multiply and build on one another. As the *Global Trends 2040* report puts it: “The convergence of seemingly unrelated areas of scientific research and technological applications is making the rapid development of novel applications possible, practical, and useful.”¹¹ Likewise, more powerful general-purpose technologies have resulted in many “concurrent technological revolutions.”¹² This has led to an “erosion of sectoral boundaries”¹³ and a corresponding blurring of the policy lines delineating one type of technology regulation from another. Yet, congressional oversight committees and administrative agencies are largely still organized along analog-era lines that no longer correspond with modern technological realities.

With new technologies multiplying so rapidly, by the time policymakers start to understand one tech problem, another more pressing one crowds it out.

A corollary of the pacing problem is that, with new technologies multiplying so rapidly, by the time policymakers start to understand one tech problem, another more pressing one crowds it out. This is a particularly serious problem in Congress, which is always faced with many competing demands and a very short legislative period in which to accomplish its goals. Moreover, among the many competing congressional priorities, technology-related bills tend to be lower on the list and rarely achieve final passage.

There are occasional exceptions to this rule. For example, the Secure Equipment Act passed unanimously in late October 2021. But this is a rare bill

that is largely uncontroversial and narrow in scope. It simply says the Federal Communications Commission can step up the restrictions it imposes on foreign companies that are ruled a threat to national security. In practice, it was an easy way to “get tough” with China and its telecom-equipment vendors, such as Huawei and ZTE.¹⁴ Most tech legislation is not like this, however, and Congress has increasingly become a nonactor on technology policy.¹⁵

The crowding-out effect on tech legislation is problematic for many reasons. There are many policy issues for which government oversight is needed to address serious technological risks or for which a clear national policy framework is needed for some sectors. The legislative branch should take the lead on those issues, but Congress is increasingly checking out of policymaking. This problem is partly a function of limited congressional resources and staffing¹⁶ and partly a function of Congress’s increasing tendency to delegate power and responsibility to the administrative agencies.

Over the past half century, many scholars have highlighted the problems associated with Congress delegating legislative tasks to administrative agencies instead of taking them on themselves, and the causes are well-documented.¹⁷ Congress is overwhelmed in general, and many analysts have highlighted the lack of adequate staff and low pay as major reasons why so many matters are delegated to agencies.¹⁸ While a lack of resources has not helped any, this problem is equally attributable to many lawmakers’ preference to “pass the buck” on hard issues along to regulators—and then blame them when things do not turn out well.¹⁹ This tendency is even greater for technological topics because of the complexity of the subject matter. Perhaps additional legislative expertise would help alleviate the knowledge gap to some extent and help Congress reclaim some of its decision-making authority.²⁰

The pace of technological innovation creates another problem: Once lawmakers do succeed in regulating, they rarely bother to update their rules, which means that existing rules may quickly become harmful or nonsensical. A 2017 survey of the US Code

conducted by the consultancy Deloitte revealed that 68 percent of federal regulations have never been updated and that 17 percent have been updated only once.²¹ The World Economic Forum (WEF) refers to this as a “regulate-and-forget” system of governance,²² and elsewhere I’ve referred to it as a “build-and-freeze model,” in which older rules are almost never revisited even after new social, economic, and technical realities render them obsolete or ineffective.²³

Experts have recommended broad-based reforms such as “spring cleaning commissions,”²⁴ “simplification commissions,”²⁵ or “fresh start” initiatives²⁶ to address the chronic inability of Congress to clean up outdated rules and regulations. But little progress has been made on these or other regulatory-reform efforts. The last serious effort to comprehensively deregulate a major sector and abolish the agencies that governed it—the curtailment of the Interstate Commerce Commission and the abolition of the Civil Aeronautics Board in the late 1970s and early 1980s—was roughly 40 years ago. Even measures billed as being “deregulatory,” such as the Telecommunications Act of 1996, are usually just expansions of old regulatory regimes.

The combined problems identified here help explain why “kludgeocracy” has become the norm in many technology-policy areas. In a 2013 essay, Steven Teles coined the term “kludgeocracy” to describe the way many temporary fixes that were created to solve pressing problems end up forming an incoherent patchwork of policies that pass as governance.²⁷ This patchwork creates confusion and costs for citizens, organizations, governments themselves, and even our democracy. “The complexity and incoherence of our government often make it difficult for us to understand just what that government is doing,” Teles argued.²⁸

It also imposes hidden costs. “Complexity is a drain on the economy. It imposes a huge ‘time tax’ on families and businesses,” says Ezekiel J. Emanuel, a professor of health policy at the University of Pennsylvania.²⁹ Others have identified the many costs associated with growing time taxes, pointing out how increasingly complex bureaucratic proceduralism creates hurdles to governments carrying out

basic tasks and imposes costly burdens on citizens and private businesses.³⁰ In the context of technological governance, the time tax has increased considerably because of the steady growth of kludgeocracy, which has resulted in confusing and costly compliance hassles. The quality of technological governance tends to be inversely related to the extent to which kludgeocracy passes for policymaking.

Guiding Principles for Technological Governance

The problems outlined above help explain why Arizona State University legal scholar Gary Marchant refers to emerging technology governance issues as “wicked problems” for which “there is often no single, optimal solution . . . but rather a mix of sub-standard solutions that must ‘satisfice.’”³¹ When considering how to bridge governance gaps for emerging tech, Marchant writes, it is most essential that we acclimate ourselves to “a collection of second-best strategies [that] intersect, coexist, and—in some ways—compete.”³² Toward that end, three general principles can help us reconceptualize how we think about the governance of technological systems and platforms going forward.

The first principle is that *governance must be viewed broadly*. Toward that end, a distinction should be made between *governing* and *governance*. Governing implies more top-down, centralized, and formalistic approaches. By contrast, governance is more open-ended and suggests more bottom-up, decentralized, and informal approaches.³³ In other words, governance is not merely formal administrative regulation.

Richard D. Taylor of Pennsylvania State University has noted that, when we consider governance approaches for emerging technologies, “it is useful to speak not about a ‘policy’ but about the ‘policy space.’ Otherwise, there is a risk that the basket of policy alternatives and tools is conceived too narrowly.”³⁴ He elaborates:

The concept of a “policy space” recognizes that oversight power and regulatory authority are not held within a single formal body, but may be dispersed—or shared—between any number of entities, both private and public, within the relevant space. The policy space approach can accommodate a variety of tools from the promotion of competition, to deregulation, to self-regulation, to a “light touch” or to centralized utility-type regulation. It enables different jurisdictional responses based on similar policy objectives.³⁵

In this framing, governance is made up of many different elements and possible solutions. As noted below, the policy space for most emerging technology sectors is already an amalgam of many existing rules and precedents, as well as a constantly evolving set of nonregulatory norms and informal policies.

It is worth stressing that this sort of reconceptualization of technological governance has broad support, including from scholars in the growing intellectual movement known as “responsible research and innovation” (RRI).³⁶ Although the RRI movement is more widespread in Europe, it is growing in the United States, sometimes under different names, such as “anticipatory ethics” or “upstream governance.”³⁷ In a 2015 study of RRI and governance styles for science and technology, Laurens Landeweerd, David Townend, Jessica Mesman, and Ine Van Hoyweghen noted “the emergence of new, more hybrid styles of governance” for a wide constellation of technology issues.³⁸ They highlighted how, in these new schemes, “governance is considered here as a learning process, less directed to direct intervention and ‘decision-making,’ and more towards experimentation.”³⁹ Echoing Marchant, they note that the movement looks “beyond the idea of governance as ‘quick fixes’” and acknowledges “there are no clear-cut, well-defined and predictive/foreseeable solutions to be found.”⁴⁰

The second principle is that *risk prioritization is essential*. Some technological developments require immediate and formal regulatory action and perhaps even prohibition. In a recent book, I noted that “precautionary restraints are most justifiable when the

alleged harms are highly probable, tangible, immediate, irreversible, catastrophic, or directly threatening to life and limb in some fashion.”⁴¹ So-called “existential risks” require more immediate attention and regulatory focus than do other concerns.

But for those great many technological concerns that do not pose such risks, more flexible governance mechanisms are often better able to address concerns in a more timely and effective fashion. Stepped-up congressional resources and expertise would probably do the most good here, helping lawmakers determine which technological developments require immediate attention and identifying their varying options for dealing with novel technology problems.

Flexibility and experimentation should be the touchstones of technological-governance efforts going forward.

There have been calls for improved technology assessment, including the resurrection of the Congressional Office of Technology Assessment, which was abolished in the mid-1990s.⁴² While that is unlikely, the good news is that the Government Accountability Office (GAO) has expanded its technology assessment efforts with the creation of a Science, Technology Assessment, and Analytics (STAA) team in January 2019.⁴³ The STAA has already produced many detailed studies on issues including quantum computing, 5G wireless capabilities, and artificial intelligence (AI) in health care.⁴⁴

In a sense, the GAO’s move to create this new team reflects our dominant theme: Iterative efforts fill a policy vacuum. Recognizing the unlikelihood of congressional action to reestablish a more formal technology-assessment body or process, the GAO

simply went ahead and did it in an effort to improve technology risk assessment.

Finally, whether governance takes on a formal or informal character, *flexibility and experimentation should be the touchstones of technological-governance efforts going forward*. As noted, older regulatory regimes tend to be characterized by top-down, command-and-control approaches. This won’t work. Marc Saner of the University of Ottawa argues, “The control paradigm is too limited to address all the issues that arise in the context of emerging technologies.”⁴⁵ The problems with top-down, command-and-control regulation are numerous, but most notably, prescriptive regulation “can rapidly become obsolete as new ideas, products and business models emerge,” as the WEF observes.⁴⁶

Accordingly, a 2020 report from the WEF called for governments to adopt “a more agile, flexible approach to regulation” better suited for an era of fast-paced technological change.⁴⁷ “The ‘regulate-and-forget’ era has passed,” the WEF argued. “To grasp the opportunities and mitigate the risks from innovation and disruption, governments need to adopt an ‘adapt-and-learn’ approach instead.”⁴⁸ The WEF calls this “agile regulation” and suggests the goal should be to reconceptualize technological governance “as a cycle of continuous learning and adaptation as the technology develops.”⁴⁹

In a series of recent reports on emerging governance trends, Deloitte has identified other names for these same approaches, including “adaptive regulation,” “outcome-based regulation,” and “regulatory sandboxes,” which are discussed more below.⁵⁰ “Co-regulation,”⁵¹ “flexible regulation,” and “entrepreneurial administration”⁵² are other monikers for the same ideas.

Toward Soft Law and Decentralized Governance

These three principles can help us address the governance gap between government entities and platforms they oversee and help determine whether agencies are the right place for certain types of decision-making to

begin with. Practically speaking, these principles and new approaches are already part of the emerging governance tool kit being used to address complex technology matters today.

Scholars are increasingly using the term “soft law” to describe the growing constellation of informal, iterative, experimental, and collaborative solutions for challenges surrounding new technologies. A surprisingly diverse collection of scholars from multiple disciplines and perspectives has written about and generally endorsed soft-law mechanisms.⁵³

Soft-law governance mechanisms differ from hard law in that they lack the same degree of enforceability.⁵⁴ In a sense, soft law is not really all that new. Many soft-law governance mechanisms have been tapped in the past, especially in information and communications technology policy circles.⁵⁵ Today, however, soft law has taken on great importance because of the factors identified above, especially the pacing problem.

Soft-law processes are used alongside hard-law methods to varying degrees.⁵⁶ Soft law operates in the shadow of hard law, and hard-law mechanisms will often buttress soft-law efforts in important ways. Even where agencies initially rely on soft-law mechanisms to deal with the governance of certain new technologies, various hard-law mechanisms are always waiting in the wings. The use of ex post regulatory remedies (unfair and deceptive practices claims, recall authority, and other lawsuits), as opposed to ex ante preemptive regulatory restrictions, is becoming more common. Soft law can supplement and combine with such ex post enforcement efforts, but it does not supplant the many other common law, court-based remedies that continue to operate, including product liability, design defects law, assorted torts and class action claims, and other judicial remedies.

Any list of soft-law mechanisms is necessarily amorphous and ever-changing, but a current inventory must include the following at a minimum: multi-stakeholder processes, experimental “sandboxes,” industry best practices or codes of conduct, technical standards, private certifications, agency workshops and guidance documents,

informal negotiations, and education and awareness-building efforts.

Multi-stakeholder processes are a particularly important type of soft law, and they have been used extensively over the past quarter century to address a variety of internet-era technology developments.⁵⁷ Multi-stakeholder processes place a premium on what we might think of as the “3Cs” of many soft-law efforts: *consultation*, fostering an ongoing dialogue built on trust among all stakeholders; *collaboration*, establishing a process or forum for discussion and encouraging stakeholders to work together; and *consensus*, pursuing a rough consensus among stakeholders and finding as many win-win solutions as possible within the operational parameters.

Multi-stakeholderism fits nicely in the RRI paradigm described above. Landeweerd and colleagues note how

“Doing governance” implies the space for making explicit what is moving all the different (kinds of) stakeholders on issues of science and technology. This means focusing less on “decision-making” and more on identifying the shared values and interests we have in the issues on the table; a focus on collaboration and dialogue, and on empowering participants (first and foremost the researchers and research communities involved).⁵⁸

In the United States over the past quarter century, the National Telecommunications and Information Administration has played an instrumental role in facilitating many multi-stakeholder efforts, and the Federal Trade Commission has also led several important soft-law-oriented workshops and multi-stakeholder processes.

Indeed, almost every agency that regulates some facet of technology now taps similar mechanisms. A partial list of issues or technologies that have been the subject of soft-law-oriented proceedings includes big data, machine learning, and AI⁵⁹; the Internet of Things (i.e., internet-enabled devices and applications)⁶⁰; online advertising practices⁶¹; autonomous vehicles (AVs) policy⁶²; motor-vehicle cybersecurity⁶³; cybersecurity of advanced medical

devices⁶⁴; facial-recognition technologies⁶⁵; health and medical smartphone applications⁶⁶; medical advertising on social-media platforms⁶⁷; mobile-phone privacy disclosures⁶⁸ and mobile applications for children⁶⁹; 3D-printed medical devices⁷⁰; and small unmanned aircraft systems (i.e., drones).⁷¹

The recommendations flowing out of these soft-law efforts have been varied, with some being quite amorphous and aspirational, while others were more detailed and highly context-specific. In many of these proceedings, policymakers and various stakeholders looked to ensure that specific best practices were “baked in” to product design and development cycles before new technologies or platforms were launched. For example, many of them recommended various best practices to ensure that “privacy-by-design,” “safety-by-design,” or “security-by-design” were introduced into the technology-development cycle at an early stage.⁷²

“Sandbox” approaches are also catching on. A sandbox, by law firm Sidley Austin’s useful definition, is “a tool that allows developers to test a technological proof of concept prior to a full-scale public release” and that “gives a firm the ability to amend and improve a product iteratively based on feedback” from regulators.⁷³ The United Kingdom has been a global leader in the use of sandboxes, having launched the first one in 2016 to encourage new governance approaches in the financial-services sector.⁷⁴ Since then, the use of sandboxes has grown rapidly across the globe. In this country, some states are implementing broad-based sandbox bills and efforts intended to encourage experimental policies for many other sectors.⁷⁵

This reflects another, broader soft-law trend: devolution and local experimentation. “Local governments are also likely to become increasingly important sources of governance innovation because of their ability to solve problems for their populations,” noted the *Global Trends 2040* report. “Local governments generally have the advantage of proximity to the problems of their constituents, legitimacy, accountability, and the flexibility to customize responses; they also have less partisanship.”⁷⁶

As this brief review makes clear, soft-law mechanisms are remarkably diverse. Some are more formal and operate with close regulatory oversight. Others are highly informal and involve only limited regulatory guidance. There is no Goldilocks formula that can get things just right; by its very nature, soft law and decentralized governance techniques are a bit messy.

It is smart to think practically about alternative governance frameworks when traditional hard-law approaches prove slow or ineffective in addressing governance needs.

Some critics argue soft law is not enough and insist more formal, hard-law initiatives will be necessary.⁷⁷ In many instances they are correct. More formal and legally binding rules may be needed to address serious risks or other concerns that prove unsuited for experimental or decentralized governance techniques. But, again, it is smart to think practically about alternative governance frameworks when traditional hard-law approaches prove slow or ineffective in addressing governance needs. It is also wise to consider alternative governance frameworks that might address the occasional downsides of disruptive technologies without completely foreclosing ongoing innovation opportunities the way many hard-law solutions would.

The Case of Autonomous Vehicles

The gradual evolution of policies addressing AVs and automated driving systems in the United States serves as a good example of these new governance approaches in action. Soft law and decentralized governance techniques have thus far been the rule in this space. For many years now, Congress has been considering a federal regulatory framework for AVs, and many industry insiders continue to predict national rules of the road will be finalized. Each session of Congress brings disappointment, however, despite general agreement about the need for a federal AV framework.⁷⁸ The resulting AV governance gap at the federal level has been filled by a combination of state policies and industry best practices guided by informal guidance from federal regulators.⁷⁹ Relatedly, there has been a push for more broad-based regulation of AI and algorithmic decision-making software and systems. These efforts have also yielded no progress.⁸⁰

At the federal level, the US Department of Transportation's (DoT) first major AV inquiry was released in September 2016.⁸¹ The agency hinted it was considering a more formal approach to AVs that would include a pre-certification regime and even regulatory approval of ongoing algorithmic changes and software updates for AVs.⁸² But the DoT quickly backed off that tactic and adopted a different approach that mimics the way software upgrades are "versioned" in the tech sector.

The DoT's second AV report, released in September 2017, was titled "Automated Driving Systems: A Vision for Safety 2.0," and the third, released in October 2018, was referred to as "Automated Vehicles 3.0" guidance. In them, the DoT turned away from preemptive regulatory efforts and toward more flexible, soft-law approaches.⁸³ This included an array of recommended—but not required—industry best practices. Whereas the old regulatory playbooks were filled with "shall" and "must" requirements, the language of the new soft-law guidance focused more on "should consider" suggestions.

Taking the soft-law approach a step further, in 2019, the DoT announced the creation of the

Non-Traditional and Emerging Transportation Technology (NETT) Council.⁸⁴ It is worth stressing that DoT titled this effort "non-traditional," signaling a departure from past practices. Toward that end, in July 2020, the NETT Council published "Pathways to the Future of Transportation," a guidance document aiming to provide "a clear path for innovators of new, cross-modal technologies to engage with the Department."⁸⁵ The report stressed that the new NETT Council "will engage with innovators and entrepreneurs" to strike the balance between continued safety and increased innovation, and, while acknowledging existing agency regulatory authority, it placed a premium on expanding dialogue among affected stakeholders when addressing policy on an ongoing basis.

This really did represent a nontraditional approach to technological governance. A premium was placed on the "3Cs" model outlined above, with consultation, collaboration, and consensus-building as the touchstones of the new DoT model. By working in an iterative, flexible fashion with various stakeholders, DoT seeks to create a more flexible, bottom-up governance regime for driverless vehicles.

This approach has many upsides for innovators and regulators alike in that it is nimbler and more responsive than a more rigid top-down regulatory approach. Of course, this is also its greatest potential downside. The governance gambit here is as follows: Can a flexible, iterative, and informal policy approach achieve the twin policy priorities of greater safety and technological innovation, or will it instead undermine both goals? And, lacking formal rules, will regulators suddenly pull the rug out from underneath innovators by quickly shifting course? Finally, how will this more informal federal framework affect the patchwork of state policies already in development?

Only time will provide answers to these difficult questions. In the meantime, this sort of decentralized, soft-law-oriented governance regime appears likely to remain the dominant governance approach for AVs at the federal level. Major safety or security lapses could change that equation, of course. For example, regulators or the courts could step up pressure against Elon Musk for his repeated inflated

claims about the “autopilot” and “full self-driving” capabilities of Tesla vehicles.⁸⁶ Such action could result in added regulation of AVs more generally. But even recent crashes that might have been attributable to faulty AV software failed to create enough controversy to spur regulatory action from Congress. Therefore, soft law could remain the norm for AVs, supplemented with increased agency investigations, recall notices, and deceptive-claim filings.

The United Kingdom Model

Many other countries are struggling with technological governance, and several are tapping similar soft-law strategies and decentralized governance approaches. The United Kingdom offers an interesting parallel to the US experience and, in some ways, is well ahead in the move toward more experimental governance.

In September 2021, the UK Committee of Public Accounts, a parliamentary committee that evaluates the efficacy of government spending and regulatory programs, published a report on *Principles of Effective Regulation*.⁸⁷ The report’s preliminary findings echoed the concerns heard on this side of the Atlantic about the scale and pace of technological change overwhelming traditional regulatory mechanisms. “It is not clear that government and regulators are equipped to meet these challenges,” the report noted. “And the world which they regulate is changing rapidly—so regulators need to be able to adapt and act quickly to these new challenges.”⁸⁸

The UK government took up these same themes in a comprehensive 2019 report on *Regulation for the Fourth Industrial Revolution*.⁸⁹ It spoke of the need for the government to develop “a more agile approach to regulation” that “is sufficiently flexible and outcomes-focused to enable innovation to thrive.” Further, it stressed the need “to enable greater experimentation, testing and trialling of innovations under regulatory supervision” and “build dialogue with society and industry” about how to better regulate new technologies.⁹⁰ Sandboxing solutions, which the UK helped pioneer, are identified as a

key part of this more decentralized and experimental approach to governance. Beyond sandboxes, the report said,

Regulatory guidance, codes of practice and industry standards should be used to complement outcome-focused legislation and provide clarity for business. These tools can more easily keep pace with technological change and be more accessible and less burdensome than prescriptive legislation.

Voluntary standards can play an important role in enabling and stimulating innovation—from supporting the dissemination of ideas to facilitating access to markets.⁹¹

Many of the themes developed in the UK government report echoed those set forth by Nesta, an independent foundation that studies innovation strategy in the UK. In its report titled *Renewing Regulation: “Anticipatory Regulation” in an Age of Disruption*, which was also released in 2019, Nesta outlined a more experimental and iterative approach that embraces a “test-and-evolve rather than solve-and-leave approach to novel problems, for which there may be no established playbook.”⁹²

The UK government has provided more than just lip service to these notions. It has created many new initiatives aimed at shaking up traditional regulatory processes, including the UK Regulatory Horizons Council, the Better Regulation Executive, the Regulators Innovation Network, and the UK Regulators’ Pioneer Fund. The Committee of Public Accounts noted that the government hoped these initiatives would “contribute to a more innovation-friendly regulatory environment,” “ensure industry can adopt new technologies without excessive restrictions,” and help ensure that “our regulatory system is responsive and proportional.”⁹³ The body also stressed that the UK was looking “to pursue a ‘common law’ approach to regulation,” focusing more on ex post responses to various governance challenges that arise. Again, all these efforts are consistent with the soft-law approach.

These new, parallel approaches of the US and UK are catching on in other countries, as well. As the

WEF notes, Italy's new "right to innovate" effort lets private parties identify problematic rules that discourage innovation and then work with public officials to essentially opt out of those requirements for a time.⁹⁴ The results of those experiments are then evaluated and broader reforms considered. Similar trial experiments have been used in Japan and Germany. Japan is further experimenting with a new regulatory approach for driverless cars. Its Ministry of Land, Infrastructure, Transport, and Tourism uses a combination of exemptions from permitting requirements, the co-development of voluntary technical requirements with industry, and adaptive technical requirements based on ongoing trials.⁹⁵ We should expect to see more nations embrace such experimental and decentralized approaches to technological governance in coming years.

Social-Media Governance

Both Democratic and Republican policymakers in the United States face widespread calls for some sort of formal regulation of social-media platforms and other digital services.⁹⁶ Legislative proposals are multiplying rapidly in Congress. Yet, for all the reasons described above, the implementation of any sort of sweeping regulatory action is unlikely.

Social media is a complicated case for a couple of reasons in particular. First, formal regulation of social-media platforms raises a variety of thorny First Amendment issues. Second, although the political left and right both desire regulation, they are at odds regarding the objective of that regulation.⁹⁷ Many on the left hope that new rules might help curb what they regard as "hate speech" or "disinformation." They want digital media platforms to do far more to preemptively curtail or block such speech or to "deplatform" those who propagate it. By contrast, many on the political right call for regulation to do the exact opposite. They want regulation to limit efforts by digital media platforms to block or remove what they believe should be protected speech. They also wish to limit or reverse the deplatforming of certain conservatives, including former President Donald Trump.⁹⁸

Conservative lawmakers in Florida and Texas successfully pushed through such measures in 2021, only to see them both quickly enjoined by the courts as unconstitutional violations of the First Amendment rights of private social-media companies.⁹⁹ Any similar federal enactments by Congress would also likely face immediate court challenges.

Formal regulation of social-media platforms raises a variety of thorny First Amendment issues.

The First Amendment constitutes a particularly high barrier to the use of hard law in the United States, which provides yet another reason soft law will likely dominate future social-media governance efforts. In a sense, this is simply a replay of how the US dealt with content-related concerns in the Web 1.0 era. As I documented in an extensive history of soft law in information and communication technology sectors, the use of soft-law strategies for online-safety and content-related matters accelerated significantly in the 1990s to fill the governance gap created by repeated constitutional challenges to legislation at the federal and state levels.¹⁰⁰ Most of these hard-law efforts sought to somehow restrict underage access to objectionable online content or violent video games. Supreme Court decisions in cases such as *Reno v. American Civil Liberties Union* (1997) and *Brown v. Entertainment Merchants Association* (2011) were the final nail in the coffin of hard-law efforts on those fronts.

This led to a flowering of more decentralized governance efforts focused on what I have referred to as the "3E" approach toward online safety: *empowerment* of parents, *education* of youth, and *enforcement* of existing laws.¹⁰¹ Self-regulatory codes, private content-rating systems, and a wide variety of different parental-control technologies all proliferated during

this period. Many multi-stakeholder initiatives and blue-ribbon commissions were also formed to address governance issues collaboratively.

Between 2000 and 2010, six major online-safety task forces or blue-ribbon commissions were formed to study online-safety issues and consider what should be done to address them.¹⁰² Three of these efforts were convened by the United States government, while another was commissioned by the British government. Two additional task forces were formed in the United States through universities and private associations during this period. Each of these six task forces was made up of, or received input from, a diverse set of experts from academia and think tanks, corporations and professional trade associations, advocacy organizations, and various government agencies. In other words, they were multi-stakeholder processes. The task forces recommended a variety of best practices, educational approaches, and technological-empowerment solutions to address various safety concerns.

What is particularly notable about these decentralized governance efforts is that many of the topics they addressed are no longer of as much concern as they once were. This is not to say issues like underage access to pornography and violent video games have been “solved” or are no longer of any concern. Rather, it illustrates both that these issues remain challenging governance problems and that newer concerns have come to the fore and redirected attention and energy to other matters. This is consistent with the challenges identified at the outset of this report—namely, the pacing problem and the crowding-out effect associated with new technologies, platforms, and types of content.

It should come as no surprise, therefore, that history is repeating to some degree. Consider private ratings or content-oversight bodies in the past and today. The private rating systems developed by the Motion Picture Association for movies and the Entertainment Software Rating Board for video games were responses to the content concerns raised by policymakers and regulatory advocates in the past. Because the First Amendment blocked most hard-law

policy about such content, self-regulatory content rating and labeling became the second-best solutions. While imperfect, those rating systems gained widespread visibility and continue to be refined and employed today. But such private rating or oversight systems remain controversial, and some critics continue to insist that more could be done (presumably by government) to curtail objectionable content.

We can see parallels in today’s debates over governance experiments like the Facebook Oversight Board, which was established in 2020 as an independent body that would review Facebook’s content-moderation decisions and issue reports on those efforts. The Verge’s Casey Newton referred to the Oversight Board as “a wild new experiment in platform governance.”¹⁰³ In one sense, the effort was not all that wild or new if one considers past independent rating systems or newspaper ombudsman positions. However, the Oversight Board *is* new in the sense that it is taking on content-related problems at an unprecedented scale, both in terms of the number of issues it covers and the global nature of those concerns. Nevertheless, like previous independent content-governance efforts, the Oversight Board immediately attracted its share of critics on both the political left and right.

Generally speaking, the best governance approach to social-media policy was probably defined by President Ronald Reagan in 1987, when he vetoed a bill to reestablish the Fairness Doctrine. “History has shown that the dangers of an overly timid or biased press cannot be averted through bureaucratic regulation, but only through the freedom and competition that the First Amendment sought to guarantee,” he said.¹⁰⁴ While media content and content-moderation policies will always remain contentious, expanding innovation and choice at least avoids the increased politicization of these platforms through formal hard-law enactments. And since such hard-law enactments are unlikely to withstand First Amendment challenges anyway, decentralized governance strategies will continue to play a major role in this area going forward.

Open-Ended Governance

The new approach to tech governance was nicely summarized in the report by Landeweerd and colleagues, which concluded,

There is neither a silver bullet for governance of science and technology, nor is it possible to design a one-size-fits-all tool to accommodate all normative issues related to science and technology. Open-endedness is key to managing such issues in governance.¹⁰⁵

However, the most promising thing about these new governance approaches may also be their undoing. Outside-the-box thinking of this sort disrupts existing norms and institutions. It has always been easy for people of all ideological dispositions to pay lip service to the notion of “reinventing government.” But when reforms begin to occur, they are met with protest. The status quo always has many friends.

The status quo is fundamentally broken, however. Wishful thinking about optimal legislative governance and ideal regulatory oversight won’t magically make it all come about.

Consider the field of AI and robotics. Regulatory advocates have proposed a litany of new agencies and initiatives to oversee emerging technology sectors, including a Federal Robotics Commission,¹⁰⁶ an AI Control Council,¹⁰⁷ a National Algorithmic Technology Safety Administration,¹⁰⁸ and a National Technology Strategy Agency.¹⁰⁹ Perhaps such an agency or commission will be created in the future, but the odds remain strongly stacked against that outcome.

There’s also been no shortage of legislative proposals, including the Algorithmic Accountability

Act, the Artificial Intelligence Initiative Act, and the Future of Artificial Intelligence Act, to name just a few. None of these efforts has advanced, and it is unlikely any will.¹¹⁰ It is far more likely that AI-related proposals such as these will suffer the same fate that privacy bills and driverless-car legislative proposals have over the past decade: Lots of talk and little action.

For Congress to become a serious player again on technology policymaking, it would need to reassert itself in a comprehensive fashion and reclaim its proper constitutional position as the primary lawmaker in the land. For all the reasons identified throughout this report, I am skeptical that will happen anytime soon. For better or for worse, soft law and decentralized governance techniques are going to fill that gap.

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